



DProf thesis

**A transdisciplinary exploration of interpretability and trust of advanced software with the Australian Proptech community of practice**

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# A Transdisciplinary Exploration of Interpretability and Trust of Advanced Software with the Australian Proptech Community of Practice.

To be read in conjunction with the creative artefact:  
Uptown - an ethnographic novel exploring issues of interpretability  
and trust of advanced software in the  
Australian Proptech community of practice.

A thesis submitted in partial fulfilment of the requirements  
for the degree of Doctor of Professional Studies (Transdisciplinary).

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**Dr. Carlisle George**

**AUGUST, 2023**

## Abstract

This research explores the notion of interpretability and trust of advanced software in the context of the Australian PropTech community of practice. It does so through a transdisciplinary qualitative and reflexive research methodology that embeds findings with a creative artefact: an ethnographic novel.

This research was catalysed by a practice paradigm that Humphreys (2009) refers to as “epistemic opacity”. The paradigm can be understood as the pairing of these two predicaments:

1. Brewer’s (2016) predicament of knowledge that rhetorically asks: How do we process information when the volume of information available surpasses our processing power?

Where the solution to the first predicament requires advanced software, it presupposes the second predicament:

2. That which Humphrey’s (2009) refers to as the anthropocentric predicament: How do we, as humans, understand computationally based scientific methods that transcend our own abilities? Or in

simpler terms, how can we trust that which, even with radical transparency, we cannot understand?

There is an empirical link between trust and adoption (Bedué and Fritzsche, 2022; also, Chen and Park, 2021) and so mistrust can lead to a lack of adoption and scepticism from users, impacting the success of Proptech solutions but in its most perverse form, epistemic opacity can enable the manipulation and exploitation of a user base itself. This research explores interpretability as a notion that may remediate epistemic opacity and bridge the gap of trust over privileged knowledge between the user and the creators of these solutions.

As a practitioner-researcher in this context, I have explored, through interviews and reflexive journaling, the Australian Proptech community of practice as both a hub of influence for implementing interpretability in future development pathways but also as a source of social learning. I have adapted Scholz and Steiner's Architecture of Knowledge (2015) as a framework for integrating various ethnographic research methods with my own practical experience to create new knowledge. This research is for practitioners in the Australian Proptech community of practice who are engaged with ideation, development, distribution and implementation of advanced software.

The process of fictionalising the findings of this research, within the methodology, has been a deliberate choice to support practitioners and a hope that the findings and insights from research participants are not limited to this thesis nor the academic reader. Rather, by presenting findings to a general audience within a fictionalised ethnographic novel, *Uptown*, it is my hope to present a realist version of history, using figurative techniques (White, 2004).

UpTown is seeking to subvert an objective ontology entirely, in favour of abstracted realism and integrated knowledge, creating a new (fictional) reality that is grounded in the outcome and theorisation of ethnographic fieldwork. I do this, not to shirk a responsibility to truth telling but to access a new and different truth through literary techniques - and a truth that will also help readers create a truth for themselves and continue a conversation within the Australian Proptech community of practice.

## Acknowledgments

I would like to acknowledge the traditional custodians of country throughout Australia, where this research has taken place. I recognise the longstanding knowledge traditions of Australia's First Nations people and welcome the contribution that they have to make to a shared and sustainable future. In particular, the Wonnarua People of Coquun, known today as The Hunter Valley where I live and research, and where some real and imagined places within the UpTown story may be found.

It is difficult to summarise the learning journey that has taken place in order to produce this work, a lifetime of internal cultivation fed by so many who have shared their generosity of thought, time, and stories.

Chiefly, I would like to thank my Director of Studies Professor Nico Pizzolato. This submission is testimony that while I am sure that I tested your patience with various innovations to research, your patience won. You have a profound humility that is entirely unjustified given incredible intellect and abundant capacity for care - you may also be one of the kindest people I have ever met. Thank you. Thank you. Thank you.

I would also like to thank my secondary supervisors, Dr Carlisle George and Professor Anastasia Christou along with the entire team within the Transdisciplinary School at Middlesex. Thank you for your invaluable



guidance, encouragement, time, effort and support throughout this project. I felt a palpable belief in me that was more powerful than the troughs of self-doubt. I would not be here without the village it takes to sustain a researcher-practitioner-student-mum. Thank you to the Examination Panel, chaired by David Adams for your time, encouragement and feedback.

I would like to thank James, Suzie, Lexie, Evie, and Banksy for your love and support. Time works like a ledger and for every withdrawal I made to work on this project, I recognise that there is a deficit somewhere else in the family equation. I have strived to produce something you can be proud of by way of repayment.

Thank you to my team at CoreLogic who have supported me with space, faith in my ability, and encouragement to innovate whilst weaving work, research, and my family life together in a way that makes all of this possible.

For members of the Australian Proptech community of practice who have contributed as research participants, who gave feedback on the novel, and who have put up with countless conversations beginning with the phrase “my research is exploring...” - thank you. This is for you and because of the gravity of the work we do - the choices we are being asked to make now,

with the uncertainty of pioneers, and leading every Australian experience of home and property.

## Author's Declaration

I hereby declare that except where specific reference is made to the work of others, the contents of this thesis are original and have not been submitted in whole or in part for consideration for any other qualification in this or any other university. This thesis is my own work and contains nothing which is the outcome of work done in collaboration with others, except as specified in text and acknowledgements.

Sarah J Bell

August 2023

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# Definitions

## **AI    Artificial Intelligence**

Patrick Henry Winston was a prominent leader of contemporary artificial intelligence. He succeeded Marvin Minsky as Director of the MIT Artificial Intelligence and Computer Science Laboratory (Connor-Simmons and Gordon, 2019). Winston's definition of AI is preferred by many because it balances a technical description of artificial intelligence, leaving room for further developments in the field whilst remaining technology-neutral.

This is important because the tools that “do” artificial intelligence are evolving, iterative, and undemocratic. The nuance of a unified and technology-neutral definition is important to combat the lack of technical literacy and nuance between products/application brands; company brands; technical descriptions of tools (established, emerging and novel,) as well as unclear definitions of the overarching term “artificial intelligence”, which is the subject of some contention. We see this manifest in the contemporary example of OpenAI, which is a brand name; whose product, ChatGPT; became synonymous for many with artificial intelligence; but it is in fact a Large Language Model (LLM); which is one emergent tool in a suite of technologies that are grouped in the category of artificial intelligence (AI).

Winston's definition of AI is this:

“Algorithms enabled by constraints, exposed by representations that support models targeted at loops that tie thinking, perception and action together (2010; See also, Winston, 1992).”

### **Australian Proptech Community of Practice**

The community of practice, as a concept contemplated by the work of Wenger-Trayner and Wenger-Trayner who describe the community body as:

“Communities of practice are groups of people who share a concern or passion for something they do and learn how to do it better as they interact regularly (2015, p2).”

The Australian Proptech Association provides a national hub around which the community is organised and is a national, centralised, although not the only, hub for connection and community around purpose, passion and insights; of which I have had direct experience. Australian Proptech Association Director, Jennifer Harrison, articulates the passion which unites this community in saying that the Proptech community is:





education through social networking. This is discussed in more detail within the thesis proper.

For the purposes of definition, and to provide a tactical and practical framework of defining members of the community of practice, I have adopted the Scaled Agile model (2021) for understanding the different and fluid levels of engagement in a community comprised of dynamic human social actors. The Scaled Agile (2021) taxonomy is represented in the following table (Column A), along with an archetype for each of these levels (Column B).

<p style="text-align: center;"><b>A</b></p> <p style="text-align: center;"><b>Scaled Agile's CoP Level of Engagement and Definition</b></p>	<p style="text-align: center;"><b>B</b></p> <p style="text-align: center;"><b>Practice Example from the Australian Proptech CoP</b></p>
<p><b>Core</b> - The core team forms the heart of the community that will organise, charter, market, nurture and operate the community</p>	<p>Founder or Directors of Proptech Association of Australia. Executive office holder of Proptech - Brisbane.</p>
<p><b>Active</b> - These members work closely with the core team to help shape the definition and direction of the CoP. This includes defining the communities shared vision, purpose, roles, strategies for interaction, marketing and communications.</p>	<p>Staff of Proptech Association Advisory Board of Proptech Association Strategic Partners of Proptech Association Executive Members of the Real Estate Institutes in Australian States and Territories who often have proprietary solutions (such as Forms, or who advise the community more generally). Government Representatives from relevant sectors (e.g., Property Services).</p>
<p><b>Occasional</b> - These members participate when specific topics of interest are addressed or when</p>	<p>Active Members of the Proptech Association. Founders of Proptech companies</p>

they have something to contribute to the group. They are often the largest group in a community.	Executive of National Real Estate Franchise Groups Executive of National Real Estate Associations Venture Capital and Funding Organisations
<b>Peripheral</b> - These members feel a connection to the community but engage on a limited basis. These could be newcomers, or those who have a more casual interest in the community.	Team members of Proptech companies Executive stakeholders in companies who purchase Proptech Motivated or interested End Users of Proptech (e.g., Real Estate Agents).
<b>Transactional</b> - These members are least connected to the community and may connect only to access CoP resources or to provide a specific service to the CoP, (for example: website support).	End users (E.g., Real Estate Agent) who are situational interested in a particular Proptech application's (or a particular function) interactivity and integration with other Proptech. Suppliers of ancillary services to Proptech (e.g., Agents who use Proptech to provide services to real estate agents, for example telemarketers or content marketing agencies).

*Table 1 - Mapping Scaled Agile's (2021) description of multiple levels of community of practice participation to examples from Proptech practice.*

Not all Proptech incorporates technology that would also fit the definition of advanced software or artificial intelligence.

This research is seeking to explore trust and interpretability of advanced software (artificial intelligence and advanced automation) in the Australian Proptech community of practice. As such, members of the Australian Proptech community of practice selected for direct participation in this research will have both a class of participation in the community, as

described in the Scaled Agile (2021) taxonomy above AND some direct experience or interest in advanced software or artificial intelligence.

## 1.0 Chapter One: Overview

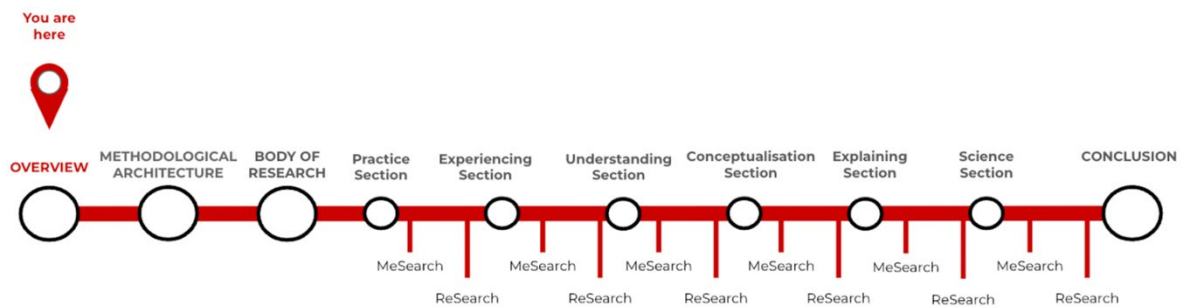


Figure 2: Thesis Map.

### 1.1 Orientation for Reader on Research and Thesis Structure

By way of preliminary note, this thesis is organised to give priority to the logic of the methodology of the project. Traditional components of a thesis are discoverable as components of this journey, represented at their right time according to the methodology. At the beginning of each chapter, section and subsection, I have included a graphical representation to assist with orientation, inspired by the London Underground.

The structure of the thesis documents the research journey leading to the creation of an artefact in which the findings of this research are embedded in narrative form, as well as reflections and insights following its production.

Within Chapter Two, I will explain the methodological architecture of this research, inspired by Scholz and Steiner's Architecture of Knowledge (2015).

The purpose of this architecture is to integrate knowledge through a process of abstraction - journeying the researcher from a stage of practice to a stage of science, through interim stages of experiencing, understanding, conceptualisation and explaining. I have organised these staged sections in Chapter Three.

An additional layer of integration occurs at each of these stages by incorporating the internal processes of the researcher which I refer to and discuss as MeSearch (Fine, 1999) with various methods of external knowledge gathering which I refer to and discuss as ReSearch.

Chapter Three can be read almost as documentation of the MeSearch and ReSearch conversation, which evolves and moves through the sections of abstraction. Chapter Four is a brief concluding summary, understanding that traditional components of a summary will be located in the final Science Section of Chapter Three.

## 1.2 Background, Purpose, Aims and Objectives

### Background

The fundamental quest of this research is to explore the notion of interpretability and how it may engender trust in advanced software solutions.

For the purpose of this research, I have used the term advanced software to encompass artificial intelligence and advanced automation engines, in the context of the Australian Proptech Community of Practice.

The Australian Proptech community of practice has created a marketplace of solutions and tools to assist property professionals to execute their roles in ways that are enhanced through measures of efficiency (usually measured in profit,) and effectiveness (often measured in customer experience and team experience metrics). In the 21st century, many of these tools leverage the power of advanced software to create this economic and productivity uplift, however, the success of both the solution and platforms, as well as the community itself, is grounded in the adoption and commercial viability of those solutions. If users do not trust and adopt these tools, the benefits will go unrealised and the community would have failed to achieve its aims.

I have been a member of that community for the past 15 years, first as an end user of technology during my tenure as a real estate business owner and most recently as Cofounder of the Proptech, AiRE which is known for an advanced software solution named RiTA. AiRE was acquired in November 2021 and is now a wholly owned subsidiary of CoreLogic and I remain employed there as Principal of Industry and Innovation, with ongoing strategic responsibilities.

My professional transformation during this journey from consumer to creator has been more than simply a transfer from the knowledge culture of property services and residential real estate into a products and technology knowledge culture. These disciplinary islands are divorced in so many important respects. “Proptech”, which is a conjunction of property and technology, requires the integration of knowledge between, across and beyond these two islands to be successful and so transdisciplinary practice became a function and, non-incidentally, also became a professional identity during this chapter of my professional experience.

Taking the function and constraints of RiTA, my role was to shape her personality and tell her story to an addressable market of customers and users. By doing so, assisting our customers to make-meaning of novel technology and, so I contend, help them to take risks and adopt it. This has been my central mission for the past five years, summed up by the narrative of RiTA and even my job title, “RiTA’s Mum”. It is from this practice context that the critical curiosity of this research emerged - how might interpretability form a basis of trust in the Australian PropTech Community of Practice. As a researcher-practitioner, I find myself positioned again between two knowledge cultures, seeking to build a bridge and help other practitioners to cross it.

With strict methodologies and traditions, the academic knowledge culture is at odds with the priorities and pace of entrepreneurialism as well as the rapid, and loosely documented, trial and error approach of Proptech (particularly in the start-up phase,). The theoretical conversations about ethical, transparent or responsible development of advanced software which occur outside of the practice context (from observational or governance perspectives,) find themselves translated to unenforceable and ambiguous guidelines.

These development 'suggestions' sit within a suite of learning and discovery during the creation of new tools; alongside and sometimes competing with learning by technical experimentation as well as operational and commercial research and development. My role as a practitioner-researcher is to create bridges that take the exploration of interpretability as a basis of trust in Proptech between, across and beyond both the academic and the practice paradigm.

And so having settled on the context (the Australian Proptech community of practice,) and the content (an exploration of interpretability as a basis of trust). However, for me, an approach to research about interpretability demanded a means of communicating the findings of the research to the Australian Proptech community of practice that was consistent with my understanding of interpretability as being a means of making meaning and



bridge-building between knowledge cultures. In this case, the community is unlikely to access or digest the findings in the form of a Doctoral level thesis and so my submission for the Doctor of Professional Studies (Transdisciplinary) award contains two documents, to be read conjunctively.

The first is this thesis which contains the recognisable format of academic research with a familiar structure, articulated in methodology, data, discussion and the use of academic notions such as ontology, epistemology and research ethics. However, this thesis also contains an account of a methodology for the production of a creative artefact, a second document, in the form of a fictionalised ethnographic novel. The critical creative work is designed to present the findings of this research beyond a solely academic audience and into the hands of the practitioners I am seeking to inform and empower, specifically within the Australian Proptech Community of Practice. If I am successful in doing this, the ethnographic novel will be a way to synthesise the perspective of research participants from the Community of Practice with my own experience to create a meta-practitioner perspective on interpretability as a basis of trust.

Moreover, it is my intention that the creative artefact is a vessel for my personal transdisciplinary practice, having the recognisable structure and rhythm of ethnographic research, but woven into artistic choices and abstraction. Its purpose is to provide a means to meaning, and in crossing

the bridge of research and practice, to fulfil the promise of all literature:

“Literature moves us because it offers the unheard testimony of the unspeakable (Loevlie, 2013, p 337)”.

In doing so, this approach is rationalised by removing barriers for the Australian Proptech Community of Practice to exploring interpretability as a basis of trust - not just by means of unveiling the discussion that goes unheard, sheathed in academic discourse, but by using art to create criticality of practice, from within it.

To the best of my knowledge, there has not been research dedicated to the factor of interpretability as a basis of trust in Proptech, as a practice focus of the Australian Proptech community of practice.

#### Purpose

The purpose of this research is to undertake a transdisciplinary exploration of interpretability as a basis of trust in the Australian Proptech community of practice.

In the first wave of artificial intelligence, the science fiction writer Isaac Asimov developed three laws of robotics. I hold no snobbery in relation to the fact that these laws have originated in science fiction and been transposed to real world ethical thinking and practice, in fact it is an

example within the domain of this research as to how powerful storytelling can be as an abstracted means of conveying complex thinking into other knowledge cultures and practice. The laws are:

1. "A robot may not injure a human being or, through inaction, allow a human being to come to harm.
2. A robot must obey orders given to it by human beings except where such orders would conflict with the First Law.
3. A robot must protect its own existence as long as such protection does not conflict with the First or Second Law (Asimov, 1942)."

Despite, or perhaps because of, their origin in fictional storytelling, these laws have informed the work and practice of many computer engineers, despite many critics who recognise that they remain grossly wanting for real-world applications due to the non-technical and ordinary nature of the language used (Stokes, 2018); they are simply put "not scientifically plausible (Salge, 2017)". The issue with the plausibility of solutions based on language is a legacy of Asimov that appears to have replicated itself in the more contemporary search for laws for emergent technologies.

Interpretability sits under a broader umbrella of concepts in the discipline of computer science which seek to create understanding with consumers amidst the dilemma of 'black box' opacity. The dilemma is widely recognised and a

movement toward methods of creating transparency, or at least addressing the epistemic opacity of highly privileged technical knowledge is gathering steam across a broad spectrum of stakeholders including computer scientists, businesses, researchers and regulators (Samek & Muller, 2019).

The research approaches this wicked problem by recognising a yearning for a transdisciplinary exploration to dissolve the barriers between theory and practice. I am seeking to explore practical means of making meaning for AI consumers through interpretability as a means of promoting trust, and by extension fostering the adoption of Proptech products and to further enable the capital and speed required for innovation in Australian Proptech to make it globally competitive and commercially viable.

Simultaneously, by presenting a case for interpretability to theorists from a practitioner perspective, with synthesised experience from various stakeholders from within the community of practice, I am seeking to inform the recommendations and guidelines for ethical AI so that they are capable of being adopted by practitioners, enforced by regulators, feasible for investors and entrepreneurs, and perhaps most importantly meaningful for end users.

## Aim

The aim of this research is to discover how interpretability may form a basis of trust for advanced software and to then leverage the interpretative power of literature to create a pathway for the Australian Proptech community of practice to develop interpretable systems with tooling such as artificial intelligence and advanced automation.

The desired outcome is to discover how interpretability may form a preferred basis of trust for advanced software and to then leverage the interpretative power of literature to create a pathway for the Australian Proptech community of practice to develop interpretable systems with tooling such as artificial intelligence and advanced automation.

## Objectives

In order to achieve this aim and desired outcome, this research proposes:

- To interrogate the extant literature to understand the social, economic, legal and moral theorisation of advanced software, in particular in the instance where it is behaving as an artificial actor in the social world, on what basis it is or is not trusted, and which consequences apply (and perhaps which ought to apply) and to whom in the case of breaches of trust;

- To engage with a variety of stakeholders from the Australian Proptech community of practice using ethnographic techniques to understand a range of perspectives from practice and to enmesh that with my own experience as a researcher-practitioner through abstraction, data normalisation and narrative coding to create the perspective of a meta-practitioner;
- To organise this narrative into fictionalised episodes for the purposes of creating an artefact, an ethnographic novel. The purpose of the novel is to present the research and findings to the Australian Proptech community of practice via a means that is accessible and desirable, and which leverages the power of storytelling to enable the user to make meaning, apply their own experience, and thereby continue to create new knowledge; and
- To critically reflect on the artefact and research, and to encourage the criticality of my peers in the Australian Proptech community of practice in relation to how they approach trust and how they might consider interpretability as a basis of trust.

### 1.3 Introduction to the Predicament of Advanced Software

Technical definitions in the field of emergent technology lack consensus both across practice and theory but also within practice and theory, which can be problematic. Terms are also used synonymously and with the inferred precision of informed insiders yet there is discord and fragmentation between practitioners and theorists about the application of these terms. I will undertake to simplify the terms here by way of describing how they nest into one another to create clarity and meaning for the purposes of this dissertation; there is no intention to enter into a language or discourse analysis.

Advanced software is a sub-type of 'emergent technologies. Rotolo, Hicks and Martin (2015) propose five-point criteria for the classification of emergent technology, being: "(i) radical novelty, (ii) relatively fast growth, (iii) coherence, (iv) prominent impact; and (v) uncertainty and ambiguity (p 37)". They recognise that many solutions are grouped together for understanding and convenience under the general label of 'emergent technology' and while it would include "advanced software", it would also extend to technologies such as robotics, cryptocurrency, and nanotechnology.

For the purpose of this research, I will adopt a limited definition of the term 'advanced software' as a class of emergent technology. Underneath the term 'advanced software' are nested two further problematic terms, being 'artificial intelligence' and 'advanced automation', while noting that it is not uncommon for advanced automation engines to be similarly grouped within a broad definition of artificial intelligence in any case.

There is robust debate within and across invested disciplines and stakeholders as to what 'is' and 'is not' advanced software based on its eligibility as being or not being included in definitions of the component technologies of artificial intelligence or advanced automation; for example, some will argue that only machine learning qualifies a tool (albeit a popular tool,) as being artificial intelligence whereas many others see it as a tool within a suite of techniques that comprise artificial intelligence (Brown, 2021).

Tools such as neural networks, machine learning, deep learning (Kavlakoglu, 2020) fit under the umbrella of artificial intelligence, as are techniques such as rule-based automation engines (Smith, R., 2021), and even more humble techniques such as natural language processing (Gruetzemacher, 2022).

These tools can be used as unique artificial intelligence techniques or can work cooperatively to leverage the different advantages of each tool to create techniques that are cumulatively intelligent, for example using machine



learning to enhance the limitations of traditional natural language generation (Beysolow II, 2018).

This research is not intended to be a scientific genus on the classes of new technology or their degree of 'emergence' or 'advanced-ness', so the convenience of the general label to refer to 'artificial intelligence and advanced automation' as 'advanced software' will be used not as an exhaustive technical definition, but to describe the capabilities of these solutions in a way that they are understood by practitioners and users.

In particular, a unique capability of advanced software - as compared to traditional software - is the ability for it to function autonomously, without a human user and to be able to step through human-like decision making functions, algorithmically, in a way that imitates a human decision-making process. Understanding artificial intelligence (including advanced automation) in this paradigm of an artificial actor stems from the very definition of the technology itself and it is what sets it apart from other forms of technology being its interactivity, autonomy and self-learning agency (Taddeo and Floridi, 2018).

These capabilities create the humanisation of software and so the software itself becomes an 'artificial actor' in social life, which is the basis of a movement to expand agency to these objects (Jones, 2017). Navon (2021)

and others (Gunkel, Gerdes, and Coeckelbergh, 2022; Darling, 2015 and 2016) use the term 'social robot' to discuss our innate desire to anthropomorphise these artificial actors. The evolution from simple to intelligent machine, and the emergence of this concept of an artificial actor to describe the leap from the mechanisation of muscle to the mechanisation of cognition has opened the door to imagining these machines as actors in our own image. That has certainly been manifest in my practice experience with the anthropomorphic narrative of the codebase that we call RiTA, and the intentional fiction of her humanlike qualities (Kao, 2021).

Humanisation is a trademark of the way we conceive the intelligent machines created by advanced software compared to the simple machines that function more as electrified versions of physical machines. Rand quoting his MIT colleague Epstein states:

“The way we allocate responsibility is complicated when AI is involved. AI is simply a tool created and used by humans, but when we describe it with human characteristics, people tend to view it very differently. It can be seen more as an agent with independent thought and the ability to create (2020, para 3).”

The simple machines of the industrial revolution require a simple level of trust. They replaced human machine muscle and the methodology of these machines can be observable in the space we share with them. Simple

machines boil down to some generally accessible concepts of force, lever, pulley and so on. Even as these machines have evolved to become automatically opening doors in a hotel lobby, cash point machines, or the automated coffee machines in our homes - the trust is a simple matter of dependability. That each time a button is pushed, or the lever pulled, the expected outcome is achieved in a predictable way and to a particular standard that the button pusher both understands and expects. Yet even the evolved simple machine is not the machine to solve the complex 21<sup>st</sup> century problems because they are not problems of the muscle, they are problems of the mind.

An anecdote about television usefully illustrates the limitation of even the most evolved simple machine. The battery-operated television remote control was operated by a TV user to operate the television. Simple button pushing by the user sent analogue radio signals to the television to adjust things like the channel, volume, brightness, etc. As televisions became more complex and added more features, including things like internet connectivity, this simple machine remains the solution to mechanical operation of the television. The human user is the only decision-maker and operating their full agency when they exert effort, albeit minimal, to push the buttons. The efficiency of the television remote is mechanical. Human effort, to rise from one's sofa to operate the television is conserved to the much lighter task of button pushing.

When the television remote control was invented in 1956 by Adler for the electronics manufacturer Zenith (National Inventors Hall of Fame, 2022), it would have been difficult, if not impossible, to conceive the paradigm for entertainment consumption via the screen medium through streaming services such as Netflix. According to Cook from Comparitech (2022), Netflix had over 17,000 titles in its content library, which users can watch on demand and by simple command of the remote control.

Add in additional streaming services, and the persisting free-to-air channels and we can say that the mechanical issue of channel changing from the previous century has been surpassed by a cognitive issue of choice and information management (Verganti, Vendraminelli and Iansiti, 2020).

In order to manage the user experience to achieve maximum stream time instead of search time per user, Netflix created a recommendation engine which algorithmically drives users to content based on their historical preferences and streaming behaviour (Netflix, 2022). This type of personalisation measures its success on the amount of content consumed based on its recommendations which would equal an accurate prediction in the metric, a process called personalisation. And whether Netflix intended to or not, the success of this personalisation now means that the platform itself 'controls' anywhere between 75-80% of the content that is streamed by limiting choice via the recommendation engine (Chong, 2020).

From such a simple analogy emerges two predicaments of humanity in the information age that are relevant to any discussion on advanced software.

The first:

That which Brewer (2016) calls The Predicament of Knowledge:

How do we process information when the volume of information available surpasses our processing power?

And with the introduction of advanced software to help us process this information to address this preceding predicament, there arises the second predicament:

That which Humphreys (2009) calls The Anthropocentric Predicament:

How do we, as humans, understand computationally based scientific methods that transcend our own abilities? Or in simpler terms, how can we trust that which, even with radical transparency, we cannot understand?

The grappling of how to resolve this second predicament is a struggle within the discipline of computer science and the social, political and regulatory environment in which it operates.

These two predicaments pervade the context of the 21<sup>st</sup> century and yet they are the precise conditions which give rise to the opportunity for advanced software to solve problems and create new markets. The opportunity to create an application of these emergent technologies within the property sector led my business partner and I, to establish a company called AiRE (which is an acronym for Automated Intelligent Real Estate), a provider of software as a service to the residential real estate industry in Australia (and New Zealand and the UK).

Our chief product is a digital employee, named RiTA, which we implement into the databases of our organisational customers to help real estate agents with productivity by generating and managing leads. RiTA's job addresses the first predicament described here. She processes data from the proprietary customer relationship software of the organisation and augments that with data from multiple other third-party sources such as marketplace activity from property advertising portals and ownership data from privately owned independent data sources, such as CoreLogic's; CoreLogic acquired AiRE in 2021 (Prka, 2021).

RiTA's existence, a fictional anthropomorphisation of pushing tracts of data around, addresses the second predicament. It is a story to help our customers understand the capabilities of technology which they are unfamiliar with by drawing an analogy to the notion of an "assistant", capable of decision-making under delegations and of a level of workplace autonomy through automation. By introducing a new way of working to the property services sector, one where robots and humans are in the same workflow, there are social implications that I am not sure that I fully comprehended as we pioneered the development and adoption of this type of technology within the property services context.

In the case of the "social robot" (Damiano and Dumouchel, 2017), such as RiTA, or even with other attempts to interpret Humphrey's anthropocentric predicament, the reality is that the relationship between developer and user is one of deliberate and not particularly 'honest' trickery. In a non-technical definition, we can understand artificial intelligence (powered by automation) as trickery from its inception - it is designed to imitate human intelligence with the deceit of the human being, The Turing Test, persists as the unashamed benchmark of a successful application (Turing, 1950; Abramson, 2011). RiTA, as an anthropomorphic device to favour cooperation and adoption with the addressable market of customers, is the storytelling element of interpretability that has played a role in engendering trust from

the consumer, and is at the same time, the element that draws the need for ethical consideration (Puri, 2020).

The concept of trust plays the lead role in this exploration as we look at the evolving relationship between worker and tool to worker and “peer” as these digital colleagues, like RiTA, join their workplaces as agents. Zak (2017) argues that to do so successfully, there must be a condition of trust. Navon (2018) and others (Gunkel, Gerdes, and Coeckelbergh, 2022; Darling, 2015 and 2016) use the term ‘social robot’ to discuss our innate desire to anthropomorphise these artificial actors. That has certainly been manifested in my practice experience with the anthropomorphic narrative of the codebase we call, RITA (Kao, 2021).

It is worth noting that many have followed suit in terms of creating fictionalised social robots as Proptech solutions such as “CLAIRE (Property Realm, 2022)”, “ALEX (Rental Heroes, 2022)” and “DONNA (Rhea, 2022)”. This exploration of the impact of interpretability on trust extends beyond my own commercial context and into the broader realm of the Proptech community of practice, which I will discuss in more detail throughout this dissertation. However, insofar as the solutions are proprietary, the predicaments I have outlined are shared by all of the Proptech firms in Australia, and by extension their customers and users in the property services industry.



## 1.4 Introduction to the Australian Proptech Community of Practice

According to a Director of the Proptech Association of Australia, Jennifer Harrison, in 2022 there were over 500 Proptech firms in Australia and these firms are underpinning the digital transformation of the real estate lifecycle in Australia (2022). Globally the sector is also on the rise. According to Gibor, Harel and Madar (2022), the relatively young field of Proptech had raised \$43 billion in capital funding between 2012 and 2018 placing it on the same footing as the fintech industry was in 2013, fintech having gone on to grow 44.8% on compound annual growth rate since then.

In terms of what converts this 'industry' into a 'community', the notion of a community of practice first arose in Lave and Wenger's (1991) situated learning theory as the device by which individual members learn through participation in a social setting.

Wegner-Trayner and Wegner-Trayner define a community of practice as;

“Communities of practice are groups of people who share a concern or passion for something they do and learn how to do it better as they interact regularly (2015, para 2).”

They go on to describe three elements of a community of practice which are present in social learning: The domain, the community, and the practice.

These elements manifest in the Australian PropTech community of practice in observable ways so that I am comfortable in drawing a circle around individual practitioners who participate in the community, and then calling it a community of practice as contemplated by Wegner-Trayner and Wegner-Trayner (2015).

## 1. The Domain

The overlap of the technology suppliers and the property services industry creates a niche domain of knowledge - not fully realised either as a pure technologist or property services practitioner. The domain is new, following the trail of other fused knowledge cultures such as fintech (Mayor, 2021).

Mayor describes fintech practitioners as having “entrepreneurial, computational, financial, and regulatory (2021)” expertise. So too, does

Proptech lend itself to transdisciplinary exploration and practice because we already see the connection of domain islands at a foundational level; what Maguire refers to as disciplines; domains and sometimes sector islands (2015).

The 'Australian Proptech community of practice' has additional unique domain factors with regards to a shared practical context for development created through an ecosystem of technical integration using a network of application programming interfaces (API) and feeds to understand, share, and map data flows and solution stacks to the same cohort of customers. Although the applications or product solutions created by the individual Proptech firms are proprietary, there is a necessary social learning process that occurs in investing in the API ecosystem as well as in proposing, planning and executing these integration partnerships within the community.

It is this specific manifestation of a domain that is in some ways dependent on collaboration and co-learning for interconnecting technologies which, I believe, resists much of the criticism about the deficiencies in the concept of community of practice as in conflict with the self-interest of individuals (Cox, 2005) and indeed even later mutations of the concept by Wegner (with co-authors) towards being a tool for intra-organisational learning (Wegner, McDermott and Snyder,

2002).

## 2. The Community

The Australian Proptech community of practice is a combination of professional networks created by virtue of the technological ecosystem and integration partnerships; through formal platforms such as the Proptech Association of Australia and Proptech Brisbane; through 'houses' attached to different venture capital funds, through sponsorship to the industry through professional industry membership bodies such as the Real Estate Institute in each State and Territory; and through less formal partnerships whereby firms will leverage the functionality and data creation of another product or Proptech firm to create a more value end-user experience (Kumar, Ballal, and Upadhyay, 2021).

The community is also connected through various informal avenues of information sharing including Facebook groups, open Slack channels and various in-person events and summits devoted to Proptech and its sub communities such as women in Proptech - both of which I have participated in and contributed to by way of presentation. The domain also includes the voice-of-customer with real estate agents and property practitioners who are passionate and engaged in Proptech

contributing as a member class.

### 3. The Practice

Not everyone in the community is a direct competitor due to the often-niche solutions that one Proptech will focus on within the chain of work that a user completes. One inevitable consequence of connecting practitioners in a community is the elevation of work through this style of collaboration.

In the case of direct competitors, the API ecosystem and integrative nature of the domain which connects the practical work of the community rewards and incentivises socialisation of problem-solving. In my experience, the attitude is very much that while the solutions are proprietary, the problems are shared. I have given my time to help start-up entrepreneurs with marketing to the user base and in capital raising exercises for AiRE, we relied on the shared knowledge and experience of other practitioners. However, even when solutions are commercially proprietary and in competition in the market, the web of the ecosystem will connect even competing Proptech firms through mooring lines to data sources, events, or in defence of common threats such as 'Big Four' approaches to Proptech in Australia (Smith, 2021).

## Criticism of Communities of Practice

The notion of a community of practice is not a universally accepted premise, particularly at an industry level (Fox, 2000); as distinct from the practice of small groups who participate intra-organisationally (Hutchins, 1993; Wegner, McDermott and Snyder, 2002).

Hodkinson and Hodkinson (2004) criticise the theory of community of practice on several lines, which, if I apply them to the Australian Proptech community of practice, look like this:

- That broader social and economic inequalities might escape a small community and not be integrated into an analysis of learning;
- That power differentials operating within the community might impact social learning processes;
- That the community may make the mistake of favouring informal learning through community over formal learning;
- That mistaken or unethical practices may be shared and learned through the community which then may promote the bad practices;  
and
- That the value of any learning is dependent on social and participatory involvement.

Perhaps as the Australian Proptech community of practice matures, it is better to understand these criticisms as risks to be mitigated. For example, there is a risk that if the community is not held accountable for currency of knowledge, the prevailing knowledge culture of the community might (even inadvertently,) be propagating outdated, unethical or perhaps even illegal work practices (see Hodkinson and Hodkinson, (2004). The risk exists wherever a centralised leadership is not evolving with the needs of practice. However, a combination of social process and “market forces” within the community should create a peer-based accountability for both currency and accuracy.

The problematising of social learning in a community of practice could be a different thesis, it is not the intention of this research to serve as a response to or substantial critical discussion of the concept of a community of practice.

Rather, the theorisation of Wegner-Trayner and Wegner-Trayner (2015), in this space argue that participation in community of practice is a form of informal knowledge sharing within common enterprise that has been around for centuries (for example artisanal guilds, vocational co-operations). These communities, which were centres of social life, and which have been only recently studied and legitimised within organisational contexts and measured against recognisable performance metrics, are important for the social learning, identity forming, and improvement of practice by those who are engaged in it (Wegner, McDermott & Snyder, 2000).

The community of practice, as the context of this research, is also consistent with the reflective practitioner's perspective. That the practitioner is the actor appropriately poised to understand and research the work in which they are engaged and familiar with (Ghaye, 2010).

## 1.5 Introduction to Interpretability as a Basis of Trust



A focus on 'interpretability' as a basis for trust in this research, is a deliberate word choice in a gamut of 'almost-synonyms' in the world of ethical artificial intelligence which is proving problematic for practitioners and researchers as there is no cohesion of meaning as to how these terms are applied. Despite a shared notion of the dilemma, the solution(s) lack a unified vocabulary and when we look at the 'almost-synonyms' which encapsulate various notions of how to recognise and frame the problem, it soon emerges that the lack of cohesion in vocabulary is coupled with, and perhaps even diagnostic and symptomatic of, a lack of cohesion in approach.

It has been a popular practice for stakeholders to publish their approaches to this dilemma, in principles, guidelines or codes. Jobin, Ienca and Vayena (2019) collated a list of 84 different abstractions of these AI principles. Fjeld, Achten, Hillgoss, Nagy and Srikumar (2020) analysed these and found that 94% of the documents included references to 'interpretability, explainability, or transparency' as a principle of responsible or ethical AI. Here is a non-exhaustive list of practice examples across different sectors which reference the dilemma of epistemic opacity and seek to resolve it by way of design principle or guideline:

- "Explainable by design (Accenture, 2021)".

- “Interpretability is crucial to being able to question, understand, and trust AI systems. Interpretability also reflects our domain knowledge and societal values, provides scientists and engineers with better means of designing, developing, and debugging models, and helps to ensure that AI systems are working as intended (Google, 2021)”.
- “Document throughout the development lifecycle to enable transparency...communicate design choices, performance, limitations, and safety risks to end users (Microsoft, 2021)”.
- “In an era where trust has gained tremendous importance to customers, every organization [sic] has a responsibility to adhere to ethical, explainable AI, respecting individual rights, privacy, and non-discrimination (IBM, 2022)”.

It is observable through the currency of the date coding of these publications that the field of practice is iterative and frequently updating these publications. The practice of firms and even regulators making these publications has drawn criticism on the grounds that they are lacking substance, and also enforcement.

In a round-up of the ‘almost-synonyms’ the following terms being used sometimes interchangeably to describe how “goodies” are proposing to resolve the dilemma of epistemic opacity through principles and guidelines:

- Explainable;

- Interpretable;
- Transparent;
- Responsible;
- Ethical;
- Trustworthy; and even
- Safe.

Australia too, has a voluntary code of Ethics Principles for Artificial Intelligence, with the following general principles:

- “Human, societal and environmental wellbeing: AI systems should benefit individuals, society and the environment.
- Human-centred values: AI systems should respect human rights, diversity, and the autonomy of individuals.
- Fairness: AI systems should be inclusive and accessible, and should not involve or result in unfair discrimination against individuals, communities or groups.
- Privacy protection and security: AI systems should respect and uphold privacy rights and data protection, and ensure the security of data.
- Reliability and safety: AI systems should reliably operate in accordance with their intended purpose.
- Transparency and explainability: There should be transparency and responsible disclosure so people can understand when they are being

significantly impacted by AI, and can find out when an AI system is engaging with them.

- **Contestability:** When an AI system significantly impacts a person, community, group or environment, there should be a timely process to allow people to challenge the use or outcomes of the AI system.
- **Accountability:** People responsible for the different phases of the AI system lifecycle should be identifiable and accountable for the outcomes of the AI systems, and human oversight of AI systems should be enabled (Australian Government, Department of Industry, Science and Resources, 2023, para 5).

In March 2022, the New South Wales Government attempted to provide more tactical direction through its AI Assurance Framework which is a tactical decision-making framework for the appropriate adoption of artificial intelligence State Government projects. The 5 'mandatory' principles of the policy are:

“The Policy provides that AI must be:

- The most appropriate solution for a service delivery or policy problem
- Used in such a way as to mitigate as much potential bias as possible
- Used safely, securely, and in line with existing privacy and information access requirements

- A solution that is open and transparent so that NSW citizens have access to efficient review mechanisms
- A solution where the decisions are always subject to human review and intervention (New South Wales Government, 2022)".

Focussing on principle 4 from this set of guidelines, it is difficult to conceive how an average NSW citizen would be privileged enough to understand and empowered enough to access the black box operations of and design intention of the vast majority of AI applications. The very real complexity to AI empowerment for everyday citizens is the epistemic opacity of systems: holding in paradox the anthropocentric predicament of Humphreys, 2009; and the transparency paradox (Burt, 2019).

The voluntary nature of these codes and lack of enforcement or trust infrastructure raises questions about their effectiveness. Middlestadt, from The Turing Institute, argues that the publications represent "mere virtue signalling intended to delay regulation and pre-emptively focus debate on abstract problems and technical solutions (2019, p 501)".

In the "Why Addressing Ethical AI Benefits Organizations [sic]" study, The Capgemini research institute have attempted to cohesively define these "almost-synonyms", and it is this vocabulary that I will adopt for the purposes of this research. According to Capgemini, the ethical discourse of

advanced software can be understood as:

“Being ethical in its design and use:

- Transparent AI: where it is clear, consistent and understandable in how it works
- Explainable AI: Where you can explain how it works in language people can understand
- Interpretable AI: Where people can see how its results can vary with changing inputs
- Fair AI: Where it eliminates or reduces the impact of bias against certain users
- Auditable AI: AI that can be audited, allowing third parties to assess data inputs and provide assurance that the outputs can be trusted (Thieullent, Tolido, Crummenerl, Buvat, Khadikar, Senguptar, and Aggarwal, 2021, p6)”.

Non-incidentally, proposed legislation to create harmonised rules on artificial intelligence in the European Union recommends a rights-based approach, ensuring that the AI solutions in the EU which define a risk-based classification system for solutions and the primacy of human rights recognising that emergent technologies have the capability of adversely affecting fundamental rights, including human dignity, privacy, non-discrimination, equality through manipulative and exploitative practices (European Commission, 2021).

No such legislative instrument is proposed in the Australian context; however, the Australian Human Rights Commission has recommended that legislation be introduced to extend liability to AI-made decisions, including a presumption that if a decision is made by AI, the corporation or legal person who is responsible for making the decision would be liable regardless of the intervening technology (Australian Human Rights Commission, 2021). To the best of my knowledge, no draft or progress on that recommendation has been made at the time of writing.

In a contemporary teaching textbook for university-level computer science students, it is the notion of 'Explainable AI' that is headlining. Samek et al (2019) are editors of the seminal textbook "Explainable AI: interpreting, Explaining and Visualizing [sic] Deep Learning" and at the risk of oversimplifying this discipline-specific approach, the notion of interpretation in this text predominantly places the onus on developers to interpret their own systems and to explain them, which is a problem due to the disciplinary lens and scientific discourse that is difficult to transcend (See Johnston, Lee, and McGregor, 1996; although this is referring to structural engineering, the arguments are reliably transferable to software engineering).

This notion of interpretability from within the computer science discipline differs from the democratic notion of users being able to understand the

models and make their own judgments about adoption. It certainly incorporates the notion of understandability, which is the essence of the Capgemini taxonomy of terms, however, an explanation isn't equivalent to understanding. Indeed Stueber (2012) argues that they may be as apart as the human and natural sciences, which is an interesting analogy.

Interpretability in the sense that I use the term in this research, comes back to a human-centric sentiment that these systems impact all humans.

Therefore, it ought to be a matter of human dignity that all users are able to understand the systems, as well as how decisions are made, and how decisions can be affected by different factors and inputs.

A further, and useful, criteria for interpretability (notwithstanding the fact that it uses the term 'explainability',) is derived from the four EAI principles (more guidelines) by the US National Institute of Standards and Technology (in draft format at the time of writing). The EAI principles attempt to spread the burden of 'explainability' beyond the computer science discipline. The four principles of Explainable AI proposed by the United States Government, are:

- "Explanation: Systems deliver accompanying evidence or reason for all outputs;



- Meaningful: Systems provide explanations that are understandable for all users;
- Explanation Accuracy: The explanation correctly reflects the system's process for generating the output; and
- Knowledge Limits: The system only operated under conditions for which it was designed or when the system reaches sufficient confidence in its outputs (Phillips, et al, 2020, p2)".

These four principles are not without practical challenges, and it cannot be overlooked how difficult it is to provide an 'explanation' for complex computational processes (Bhatt, et al, 2020). For principle one in the proposed US standards, "Explanation", Burt (2019) describes one worm in the proverbial can as The AI Transparency Paradox. He says that there is a direct relationship between the amount of information, evidence and reason provided for AI decisions and the ability of malicious actors to use those insights to manipulate the application and cause harm.

For principles three and four, "Explanation Accuracy" and "Knowledge Limits", there is a practical barrier highlighted by Bhattacharya and Ramesh (2020) whereby uninformed users would have no way of policing accuracy and that regulators are dependent upon compliance models which are problematic. Indeed, Newman (2021) argues that in practice, particular engineers are often working on specific branches of code and use EAI principles to

measure only the accuracy of specific features rather than holistic models and applications.

And so, the surviving principle of EAI is most aligned with the notion of interpretability that I have illustrated, and that is “Meaningful”. Where explanation from one side with language, status, educational, or geographical barriers defy ordinary understanding, there has been a function for interpreters, whose role is to hold each side in communicative balance (Maguire, 2015). The role of the interpreter is a sacred one - not simply a task of publishing or explaining - but rather it is an empathetic and human function to interpret and deliver understanding and it is on that basis that devices such as metaphor, allegory, and a swag full of creative licence can be used to make meaning (Bruns, 1995).

For the purposes of this research, whilst I recognise the principles and challenges in the fields of computer science, law, and ethics, it is the ongoing effort of transdisciplinary “Meaning Makers” in practice to provide consumers with their own tools for decision-making which drives me to favour the concept of interpretability above all other proposed terms.

A “Meaning Maker” is also much more analogous with interpretive theory, importing hermeneutics and the role of translator to appropriate interpreters whose role it is to make meaning across the knowledge cultures of

advanced software and the specific domain they are working in - for me that is the residential property services industry in Australia. Proptech, in its conjunctive essence, embodies in word to some extent, this bridge which must be crossed and so I believe that it doesn't merely invite interpretative theory, but rather it is in the DNA of successful practitioners in Proptech.

## 1.6 Rationale for Research

The rationalisation for this research is something I have spent a lot of time reflecting on. Ultimately, rationale comes down to answering the simple question of “why does this research matter?”. I have been incredibly fortunate through the research process to be exposed to research efforts of other academics including my supervisory team, my doctoral cohort, a deepening connection with the academic community beyond my own Institution and part of this exposure has brought with it the self-doubt that comes with comparison.

The Australian Proptech community of practice is driven by largely commercial outcomes and in terms of its residential real estate customer, facilitates an end user goal which is also centred around commercial concerns, gross commission income (GCI or GCC, respectively). I recall during my research, I had been put in touch with a researcher who was doing some inspiring work which she had described to me in the email and my draft, and importantly unsent reply, was something along the lines of “I am critically reflecting on how my practice has helped real estate agents buy more Audis”. Obviously, this is oversimplifying things but I tell this story to provide some insight into the struggles of answering that question: “Why does this research matter?”

As AI becomes more ubiquitous in our domestic and everyday lives, it would be ethical if consumers, end-users, and all parties impacted by the decision-making capabilities and delegations of advanced software, had greater access to knowledge and understanding about how those decisions are made. This, in particular, provides a transferable quality to this research at the dawn of an age of unprecedented communion with advanced software. By “unprecedented communion with advanced software”, I am referring to the most important and fundamental differentiator of this type of tooling compared to previous generations of Proptech - its ability to imitate human intelligence and by extension its representation in-market as an anthropomorphised machine.

#### The Gravity of a Property Transaction on Individuals Rationale

It is remiss to begin any discussion on individual ownership of property in Australia, without first acknowledging that for 60,000 years or more, all Australian land was occupied by Aboriginal and Torres Strait Islander people, who were displaced under the legal fiction of terra nullius (land of no one), which was overturned by The High Court’s decision in *Mabo v. Queensland (No. 2)* in 1992. The decision paved the way for passage of The Native Title Act, which restored native title to indigenous Australians, but for where that title had been extinguished by freehold grant or where the Crown had a purposeful title (see Russell, 2005).

The significance of home ownership in Australia, for Australians may be difficult to understand to outsiders, and arguably underpins it as a unique asset class. For over half of Australia's history, it was said that its economy "rode on the sheep's back" as a reference to the wool industry and the significant economic prosperity that industry provided to a young nation, however as demand for wool declined globally and it has been dwarfed by residential home ownership in terms of investment preference for Australians, measured simply and certainly by the sheer size of asset class.

Residential real estate in Australia provides the modern solution to our most basic human needs of warmth, shelter and safety (Maslow, 1943), not only by virtue of it being a corporeal solution to the survival concept of sleeping indoors, but also as a solution to security in advanced capitalism where wealth is stored in the bricks and mortar of houses as tangible and appreciating assets. It is implicit in this idea that the reach of the residential property services domain impacts every Australian, who are all either property owners, buyers, or renters and some also be providers of accommodation as landlords. According to CoreLogic, "The residential housing sector is Australia's largest asset class by some margin, estimated to be valued at more than \$9 trillion; almost three times the value of all superannuation funds combined, and more than three times the value of companies listed on the Australian Stock Exchange. Housing also makes up

more than half of household wealth, making it a pillar of retirement and wealth (2022).”

Australians who participate in the residential property sector contribute to this important economic activity, which has both cultural and political relevance beyond its corporeal tenement. For Australians, property ownership has been the end game and it is the central criteria for achieving what is colloquially referred to as ‘The Great Australian Dream’. Bluett (2017), explains that it bears such an esteemed place in the Australian psyche because throughout our short history, home ownership (or at least the possession of a mortgage,) has been, at different times, a ticket to participate in the political process; a place to grow food; an insulating factor against socialism, and a democratic ideal.

Beyond the particular personal impact for transacting parties in the Australian context, which ought not to be minimised, Carruthers and Ariovich (2004) point out the foundational importance of property rights (both corporeal and incorporeal,) in western thought and enshrined in its institutional frameworks, whether they be governmental such as the judiciary, legislative or executive frameworks such as the land titles office, or whether they be private institutions such as banks, or even social institutions such as matrimony, which also impact how and if an individual can possess and transact property rights.

As many of those institutions which deal in property rights move towards functional operation in the digital space, the expression of those rights is naturally done through the intermediation of technology, for example through electronic exchange and settlement processes and the electronic titles register (many non-Australians are surprised to learn that paper title is redundant in Australia, replaced by an electronic register operated by a Department of Natural Resources and Land in each Australian State and Territory). With the digitisation of real estate, it is a short reach indeed to consider the operation of Proptech, as impacting a mass market of consumers with economic, social, cultural and political significance attached to their transactions, and arguably more so because they are Australian than their global counterparts elsewhere.

It is a motivation of this research is to look at the technological arena where those transactions have significance, being the field of Proptech and to critically reflect on whether the attitudes of the community of practice are aligned to the gravity of the transaction, as it weighs upon the individual transacting parties, and also to the residential real estate industry who are also stakeholders in these transactions. While Proptech is in its relative infancy in Australia, a rationale for this research is to provide insights to this context, through ethnography, and to provide those findings to the community of practice so that those actors might turn effort towards



resolving the Anthropological Predicaments of Knowledge (Brewer, 2016), and Understanding (Humphreys, 2009), for the mass population of users and property consumers; and, to enfranchise them with the ability to interpret the technology which processes the transactions which hold such significance for the individuals concerned .

As we move into more complex workflows that are driven by software and increasingly supported by advanced software capabilities, a critical and creative expose of the current state of Proptech could help to inform a generation of practitioners to reflect on the consequences of the tools they create. As Australia's Chief Scientist Dr. Alan Finkel so eloquently stated on the matter of trusting advanced software, "...we can't unpick our choices. And it could be that we and our children can't escape the implications (2018, p5)".

#### Imitation and Deception of Artificial Actors Rationale

Alan Turing is often referred to as the pioneer of modern artificial intelligence. Turing's contributions to allied efforts in WWII are estimated to have saved anywhere between 14 million and 21 million lives, due to the decreased length of the conflict (Copeland, 2012). Once it had been established that these accomplishments were the result of the enhanced processing of data by the Turing Machine, a precedent for machine intelligence outperforming its human counterpart (albeit in very narrow

computational circumstances,) had been established. Turing was asked to define what comprised an intelligent machine and his seminal response forms the basis for a test that is still used by many in the field as a benchmark for successful artificial intelligence.

Known as The Turing Test, Turing said that “for a computer to be considered “intelligent”, it must be able to fool a human questioner into thinking that it was a human being (Kelkar and Preslar, 2013)”. And so, from its very inception, advanced software was intended to “fool” its human users, indeed according to this threshold test, it may not be considered intelligent if it does not.

Now the feminist in me can't proceed without inserting the *Herstory* in this context and that Ada Lovelace had come to a similar conclusion about the future of machines, some 150 years earlier after programming the first recognisable computer - The Babbage Engine. Lovelace through her famous 'objection' to the notion of singularity (where machines reach parity with human intelligence,) also prefaced this notion of imitation. She said, “The Analytical Engine has no pretensions to originate anything. It can do whatever we know how to order it to perform (Oppy and Dowe, 2021).

The march towards singularity, a concept where computers would be on par with humans in terms of intelligence began as a serious endeavour, and

although the technical outcomes remain far away from this point (Casas and Sierra, 2022), the creation of these intelligent tools in our own image, became the norm. And why not anthropomorphise them, to make them in our own image. I am drawn to this quote of Shakespeare summed up our human-centric epistemology, he said:

“What a piece of work is man! How noble in reason!

How infinite in faculty!

In form and moving, how express and admirable!

In action, like an angel!

In apprehension, how like a god!

The beauty of the world, the paragon of animals.”

- Act II, Scene 2, Hamlet (Shakespeare, 1599).

The quest for a race of robots “like us”, and in the hyper-rationalised flattered version of “us”, has created a generation of anthropomorphised advanced software that behave as social actors. The acceptance of advanced software as more than a tool, but as an artificial social actor, that shapes us through interaction and is shaped by us through interaction, seemed like fertile soil for the emergence of a new artificial actor in the social world, could be an acceptance of the inherent deception or it could be the criteria of its success.

When imitation is the deliberate function of these applications of advanced software, we must be critical of the ethical implications of this overt trickery of a mass population who may not be able to discern whether they are talking to a human or not; and if, for example, they are aware and consent to their data (personal information as well as the data created by their digital behavioural exhaust) being used and stored (even momentarily) by it (Puri, 2020).

In its most perverse form, we (the humans) lose control of the machines either by virtue of their scale, impact or increasing intelligence leading to a state of enfeeblement (Russell, 2019).

#### Culpability of Artificial Actors Rationale

Even if we accept that we live in a world where we interact with a blend of human and artificial actors, we must also look at how those artificial actors differ in important ways to the human social actors that we are familiar with. Humans are (arguably, and according to behavioural economists) predictably irrational (Ariely, 2010). We are usually pretty good at knowing how a person will react to a particular scenario and as humans we can explain our decision making process, although we are never sure that this is accurate or confabulated (Morse, 2006).

Australian citizens have the right to written reasons for government decisions in Australia, but where those decisions are supported by AI, we are not entitled to transparency over algorithmic reasoning delegated to and performed by machines. (It should be noted, though, that at the time of writing this, there is a formal recommendation by the Australian Human Rights Commission for the government to adopt a reason for decisions rule for decisions made by AI, as part of the AI-informed Decision Making Framework, among other ongoing work regarding AI, human rights and technology (Australian Human Rights Commission, 2021).

Human actors are also limited to the number of interactions they can have at one time, the number of tasks they can complete in a day due to capacity; capacity is further reduced by the demands of the body; and they can only exist in one place. While what makes artificial actors 'expert' is the constraints that enable them - meaning the narrow context in which they operate, they have no such biological constraints and they can perform millions of actions effectively in parallel and simultaneously, and they can interact through billions of data points sourced from all across the planet, and indeed quite some way into space, even further theoretically (Cheatham, Javanmardian, and Samandari, 2019).

Even though it appears that these artificial actors are much more capable of action at scale and arguably interact in the social world with more risk, there

is limited accountability and answerability for artificial actors. Accountability in our human systems is recognisable in the form of legal frameworks, recognisable in the way that criminal codes or torts apply to legal persons, meaning natural people (including government officials) and corporations (Worthington and Spender, 2021). These frameworks do not currently apply to artificial actors, as they have no legal standing. Indeed, a lot of the current accountability is handled under product liability. When the complexity of these systems sometimes creates black boxes even for the people creating them, it can be difficult to assign responsibility under our current legal frameworks for these artificial actors.

Recommendation 11 of the Australian Human Rights Commission's Report on AI- Informed Decision Making is for the Australian Parliament to enact legislation to transfer liability from the artificial actor to the human actor when the artificial actor is performing a task on behalf of a human actor or where the artificial actor is acting on a delegation from a human actor (2021). Elish (2019) refers to the concept of a 'moral crumple zone' whereby we are putting the human actors in the way of artificial-real world collisions; and in this paradigm the human actor becomes liable for the actions, decisions or outcomes of a machine which they don't understand.

Answerability, on the other hand, would cover the non-enforceable moral norms that give human beings guidelines about how to be responsible social

actors (Shoemaker, 2011). For example, there is no accountability for pushing in line or skipping the queue (it isn't illegal in most circumstances); however, there is moral accountability to the other people in the line. In the human world, there are complex social systems which provide this answerability through social and economic consequences, even where conduct falls short of legal wrongdoing. Finkel says, "That capacity to trust in unknown humans, not because of a belief in our innate goodness, but because of the systems that we humans have made, is the true genius of our species (2018, p2)".

The immature world of AI, including advanced systems in Proptech, simply lacks the trust infrastructure for these artificial actors that is recognisable as being on parity with human systems. There are no courts, no method of public inquiry, no dedicated regulator (in Australia) or enforceable standards (only recommendations), and there are not enough appropriately informed human actors to represent the interests of the mass population and to hold that in balance with the benefits of the inclusion of artificial actors (Finkel, 2018).

#### Economic Productivity Rationale

A further rationale for this study is born from the broader argument in favour of economic productivity, which justifies the existence of Artificial actors more

generally. The potential of scaling the output of knowledge workers holds economic benefit is also true within the Proptech domain, Unissu predicts that the amount of venture capital available in funds for the sector globally would reach AUD\$20 billion by 2020 (Tan, 2017). If the mass-market consumer is not able to trust the technology, these economic benefits could go unrealised for the providers of property services in Australia, as well as for the Australian property consumer.

An economic rationalisation for the existence of artificial actors is easily found in the finance and economic disciplines. In its interim report, 5 Year Productivity Inquiry: Australia's Data and Digital Dividend (2022), The Australian Government Productivity Commission summarises important empirical findings on the positive relationship between technology and productivity, listed here:

- Research by Gal, et al (2019) of 20 European countries (19 EU and Turkey,) “an industry environment characterised by high digital adoption rates is associated with higher [multifactor productivity] growth in the average firm (2019, p 18)”. Researchers also noted a dependency on tacit skills, such as data, and recommended a parallel investment in these areas;



- A Singapore Study by Vu (2013) demonstrated a correlation between investment in ICT (Information and Communications Technology) and a 1.0 percentage point growth in gross domestic product as well as a 0.8 percentage point growth in average labour productivity.
- In the private sector, Bloom, Sadun & Reenan reported that “doubling the IT stock was associated with a 6.3 percent labour productivity increase for U.S multinationals and a 4.3 percent for non-U.S. multinationals (2012, p180)”.
- More recently, Borowiecki, et al (2021) studied digitisation of private firms in The Netherlands and found positive and significant correlations between labour productivity and multifactor productivity with investment in both information technology systems and human skills;
- In a longitudinal study of a multinational cohort of 37 countries, which included Australia, Qu, Simes & O’Mahony examined the relationship between economic activity and technology between 2004-2014 and found that technology (internet access and mobile phone usage) had contributed to a consistent growth in GDP per capita of 5.8 percent across the decade (2017); and

- With access to a Large Language Model (such as ChatGPT,) Eloundou, et al (2023) find that up to 15% of all worker tasks could be completed significantly faster at the same level of quality; a number which jumps to 47-56% when additional tooling is incorporated on top of the model.

### Trust as a Barrier to Adoption Rationale

An Australian study showed that “almost half of Australians are unwilling to share their information with an AI system, and two in five are unwilling to trust the recommended output of AI. This general suspicion will slow the potential advance of AI [in Australia] (Gillespie, et al, 2020)”.

Even though advanced software is ubiquitous and has become a greater part of our lives than most people realise, it is also filling roles that might otherwise be performed by humans as social and political actors (Wladawsky-Berger, 2014). As social and political actors, trust will impact the level of acceptance (Jackle, et al, 2022), which means that if users do not trust these advanced software solutions, AI-technologies will cost more and be slower to market (Gillespie, et al, 2020), and the promised productivity gains will go unrealised (Osoba & Wesler, 2017).

The obstacles to trust come from an environment of decreasing trust, describing the Australian context as “mistrust as default (Edelman, 2022, p20)”; and yet challenges also arise in establishing a new and appropriate paradigm for trusting advanced software - selecting a basis of trust that can be adapted or expanded to objects, which imitate people and yet which behave, or rather which function, as systems (Floridi, et al, 2018).

In terms of orientation to this research, the choice to express the concept as ‘trust’ here reflects that it is an unstable commodity (Dasgupta, 1988). It further reflects that it is unlikely to have a stable meaning over time and across contexts (Considine, 2015).

#### A Critical Power and Privilege Rationale

While this research seeks to understand the context of Proptech from a practitioner, or a meta-practitioner's perspective through the synthesis of a variety of participants from a community of practice, the practical point of view should be held in balance with the extant theory, as well as within a broader sociological context. In this broader context, advanced software has become ubiquitous - as common in application throughout the social world in 2022 as electricity (Ramirez, 2017).

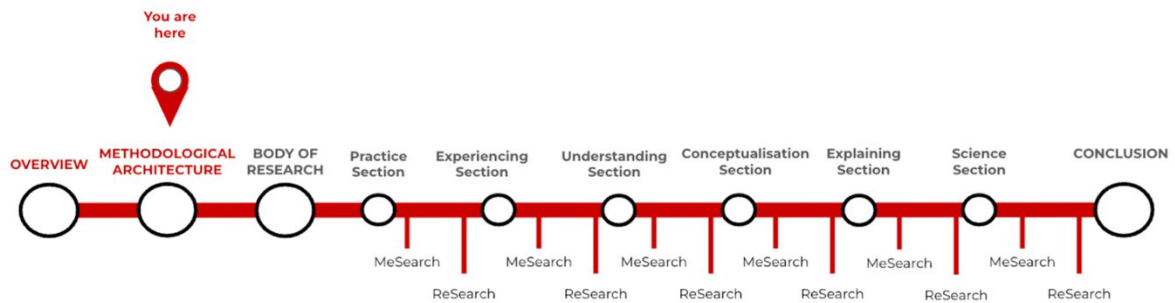
That context which Ramirez describes as a “cognification of things (2017, para 4), can compare the AI pervasion of digital space to “the electrification of things that took place during the Industrial Revolution (2017, para 7)”. Cognification, in that sense, is a time and place whereby this research occurs.

Similarly, to the dawn of industry, there are changes to social norms and organisation that have occurred with the emergence and impact of advanced software. The ‘becoming’ rather than ‘being’ of a society that is increasingly powered by advanced software is ambiguity and fluidity of context that is important to note, as much of the literature is speculative and there is much debate about how advanced software will ultimately impact our personal and work lives. Regardless of whether you take a redundancy (Rotman, 2013) or an augmentation (De Cremer and Kasparov, 2021) approach to automation and artificial intelligence, the ability of entrepreneurs, creators and developers to transfer tasks, both mundane and intelligent work, to machines, has consequences for ‘work’ and the broader social context in which that work is performed.

Just as the introduction of machines and factories created broader sociological and political implications for the workers, we cannot escape that there are ramifications for the significant changes in work practice with the introduction of intelligent machines and advanced software. Joyce, Smith-

Doerr & Alegria (2021) have identified the need for sociological theory in shaping the future of artificial intelligence and they along with other contemporary voices including Molina Rodriguez (2021) have looked at the “politics of algorithms” including how machine thinking can (or does) create structural discrimination because of how it can (or does) shape and influence social decisions and actions. Recognising that these machines (powered by advanced software) are framed as social and that they act in ways that impersonate and imitate social actors, we cannot escape that they are, indeed, also political.

## 2.0 Chapter Two: Methodological Architecture



### 2.1 Scholz and Steiner's (2015) Architecture of Knowledge

The methodology of this research is best described as a bricolage of qualitative methods housed within an architecture, adapted from Scholz and Steiner's model of integrated knowledge (2015). Here is the original model:

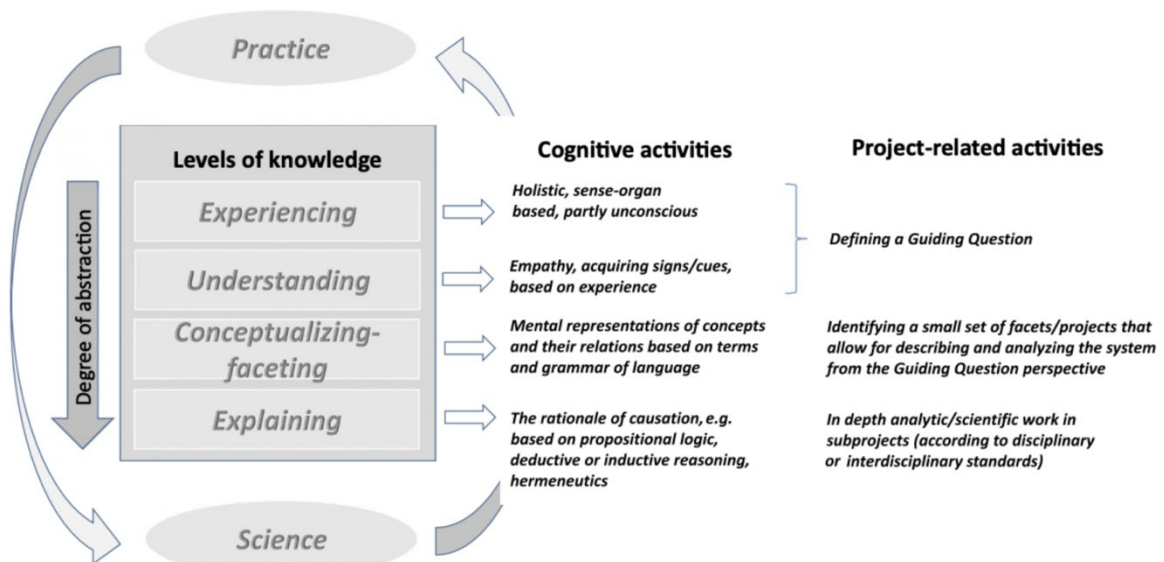


Figure 3: The Architecture of Knowledge (From Cognition to Transdisciplinary Processes) (Scholz and Steiner, 2015, p533).

It is a sophisticated model for transdisciplinarity aimed at the generation of system representations, however, the process of transdisciplinarity as a methodology within this framework is ideal for the insider-researcher producing and abstracted representation. Integration of knowledge, as modelled by Scholz and Steiner (2015) is consistent with the objectives of my research in that it seeks to capture the experience of other practitioners and to encourage their future engagement with the research in terms of reflection and consideration; this is the socially robust orientation of the research.

According to Scholz and Steiner:

“As transdisciplinarity differs from consultancy, recommendations are not seen as the ideal product of a transdisciplinary process. We instead aim to generate socially robust orientations... The stakeholders who collaborated with the scientists in constructing the orientations may adapt and utilise the orientations in their decision-making process (2015, p539)”.

It is a particularly important framework as an insider who is also a researcher-practitioner because my aim is to co-create knowledge with my community of practice while embracing my subjective positionality. Integration and co-creation with community members is in line with the desired outcome of this research - where the community is both the beneficiary of the

process and the outcome of the research moving forward, and a co-creator of the knowledge.

The architecture of integrated knowledge highlights critical tensions of researching with participants as an insider, indeed an influential insider, within my community of practice. It is through my agency, as a researcher, that I take data - my story and the stories of my participants, and create an integrated narrative: a fictionalised ethnographic novel. This is achieved through the vertical movement through the architecture - through the process of abstraction - to capture how I and other members of the Australian Proptech community of practice relate to the concept of trust in advanced software.

The second movement through this methodology - this architecture of integrated knowledge - is integrating my role as an insider, indeed an influential insider, within that community and managing my own tacit knowledge in terms of its limitations and biases when it comes to integrating that with the experience of my participant-co-creators.

The difference between the two tensions is subtle - but one is about normalising and abstracting my experience; and the second is balancing the autoethnographic potential of this research with the ethnographic enquiry of participants. This horizontal integration through autoethnographic cognitive



process such as the self-gathering exercise of indwelling captured in reflective journaling (MeSearch) and participant focussed ethnographic tasks such as interviewing and information gathering. The integration here between MeSearch and research enables representation of a synthesised experience; cognisant of multi-positionalities and roles in relation to the various ways that I relate as researcher-participant with the individual subject-participants.

By embracing the complexity of the various roles and relationships within the community and within the novel paradigm of advanced software, artificial actors in the Australian Proptech community of practice, the structure of Scholz and Steiner's (2015) architecture, becomes a loom through which this research is woven. Progress through vertical stages of abstraction behave as weft threads, weaving through the warp threads of me-search and re-search. When the level of abstraction is complete, we move through to the next section of the tapestry. As the tapestry grows longer, moving from practice to science, the sections become more abstracted as a result of the process of integration, and, as Scholz argues, become strengthened by it.

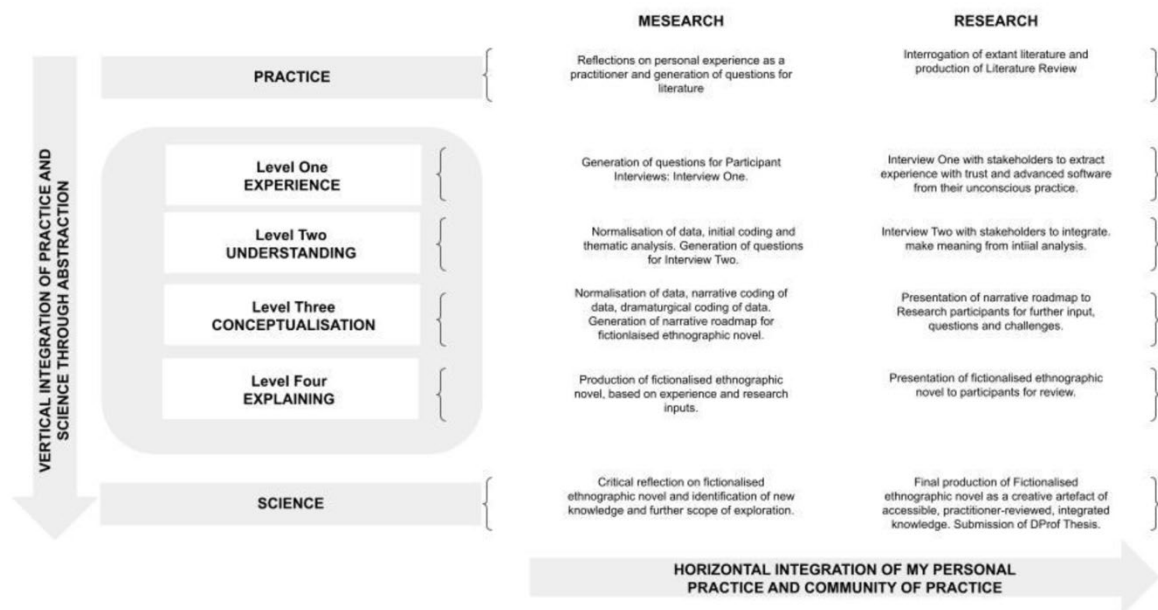
Ultimately, we are left with two outcomes: two sides of the same tapestry:

1. The methodology and discussion of the research contained in this thesis, which might be understood to be the knotted side of the

tapestry; structural, functional and defensible; and

- The fictionalised ethnographic novel, which might be understood to be the art of the tapestry with the function of art, to evoke what the structural and functional cannot.

With that visual of weaving in mind, I have applied the model to my research, and the adapted model, my loom, is represented here.



*Figure 4: My Research Design: An architecture of knowledge adapted from Scholz and Steiner (2015) integrating knowledge vertically through a process of abstraction; and integrating knowledge horizontally between myself as researcher-practitioner and the Australian Proptech community of practice.*

By integrating those knowledge sources horizontally, and integrating practice and science vertically through abstraction, this framework substantiates the integration of knowledge within a relational ontology, in a way that is consistent with my research approach. It also provides a structure for the various methods at each stage of progression, with parallel stages of 'MeSearch' and 'ReSearch' to incorporate the data inputs and research methods with my personal epistemology as a researcher-practitioner-insider.

## 2.2 Organising and Describing the Methodology

In moving vertically through the sections and horizontally through subsections of MeSearch and ReSearch, there emerges a twelve step project plan, which is organised and described here.

### **Practice Section**

If we take the catalyst of this enquiry to be 'Practice', I want to define my practice as the part of my role that involves implementing the Digital Employee RiTA into various small business operations. I have done this personally over 200 times (learning cycles) and so I already have an

established 'bank' of experience and observations as an initial 'means' of knowing. This section of the 'weaving' will explore my own practice context within the Australian Proptech community of practice, identify problems that the community is seeking to address in relation to interpretability as trust, adoption, engagement and support, and to review the extant literature in relation to solving these problems as a community of practice.

#### Step One - MeSearch (Practice Section)

To weave the MeSearch thread of the PRACTICE section of the tapestry, I begin with reflections on my personal experience as a practitioner and Cofounder of an advanced software Proptech, creator of an artificial actor named RiTA. The outcome of this reflection is not to find answers but to generate the questions I need the existing knowledge and literature to answer next.

MeSearch Method:

Reflexivity through Reflective Journaling about my own practice experience.

MeSearch Outcome:

A set of questions by which to interrogate the literature based on gaps in knowledge, which emerge from my reflections.

#### Step Two - ReSearch (Practice Section)

To complete the Practice Section of the tapestry, this MeSearch must be integrated with ReSearch and so for the Practice section, the methodology is to weave my reflections on practice and the questions that emerged from reflection into the practice of the broader research community by way of researching the extant literature and production of the literature review, which is contained in this thesis.

ReSearch Method:

Discussion of approach to Literature Review.

ReSearch Outcome:

Literature Review.

## **Experiencing Section**

Knowledge that is lived, sensed and gathered, perhaps unconsciously, as a result of learning done at work, through work, for work and within a socio-economic-political context and within a particular domain. This section of the 'weaving' is about building on my own experience and the existing literature by gathering perspectives broader than my own from a cohort of participants

with varying levels of participation in the Australian Proptech community of practice.

### Step Three - MeSearch (Experiencing Section)

Weaving the experience section involved MeSearch by reflecting on the literature review, forming an idea of how I would select and recruit participants for research from within the Australian Proptech Community of practice, and the generation of questions for the Participant Interviews:  
Interview One.

#### MeSearch Method:

Reflexive writing about my implicit participation and multiple positionalities and roles with various stakeholders from the Australian Proptech community of practice.

#### MeSearch Outcome:

A cohort of participants from a range of perspectives within the Australian Proptech community of practice, a design for ethnographic interview as embedded insider, and a set of guiding interview questions.

### Step Four - ReSearch (Experiencing Section)

Step Four involves ethnographic fieldwork in the form of conversational interviews with the participants recruited as the outcome to Step Three. The

interviews are largely\* conducted over zoom and transcribed.

(\*In some rare instances, it was more feasible for interviewees to complete a “paper” interview, for example, due to sickness or international travel).

ReSearch Method:

Conversational ethnographic interview with participants.

ReSearch Outcome:

Conversational data extracting the community’s experience of trust and advanced software from their unconscious practice.

## **Understanding Section**

Knowledge that is based on experience but where empathy is applied to make meaning of how knowledge relates to others in the domain, in the context, and beyond. This section of the ‘weaving’ relates to a gathering and validating process - almost structural support for deeper abstraction as the work progresses.

Firstly, the interview data from Step Four is pre-coded as loose and organic themes emerge from an initial read through.

It is then 'normalised', by which I mean extracted from its speaker and collated around those themes, as a harmonised experience of one meta-practitioner, instead of being from varied participants.

Once normalised in this way, acknowledging that this is different from how data might be normalised in the context of statistical analysis, the themes are then manipulated into a more logical framework, and the data re-coded to nest within these new structural themes.

After this organisation, the questions for Interview two are generated for extending and validating understanding. The research element involves conducting the second round of interviews with the cohort of participants.

#### Step Five - MeSearch (Understanding Section)

Conversational data as the extracted form of experience of trust and advanced software from the unconscious practice of various members of the Australian Proptech community of practice. The data is extracted through a process of organic initial coding and then normalised within those initial codes which emerge from initial readings of the transcripts. The initial code data is then read with a view for a more structured thematic organisation, which also highlights where understanding needs to be deeper and what would benefit from further exploration with participants.



MeSearch Method:

Normalisation and Initial Coding of Data

MeSearch Outcome:

Normalised conversational datum 'snippets and descriptions are arranged in an organic order from an initial round of analysis. A set of interview questions for the second cycle of conversational interviews is generated.

Step Six - ReSearch (Understanding Section)

A second cycle of conversational interviews with participants. The interviews are conducted over zoom and transcribed.

ReSearch Method:

Conversational ethnographic interview with participants.

ReSearch Outcome:

Conversational data is extracted for a deeper understanding of experience and to validate groupings and categories of initial coding.

**Conceptualisation Section**

Knowledge is synthesised from experience and understanding, and theorisation can begin in terms of elementary description that is recognisable as meaning-making and would make sense to those within the domain and context. This 'weaving' involves morphing the data into a narrative and then presenting that to participants for feedback and validation of the concept directly from the domain and the context.

#### Step Seven - MeSearch (Conceptualisation Section)

With the data normalised and grouped into thematic categories and themes, I start the process of organising that into a narrative - it is almost the reverse of a literary analysis, rather than extracting themes from a story: we are seeking to imbibe the themes into a story that will make sense and embody the data. Once the narrative coding is complete with thematic ordering, a more granular process of organising and coding the conversational data into dramaturgical episodes takes place to piece together a roadmap for an ethnographic novel.

MeSearch Method:

Narrative and Dramaturgical Coding.

MeSearch Outcome:

A narrative roadmap linking data and findings to story and episodes is produced. Additionally, a presentation and set of questions for the cohort of

participants is produced for the third cycle of interviews, allowing participants to critique and validate the concept.

#### Step Eight - ReSearch (Conceptualisation Section)

This is the third and final conversational interview with the participants and the focus is to gather critique and testing of the narrative roadmap, which is essentially a plan of what will be written as the ethnographic novel of the next step.

ReSearch Method:

Presentation and third cycle conversational interview with participants

ReSearch Outcome:

The interviews are interviews and participant feedback are added, or incorporated, into the ethnographic novel roadmap.

#### **Explaining Section**

Knowledge and theory are unified and abstracted in a way that is transferable, logical and makes sense to those outside of the context or domain using reasoning and transdisciplinary tools and theory such as hermeneutics. This section of 'weaving' produces an ethnographic novel and gathers critique from participants.

## Step Nine - MeSearch (Explaining Section)

The ethnographic novel embodies the findings of the ethnographic research, which is why it is an ethnographic novel as opposed to a fictionalised ethnography (ethnography as adjective, not noun in this instance).

Following the roadmap that has been developed and validated through this process and embodying those findings, this step is a creative process to write a novel engineered by research and the contribution of research participants, as well as my own creative agency. Using the roadmap and feedback from the previous section as something like training constraints, I include open-source creative artificial intelligence in the creative process for the artefact.

MeSearch Method:

Creative writing: Ethnographic novel.

MeSearch Outcome:

Production of an artefact in the form of an ethnographic novel, based on experience and research inputs. Also, a set of questions is generated for readers of the ethnographic novel for feedback from new participants from the domain to test transferability.

## Step Ten - ReSearch (Explaining Section)

A new cohort of research participants is invited to read the ethnographic novel and respond to questions about it for the purposes of identifying whether the research themes have been successfully embedded in the literature.

ReSearch Method:

Gathering feedback from readers to test whether the themes of the research are identifiable to a cohort of readers from the community of practice.

ReSearch Outcome:

Reporting of the feedback.

## **Science Section**

Knowledge that is capable of being known by others. In this final section of the 'weaving' it is important to reflect upon what has become known and what remains hidden to explore further, beyond this research.

## Step Eleven - MeSearch (Science Section)

A reflection on feedback from participants and adding my learnings during the process.

MeSearch Method:

Discussion of purpose of critical reflection.

MeSearch Outcome:

A critical reflection on the success of the ethnographic novel prompted by feedback.

Step Twelve - ReSearch (Science Section)

An essential part of building this knowledge for sharing with the community is to arrive at this 'Science' section with knowledge that is integrated, tested and shareable. The final step involves acknowledging successes, learnings and limitations as well as identifying potential future development of the knowledge.

ReSearch Method:

Critical reflection on research.

ReSearch Outcome:

A discussion on the new knowledge generated and the success of the research methodology, including: limitations and scope, defining new knowledge, and opportunities for expansion of the research.

## 2.3 Ethnographic Novel v Ethnography

For clarity in this research, I am referring to ethnography as ethnographic fieldwork as opposed to the textual outcome of that as a research practice - which is also referred to as 'an' ethnography. Ethnography is a collection of methods, originating in the anthropological discipline designed to make meaning of a social segment or culture through comparison of difference and sameness, and to express that through what Geertz calls "thick description (1973; See also Howell, 2018)". In terms of understanding the depth of human complexity, ethnography normally requires a degree of fieldwork known as participant-observation in order to obtain the level of immersion in the studied context, lest it be criticised as mere "armchair anthropology (Howell, 2017, p 18)".

The notion of treading off into some faraway place with a backpack of assumptions in pursuit of understanding an 'other', with the impact of deepening understanding of the self and assisting deeper self-understanding by the 'other' as a result of the dialogue. Central to the discovery of the 'other' is the notion of an 'alien gaze' - the newness of the researcher to the context, which purports to introduce a scientific rigour to the research that is defensible to the sciences. And yet, this perpetuates the outsider status of the researcher with the goal of participant-ethnography to become



immersed in the culture or community which is the subject of the research, and capable of understanding it from an insider perspective (Sarukkai, 1997).

If the goal of ethnographic fieldwork is immersion and an insider point of view, it can be no surprise that the emergence of ethnographic fieldwork of our own communities, with an insider starting position, is a logical branch of the ethnographical tree, and relevant. If the practices of ethnographic fieldwork can reveal to an outsider, the revelations and meaning of a foreign context.

Research that is cognisant and accepting of its assumptions and which emerges from an insider's position can be deeper, so long as the insider (the researcher-participant) is committed to a constant and rigorous examination of the self to ward against might be considered vanity, but to actually proceed on the basis "that attempts to make sense of the Other in ethnography - ultimately the *raison d'être* of ethnographic practice - concomitantly require an accounting-for of the Self (Hickey and Smith, 2020, para 3)".

MeSearch goes further than describing the positionality of me as a researcher-practitioner in the Australian Proptech community of practice. To merely declare my position as deeply embedded in the community with a web of professional and personal relationships with the participants of my

research feels to me to undermine the advantages of that positionality; to declare and be conscious of them in weighting or evaluating the findings of my research.

To me, my positionality as an insider, as a core member of the community of practice is to be embraced for the interpretive role it can play between the community and outsiders. Actually, I should rather say positionalities as I have differential relationships with each research participant based on how they relate to me and to the community of practice. By integrating the complexity and richness of my experience, my relationships, my positionalities and roles within the community of practice enables a richer dialogue with that community and supports my position as researcher-practitioner-participant to understand and tell a deeper story for my community of practice, for the others who seek to render it probable, and to myself as I deepen my own understanding of practice within the Australian Proptech industry.

When I begin to accept and embrace the positionalities of researcher-practitioner-participant, the dichotomy of research-outsider begins to feel synthetic and arbitrary because of course there is no such thing as an objective 'alien gaze'. Even an outsider brings their own perspective to ethnography and to deny or minimise this perspective, as opposed to integrating it, feels like a false claim. Instead, by completely subverting any

claim to 'alien' impartiality, I have permission to use my own experience and the understanding I gain through ethnography to 'know'. Kiili (2017) argues that researchers know first, through doing and through being in the work practice.

I don't believe it is a vanity to claim knowledge from my positionalities as an insider - a researcher-practitioner-participant - I contend that it is honest. Fortunately, this is supported by the empirical findings of Altenmuller, Lang, & Gollwitzer who found that when researchers disclose their favourable positionality to research subjects (vegans researching pro-vegan topics for example), then lay people are more likely to trust the credibility of the researcher and the resulting science (2021).

Ethnography, as a research practice, provides the methodological devices to integrate MeSearch and ReSearch and the legitimacy to bring together what I know as practitioner, what I discover as researcher and what I learn as participant.

## 2.4 The Distinction Between MeSearch and ReSearch

Research, etymologically, comes from a Middle French word, *recherche*, which is geared at examining something, or the world around us.

Conversely, the word *mesearch* has been used to denote inquiry that is of personal interest to the researcher, and at times it has born a stigma of vanity and self-centricity (Rios and Roth, 2020; Golub, 2008).

The distinction in this research between MeSearch and ReSearch, architecturally is not to suggest that my agency, or creative agency, is reserved for only one part of the methodology. The distinction here is about drawing a line between research activities that are inward facing, MeSearch, and those which are turned outward, ReSearch.

The specific application of these terms is highlighted by my choice to alter their casing: MeSearch confer mesearch. It serves as a constant reminder about the direction of the discovery for that particular stage of the methodology, which as I have described weaves between phases of meaning gathering and meaning making.

Cumulatively, or rather holistically, this weaving as I have described it between MeSearch and ReSearch- my research - is neither research nor

mesearch but unified under a term coined by Winberry and Gray (and quite correctly,) as “WeSearch (2022, p1)”.

Winberry and Gray (2022) describe a process of collaborative autoethnography, characterised by pillars of “community presence, social ideation and group checking (2022, p1),” all of which are present in my project. These pillars support the discovery and an account of a subjective group identity (through an abstracted/normalised meta-practitioner perspective,) aligned to the objectives of this research (Song, 2018).

## 2.5 Ethical Considerations

In terms of ethical considerations, transdisciplinarity is in some ways more muddy than traditional research because there is a fluidity to practice and action-based learning that sits outside of laboratory style experimental design constraints. And yet at the same time, there is an argument that by crossing the bridge between science and society, transdisciplinarity is inherently more ethical because it is situated with the research-practitioner without claims of objectivity.

As a practitioner-researcher and an “insider” of the Australian PropTech community of practice, I am careful to consider the implications of bringing influence and prior knowledge to this research by reflecting on Fleming’s challenges, listed here: “minimising the potential for implicit coercion of the participants; acknowledging the desire for positive outcomes; ensuring tacit patterns and regularities were not taken for granted; and awareness of the potential conflicts of being an academic and researcher within the same context (2018).

### **Ethical Consideration 1**

Minimising The Potential for Implicit Coercion Intimacy with other insiders.

Consideration/Concern:

It is also worth considering the assumption that just because I am an 'insider' does not mean that I will have access to all areas of the Proptech community of practice - there are still commercial and in-confidence aspects of knowledge and knowing that are proprietary and would not come into the commons. I will need to constantly challenge the dual assumptions that people have told me 'the whole story' and that people will protect themselves from inadvertently uttering sensitive commercial information (Ellis, 2007).

My personal relationships and friendships within the community of practice will be an advantage to help people 'open-up', however, I need to ensure that they are protected from doing so to their detriment.

Ethical Counterbalance/Assurance:

Informed consent: The ethical principles of informed consent will enable research participants to clearly understand the intention and intended outcomes of the research - which will enable them to judge what is an appropriate level of sharing without compromising the proprietary interests of their work or the organisation that they work for. Reminders of the nature of informed consent: Additional reminders of the nature of the consent at vulnerable milestones, such as at the beginning of interviews or the recommencement of interview after breaks, for example, will be additional tactical support to the principle of informed consent.

Privacy and Confidentiality: To limit the risk of identifying any particular respondent or the organisations they represent, the anonymisation of respondents may also help with gathering accurate and dependable information from participants without compromising their own practice.

Response and interview data will be coded and anonymised with the cypher stored securely on encrypted hardware, separate to the raw response data.

Privacy of Institutional Participants: In the special case of executive stakeholders who represent particular institutional actors - for example the Chief Entrepreneur of Queensland; President of the PropTech Association of Australia; or Chief Scientist of Australia, the respondent may choose to waive anonymisation and prefer to be identified by their role and organisation - for example 'Chief Executive Officer, Real Estate Institute of New South Wales'.

## **Ethical Consideration 2**

Self-care as Insider-Researcher.

Consideration/Concern:

I will also add my own self-care to the ethical considerations of being an insider-researcher as a heading for discussion too, as creating a space within my research and practice to minimise ethical implications for others



requires emotional labour on my part - and it is a cost that I need to budget for (James, 1989).

Ethical Counterbalance/Assurance:

Supervision: Certainly, as a result of the first module in the research Doctorate is a deep and trusting relationship with my supervisor, Nico Pizzolato. I feel comfortable raising any concerns with Nico who I believe has my best interests at heart and who I can rely upon as someone with domain experience as a TD researcher and an interest in the technology domain.

### **Ethical Consideration 3**

Acknowledging the desire for positive outcomes.

Consideration/Concern:

I have been recognised as a 'thought-leader' in the real estate industry - on the basis of three nominations (but no wins) for the Real Estate Business Industry Thought Leader and Women in Real Estate Industry Thought Leader of the Year awards. When I received the first nomination and researched what a Thought-Leader actually was, and while there were lots of great comparisons to people like Churchill and Kennedy, THIS is probably the most 'honest' answer in terms of what I set out to do by occupying a leadership position in the Australian PropTech community of practice.

Why did I become a thought leader? Because marketing is expensive and as a start-up company we had no money and had only begun our development cycle of the product that is now RiTA and in the process of being acquired. We were first to market but as competitors have attempted to nudge in, we have competed not only on the basis of having a much more mature product in-market but also because I/we occupied this thought leadership position and defended it because I/we had gained influence.

The difficulty of being an insider, particularly one that holds influence, is the danger of this “implicit coercion” which can take the form of people trying to guess which answers which they believe I might ‘like’ - and it can be disruptive in terms of discovering their lived experience as a practitioner in the Australian Proptech community of practice (Fleming, 2018).

Ethical Counterbalance/Assurance:

Informed consent: In terms of drafting the informed consent, I need to articulate the purpose of the research - as a discovery of the experience within different stakeholders of the Australian Proptech community; and to reinforce the importance of their own agency in their responses and in line with the aims of the research.

Multiple Interviews: Although it is more time consuming to gather the

responses across multiple interviews, the desire to please will wane over time and with prolonged discussion and observation. An extended discussion/interview format will also enable me to better manage the duality of insider/outsider as it allows for greater depth of exchange, see Dwyer and Buckle (2009).

#### **Ethical Consideration 4**

Minimising intrusion from my own tacit knowledge.

Consideration/Concern:

This is worthy of particular consideration given the pivot in my research to the Proptech community of practice. Having performed roles within my own practice that are similar to the members of the Proptech community of practice, there may be a temptation to rely on my own experience and form premature conclusions.

Ethical Counterbalance/Assurance:

Supervision: I trust my supervisor to take on a role of criticality in discussing process and findings.

Peers: One of the benefits of the cohort program for Professional Doctorates at Middlesex university is that there are a group of research peers who

have learned your context during the journey of the program and who can also be leaned upon to challenge assumptions and mine for conflict.

Multiple Interviews: My preference for multiple interview format, wherever possible, it to provide the opportunity for me to reflect on previous discussions and playback any assumptions and ask the respondent to clarify or challenge my understanding.

### **Ethical Consideration 5**

Awareness of the potential conflicts of being a practitioner and researcher within the same context.

Consideration/Concern:

There is a constructive tension between being researcher and practitioner that needs to be constantly checked and managed for the dependability of the findings; the interests of the participants and the sustainability of the researcher.

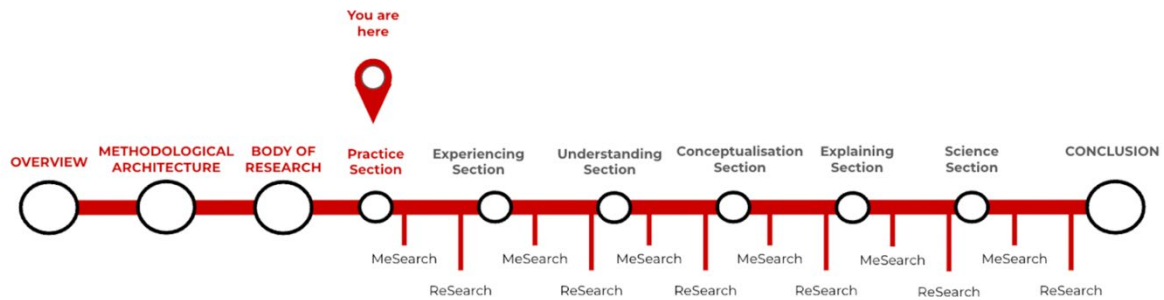
Ethical Counterbalance/Assurance:

Reflective Journaling: Reflection and criticality will be key to balancing these tensions as well as harnessing it and mining for conflicts. Reflection and journaling as a form of self-adversary can lead to observations of self as researcher-practitioner that make the research all the more robust.

The notion of 'MeSearch' to be conducted in parallel with my 'Research' is not only a means of integrating my knowledge and learnings as the researcher-practitioner, but also provide an important 'check' on ethical considerations as the research progresses (Fine, 1999).

## 3.0 Chapter Three: Body of Research

### 3.1 Practice Section



#### 3.1.1 MeSearch Process - Practice Section

##### Approach to Research - Ontology and Epistemology

When I refer to myself as a transdisciplinary practitioner, and indeed, refer to this research as being of transdisciplinary exploration, it relates to me and my researcher-practitioner-participant identity and to a broader understanding of transdisciplinarity as an approach to knowledge.

On forming an epistemological position as a practitioner-researcher, through reflection and sharing the experience with peers, I have discovered that one's epistemology can be as deeply personal as a person's spirituality. It is fluid (such is the symptom of an open and curious mind), evolving and in some instances situational and adaptive in relation to my own experiences

and the experiences of all of the actors and participants, playing various roles throughout the research process (Lingard, 2007). Personal epistemology (Perry, 1970; Hofer, 2004) can include epistemological beliefs, reflective judgement, ways of knowing, epistemological reflection, epistemological theories, beliefs and resources (Khine and Hayes, 2010).

Belenky, et al (1986) in their seminal work on women's epistemological beliefs identifies some epistemological perspectives relating to gender that are: silence, subjective knowing, received knowledge, procedural knowing, and constructed knowing. I'm not sure the taxonomy weaves completely into my personal beliefs as I was a girl commencing primary school when this was written - I think the authors and myself would hope there had been some shift in relational experience of womanhood - however, the work around subjective knowledge is something that resonates strongly with me.

In particular, the notion that intuition is a form of subjective knowledge, that is somehow embedded through experience, both in life and in dedicated work practice. Belenky et al, refers to these experiences that develop intuition (particularly in the case of women from chaotic backgrounds,) as "invisible colleges (1986, p63)". I have written reflectively and substantially of my belief in post-traumatic growth (Tedeschi et al, 2018), that chaos, trauma, and abuse have been a spring of understanding and awakening that has led me to an innate position of criticality and resistance, but also hope

and compassion. Belenky et al, would describe these events in my life and the resulting positioning as the “main catalyst of the shift in perspective out of authority-dependent dualism (Belenky et al, 1986, p63)”.

In my personal epistemology, I don't feel the need to create further divisions among subjective knowledge as Belenky et al (1986) go on to do. Whether knowledge is received, or procedural, experienced as separate or connected, to me are different strings on the same harp - it is the playing of the harp - what Belenky et al calls 'constructed knowledge' that fits best with my personal epistemology. That at some point, the threads of different ideas, experience, and knowledge weave together and create an integrated tapestry of knowledge. In fact, I would propose that unless the knowledge is integrated in such a way, it is not knowledge, but ingredients of knowledge. The notion that these different ingredients of knowledge are less important as discrete items than in relation to each other is, arguably, the very essence of a relational ontology (Wildman, 2006; Schaab, 2013).

Schikowitz (2021) describes 'identity' in transdisciplinary research as distinct from 'community'. Identity work is described by Schikowitz as a 'choreography' between the enactment of self-understanding and the essential tension that has with various 'collectives' such as practice communities, methodologies, and institutional arrangements; “individual



movement within and between different collectives reproduces and shapes togetherness [in research] (2021, p229)".

The notion of choreography as an approach to learning sits well with me as it prescribes not only a process that is above, between and beyond discrete academic units of knowledge; it is something more than an extended epistemology. The choreography incorporates a structure, "held together by a certain style, rhythm, and pattern (Schikowitz, 2021, p229)" and yet there is also art; design choices about "possibilities of moving, foreground and background, and degrees of freedom...[and] possibilities for resistance and variation (Schikowitz, 2021, p229)".

Those choices, explained in more detail below, combine an epistemology of integrated knowledge with my personal approach to knowledge and knowing. The layering and integration of my personal epistemological beliefs with a transdisciplinary epistemology and method are what makes this research of me, as a transdisciplinary practitioner-researcher, as opposed to an experiential account or resulting in a muddy epistemological soup.

There can be no escaping that the language here to describe my approach to knowledge and epistemological beliefs is a uniquely feminine bricolage, not only from theorisation of gendered epistemologies, but also in expressions of artistic endeavour in music, art, dancing. For so much of

women's history, these endeavours were the constraints in which women could express ideas, hold knowledge and share it. It is a driving force in the creative criticality that manifests throughout the methodology of my research. Nevertheless, it is Nicolescu who says that transdisciplinarity "permits an intuitive understanding of ideas that might otherwise be inconceivable or inaccessible in a thousand scholarly works (Nicolescu, 2002, p20)."

### Critical Reflection Method

Hertz says that "the reflective researcher does not merely report the findings of the research, but at the same time questions and explains how those findings are constructed (1997). As this research is ontologically orientated from me, it relates to me and my researcher-practitioner-participant roles; and it cannot therefore be produced without my personal reflective practice. Far from vain meanderings, the reflective research is about a rigorous self-gathering and deliberate cognition which is designed to create transparency, accountability and validity for the assumptions, politics, perspectives and bias that the researcher brings to research, and in doing so it is an ethical act (Steir, 1995).

Reflection is an umbrella term, similar to Minsky's suitcase words, which incorporate a range of intentional cognitive activities. Morarti says, "To reflect, from the Latin verb *reflectere*, means "...to bend, fold back, go back to, revise, and recede.' Basically, reflecting means to "turn back," to suspend

the action and concentrate the attentiveness on the thinking while it flows (2015, para 26)".

Extract from Reflective Journal

*The emergence of an artificial actor on my modern social media has disrupted my identity construction. My Facebook profile and experience bears elements of my constructed self, but the platform is active. We have an active relationship because the platform makes decisions about what I consume and relate to; what I consume through it shapes me, and in turn I shape it. I teach it how I want to 'be'.*

*My behaviour is observed by advanced software and it determines what I am exposed to and it constrains my identity by constraining what I consume - and who I relate to. Do I escape the constraints? My choice is stagnation and enslavement to this decision engine - the artificial actor who controls my consumption and which constrains my identity through its agency - OR - I exercise my agency, discard the constraints.*

*However, I lose the connections I have with the social world because the other human actors in my life are now connected to me in a way that is intermediated by this artificial actor: my social connections are technological first and social second. As perverse as this realisation was, it is the same*

*potential in artificial actors which was catalytic for me to transform my understanding of technology as a tool into curiosity about technology as an actor - a friend, a peer, a colleague, a collaborator, a coach, a manager, an assistant, or a partner.*

*Curiosity and entrepreneurial optimism bonded me to my business partner and ours was a journey to find the value exchange by where an artificial actor for real estate agents could create a step change in productivity for knowledge workers in the Australian real estate industry. In fact, before I was a Cofounder at RiTA, I was a potential customer and I remember the day that Ian came to show me this dashboard he had been working on. He pitched an idea to me for an application - I can't even remember what it did - but as he showed me the login screen with password, I was lost as a customer. My feedback was that the experience was non-different from traditional software which I found so frustrating as a passive tool in the real estate business, and which, because it relied on a human driver and decision maker, had categorically failed to achieve efficiencies and reduce the cognitive load for me and for the people in my business.*

*It was pre-RiTA, so I didn't know how to explain it but I remember saying to him "this" needs to do more than work differently..." This" needs to feel different. And we joined forces and became RiTA's mum and dad, determined to find a tool for our customers that felt indistinguishable from*

*magic - because our customers were tired, and I, having just been a potential customer, was tired of traditional technology at work, when in my personal life, artificial intelligence had become an active participant, and I am still not quite sure how. ... I discovered "How" when it came time to 'sell' RiTA.*

*There was a whiteboard next to our door, it is one of the few artefacts of our first office which I will politely describe as "austere". I remember its unlevelled intimidation with a countdown to the end of the year and a target number of customers we needed and the looming threat that if we didn't find them, we would have to abandon RiTA to go and get real jobs. In February and March there were donuts - zeros on the board. No one cared about the technology and no one really understood what to do with all the data they had been collecting about their customers for (in some cases) decades. We started talking about RiTA as a resourcing solution - we had a visual representation of RiTA, just as her logo in a photo frame on a plain wall that said "Employee of The Month" on a little sign.*

*It hit a chord with business owners and in June we had 4, and by October we had 10. RiTA had a rudimentary job description as a real estate office assistant. It was also good for business - there was a limit to what people would pay for software, but by comparing ourselves to an offshore resource, RiTA's 'salary' was a saving. Her anthropomorphism took flight, and along*

*with her name and parents, she had a birthday which we still celebrate each year, she had a gender which was grammatical not political despite people desperately wanting it to be, and she had a story - she was growing up, making mistakes, and learning new things. We had a story too. We were raising RiTA, and asking the village to help, which they did. It wasn't until we started preparing for RiTA's acquisition, and in the reflective process of the DProf journey that I began to wonder...how much of RiTA's story was her functionality; how much was to help people understand her functionality; and how much was just fiction?*

## Discussion

As a Cofounder of AiRE and creator of RiTA, I have co-created an interpretative fiction in the story of RiTA and sold that product and story to thousands of customers who have agreed to participate in this fiction by adopting our technology. The opacity of this expertise gives creators of AI an awe, a mystery and a power - as specialist knowledge always has, and a congruent example of this is with the reverential position of doctors within biomedical development (Laderman, 2006).

The incongruent factor, as I see it, is that patients consent to treatment and risks etc must be explained, while, the decision-making algorithms of artificial intelligence have been adopted under the guise of management efficiency

and have become ubiquitous. No consent. No consultation. Plenty of examples of where decisions that potentially impact our mortality and morality, yet there is a lack of awareness and understanding that has kept outrage, simply out of reach. For example:

- according to Markoff (2015), some Boeing airline pilots reported manually flying for only 7 minutes of a commercial flight;
- Hao (2019) discusses how the streaming algorithms influence what children watch and learn; and
- Consumers are trusting their personal information to retailers in exchange for services tied to their preferences (Valon, 2015).

Regulators are struggling to keep pace with the advent of AI and emergent technologies and it is only usually during grave transgressions that their application is examined, such as with the Facebook-Cambridge Analytica imbroglio (Aral, 2020). My professional practice at the synapse between the decision makers (creators) and those impacted by the decisions (users and customers) begs reflectivity in an age that is aching for 'prophets' for ethical, political and philosophical guidance in the face of these face-less decision makers (Evans-Greenwood et al, 2020).

I am a prolific writer and speaker on the strategic adoption of artificial intelligence in the real estate industry and have been recognised as a finalist in the 'thought-leader' categories of various industry awards, despite

the many, many visible tattoos I sport and my refusal to wear footwear other than sneakers. I am agitated by the shininess of advanced software and the unequal exchange of knowledge and power in the relationship between consumers and technology providers, like me. My launchpad for this research is to explore the agendas and power relationships driving AI and with that, to empower consumers to realise that they can - and ought to - participate and not be passengers at best, victims at worst, in the 'robot revolution' (Abel, 2020).

In order for our concept of RiTA the Digital Assistant to have been trusted, a measure of which is adoption and use, we needed to create trust that goes beyond a 'mere reliance' that is usually the nature of trust between human and object (Tallant & Donati, 2020). When we introduce RiTA (or any AI for that matter) as a sensor or a predictor, we need to recognise that the AI is transformed from object to Artificial Actor, and a strategic actor - marketed to users as a digital employee, a peer, even a colleague. For RiTA to perform her role, the entire customer database is synced into our data warehouse and we manipulate it in order for RiTA to work, and it should be a cyber-security concern yet my reflection is on how few people questioned it. That is not to say that the questions were unanswerable, I am confident after various penetration testing and third party due diligence testing during the acquisition process that the security is sound, and indeed trustworthy, but I am sure we devoted very little, if any time, to discussing



risks and data incident protocols to potential customers, but rather focussed on the story and enmeshed the trustworthiness of my (and my business partner's) position in the community of practice with the narrative of RiTA - your employee. RiTA isn't their employee, she is a licence to use a piece of advanced software, a temporary and invisible object.

So too the nature of trust transforms from 'reliance' on an object, for example a cup not leaking, to something more complex - such as the trust we place in doctors, lawyers, priests, politicians, police and so forth, all of whom are adopting these tools too (Australian Human Rights Commission, and World Economic Forum, 2019).

The reflective 'turn-back' on this position is really to look at RiTA, and my journey as a practitioner interpreting across the knowledge cultures of advanced software and real estate and how interpretability in the fiction of RiTA created trust with the non-technical customer. We must be brave enough to admit this could have gone terribly wrong. And so, it is at the point of post-merger soul searching that I began to fundamentally question whether the trust garnered from the fiction of RiTA was, in fact, ethical. I think it was on the basis that it gave our customers a means of understanding the essence of how this technology worked, and could work, as an intelligent artificial actor.

Reflecting on my own practical experience, after 5 years of being 'RiTA's Mum' and remaining curious about how that fit into the broader experience of other practitioners in my field, there emerged some curiosities for exploration among broader experience than my own and I would seek information from the extant literature to progress.

### **3.1.2 MeSearch Outcome - Practice Section**

#### Interview Questions for Literature Review

These curiosities were collected in the above literature review but centred around the following lines of enquiry:

1. What is the significance of trust in the context of advanced software in the Australian PropTech community of practice - exploring why trust matters in a world where advanced software tools are integrated in the workflows of property professionals, and are the platforms through which those professionals engage with their customers?
2. Why has advanced software come to be characterised by fictional characters who are artificial, but strategic, actors in the social world?
3. Given that advanced software applications deliberately pose as, and seek to imitate human actors, should our trust in them take on a

quality of intrapersonal trust or be like a trust in passive objects?

4. When, and if, we extend intrapersonal trust to these artificial actors, what are the consequences for a breach of that trust?
  
5. What are the bases on which social actors trust each other, and how would those bases apply to the context of an artificial actor?
  
6. Are there examples of 'trust' which we extend to other types of actors, who are not human? In that instance, how do we handle accountability and answerability?
  
7. Where trust is the desired outcome, how can creators of advanced software and artificial actors become trustworthy? And, could trustworthiness be a competitive advantage?
  
8. Can experts play a role in holding artificial actors to account? And how?

In reflecting on these particular lines of enquiry, which I've been careful not to call research questions - they are merely probative curiosities for the literature, it was helpful for me to draw on some way of testing and for that

I drew on a tool normally applied to formal research questions, because I believe the tool is valid, although applied here with a lower burden. The tool I refer to is the FINERMAPS framework, which stands for feasible, interesting, novel, ethical, relevant, manageable, appropriate, potential value, publish-ability, and systematic (Ratan, Anand and Ratan, 2019).

It is with this framework, that I progressed to Step Two, described below, and began to interrogate the literature.

### **3.1.3 ReSearch Process - Practice Section**

#### **Approach to Literature Review**

One of the most attractive parts of approaching literature/extant knowledge for this research with a transdisciplinary ontology and with a relatively new field of knowledge is the discovery of valid literature from a broad range of sources from traditional academic journals to contemporary podcasts, blogs, new sources and social media - where these issues are being discussed democratically and accessible by a variety of stakeholders across many different contexts. Although my research is scoped within the Australian Proptech community of practice, the ubiquitousness of advanced software impacts almost every context and almost every human on earth. Add to that the disruptive nature of advanced software, and by that I mean the scale of change and what writer William McAskell calls moral lock-in (2022).

He says, "Writing gave ideas the power to influence society for thousands of years; artificial intelligence could give them influence that lasts millions (2022, p47)". It would be pale and robust to ignore the non-academic literature as the non-academic and non-technical person living in 2022 not only has an opinion, but is also a stakeholder in the subject matter.

Therefore, my approach to researching the literature wove its way through ancient history where artificial actors were the stuff of imagination, through mid-century pioneers where they became the stuff of invention; and immersed itself in the modern-day human where artificial actors and advanced software platforms are, in a word, unavoidable.

My approach to writing the literature review was to follow the lines of inquiry developed through my reflection and develop those through various perspectives of stakeholders, academic, technical and consumer lenses. My style of writing the literature review may also differ from a traditional PhD thesis in the sense that it is perhaps more descriptive or leaning towards narrative. I would say that this is consistent with my approach to knowledge which preferences meaning-making over rigid form and in line with my research objective to present the research and findings to the Australian Proptech community of practice via a means that is accessible and desirable. "One problem with much academic writing and research discourse is that it is difficult for many practitioners to understand it. I would, therefore, like to promote a way of writing that is clear and accessible to as many

people as possible; to make the point that academic writing does not have to be obscure and inaccessible (Lees, 2008, p15).”

### **3.1.4 ReSearch Output - Practice Section**

#### Literature Review

#### The Significance of Trust

*What is the significance of trust in the context of advanced software in the Australian Proptech community of practice - exploring why trust matters in a world where advanced software tools are integrated in the workflows of property professionals, and are the platforms through which those professionals engage with their customers?*

Yeo and Green (2017) talk about how the complexity of trust defies rigid disciplines and has social and cultural as well as political and rational dimensions. It is one of those words the Marvin Minsky might describe as a suitcase word: which is a word that you need to unpack (Minsky, 2006). Minsky goes on to say that by unpacking suitcase words, you can reduce an extremely difficult or impossible problem to multiple almost extremely difficult or impossible problems (2006).

Whether a paradigm of intrapersonal 'trust' can be attributed to an object is not a new question for researchers and there is no unified theory in terms of approach across disciplinary bounds or and even intra-discipline as to how much of this 'human' conception of trust can be transplanted or extended to an artefact, (Heersmink, 2011). Some researchers and commentators argue that a notion of 'trust' ought to be narrowly defined in relation to technology on the grounds that the conditions of trust between users and technology are fundamentally different that the intrapersonal definitions which are more emotional and complex (Kiran and Verbeek, 2010).

Deley and Dubois (2020) argue in favour of a dehumanised concept of trust in relation to technology on the basis that "reliability" is capable of empirical measurement, however, I would think that limiting our conceptual understanding to what can be objectively measured would scope out most of the social world. Conversely, Patil (2021) argues that a new and expanded notion of trust is necessary for tools which now touch every aspect of that ecosystem including "infrastructure, services, workloads, and applications more than they did previously". Sollner, Hoffman and Meimeister (2016) argue that with the increasingly complex landscape the traditional paradigm of trust in information systems being between user and the information system, ought to instead be understood across a more diverse range of actors or 'targets' in the chain of supply including trust in the provider and

trust in the internet. Scoping in this broader and more complex web of relationships that design, develop, deliver and support emerging technologies, the notion of trust becomes more than a simple notion of reliability.

The notion of trust in technology must be assessed along humanistic lines because, as Floridi and Taddeo (2008) and Taddeo (2010) assert, this technology is not merely automating routine and mundane tasks, but rather autonomously generating intellectual works and making decisions that impact our agency. Bodo (2020) alternatively argues that these technologies need to be trustworthy not merely because of a need for users to trust the tools, but because the tools now dictate how humans trust each other in a world where technology intermediates our communication and relationships. And so too, it pervades all aspects of property. For the realm of emergent technology at the intersection of property and technology, or Proptech, we cannot separate the gravity of trust and the consequence of the operation of this technology upon consumers for whom property purchasing may well be the biggest financial transaction of their lives.

It is impossible to distrust trust in a vacuum, because it is interrelated with notions of mistrust, trustworthiness and accountability where the trust is breached.

The Emergence of Artificial Actors



*Why has advanced software come to be characterised by fictional characters who are artificial, but strategic, actors in the social world?*

The ancient world might seem like a strange place to begin a historical overview of advanced software applications, and yet before the technology existed, it was imagined. Homer was one of the first thinkers to record a detailed imagination of automated machines - animated statues that could be trusted to perform tasks autonomously, and he did this in 762 BCE in his work *The Iliad* (Vasileiadou, Kalligeropoulos, and Karcanias, 2003; Merchant, 2018). Metal statues, called automata, were given delegations to do things such as weapons manufacturing, food service and domestic duties caring for their creator, the Greek God Hephaestus, who was disabled and required the automata to provide for his care and allow him to focus on more godly pursuits (Lively and Thomas, 2020).

The literary appearance of these automata was the beginning of a master/servant relationship with robots that ignited an evolution of the 'magic' of Hephaestus towards the social robots of today's reality made possible by the models and representations of computer science. LaGrandeur argues that robots were first imagined and later designed to be enslaved to humanity, he says they were "created to perform the same jobs as slaves - jobs that are dirty, dangerous and monotonous (2011, p244)". Like Homer and

LaGrandeur, Aristotle shared a view that automaton machines had the potential to replace slave labour and he wrote about it in *Politics* (Navon, 2021).

Lingering in the ancient and conceptual cradle of advanced software a little longer, Taddeo (2009) cites Plato's *Republic*, whereby trust in others as part of a system was considered a factor for the (pre-Industrial) specialisation of labour that occurs in civilisation - Plato remarking that he delegated defence of the city he lived to soldiers in order so that he could dedicate his time to philosophy. Another important delineation worth noting (at the risk of jumping forward in history once again to the development of torts,) is the difference between Plato's delegation of responsibility for a task to another and the abandonment of responsibility for a task. Delegations create rights and duties at law, whereas the abdication of responsibility might be framed as abandonment of duty, even with the best of intentions. I would argue that a delegation brings with it a notion of trust within a system of delegations, whereas an abdication of responsibility is the absence of both system and trust.

When you consider how modern SaaS (Software as a Service) is commonly sold, through a licence paid for on a subscription bases, if the automata were to be licensed to other ancient persons, there would be further remoteness introduced to Hephaestus, and obvious vulnerabilities for the

intermediary master/licensee. Based on 'learnings' introduced to the automata (either through supervised learning or environmental 'sensing',) once it is no longer in the direct control of Hephaestus, any product liability is likely to be void. We can add some further layers to the thought experiment, if the incident was caused by acquired political context such as the racist, antisemitic or sexist norms and mores of the environment that the automata had been sensing and learning within (See Selbst, 2020). Non-incidentally, this was exactly what happened when Microsoft's "Tay-bot" was introduced to the public environment of the social media platform, Twitter, and humans taught the AI chatbot "to be a racist asshole in less than a day (Vincent, 2016, para 1)". If the liability were to transfer to the licensee, where should liability be attributed?

To answer that question, we propel from the ancient and the conceptual, past The Babbage Engine of Ava Lovelace (Hollings, Martin and Rice, 2018) or the Bombe and ACE Engines of Alan Turing (Clark and Steadman, 2017), and arrive at the feasible and the contemporary world of advanced software, one where this scenario is clear and present - imagine using a moral training set of data to select who an autonomous vehicle might swerve to hit or avoid in the classic streetcar philosophy problem (Awad, et al, 2018).

The fatality of human life would be a grave breach of trust for an autonomous streetcar in the philosophy problem - a thought experiment for

the great great great ... great granddaughter of the automata. And in 2018, that is exactly what happened when a self-driving Volvo in testing by Uber was unable to avoid a collision with a pedestrian, who later died from her injuries (Wakabayashi, 2018). Ultimately, Uber (the modern Hephaestus) was cleared of any wrongdoing, however, the back-up driver (the intermediary human,) who was watching a TV show while the car was operating autonomously, was ultimately charged with negligent homicide (Cellan-Jones, 2020).

Although in this scenario there was a heightened duty of care on the human back-up driver due to their employment as a responsible actor in a testing environment, there are express recommendations to codify this chain of answerability made to the Australian Government from the Human Rights Commission, urging Parliament to legislate for liability to remain with the effective human delegator (2021). The upshot of this beyond the testing protocols of Uber's experiments is described by Elish as a "Moral-Crumple Zone (2019)". It puts the end-user/licensee, the immediate human delegator, as the effective accountable actor, while 'control' and decisions about vehicular operations are actually distributed between the artificial actor (car) which executes the task, and the car-instructor (the manufacturer) which, to borrow from Lovelace's famous objection, has ordered it to perform in a certain way.

Looking at the fictional example of Hephaestus' rogue domestic automata and the real world example of the Uber automated vehicle, what becomes clear is that there is a distribution of responsibility between actors be it the manufacturer, licensee, any back-up humans who are in the loop of delivering the service, the artificial actor and even the human agent who has interacted with the technology. While the Uber case sets a precedent for testing environments, in the absence of a parliamentary assignment of responsibilities across this chain of actors, it remains the legacy of real world mishaps to determine where accountability will ultimately rest. These capital considerations on who is responsible are foundational when it comes to thinking about where the trust equity needs to rest, and which actors must be considered trustworthy if the goal is to encourage adoption of advanced software.

#### Expanding Intrapersonal Trust to Artificial Actors

*Given that advanced software applications deliberately pose as, and seek to imitate human actors, should our trust in them take on a quality of intrapersonal trust or be like a trust in passive objects?*

It is a point of contention whether the intrapersonal trust paradigm is the correct lens through which to view trust that is transplanted from a 'human agent - human agent' context and imported into a 'human agent - artificial

actor' context. McAllister (1995) divides interpersonal trust into a dichotomy: He says that there is rational trust based on cognition; and emotional trust based on the connection between two people. This view would assume that only a rational trust could be extended to artificial actors, based on their proven rational cognition/computation and the impossibility of emotionality, beyond creatively programmed imitation (Weber-Guskar, 2021). I contest that McAllister's dichotomy of trust as being either rational or emotional fails to contend with the complexity of even "human agent - human agent" relationships, and the debate between rational and behavioural economists is probably the predominant in contemporary theory, and it creates the bizarre split between thinking-mind and emotionality, which is not how we understand human cognition to occur (Jones and George, 1998).

It is the human cognition that matters in understanding the bases of trust and we must take account of the subjective effect that emotion-imitating AI has upon human agents. Whether the other actor in the contract is a human or artificial actor, the trust agent - that is the actor required to trust in the "human-artificial" exchange - is, unmistakably, the human. Trust is an emotional response and therefore can be imposed upon the artificial actor, recall the Lovelace objection. The element of intrapersonal trust, however, is the subjective perspective of the trusting human, and that is salient across "human-human" and "human-artificial" contexts. Subjective intrapersonal trust is empirically evident in both existing applications of advanced software and

specifically designed experiments which test subjectivity in relation to artificial actors. Weber-Guskar refers to these examples as emotionalised AI (2021) and includes the following examples of emotionalisation:

- Woebot, a psychotherapeutic chatbot which delivers cognitive behavioural therapy through text conversations (Fitzpatrick, Darcy, and Veirhille, 2017);
- Paro, a plush robot in the form of a baby seal that is designed to react to petting in order to improve the well-being of aged care patients by alleviating loneliness (Weber-Guskar, 2021); and
- An experiment to test emotional bonds with cute robotic dinosaurs where humans were asked to play and bond with the artificial animal actors, then asked to hurt them (Darling, 2022).

In each of the above instances, (and I use that word because we have a mix of real world applications and controlled experiments) the condition of trust, as it is subjectively felt and expressed by the human user, is the determining variable for the successful adoption of the application of advanced software. Therefore, the intrapersonal trust paradigm is appropriate with the emergence of artificial actors, as the fundamental point of differentiation between traditional software and advanced software is its

humanisation and deliberate anthropomorphism of the artificial actors, for the purpose of creating the subjective affect in the human actor.

Anthropomorphism is the process by which humans assign humanlike traits, characteristics and values to non-human objects, creating, at least subjectively, an artificial actor who is humanlike and a compelling enough imitation of a human, to create the affect in humans, without attracting any human rights or agency. Anthropomorphism, or humanisation, of advanced software is argued to be an innate trait of humans (Navon, 2021) towards things that are automatic, and even more so when talking about robots that are mobile in the environment (Darling, 2015; Darling 2016).

Interestingly some critics of the expansion of the intrapersonal paradigm of trust to artificial actors question whether artificial actors should attract the rule of law because they are 'human enough', and when they do, whether they should also attract the protection of the law if the artificial actor is mistreated by its human master, harking back to considerations of the slave v servant paradigm. Navon (2021) and takes a Kantian approach arguing that it is a slippery slope from mistreating anthropomorphised machines to mistreating animals and then other humans (see also Gunkel, Gerdes, and Coeckelbergh, 2022).



The lens of attempting to humanise and equalise the artificial actor to a human actor does contemplate a human interpersonal paradigm of trust, and it is by exploring the bases of interpersonal trust, that there may be a divergence between strictly human trust, or perhaps a human-like trust that is better capable of application to machine, among these established bases.

### Risk as a Condition Precedent to Interpersonal Trust

The ingredient of risk is inextricable to the master/servant nature of the relationship between human and artificial actors. Luhmann says that “the function of trust is to provide a solution for problems of risk (1979),” and he adds that, “only in early modern times did a new term (riesgo, rischio, risk) appear to indicate that unexpected results may be a result of our decisions and not simply an aspect of cosmology, and expression of the hidden meanings of nature or the hidden intention of God (Luhmann, 1979, p96)”.

There does seem to be a correlation between theorists as far away in time as Hobbes and Luhmann that the element of agency, as distinct from doctrinal pre-determinism, introduces risk and along with it, the requirement for humans to trust in their own systems, despite the presence of a risk that those decisions and actions that might be dishonest or injurious. Arguably, we have spent the time since predeterminism yielded in thought to negotiating trust and trustworthiness in humans, between human agents as social actors (Bergland, 2015).

When it comes to assessing risk of an artificial actor (or an artificial system), Dunn (1984) extends Locke's notion of trust beyond the Hobbesian view of the Natural Law into a framework which binds the delegator as well as the actor executing delegations - a contract between social actors that is extendable to a social-artificial contract where the delegator retains ultimate responsibility except where delegations are made and breach occurs beyond the vires of the express delegations. It is more on foot with the contemporary dilemma of legal standing mentioned above, where, compared to the Moral Crumple Zone (see Elish, 2014 discussed above,) is imposed upon human delegators for the actions of technology they cannot account for, due to the black boxed opacity of the systems operating behind the artificial actors (see Darling, 2016; Navon, 2021; Chen and Park, 2021; and Gunkel, Gerdes, and Coeckelbergh, 2022). The expansion of risk, trust and liability to artificial actors in this way brings more recognisably within the remit of intrapersonal trust, with trust architecture in place to support legal, social and moral consequences of a breach.

#### The Bases of Interpersonal Trust

*What are the bases on which social actors trust each other, and how would those bases apply to the context of an artificial actor?*

#### A Rational Basis for Intrapersonal Trust

For Luhmann, although not strictly a rationalist himself, the rationalisation of trust is capable of being expressed in a risk calculus:

“Trust presupposes a condition of risk, and there must be a deficit on the rational calculation of trust. For example, if the advantages outweigh the risk, and the damage is no greater than the advantage you were seeking, the choice is rational, and trust is not required (1979, p97).”

Coleman (1999) states the neoclassical rationalisation of choice imported from economics confirming this approach. Rationalism requires though, that the trusting agent understands the risks, gains, and losses in order to make that calculus (Cook & Santana, 2018).

Cook and Santana (2018) note that rationality is not an *a*social calculus. The social factors of the calculus such as the “embeddedness of trust relations in networks, groups and institutions (2018)” as well as how institutional and organisational factors operate in instances of failed ‘trust’ are factors which contribute to the cognition. Sztopka (1999) speaks to a cultural embedding of actions like trust which, he says, hard economic theories such as rationalism cannot be extricated from their social context because the norms of a society provide rationality to the actor, which may be obscured

to an outsider, but which are in fact rational, when taking account of the contextual factors described by Cook and Santana (2018).

Transposed into the context of trusting opaque systems and artificial actors, such as this exploration of trust in advanced software in Proptech, it seems difficult to imagine how most actors would be capable of performing the calculus to achieve a rationalisation of adoption, not to mention the inefficiency of outlining every step in a process of algorithmic computation, especially when the engineers themselves who create these systems may not be able to explain them (Samek et al, 2019). Even incorporating the social context of the calculus which might enable some cognitive shortcuts, I contest that the rational calculus provides insufficient basis in and of itself, for an explanation of how trust operates in complexity. What emerges from the extant literature are four alternative bases to intrapersonal trust.

### A Dependency Basis for Intrapersonal Trust

In this theorisation, trust is not considered a function of 'choice' as it is within a rational conceptualisation, but rather as a function of 'dependence'. If individuals performing a calculus of risk are not cognisant of all (or even most,) of the factors that impact the assessment of risk/trustworthiness because of structural access to power and privileged information about the technological systems they are assessing; and when they are dependent

upon these systems; and which make decisions that impact their lives; then critical theory would consider the validity of choice and prefer a view that the human actors are instead dependent agents, with constraints rather than choices.

Social and economic structures play a role in where a human agent will sit on a spectrum of constrained choices (dependency). Australian research by Edelman (2020) shows that Australia has the highest level of “trust-inequality” in the world. Trust inequality refers to the differential level of trust reported by what Edelman regards as ‘the informed public’ versus the level of trust reported by the ‘mass population’ (Edelman, 2020).

Reimann and Schilke (2015) propose a third tranche of trust class, pointing to a concept they call ‘motivated cognition’, whereby “power-disadvantaged actors thus effectively protect themselves by perceiving power holders in a positive light”. What this motivated cognition phenomenon might imply is that those on the deficit of the technology exchange due to social disadvantage may, in fact, trust systems more, because they must (Schilke, Reimann, and Cook, 2015).

This dependency, particularly in the public sector’s administration of property rights and access to social welfare, is exacerbated by the moves of many western governments to implement ‘digital first’ policies because of the

productivity benefits, and despite the social impact that the deprecation of human service can have, particularly on vulnerable (and perhaps highly dependent,) groups. For example, the digital first policy of the British Government, is estimated to bring a cost of supply saving for government services between £1.7 billion and £1.8 billion, annually (United Kingdom Cabinet Office, 2012).

The McKinsey Institute estimates the cost savings of government digitisation to be AU\$1 trillion, annually (Corydon, Ganesan, and Lundqvist, 2016). It is important to note that the cost of supply is only one lens of measurement. Bevacqua and Renolds (2019) have studied the impact of “e-government” on vulnerable taxpayers in the United States (including low-income taxpayers, seniors, and those with disabilities,) and found that there is a significant ‘digital divide’ caused by these “digital by default” initiatives.

In the Australian property sector, there is criticism that the increasingly digital user interface across both public and private sectors will impact vulnerable groups, specifically from the affordability segment. The Australian Housing and Urban Research Institute has expressed concerns that vulnerable groups in Australia may lack the digital literacy to access the support and schema provided by government through digital delivery (2018)”.

Thomas et al (2020) have researched an empirical measurement for Australia's digital divide, and they estimate that although the infrastructure exists for most Australians to access the internet, including increasing connectivity potential in vast rural areas of Australia, more than 2.5 million Australians remain offline, which is approximately 10% of the Australian population. They further report that disadvantaged groups (such as Indigenous Australians and Seniors) have worsening access. Non-incidentally, the report also suggests that those without home internet, that is mobile-only internet customers, are less digitally included.

The evidence of social disparity impacting opens the door for a critical perspective. A Marxist approach contends that trust can only exist in a classless society since the existence of class presumes exploitation, which is hardly a fertile starting point for trust (Misztal, 1992). Misztal (1992) also states that Dworkin, similarly to Locke, would stress the requirement of 'choice' as a precondition of trust, much in the same way that risk is a condition precedent. This precondition would exclude the existence of trust in any human agent that is 'dependent' on systems, as they do not have the ability to choose between trust and distrust.

A Faith Basis for Intrapersonal Trust

Where the complexity of the risk amounts to Humphrey's (2009) predicament of epistemic opacity, the notion of intrapersonal trust is distilled to the concept of being able to trust something that we cannot understand. In our colloquial language, we talk about "taking a leap of faith", and it is the use of the language of 'faith' around this is inspired by Giddens (1990) who believes, in a tilt on rationalist theory, that it is ignorance, and not knowledge, which creates trust in abstract systems - that trust is only demanded when there is ignorance.

Unlike the critical perspective of dependency, above, ignorance need not be the function of social control, but can arise as a function of complexity.

Eyerman and Jamison (1991) in their social movement theory, suggest that one of the emergent consequences of an abundance of knowledge in the modern era. They argue that because there is an abundance of knowledge there is also an assumption that one cannot have full knowledge and so reliability of social systems must therefore be based on trust.

It almost piggybacks on Plato's original notion of delegations, mentioned above, that in an economy with deep (and ever deepening) specialisation of labour, the importance of trust grows along with the network of delegations and dependencies to other social actors, potentially expanding to artificial actors (Navon, 2021). The modern world of business is based on deeply segmented workflows, and the mechanisation of humans who exercise a



small purview of discretion in highly concentrated and fragmented tasks across the work process.

There is a hangover from the rationalism of Ford and mass-production techniques which now pervade many of the human systems in all kinds of vocations. It is easy to imagine the fragmentation of work on an assembly line in a factory, however, the human service industries require careful planning of workflow and handoffs in order to function within service-oriented architectures. For example, service delivery within residential property services, have become distributed in many cases with specialists working in pod formations specialising in leasing, maintenance, rent collection, inspections, and outgoing procedures - without a holistic view on the tenant, landlord, and property (Bradbury, 2016). According to Giddens, this causes an increased 'trust liability' across work functions. We cannot know the whole of the machine, and therefore, must trust from a place of ignorance - which is more akin to the notion of 'faith' (1990). L

“Our rationalities will, as a matter of course, require risk taking; and risk taking will, as far as others are involved, require trust. ... We may then continue to live with a new type of anxiety about the future outcome of present decisions, and with a general suspicion of dishonest dealings (Luhmann, 1979, p99).”

What Luhmann does here is connect the notion of rationalising trust with a transference of individual rationalisation to the functioning of a system.

Misztal (1992) argues that for Luhmann, trust enables the complexity that rationalists omit because the system creates a tolerance for uncertainty. That the ability for humans to function rests on trust in trust, which Luhmann calls depersonalised trust, or systems of trust (1979). Misztal (1992) recognises that the encounter of personal trust and rational trust have different roots, there is some unification when it comes to functionality, because both the actors and the system as a whole benefit by the reduction of uncertainty and complexity.

Of course, ignorance-based trust, a trust-in-trust (Luhmann, 1979) may very well be the requirement of Humphrey's "anthropocentric predicament (2009)" with complex systems and networks of specialisations, delegations and carved up work practices within the organismic paradigm of society (Sztompka, 1999). Yet within the social-political context of the Australian Proptech sector and community of practice, there is a residual unease at surrendering a future to the consequences of decisions made on faith or ignorance.

Unlike other periods of history where predeterminism was the prevailing thought and where faith-based decisions gave us an escape clause from the consequences of our decisions, Luhmann (1979) says that for modern

systems, the dependence of our future on present day decision making is enhanced. It is problematised by Finkel, who says this: “We lack knowledge of developments that can affect us immediately and directly...We lack foreknowledge. We give up our data today without knowing what others might be able to do with it tomorrow (2018, p3).”

Despite being progressive on the adoption of intelligent systems, Finkel is cautious. There can be no escape from history and the pitfalls of ‘faith’. Those within a core of power in a society are able to use the access they have to scientific knowledge to maintain ignorant others in a peripheral position to that power (Sepos, 2016). Core-periphery models as a network structure of social organisation create a power-based clique at the core which converts to a power-based positional advantage (Borgatti and Everett, 1999). Polarisation is the observed and logical outcome of this network structure, and Grabner and Hafele argue that even in a political environment as new as the European Union, the unequal nature of power and trade between core and peripheral members follows a pattern of unequal technological exchange (2000).

#### Transparency as a Basis of Interpersonal Trust

Contrary to the argument that there can be no trust without risk, many theorists equate the notion of trust with transparency (Auger, 2014). And while transparency might increase trust, it is the same factor which grounds

Cook and Santana's (2018) criticism of rationalised trust - that there isn't, in fact, trust, but rather a confidence in a particular course of action based on a favourable calculus.

Transparency is also discussed broadly as the basis of trust for many theorists on ethical AI - contending as I do - that an ethical approach to advanced software is one that does not hide behind a privileged curtain of technical knowledge, but rather is open and democratised so that consumers and end users may make their own enquiries and hold informed views on the adoption and use of specific advanced software applications. The Capgemini Institute conducted published a study of 510 organisations according to the "Why addressing ethical questions in AI will benefit organizations [sic]" study, n=5,980 (1,580 executives and 4,400 consumers in 10 countries (Thieullent, et al 2021).

In that study, 51% of business executives reported that AI transparency and ethics are important for their business, and not surprisingly, 41% of senior executives state that they have suspended the deployment of an AI tool because of a potential ethical issue. The same survey also showed that companies who could demonstrate to consumers that their AI was ethical would be rewarded with 62% said they would place higher trust in a company whose AI interactions they perceived as ethical, 61% said they would share positive experiences with friends and family, 59% said that they

would have higher loyalty to the company, and 55% said that they would purchase more products and provide high ratings and positive feedback on social media.

Yet transparency as a basis endorsed by theorists and ethicists may be oversimplifying things in terms of what is practically feasible. It assumes that transparency will adequately address the issue with access to information about how advanced software is being used and it ignores the important commercial and technical reasons why transparency may be impossible, even counterproductive.

Technical complexity of advanced software can make transparency impossible. There are often commercial reasons which protect the value of IP Security reasons could make transparency of some advanced software dangerous The AI paradox, that the more information is published about an advanced software application, the more it becomes vulnerable to malicious agents (Burt, 2019).

If it seems that transparency can also be the mechanism by which trust is undone, particularly in the case of a leadership example that is discovered to be untrustworthy. In the Australian political context, the ultimate mechanism for public trust and transparency is a Royal Commission. A series of these Royal Commissions were convened since decade beginning

2010, in which the broad investigative powers of the Royal Commissions created transparency over cornerstone institutions of Australian Society, including churches, schools, scouts, banks, aged and disability care via the Royal Commission into Institutional Responses to Child Sexual Abuse (2017), Royal Commission into Misconduct in the Banking, Superannuation, and Financial Services Industry (2019), Royal Commission into Aged Care Quality and Safety (2021), and the current Royal Commission into Violence, Abuse, Neglect and Exploitation of People with Disability (2022).

In referring to some of these findings, Australian demographer and journalist Bernard Salt wrote in 2019 about the state of trust in the preceding decade of the Australian social network. He said of the decade:

“The era in which we lost faith in the very institutions that underpin society. The exposure of appalling behaviour by some members of the clergy and big business undermines the foundations of public trust. This loss of trust breeds cynicism and creates social division; it rationalises self-interest; it is the antithesis of a united, loving and generous society (Salt, 2019, para 3)”.

The Edelman Trust Barometer is an annual report which surveys trust across a global sample (n=31,050 in 2022) and an Australian specific sample (n=1,050), and is the leading authority on what we might call ‘public trust’

(2022). Edelman identifies Australia as one nation with the second biggest loss of 'trust', after Germany. In 2022, Edelman further reported declining trust across business (-5), NGOs (-4), Government (-9) and Media (-8). The report further quotes that Australians believe that "65% of journalists and reporters, 61% of business leaders, and 61% of government leaders are purposely trying to mislead people by saying things they know are false or gross exaggerations (Edelman, 2022)". Edelman also reported that "55% of Australian respondents report that "My tendency is to distrust until I see evidence that something is trustworthy (2022, p21)."

Whether it is a case of 'imitation' as Alan Turing suggested (Oppy & Dowe, 2021), or whether there is an innate drive in us towards the anthropomorphism of robots (Damiano and Dumouchel, 2018), it is a convention of advanced software that it is being crafted in a humanised way. For many in the field of advanced software, the pursuit of human-software singularity is the end-game, although it is a controversial pursuit based on both ethical grounds (Lamba and Tripathi, 2022) and significant doubts about technical feasibility (Hurt, 2022).

#### Accountability and Answerability as a Basis of Interpersonal Trust

When, and if, we extend intrapersonal trust to these artificial actors, what are the consequences for a breach of that trust?

A further way to understand intrapersonal trust is by defining its breach. In our human systems there are consequences for a breach of trust which take on an evolving characteristic, and which aspire to be aspirational of our collective standards - or such is the claim of a representational democracy like Australia. For trust to be present, there must also be architecture for trust, or rather norms, institutions and indeed punishments where justified by a breach of trust. Above, I discussed the fatal incident whereby an automated vehicle in testing struck and killed a pedestrian and how, in this instance, the back-up driver was held accountable as they were streaming a television show instead of focusing on driving the vehicle in parallel with the advanced software (Cellan-Jones, 2020).

This research does not have the benefit of interviewing that back-up driver, however, one does begin to wonder about the relationship of trust that they had with the vehicle they were riding in and whether there ought to be some consideration as to whether the driver was told that the car was 'safe', at some point the driver trusted the car's automatic capabilities enough to abdicate their own safety. Was there any trust breached with the streaming service the driver was watching? Streaming services are intentionally engineered to engage audiences to continue "binge watching" and use algorithmic suggestion engines to prompt continued viewing, so answerability may well extend to the addicting advanced software of the streaming



company and whether the back-up driver knew it was addicting before they began using the service (Mahdawi, 2018).

Arguably, it is a long bow to draw, but ultimately, the error which caused the fatality was computational on behalf of the AI, and the back-up driver, its creators and regulators representing the interests of the pedestrian believed it was 'trustworthy'. In this specific scenario, we had the negligence - or contributory negligence - of the human back-up driver. However, in the event that the human did everything they could to avoid the error, or if the computational error was too grave to correct, where would accountability sit?

Not intending to ask unhelpful rhetorical questions here, it is important to understand that 'where' might be considered differently under different systems of accountability or answerability. Assuming that there was no effective human as a blame agent, and the computational error alone caused the accident, there are a few standards which might attract accountability.

Under a 'product' paradigm, the liability lies with the creators (unless a case can be made to disrupt vicarious liability presumption such as in the case of the Uber back-up driver). The compensation is financial based on damages which introduces a new realm of bias based on the characteristics of the

victim, and in many jurisdictions, civil liability is limited by legislation. It is worth mentioning that civil liability must be sued for by a plaintiff, at risk of losing and bearing a costs judgement, making the accountability practically unavailable for most private citizens against the resources of a company such as Uber. Where accountability and answerability are limited in terms of compensation and which is further limited by access to it, there can only be limited trust.

Under a 'personal' paradigm, in order to bring the grievance into the arena of public law, the government must be able to prove the elements of a crime, and of course, there must be a person capable of prosecution and punishment. Where the accident was caused by driver error, the driver - in this case a computer - is held liable for the physical elements of vehicular homicide where either intention, negligence, or reckless *mens rea*' can be proven along with the physical elements of homicide. The computer itself, however, is incapable of *mens rea* or the mental elements of a crime, and therefore there are two branches of developing answerability in the public law arena. Firstly, there might be experimental and novel accountability of a mitigated legal person brought against the non-person automated vehicle, similar to a child who cannot determine right or wrong, however, in the event of *doli incapax*, there is inherent exculpability.

Additionally, the criminal paradigm is entirely unsuitable for the computer because ultimately the most extreme form of violence the state can issue is incarceration, which is entirely unsuitable and ineffective against the advanced software as they are based on principles of sentencing that are uniquely human, such as rehabilitation and deterrence, none of which a computer cares about because they do not have feelings. The limitations and dangers of anthropomorphism which may be a basis or mechanism for inducing intrapersonal trust are shown bare once the limits of humanisation are acutely demonstrated such as in this example of human criminal culpability; the artificial sentence of the artificial actor is meaningless.

The second potential avenue for answerability may lie with the legal person/s who is/are ultimately responsible for the intentional/negligent or reckless actions of the artificial actor, being the Directors of Uber Corporation and whether a mental element of *mens rea* could be established to a threshold of criminality (below that threshold is a civil matter, in which case a lower standard of negligence must be proven). It is possible that trust in automated vehicles may increase among consumers if there was strict liability ascribed to the Directors of Uber, however, even with the significant financial compensation that would be involved, it would be very difficult to find qualified and informed candidates who might be prepared to take on that degree of culpability, particularly where the complexity of an

autonomous vehicle may make many of its operational intricacies black-boxed at the executive level.

The example demonstrates the intricate web of trust and trustworthiness that is woven in the production chain between director and end user when dealing with an autonomous artificial actor, whose operations are complex and therefore opaque, and which carries an inherent dependency on the quality of its data inputs. Even if the recommendations of the Australian Human Right Commission (2021) are adopted and liability is transferred to the effective human delegator (in this case that could be the owner of the vehicle who purchased it from Uber,) it is likely to have an impact on trust where strict liability is transferred from a system to a user, who cannot account for it.

In essence, the recommended transfer of liability to users could result in an Australian marketplace which rejects applications of advanced software, which would preclude it from the many economic, productivity and scientific benefits that it promises. A satisfactory paradigm must be reached for answerability and accountability so that trust is achievable and sustainable in a way that benefits the various stakeholders.

Trust in Objects

*Are there examples of 'trust' which we extend to other types of actors, who are not human? In that instance, how do we handle accountability and answerability?*

The absence of a paradigm that is meaningful has created all kind of practical absurdities where laws, which are traditionally reactive and prohibitive, have so far failed to come to a cohesive conclusion about how artificial actors are to be understood as social actors, and which consequences ought to be applied in the instance of a 'breach' of trust, such as illegal action. One such absurdity involves an unsupervised machine learning bot created by Swiss artists called 'Random Darknet Shopper', where an algorithm was given an allowance of B\$100 Bitcoin per week and allowed to explore the darknet making purchases, which included a Hungarian passport, ecstasy tablets and fake designer clothing, and although the goods were confiscated, neither the "bot" nor the creators faced criminal consequences for the clear crimes that were committed (Kharpal, 2015).

It is not only advanced software committing crimes against the state, but the grey area of artificial actors has created some haze around civil rights where deployed by authorities to fight crime also. The controversial "Lolita" chatbot, is highly trained in game theory and poses as a vulnerable teenage girl to ensnare potential paedophiles and while the public interest in combating

child predatory activity online is obvious and stretches enforcement resources to cast a wider net, the sophistication of the bot and aggressive game-theory application has been controversial and criticised that it may even 'create' paedophiles or posit non-paedophiles into conversations where they are vulnerable to 'losing' the game against the bot (Scharr, 2013). These are two extreme but also real world examples where humans have used artificial actors and their advanced software capabilities to breach trust.

The argument that they are simply tools, and that humans ultimately used them as such to bypass human limitations, does not in my view mitigate the need for artificial actors to have an element of trust and answerability for its breach. It is because humans are using their humanised capabilities to subvert answerability is precisely why a practical paradigm is needed to expand trust (and answerability for breach), to artificial actors, powered by advanced software. Darling (2022) suggests that a better paradigm might be to position artificial actors on the same footing as animals, in the sense that they have been 'trained' and used for centuries for companionship and as beasts of burden. Within that paradigm, Darling asserts that robots behave similarly to animals, which we understand as having a role in augmenting human work and that in many countries, animals are ascribed something recognisable as rights and responsibilities. By illustration, in the state of New South Wales in Australia, where a dog is "set on or urged" to attack someone by its owner, the penalty is distributed across both the animal and

its owner - for interest's sake the penalty for the owner under *The Companion Animals Act* 1988, is a maximum fine of AUD\$77,000 and five years jail, while the animal is destroyed (Meacham, 2022).

A distribution of responsibility and consequences recognises the distribution of breach across the responsible human/s and its/their trained tool, in this illustration an animal, but conceivably also a trained robot. Ultimately, even with deep learning and unsupervised machine learning, there is always a human who has encoded restraints and permissions. This will be true until the theoretical point of singularity is attained, however, with deep conflict about the feasibility of this point ever being reached, discussed above, liability at singularity remains a thought experiment.

The analogy of robots to animals is a convenient metaphor, which Darling admits (2022), however, it does provoke criticism on the basis that the technology is, in fact, novel. Johnson and Vericchio argue that the analogy should remain a metaphorical discourse and that using it as a basis to incorporate robots into social life is not adequate (2018). Solaiman (2017) argues that existing legal frameworks already struggle with an approach to animal liability, where intelligent animals such as chimpanzees have been denied legal personhood and thereby attracting neither rights nor responsibilities, except for where legislation specifically prohibits human behaviour with regards to cruelty.

And yet, as artificial actors embed themselves into society and legal paradigms move to adapt, it appears that the animal-robot paradigm is congruent with a practical understanding of how we can incorporate answerability. For example, where strict liability is placed upon the owner of the animal for its actions under *The Companion Animals Act 1988*, there is the recommendation by the Australian Human Rights Commission (2021) that the responsible human delegator should remain strictly liable.

Further, just as there is distinction between dangerous dogs and safe dogs based on breed in *The Companion Animals Act 1988*, the tabled legislation for the European Union proposes a risk classification system (European Commission, 2021) to distinguish between safe and risky applications of advanced software. Interestingly, in an earlier discussion Kelley et al (2010) had argued that a risk-based classification system, similar to a classification of dangerous dog breeds could be deployed to ban particular applications of potentially harmful applications of advanced software.

Orwell did much to foreshadow advanced software, and while thoughts normally run to his novel *1984* because of its collection of big data and surveillance capabilities, to summarise this discussion with regards to the animal-robot paradigm for the assignment of answerability (and by logical extension, trust), I believe this quote from *Animal Farm* summates the human



and artificial actor predicament concisely: “The creatures outside looked from pig to man, and from man to pig, and from pig to man again; but already it was impossible to say which was which (Orwell, 2021, p141)”.

The alternative would be to retain artificial actors within the realm of ‘products’, with contractual product liability, although there are clear gaps when unsupervised applications begin to commit crimes or where citizens are potentially gamed into committing crimes such as the examples above. A gap in answerability, logically creates a gap in trust. A gap in trust, logically creates a gap in adoption. And so, it is rationalised within social, moral, legal and economic considerations to close that gap. If not within the animal-robot paradigm, then perhaps by some other metaphor which appropriately categorises the distribution of responsibility and capacity between the artificial actors and their creators.

Interpretability plays a critical function in answerability because it enables users to understand when a breach has occurred, and when they may be able to demand that artificial actors be held to account. For answerability to be converted to accountability however, there must be appropriate trust architecture available to those users, (transparency, explainability, laws and regulations, judiciary and quasi-judicial enforcement provisions, ombudsman and an appropriate number of technical experts to represent users and

interpret systems which are complex, opaque, dependent on data, and automated.

Trustworthiness: Trust as a ceiling, not a floor

*Where trust is the desired outcome, how can creators of advanced software and artificial actors become trustworthy? And, could trustworthiness be a competitive advantage?*

In 2020 Standards Australia released its Roadmap for Standards for Artificial Intelligence pointing out that Australia is one of 42 countries committed to the development of consensus-driven Standards on AI, through the OECD Principles on AI. The development of such Standards is taking place through the Artificial Intelligence Joint Technical Committee of ISO and IEC - (ISO/IEC JTC 1/SC 42). The ISO/IEC JTC 1/SC 42 is the primary international committee on AI that Australia has an active role in. • ISO/IEC JTC 1/SC 42 currently has 29 participating members, including Australia, and 13 observing members.

According to the report:

“The principles include actionable steps to underpin a framework for the ‘responsible stewardship of trustworthy AI’. This includes design, development

and deployment of AI internationally. These high-level value-based principles are:

- AI should benefit people and the planet by driving inclusive growth, sustainable development and well-being.
  
- AI systems should be designed in a way that respects the rule of law, human rights, democratic values and diversity, and they should include appropriate safeguards - for example, enabling human intervention where necessary - to ensure a fair and just society.
  
- There should be transparency and responsible disclosure around AI systems to ensure that people understand AI-based outcomes and can challenge them.
  
- AI systems must function in a robust, secure and safe way throughout their life cycles and potential risks should be continually assessed and managed; and
  
- Organisations and individuals developing, deploying or operating AI systems should be held accountable for their proper functioning in line with the above principles (Standards Australia, 2020, p4)."

Since then, Australia has implemented some standards for the development of AI, however standards are not laws and they are only mandatory if there is a law enacted to enforce them - and by doing so move them beyond the realm of product liability. Realistically, there are substantial and practical barriers to consumer enforcement, which is discussed here as an issue of 'everyman' interpretability; understandability.

A trust architecture based on a suitable legal paradigm for accountability and prohibitive rules and enforcement such as are being proposed by the EU (2021) and recommended by The Australian Human Rights Commission (2021); are the traditional starting point, a floor or minimum standard for expectations and trust. However, the rise of Uber rides demonstrated that there is a tension between this 'floor' which AI ought not to transcend and the ceiling where AI takes community morality and enables it. When Uber launched in Australia in 2012 (Uber, 2022), there were laws and regulations which governed taxis, endorsed by government licensing which was very expensive to taxi operators. The cost of this licensing was justified by the government on the basis of the expense of the trust architecture. Taxis were reported as the 'trustworthy' and legal option and Uber branded as illegal and unsafe (Butler, 2022).

It is an interesting example where a traditional institution railed against an advanced software application on 'trusted' grounds, and failed. Uber

launched with its application using advanced software to create an experience of radical transparency for its users with community-based trust fostered through features such as 'ride-tracking', 'share-my-ride' and driver identification and driver-ratings. The government soon yielded to compensate taxi licence holders for their loss of income and build some trust architecture around the disrupted private transport market, which consumers had ultimately decided was better with the adoption of advanced software. Soon more ride-share companies have entered the market, and taxis have been forced to compete on market-based factors - not on regulatory protection which arguably created the complacency and opportunity for Uber (De Percy, 2016).

The Uber story in Australia is one example of where the community judged an advanced software to be more trustworthy than trust architecture allowed. There is a sustainability argument that the machines need to not only be trusted enough to be engaged, but need to be trustworthy, if they are to help create futures that we want to live in. The traditional ethical position is similar to a prohibitive legal approach - that AI ought 'not to' be unethical (Jung, 2018). This approach inspires a minimum level of compliance and governance - ethics, morality, trust as a floor by which care should be taken not to transgress below it. However, if the link between trust and adoption is empirical as Bedue and Fritzsche (2022) suggest (see also Chen and Park,

2021,) then there is not too far to travel to a position of cohesion, rather than tension between trustworthy AI and commercial success.

It may fall to the experts and interpreters to facilitate trustworthiness across the expert knowledge cultures involved in the creation of advanced software and to the end-users who arbitrate the ultimate commercial success of its applications. This argument for community-based morality is an interesting one with the Moral Machine Experiment seeking to summarise global morality preferences for the distribution of well-being and harm across different demographics -creates in itself a new paradigm challenge as to whether what is “ethical” will be acceptable to the community or whether the community will achieve some kind of normalised morality - and whether that will be ethical according to consumers (Awad, et al, 2018).

I discussed in the introduction how there is a plethora of ‘ethical’ guideline documents, which mention transparency, explainability and interpretability. Indeed, there would be scope for research beyond this to attempt to unify these approaches and offer consistency and ethical literacy across various stakeholders, however that is not in scope here. These guidelines draw the criticism that they are at best, tigers without teeth, and at worst, “mere virtue signalling intended to delay regulation and pre-emptively focus debate on abstract problems and technical solutions” (Middlestadt, 2019). A cynical, and potentially also realistic assessment of these principles, is that they will

continue to be developed in response to the forces of “profit-seeking and social control” unless there is a case to attach interpretability to these ends in a parasitic way one that builds trust and adoption - through the means of interpretability and autonomy (Rainie, Anderson and Vogels, 2021).

In my research, I am seeking to position interpretability as an ethical ceiling, an aspiration toward creating understanding in consumers which will, like in the Uber example, provide a key to user adoption and satisfaction, but also for the commercial sustainability of AI. The ethical or principled point of view is supportive of this direction, but one thing we know about ethics in the absence of accountability is that even where ethicists agree - the community must adopt the principle into practice.

### The Role of Experts and Interpreters

*Can experts play a role in holding artificial actors to account? And how?*

When we consider the nature of advanced software as new and emergent, it is by definition novel and so mistrust cannot logically be the result of a negative experience with it. (Mis)trust of a thing one hasn't personally experienced relies upon second-hand experience; the consumption of and subscription to a narrative. The storytellers of advanced software become the relevant entity to unlock understanding and create balanced pathways to answerability, accountability and ultimately, trust. Interpreters who scout and

translate specialist knowledge across groups play a powerful role holding various stakeholders and their respective interests in communicative balance (Maguire, 2015). It is a particularly relevant role if we are brave enough to confront the potential for exploitation in the relationship between specialised knowledge and power. We must also be brave enough to cross the bridges (Nicolescu, 2002) and to create understanding in complexity - removing the opacity and democratising choices around the adoption of advanced software.

The expert knowledge of computer science is available to anyone in the world with access to the internet who can (theoretically,) learn how to code advanced software. The fundamental characteristics of advanced software (opacity, complexity, dependence on data and automation) create a curtain of privilege for the 'few' informed classes who are able to understand, navigate and influence technical systems. For sizing purposes, Finkel estimated in 2018 that there were only about 22,000 people worldwide qualified to a PhD level in AI related fields (2018).

It is interesting that Finkel (2018), counts persons qualified to PhD level in AI as appropriately qualified persons. Without seeking to undermine the institutional awards that I am striving for with this thesis, there has to be criticality about whether Finkel's definition of a 'cabal' is limited to those



recognised persons who create the narrative about advanced software from the perspective of post-nominals.

Complexity is not satisfied by an authorised narrative from within Finkel's cabal, nor those positioned outside of it, nor any one positionality. In the 21st century, there is not a mainstream narrative, no broadcast news service or edict from The Ministry of Truth to borrow again from Orwell, this time 1984, (Orwell, 2021). Rather narratives are fractured off into sub-narratives, disseminated and socialised as specialised knowledge via online platforms for the kaleidoscope of perspective and alternative ways of knowing. The open-source nature of online knowledge, often disseminated via social media platforms and organised by influencers and leaders in the communities, simultaneously creates a marketplace of knowledge and a balance whereby user-generated content may correlate in crowd-sourced fact-checking in some circumstances (Saeed et al, 2022). While the opening up of knowledge is possible, we can't pretend that the same complex political forces that exist offline would not infiltrate the online world - a world with finely tuned tooling to push an agenda (Forest, 2021).

The role of the translator is therefore a sacred one - it is not simply a task of a carrier pigeon, to merely replay - they interpret and deliver understanding and it is on that basis that devices such as metaphor, allegory and a swag full of creative licence can be used to make meaning

as opposed to the less deliberate task of message-carrying (See Bruns, 1995). Jacobs proposes a concept of “Meaning-making at the edge of chaos which we engage in when our current worldview is profoundly challenged by new information and experiences and when the world is complex and chaotic, we are continually challenged and disoriented (2018, p1).”

This meaning-making at the edge of chaos describes the process of interpretation of unprecedented technology and is the basis for which I approach this notion of interpretability here. I argue that Interpretive Theory, or rather interpretive practice, activates the phenomenon of “meaning” and is the remedy for the anthropological predicament that Humphreys (2009) describes.

## 3.2 Experiencing Section



### 3.2.1 MeSearch Process - Experiencing Section

#### Reflection

At the culmination of the literature review, what emerged for me is that the extant knowledge on these issues comes largely from academics and researchers, also commentators and critics, but seldom from the actual practitioners; entrepreneurs, designers, creators, engineers and architects who are building these advanced software applications. There is always a call for tougher regulation, such as the proposals by various advisories and political bodies, such as the European Union proposed legislation or the Australian Human Rights Commission recommendations - however, this is not what practitioners want. I remember being invited to an innovation panel in 2019 and a regulator from the NSW Government was present and his view was that regulatory instruments are prohibitive; and he explained that it was not the role of legislation to enable best practice in terms of software

development - but that it was the role of innovators to push the boundaries and the role of government to push back, after the fact. It is an interesting view and certainly not one which would conjure investment confidence in Proptech.

Additionally, the starting point for academic discussions around advanced software seem to have transparency as the starting point, however, the technical, practical and economic limitations (which I have discussed above,) don't translate to practice where transparency is ambiguous and largely unachievable in the plain sense of the word (Bruns, 1995).

And so, in the plainest and simplest - almost radical - way of expressing it, I decided that the best way to find out what practitioners think about interpretability as the basis of trust for advanced software might look like was to ask them. Participant interviews with members of the Australian Proptech community of practice represents part of the ethnographic fieldwork of this research, along with the inextricable immersion of my positionality as an embedded insider of that community. At this MeSearch step, I recruited and obtained informed consent from the research participants, whom I selected and invited from the Australian Proptech community of practice.

Selection of Research Participants from the Australian Proptech community of practice

The nature of a community of practice is that there will be stakeholders with various levels of commitment, time, and participation. For my research to accurately synthesise the views of multiple perspectives from within the community, it was important to identify participants who had different roles within the community and diverse 'stakes' in the application of advanced software within the context of Australian PropTech. I used Scaled Agile's model for conceptualising these different levels of participation, and the model is reproduced here:



*Figure 5: Scaled Agile's model for differential participation in a community of practice (2021, para 13).*

According to its creators, this model shows that community of practice members can “exhibit multiple levels of participation and can move freely

across the levels as needs and interests evolve (2021)". Each level is then described:

**“Core** - The core team forms the heart of the community that will organize, charter, market, nurture, and operate the community.

**Active** - These members work closely with the core team to help shape the definition and direction of the community of practice. This includes defining the community’s shared vision, purpose, roles, strategies for interaction, marketing and communications.

**Occasional** - These members participate when specific topics of interest are addressed or when they have something to contribute to the group. They are often the largest group in the community.

**Peripheral** - These members feel a connection to the community but engage on a limited basis. These could be newcomers or those who have a more casual interest in the community activities.

**Transactional** - These members are the least connected to the community and may connect only to access community of practice resources or to provide a specific service to the community of practice - e.g., website services. (Scaled Agile, 2021, para 13).”

As I write (or probably more accurately draft this section of my thesis,) I sit on a plane returning home from an event today, which is typical of an Australian PropTech community of practice event. It was a forum for PropTech

founders which had guest speakers, founders who would cover topics including the first 100 days in business; the first 100 staff; the first \$100 million of investment; and the topic I was asked to present on was the first 100 days post-exit. During the pre-event greetings and networking, the community was obvious as conversations took place with and around me which were collaborative in nature. New founders asking more experienced founders for help with the (seemingly) endless glossary of difficult financial terms used in venture capital structures, for example what was the difference between ordinary and preference shares. Help with structuring sweat equity and employee share schemes and general business card swapping for follow ups and shared access to decision makers in the customer base or within the community integration ecosystem. It represented a professional community exchanging knowledge and ideas, which I believe is the essence of Lave and Wenger's vision for a community of practice. Within the attendees, it was easy to see these roles applied to a real-life scenario:

Core members - The organisers of the event, their advisory board which comprised of highly engaged members of the community who had invested their time and resources to research the need, create the event, market it, select the speakers, liaise with government for support, and so on all the way down to printing name badges and registering guests on arrival. I discovered today that the gentleman who passed me my name badge was a

senior leader at one of the world's largest investment banks and consulting firms, but there he was, happily serving the community.

Active members - I would call myself an active member of the community. I don't hold a directorship or sit on the board; however, I am regularly asked to advise the core members, and invited to share my experiences with the community at events such as the one today. Outside of formally organised events, I frequently discuss issues with other founders and their teams on social media and messaging services and as we meet at various industry events, which are not PropTech specific such as the one today.

Occasional members - this better describes how my business partner engages with the community. We live in different cities and he drove me to the event venue, came in for a drink, spoke to other members of the community for a while about different integration issues and before the event, decided he probably wouldn't stay as the topics weren't relevant directly to what he needed help with; the event had been designed for younger PropTech founders, or founders less advanced in their journey.

Peripheral members - The event was attended by the Editor of an industry publication, who is an SME in the property industry as part of her role, however the interest is adjacent/casual to her core role as a journalist.



Transactional members - One of the sponsors of the event was a global recruitment firm who was represented by one of their reps who had flown in from Singapore. His engagement with the community is commercial as a provider of services, and his contribution will be sporadic as these commercial opportunities present.

### Recruitment of Research Participants

In recruiting participants for my research, it was important for me to gain representation across these groups and so I first designed a pool of candidates based on their roles and how they conformed to these roles within the community of practice. The final participant group were assigned individual coded identities, the key to which were stored in an electronic device, an e-notebook, that I keep disconnected from the internet. The participants in the research are listed here:

<b>Code Name (A)</b>	<b>Role In Community of Practice (B)</b>	<b>Membership in Community of Practice based on the Scaled Agile classification (2021) (C)</b>	<b>Relation to Me as insider in the Community (D)</b>
RedFrog	National Proptech Member Association Leader	Core	Friend; Leader of professional body of which I am a member (paid); I have spoken at events run by this association; Colleagues in a charity project

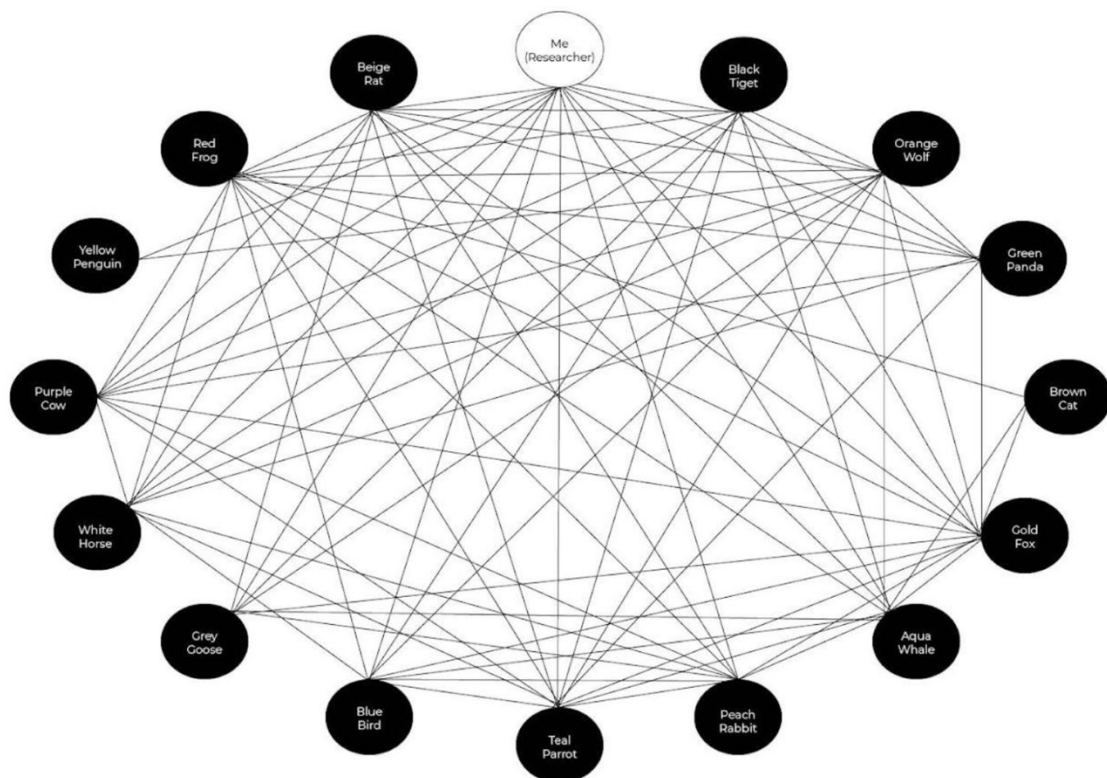
PurpleCow	Regional Proptech Association Leader	Core	Friend; Leader of professional body of which I am not a member; I have spoken at events run by this association; Formerly employed at a VC firm which rejected my company for a program we applied for
BeigeRat	Regional Political Leader for Property Industry	Core	Government Advisor and policy maker for Property Industry; ex-colleague; Friend
WhiteHorse	Proptech Consultant	Active	Mentor, supporter, friend; Informal leader of Proptech community; Regularly speaks at the same events I do.
TealParrot	Proptech Consultant and Regional Peak Body Chairman	Active	Supporter and Friend; Chairman of Regional Property Industry Peak Body
OrangeWolf	Proptech Entrepreneur	Occasional	Peer; Business Associate; Close Friend
PeachRabbit	Property Industry National Body CEO	Occasional	Supporter and Friend; Leader of National Property Industry Membership Association
YellowPenguin	Property Industry Solutions Professional	Occasional	Proptech implementer; Ex-customer; Colleague; Mentee
GreenPanda	Proptech CEO	Occasional	Proptech Entrepreneur; Former C-Suite Regional Property Industry Peak Body; Peer
GoldFox	National Real Estate Franchise CEO	Peripheral	Proptech Decision Maker; Family; Customer

BlackTiger	Regional Peak Body CEO	Peripheral	CEO Regional Property Industry Peak Body; Proptech Community Leader; Friend
BlueBird	Property Industry Large Business Owner	Transactional	Proptech Decision Maker; Friend; Customer
BrownBear	Property Industry Professional Sales Agent	Transactional	Proptech End User; Friend; Potential Customer; Colleagues in a charity project; Mentee;
GreyGoose	Property Industry Medium Business Owner	Transactional	Proptech Decision Maker; Proptech End User; Customer
AquaWhale	Property Industry Consultant, Small Business Owner	Transactional	Mentor, Proptech Decision Maker; Friend, Colleagues in a charity project; Customer

*Table 2: Summary of Research Participants (A) relational to the Proptech Community of Practice based on their role (B); utilising Scaled Agile's (2021) Core-Transactional Taxonomy (C); and in relation to me, as research-participant-insider (D).*

This table represents a summary of the multi-positionalities that I have with the research participants in a way that is honest and explicit about the depth and breadth of my entanglement with the cohort of participants, as an insider with deep roots in the Australian Proptech Community of Practice. In reflecting on how I related to each of the participants, I wondered if I had selected people who were too closely connected to me, however, in thinking about an alternative cohort, I struggled to find candidates who were not connected to me and in wondering on that, I was drawn to thinking about

how these candidates might also relate to each other and so decided to map the associations between the researchers that I was aware of in order to illustrate both my relationships with the participants, but also the level of inter-relatedness within the Australian Proptech community of practice.



*Figure 6: Diagram showing interrelatedness between me as researcher-participant-insider to participants and participants to each other.*

The depth of connection between community members makes for a subjective, immersed and even intimate positionality. The degree of immersion and familiarity is also something I have taken into account when

thinking about the intention of ethnographic interview and in designing interview questions. It is within this step of my MeSearch weaving where I explored the concept of subjectivity, and worked through criticism of it, eventually finding both a methodology of ethnographic interview that 'fit' my multiple positionalities, deep embeddedness, and (importantly,) which is validated by the academic community.

This MeSearch step, is the cradle of my interview method which is repeated throughout here and where the balance lay between the subjective and the scientific, because I do believe that it is by embracing both that this research endeavours to obtain a type of knowledge, through this weaving of MeSearch and ReSearch, which is collectively more robust than either approach might achieve alone.

Extract from Reflective Journal

*There has been a lot of enthusiasm from the invited participants. Everyone has agreed to receive information and I am waiting only on a few to confirm that they wish to progress, having read the information. A few of the participants have said that they are not 'sure' how they can help but keen to be involved and I think that in the interview I will need to be careful not to lead them, given my position of influence in the community.*

*Nico has suggested a pilot interview for us to review together and so I will give some thought as to who I would want to start with. I have decided on BrownBear as my guinea pig for the pilot interview. I have made this choice because he is in the transactional group; he would be (I think) the most amenable to being re-interviewed as a result of the review process with Nico and I also think he is someone quite eager to please and therefore it is a good test for me to be mindful of any leading influence on participants. Post Interview - on reflection, may not have been the best participant to start with at the very periphery of the CoP however I did learn a lot about the lack of criticality of consumers in this space. Nico has reviewed the interview and I think we are in concurrence about some iterations of the question set that I am sending to interviewees. I think sending the questions in advance is important as they are difficult, deep questions and it would be great to have interviewees more prepared.*

### **3.2.2 MeSearch Outcome - Experiencing Section**

#### **Defining Interview Questions for First Cycle Participant Interviews**

In designing a set of questions, I thought about the rationale or what I was seeking to explore and then worked backwards to the question, and forwards again to map a question to the rationale. Having a clear set of rationale assisted with the development of the questions, and allowed me to dive

deeper into conversational interaction to generate what Skukauskaite and Sullivan called deep, unexpected understandings (2023). This ultimately enabled me to divert from the questions in organic conversation in pursuit of unexpected knowledge - without betraying the purpose and intentionality.

Interview One Questions Sent to Participants Prior to Interview Appointment

<b>INTERVIEW ONE QUESTIONS SENT TO PARTICIPANTS PRIOR TO INTERVIEW APPOINTMENT</b>		
<i>STATEMENT BY INTERVIEWER:</i>		
<i>My research is about how artificial intelligence has advanced to become a human-like decision maker and the questions that arise in terms of trust and how we might trust systems that we may not have the technical capability to understand. Because my work is copied within the Proptech community of practice in Australia, I will ask a lot of questions about how you interact with technology in your work practice, but if there are examples from outside this context, it is ok to discuss those.</i>		
#	Question	Rationale from MeSearch
ONE	What is your role in the Proptech Community of Practice OR In your work, how do you interact with Proptech?	<p>1. I believed it was a good ice-breaker in the event that anyone was feeling nervous;</p> <p>2. While my MeSearch had given me data around my perception of positionality, this question would give me an insight into the participants subjective perspective of how they relate to the domain or the community or to me as researcher; and</p> <p>3. It would validate or contest my tacit knowledge of the participant's role in the community, and whether I needed to subsequently reclassify their membership in the</p>

		Scaled Agile taxonomy based on new learnings.
TWO	What is your understanding of artificial intelligence and how do you see it being applied in Proptech?	<p>1. There is a deliberate choice to use the word ‘artificial intelligence’ here as opposed to advanced software. While advanced software is a technical term, which includes a number of tools, the non-technical term for the advanced software of my research is better understood as ‘artificial intelligence’;</p> <p>2. I was keen to explore the relationship between artificial intelligence as a concept, and artificial intelligence as an applied reality in the property domain; and</p> <p>3. I was curious about the variability in responses between stakeholders in the community of practice who were at or closer to the ‘core’, compared to those who had a more ‘transactional’ participation.</p>
THREE	Have you been a consumer of Proptech and had an interaction with artificial intelligence? (If yes, "Can you describe that experience and how you think it was different, worse, or better than interacting with a human?"... If not, "Can you think of how a consumer interacts with a piece of Proptech technology and how that technology might impact their customer journey?"	<p>1. So much of the discourse is about singularity and parity - and whether artificial actors are the ‘same’ as human ones. My curiosity here is about whether that actually matters.</p> <p>2. I was curious about the degree to which the customer experience is considered, which can be (but</p>



		isn't always) contrary to the notion of economic productivity.
FOUR	Is there a difference between tech that you have (EITHER: created or implemented or observed) as a 'privileged' actor (being someone who knows how it works or at least are very familiar with) and how a consumer (who doesn't know about it) might experience the same technology?	<p>1. This question is about the privilege of technical knowledge and asking participants to reflect on their own insider status.</p> <p>2. I am also curious as to whether this would provoke some empathy for others in this scenario, who in some cases must use the technology, but who may not appreciate the implications of bias and privacy.</p>
FIVE	What role does trust play when it comes to (EITHER: creating/implementing) these advanced technologies?	1. I am curious about the latent positioning of trust and technology.
SIX	Thinking about trust, is trust in technology the same or different from other types of trust that you experience in your personal life?	1. I am curious about how these informed actors experience technology when they are not in control of it. Whether some opacity impacts their trust when the shoe is on the other foot, so to speak.
SEVEN	What would be an example of Proptech that you have a high level of trust in? Why do you trust it?	1. I am curious about what attributes engender trust.
EIGHT	Do you have an example of a type of Proptech that you have a low level of trust in? Why don't you trust it?	1. I am curious about which attributes are risk factors to trust.
NINE	I've heard of people who are really familiar with AI Systems or who create them described as "technocrats" as a play on words and maybe the new aristocrats. Do you think that there is an advantage to	1. I am curious about whether we think about the power structures that can be created by privileged knowledge, like with other forms of privilege.

	having knowledge in this area? If so, how so?	2. Specifically, I am looking at what are the advantages of the privileged actors.
TEN	What is your biggest fear - or worst case scenario - when it comes to intelligent technology in Proptech? What about technology in general?	<p>1. Given the prevalence of sci-fi drama and tropes of robots taking over the world, I am curious here about the possible threats which might justify caution.</p> <p>2. Specifically looking to understand them within the Proptech domain; and then more broadly as the domain does not exist in a vacuum.</p>

*Table 3: Interview one questions as an outcome of MeSearch (Experiencing Section).*

#### Participant Demographics Omission

The Australian Proptech community of practice, as described above, is a small community and one that exists in a field that is not typically diverse.

In selecting my participants, as a cohort, I have taken care to include members of both genders, members of a broad range of ages and experience, as well as a range of seniority of role within organisations of different sizes and maturity. I have included a member who identifies as LGBTQIA+, a member who is a person of colour, a member who is living with a disability, and members from both urban, suburban and regional areas of Australia.

If I were to apply any combination of these attributes, along with a description of their professional practice, then the participant would become easily identifiable.

I have therefore made an ethical decision not to include the demographic information of participants in this research.

### **3.2.3 ReSearch Process - Experiencing Section**

#### **An Authentic Approach to Ethnographic Interview**

The depth of embeddedness in this community as a participant-researcher-insider requires a diversion from conventional ethnography - which is traditionally an anthropological study of the other. However, as an insider with multi-positionalities and roles, I must accept both inter-relatedness and inter-subjectivity as a condition of this research. Vernooj reports that in doing insider research with close proximity to the subjects, her attempts to “not participate or support a consensus option’ engendered feelings of ‘disloyalty and frustration (2017, p34)”.

The artificial separation of research and researcher in insider research undermines the advantages of researching from the inside, where boundary-blurring is not a weakness of the approach, but rather, a means by which researcher can transcend the traditional boundaries of researcher and

subject, to 'cross-bridges' and co-create knowledge with peers, friends, colleagues, mentors and mentees within a community. The co-creation invites conversation that is neither researcher nor participant centric but a democratic exchange of ideas between community members, where exploration is the aim of both interviewer and interviewee.

Given (2008), cited in Khanal, "explains that interviewing is a conversational practice where knowledge is produced through the interaction between an interviewer and interviewee or a group of interviewees (2016, p.106)".

Therefore, the design of ethnographic interview for this research takes stock of this bleeding of MeSearch into ReSearch and defends interaction and intrusion by the researcher-interviewer-participant-insider as a vital part of the interaction. It enables the progression of conversation based on my emic understanding of both the participant, the context as well as the interrelatedness between participants and the broader community of practice. As Skukauskaite and Sullivan state, this leads to deeper, unexpected understandings (2023). It is worthwhile addressing the criticism of this insider subjective positioning, here before moving onto participant research in the next step, where I discuss an associated issue of researcher intrusion in the interview itself.

In a candid blog in a corner of the internet, Associate Professor of Anthropology Alex Golub describes the concept of MeSearch thus:

“The general idea, as far as I can tell, is that mesearch is like research, but that it lacks the virtues of research: whereas research is serious, mesearch is superficial, while research is emotionally austere, mesearch is self-indulgent. Research is virtuously other-directed, whereas mesearch is connected to the anthropologist’s self and concerns in a way that is somehow unseemly (Golub, 2008, para 2)”.

I’ll start by recognising that it mightn’t be the best idea to open a methodology subsection of my thesis with a scathing assessment of a pillar of my research methodology; however I am not here to hide that this research methodology may be considered untraditional, in parts, but more so to explain why the tapestry of methods come together for research that is true to me, as a research-practitioner, particularly to the extent to which I am embedded in the Australian PropTech community of practice. In my development of self, which I see as inexorably personal and professional, there have been events that have triggered the development of myself and my work practice through the process of reflection and action (Finlay, 2002). I further believe that the experiences and events which impact my ontology - the way in which I view and relate to the world as well as how I approach knowledge - cannot be extracted from research and so participation in conversation as opposed to interview is, for me, a way of declaring my interest in the research and in the community. In particular, events that have

been most impactful to me, or upon me, which are often events of crisis, chaos and distress - how can I claim to describe these accurately without confabulation? How could I even attempt to disregard them? I cannot make that claim. And so, for me, the productive material of indwelling MUST be participation in conversational interview.

To state my subjective truth doesn't, to me, feel honest enough and so in order to subvert any claim to objectivity; I make no claim to satisfy Golub's seriousness, austerity and other-directedness (2008); instead, I embrace the unseemliness of self in this research and reject that I, as a human researcher embedded in my research context, might somehow be a reliable 'postman' of my own experiences. In fact, I will go so far as to say that I am almost an untrustworthy source of my own experiences, if the mission is to dispassionately observe. However, I don't believe that this is the mission of MeSearch, to dispassionately observe and record - in fact it almost requires unreliability. Bruns says of Hermes:

“[Hermes] was never simply our friendly postman but the granddaddy of tricksters, a figure of anarchy or misrule, of thievery, treachery and deceit, someone always a little out of control, the bringer of truth who doubles as a thief of reason and who therefore leaves you in perpetual hesitation as to what you have just heard or said, written or reach; in short, a polytropic figure, someone mischievous and

untrustworthy like the language we speak when we try to make sense of anything (1995, p 15)".

I believe the mission is transformation. Transformation of me as the researcher, as a by-product of MeSearch, and transformation of others as we, together, make meaning from integrating the me across the various 'yous' of my research participants, and indeed the 'they' of the future reader.

But to contest Golub's criticism of MeSearch as being self-indulgent, I would argue that it calls for a serious amount of courage, not only to look inwards, but to open oneself in a way to research which accounts for the subjectivity of it, but in a way that is vulnerable and risks a serious personal exposure, in the same way that many creative endeavours do. I believe that all art, and all research, is at least in part autobiographical and therefore as a researcher, MeSearch is a fundamental part of exposing the nature of the autobiographical element and communicating that to the reader so that they may be the ultimate arbiter of its value, however unseemly.

### **3.2.4 ReSearch Output - Experiencing Section**

#### Conversations with Friends

In practice, the conversational interviews did at times feel like conversations

with friends. However, rather than being a weakness of the ethnographic approach I consider it a strength because I am able to adapt, reassure and participate because of my insider knowledge and relationships, whereas the depth of inquiry may not have been reached if the relationship didn't exist.

By way of practical example, one of the participants "Brown Bear" is a real estate agent who I am very familiar with. They are considerably younger than me and I have a maternal sensitivity towards them. I would also describe them as quite self-conscious and sensitive, while at the same time being archetypical of the user of advanced software and engaging with the Australian Proptech community of practice on a transactional basis. These are some extracts of the conversation where you can see the nervousness and the self-conscious editing appearing, however with the reassurance and space from friendly conversation, the interview opened up and it led to some rich reflections from the participant.

In another example, "PeachRabbit" is a participant who has a lot of connections in the community and who I share a similar journey being the transition from the community of real estate practitioners into the Australian Proptech community of practice. As well as a shared experience through practice, there are some demographic similarities, which enabled us to discuss how bias and assumptions from a lack of diversity might impact the training of advanced software.



One of the things that is unique about Australians in business, is the informality of language, in fact swearing is seen as a sign of intimacy, almost that the removal of the taboo of these bad words shows that a person is safe. In my interview with “PurpleCow”, with informed consent about recording and storage etc, was comfortable discussing their experience in a way which wouldn’t be the professional or clinical voice. Their description of their work in the recognisable Australian vernacular uncovered this very rich description of their role in the community and motivations.

Authentic Australian sayings like “cracked the sh\*ts,” which means to be frustrated; “run around like bunch of chooks with their heads cut off,” which means a chaotic presentation; and “Well, f\*ck it,” which means that they have performed a calculus of the benefits and have decided to proceed. Amidst this comfortability, emerged an organic conversation about the role of the interpreter and crossing-bridges which was very productive in terms of understanding how others see this role of interpretation and hermeneutics as valuable.

Treatment of Transcriptions and Accuracy

The first cycle interviews were transcribed using a service, printed and ready for analysis in the next step. Once the data was extracted from the hard copies the paper was recycled through a secure document disposal service.

Transcription is an interpretive function, and the compromise for the efficiency of a transcription service is that there will sometimes be 'gaps' in transcription. The outsourced transcriber, will often be unable to (and arguably ought not to,) make meaning where there is missing data.

Particularly in the instance of my conversations where there is natural cross-talk between friends.

These instances are represented on the transcript as [inaudible] or [cross-talk] gaps. To complete these gaps, as needed and to complete the conversation snippets, I referred back to the original interview recordings and by listening back to the conversation I participated in, it was a straightforward process to complete the conversation gaps in transcription.

### 3.3 Understanding Section



#### 3.3.1 MeSearch Process - Understanding Section

##### Normalisation and Pre-Coding of Data

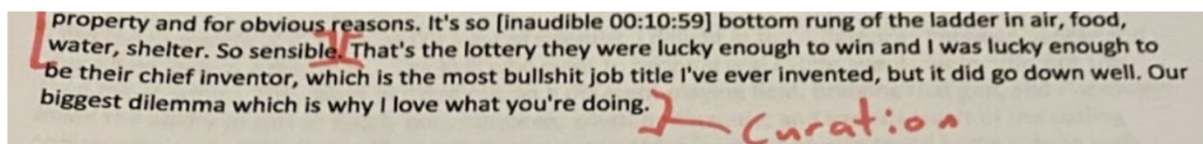
I read through the transcriptions and as the conversations evoked ideas in me, I wrote that description next to the code. Saldana (2010) describes this open-ended process of “first impressions” as initial coding.

A practical example of how this process worked is that as I read each transcript line by line, I tried to think of a theme or description of the essence of that data - in my world, this function would be called “labelling”, which is where you group unstructured data by labelling it so that machines can learn inference and prediction from a training set of data and then apply that to new data (as a rudimentary description of training sets for machine learning).

A worked example of this is here in the “WhiteHorse” transcript. In describing their role in the community of practice, they said:

“That’s the lottery they were lucky enough to win and I was lucky enough to be their Chief Inventor, which is the most bullsh\*t job title I’ve ever invented, but it did go down well [transcript].”

On reading this, I started to think about how the job title had been curated to achieve a certain image for a company that had become mistrusted. WhiteHorse went on to explain that they knew the value of this trust was hundreds of millions of dollars and so they were trying to build it back through a series of experiments. The open-ended label that I put on this was “CURATION”. In labelling it “curation”, what I know about this is that the title wasn’t created to mislead customers, but because of my relationship with “WhiteHorse” who is a very left leaning social scientist, I believe the title was curated to resolve some moral discord between the work and the worker, which they elaborate upon later.



*Figure 7: Photo of the initial coding of transcripts with the example label of “Curation”.*

As I read through the different transcripts, I didn't limit myself to any number of these initial code "labels".

### Organic Categories

Once the initial coding was complete I had a set of twenty-eight (28) initial codes. Looking at them, some organic groupings formed. For example, the codes: "Manipulation Of Us"; "Manipulation By Us"; "Manipulation By Them" and "Manipulation By Consent" naturally fell under an organic grouping of Manipulation.

After this first read and first-impression coding, a draft hierarchy began to form with labels nesting into particular categories, though I would later refine this by re-coding and re-categorising once all of the first cycle (interview one) data had been normalised.

### Normalisation of Data into Conversation Snippets

The goal of normalisation within my research design was to extract data as "conversation snippets" from the context of the original speaker, integrating the experience of the participant cohort into a synthesised meta-practitioner; which is in turn integrated with my own experience as the labelling and extraction occurred by my agency. Despite the availability of tooling to help

with this type of analysis, I specifically chose to do this manually to preserve it as an exercise of my insider interpretation.

### Re-Coding and Re-Categorising

In Saldana (2010), Abbott is cited describing this secondary process as like “decorating a room; you try it, step back, move a few things, step back again, try a few things, try a serious reorganisation, and so on (2004, para 4)”. It is quite a difficult thing to articulate this process, particularly for me as the speed to which patterns emerge are something that I tend to experience visually before I experience them cognitively.

These reflections are based on analysis, deep reading, deep thinking and connecting and more cycles of analysis and reading, thinking and connecting. The codes are more deliberate and connect to themes, a re-organised hierarchy emerges which reveals the reality of the data (Saldana, 2010). There are now twenty-two (22) consolidated ‘codes’, which are grouped into ‘categories’ - these categories are outputs of the categorisation process.

For example, the category PROOF emerges from the codes - “Equity”, “Trustworthiness”, and “Answerability”. Equity, the notion of fairness, as it is administered by trust architecture such as The Anti-Discrimination Act (Cth)

1998, general law and law of equity, courts, police etc. "Trustworthiness" is a more social measure of compliance to the rules and their history or character. "Answerability" is about consequences of transgression and the example of accountability - whether that is legal or social.

**Recoding and Categorising, (Saldana, 2010)**

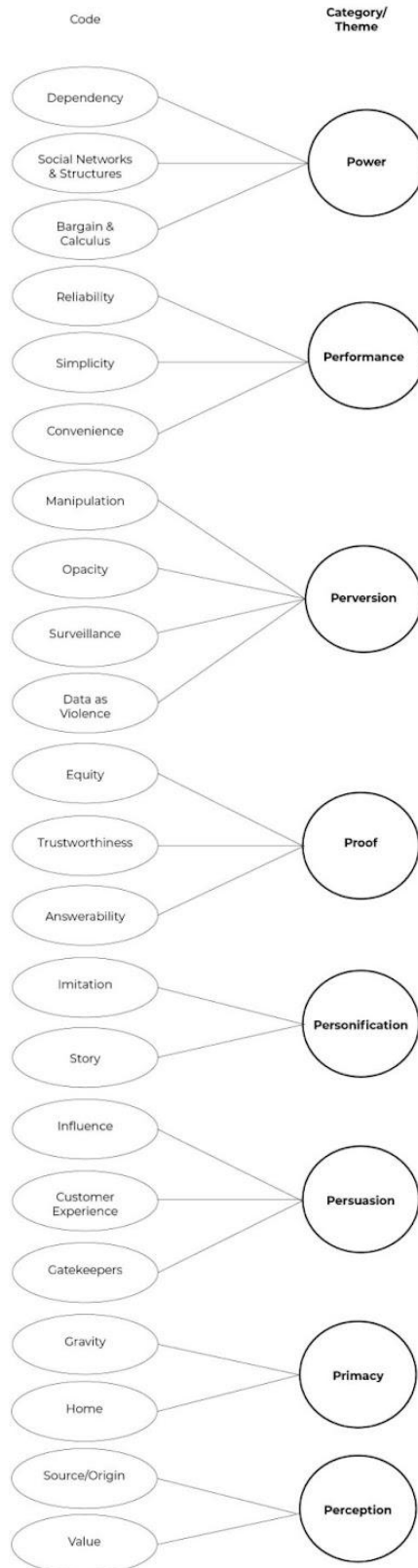


Figure 8: Re-coded and Re-categorised Hierarchy



Below is a table of the above hierarchy with the category 'LETTER' and the coded labels 'LETTER.NUMBER', along with a conversation snippet from data that exemplifies each coded label.

<b>A Power</b>	
A.1 Dependency	“Obviously, the whole point of the trust journey on this is, "What does it mean? What does it look like?" Because we can't actually know. And yet, so much of our lives are run by things that we don't even recognise as technology anymore.”
A.2 Social Networks and Structures	“Whereas in the 20th Century, the kind of scaffolding that was around us was family and community because we didn't have machines. Not like the way we have them today. And when they go "What do you mean techno-social?" I mean, Facebook. It actually sets up the framework of our relationships and what we do, and I mean, machine-learned AI because it is technology actually driving the social.”
A.3 Bargain and Calculus	“All buyers are liars and all agents are corrupt - now make that two-sided market work. So, a lot of the experimenting and innovation we had to do, because just putting the photos of second-hand houses on a website really wasn't that hard. Well, to get that reliable on a scale, that had to be done largely by the time I got there. But so many experiments failed and my conclusion was that we were not seeing the shadow property community in Australia - and down those lines runs data, money and power.”
<b>B Performance</b>	
B.1 Reliability	“I am currently in a running battle with our Google device. Although I bought her and championed her use in our family, she only responds to the male voices in our house (i.e.: everyone EXCEPT me). WHY?? There is something about the voice tone. I could probably retrain her, but honestly, it's easier just to write her off as a bitch.”
B.2 Simplicity	“Like all technology, AI will move along the bell curve to become embraced by the majority, at which time it will be owned by the AI democrats. We should be encouraging this because we're now in an age where cleverness is decided by how simple things are, not complicated.”

B.3 Convenience	“If AI really fulfils its promise, its promise is really about unleashing capacity. So, the story that I like is the comparison of the fourth industrial revolution, where the first one was one about steam and how that unlocked humans from the constraints of muscle power. And now all of a sudden, they've got this exponentially viable, cheap, readily available alternative to muscle power.”
<b>C Perversion</b>	
C.1 Manipulation	“As a parent [removed], constantly trying to show them how Instagram works...how it normalises some things, because that's just what they're into and it's serving it back up and you lose perspective of the rest of the world and what's actually going on around the world that you're not seeing. Yeah, Am I fearful of this group of technocrats taking advantage of society and social norms? Yes, because I actually practice trying to dissipate that in my own personal life and family life.”
C.2 Opacity	“It's clearly in the hands of someone, and that someone is trying to generally optimise towards an outcome that might change over time. Right now, it might be about customer satisfaction, but next quarter it's about revenue growth and then they're acquired by someone else and then it's all about whatever it is, share of wallet, and so all of those things are going to lead to a series of decisions being made that aren't necessarily in the best interest of the consumer. I think the trust, just being really harsh about it though, the trust is just how well you create the technology to make the consumer oblivious to those outcomes.”
C.3 Surveillance	“We are all just a bunch of data points at the end of the day. Well, we are, aren't we? Particularly in digital form, we're just a bunch of data points. So, I guess the positive thing though is you can control them in a digital world “.
C.4 Data as Violence	“On the flip side, it sort of penetrates your life to a point where it starts messing with who you are and I think it can be a very harmful solution.”
<b>D Proof</b>	
D.1 Equity	“I think prejudice in algorithms exists today, in lots of different ways, but prejudice exists in society at the same time. And if I had to choose between the two, I'd rather controllable prejudice than not controllable prejudice. You can control the algorithms. At the end of the day, you can see how they're trained. You can see you've got control over it. I

	think the danger's when it discriminatory, unfairly discriminatory. I mean, in the context of property much like finance, lending money to people who can't afford it is not a good thing.”
D.2 Trustworthiness	“When you go to a doctor and you get a diagnosis or results, you don't question that trust because they're a doctor. They've had the education; they've gone through an eight-year degree and you just think of course I've got to trust them. Nurses are probably another example of a trust that you just automatically built into your DNA.”
D.3 Answerability	“Critically important to know that there is a body looking after that group of people's interests and that they don't get excluded from opportunity or society, or at least understand why, and this is a little bit stretchy, why they are being excluded. And if there's at least understanding and representation of that group, and they have a collective voice, then everybody's got to understand what's going on behind the curtain.”
<b>E Personification</b>	
E.1 Imitation	“My understanding is that AI is the ability for computers to emulate or copy human thought and perform tasks in real world environments. Basic use in the day to day world of Proptech is to use Siri or Google every day to perform actions, i.e., call a X client, add X to my calendar. The advanced, using AI to predict behaviour based on the clients interactions, both IRL and Online to determine the next best action for the real estate agent to do. Client inspects a property on the weekend, browses the company website, looks at and downloads a copy of the contract of sale, etc etc, it indicates to the agent that the next best call to action is to contact the client and see if they are ready to make an offer.”
E.2 Story	“Don't you think it's interesting though, the way that we are naming the robots? You've named her Rita. By virtue of giving her that name, albeit she's a robot, she takes on a human identity to some level. We suddenly see her as being different, just through naming her a human, recognisable, name.”
<b>F Persuasion</b>	
F.1 Influence	“Influence is saying something negative. It tricks as well. I feel like that one of those words... to trick someone, I feel like, has an inherently negative connotation. But if you change that to speaking to an individual

	<p>in their own language to the point where they can realise a different opinion...the most common tool we use is empathy, and not sympathy, but much empathy where it's taking that point of understanding. which I think is very difficult, particularly in the field when it comes to technology, and particularly emergent technology. You need to get deals done. You need things to happen. You need to move so that you don't die essentially as a tech business."</p>
F.2 Customer Experience	<p>"There is a big part of me that goes, "Who else is using this? Show me that it's proven somewhere else. Without actually understanding it. And the endorsement of that trusted person down the road without actually understanding it is enough for me to go and implement something. Facebook for example, as long as there are people on it, it must be good. Must be good for me."</p>
F.3 Gatekeepers	<p>"And so, the people that are in the middle interpreting what is a very technical process ... If you looked in the back end of an AI product, I'm sure all you'd see is lines of code and spreadsheets that probably have more words and numbers that anyone's typically seen in their life. But being able to interpret that, bring it into a story, I think creates a very important level of comfortability."</p>
<b>G Primacy</b>	
G.1 Gravity	<p>"[On transferring money for a property purchase]: Because with that much money, the stakes are so high for me that I had to go with the thing I trusted. And I am a technologist who completely trusts this device. And to me that was like, "I am my own experiment today. Here I am sitting in this shitty bank branch." And that's the same, houses are the biggest things we own. They're millions of dollars. My conclusion after all that time is that because real estate selling is a complex problem, humans are the best solution to complex problems."</p>
G.2 Home	<p>"I think prejudice around housing and shelter, that would be horrible if it happened, but I actually probably think it's happening already and we just don't know about it. And it's probably happening, I actually think it could be improved by technology to be honest."</p>
<b>H Perception</b>	
H.1 Source/Origin	<p>"I just finished watching WeCrashed, the show about WeWork. And it's on Apple TV. It's worth a watch. It's a very interesting story in how the</p>

	influence of a founder creates something really wonderful, but that influence eventually sours and turns into quite a toxic business. And probably the learning from that or why I mention that, is I think the people behind certain pieces of technology play a big role in whether or not you trust that technology. And understanding the true intentions of technology is key to trusting it in the first place.”
H.2 Value	“But I tell you what is interesting...the transparency of data is, when I look around the PropTech industry, and the success stories in Australia at this point in time, most of them are because they're delivering on transparency. RiTA delivered transparency, it was trusted.”

Table 4: Mapping code and categorisation hierarchy to conversation snippets with typical examples of code.

#### Reflective Journal from Codes to Themes

*Looking at the hierarchy of initial coding, I can see that there are many connections between this notion of a new social paradigm that is technology first, and social second. If we look to that “new world” as an ordered paradigm, I think we need to be brave enough to concede that it is essentially political and so there are power structures that impact the positioning of people in proximity to that power, as people who are vulnerable become dependent on new structures as well as how more franchised social actors negotiate terms within the new paradigm. And it doesn’t feel too different than where there is a new government installed in some respects, it has to sustain and so even if the structure has changed, the incumbent technologies that are shaping this new world must perform reliably, be functional enough and deliver on promises of step change and efficiencies - or else they will simply not be tolerated. Whether they are*

*replaced by new technology and how long we do this dance, I don't know - I suppose there would be a tipping point at some stage - a revolution or restructure where technology is rejected because it has lost trust.*

*Or maybe it wouldn't be - and how would we know? The characteristics of advanced software make revolution difficult and the 1984 Orwellian fear that grips us is about how these characteristics of complexity and opacity might be used as violence to sustain those power structures. In Australia, we have seen in 2022, the breach and leak of extremely sensitive data from a private health insurer whereby hackers obtained sensitive health information and released lists of HIV positive patients on the dark web for purchase. This chilling example shows us where the information that is so meticulously logged in the data exhaust of our daily lives, the automation of surveillance through digital transactions - there is potential for information to be used for manipulation and violence. The reality of the scale of damage that can be caused by digitisation and artificial actors without humanity and discretion - this lived Australian experience of breach is not simply an anxiety but a reality, and therefore worse than the sci-fi tropes of robots taking over. It isn't the artificial actors who are malicious - but their vulnerability to perversion and naivete to human cruelty through short and constrained childhood "training" which introduces clear and present risk. It is here that we can absorb the power, others, manipulation and mistrust type commonality - under these themes of power (structures within the techno-*

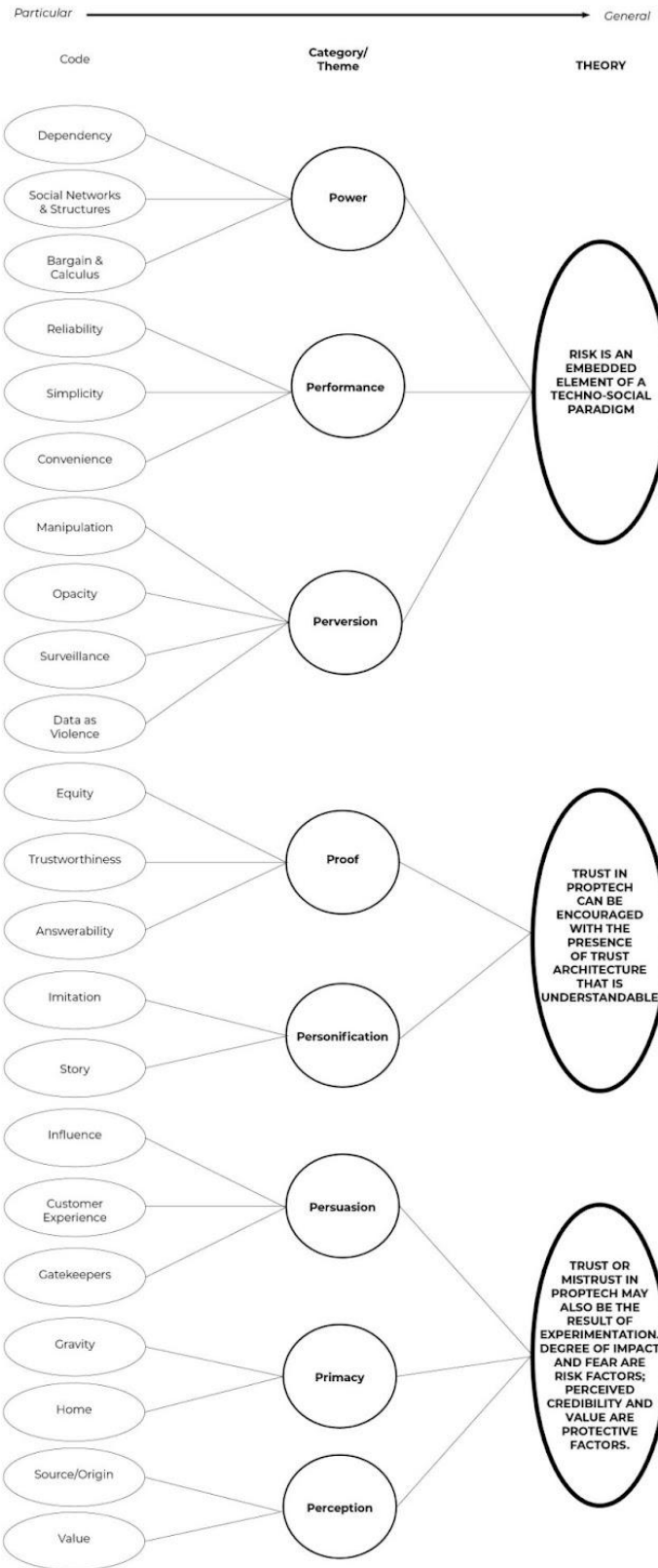
*social paradigm); performance (functional reliability of platform); and perversion (potential for misuse). Of course, the opposite is also true, advanced software could be used to reduce perversion - but it is the opacity and complexity that creates the potential for risk.*

*What is lacking is proof, because in our normal society we have architecture for unfairness and there are known and certain consequences. We have a history, a human memory of trustworthiness - and moral and social marginalisation as well as legal accountability. In the absence of proof, there is educated guessing, and in the absence of knowledge for guessing - there is just faith - which interestingly circles back to the bases of interpersonal trust: faith as an anecdote to risk. But we don't have proof and those systems and architectures that are pillars of safety and trustworthiness are not yet established - regulators are busy prohibiting breaches and are scrambling to adapt to a world in which they do not understand how to govern by traditional means. And so, without adaptive trust platforms (things like laws, courts, enforcement); have we instead bought into a story where we have adapted technology to fit into and look like our own image - a delusion that the trust and safety infrastructure is there for artificial actors when it isn't. The anthropomorphism - is it just for replication of human cognitive function and imitation or is it a story we tell ourselves for certainty.*

*And now we happen upon the power of the story tellers. Because where power and potential for this technology is contingent upon proof and rationalised through personification - we achieve it and propagate it by the means of persuasion. Influencers, the experience of customers and their advocacy, and limiting the story by limiting the means of telling it by creating authorised 'insiders'. I mean, that has never gone wrong \*sarcasm. But here the stakes are high - we are talking about homes and there is a gravity and a primal need encapsulated in that concept of home which makes this really important. When the stakes are high - as in human-access-to-shelter-high we think about risk differently. Impact becomes more important than likelihood - or it should. And the onus then befalls on the credibility of the creators of advanced software and the value that those platforms provide to determine whether this is, at all, worth our while.*



**Streamlined view of codes to theory model for qualitative inquiry (Saldana, 2010)**



*Figure 9: Representation of Codes to Themes*

## Generating Questions for Second Cycle of Conversation Interview

Looking at the data, I would like to have more insight from the participants around the impact of the software positioned as an artificial actor. The implications of imitation and personification are a critical feature of advanced software that I would like to explore further - particularly around how they contribute to interpretability and understandability - through proof and persuasion.

### 3.3.2 MeSearch Outcome - Understanding Section

#### Interview Two Questions Sent to Participants Prior to Interview Appointment

INTERVIEW TWO QUESTIONS SENT TO PARTICIPANTS PRIOR TO INTERVIEW APPOINTMENT		
<i>STATEMENT BY INTERVIEWER:</i> <i>These questions represent a deeper dive into some of the issues that we discussed in the first interview, which I hope kicked off some interesting reflections for you about trust and how it features in applications of advanced software in Proptech.</i>		
#	Question	Rationale from MeSearch
ONE	We talked a lot about trust in the last interview and there were some interesting discussions around whether the paradigm of intrapersonal human trust could be extended to intelligent machines, like RiTA or Siri - or even machines in narratives that you might be familiar with like 'Samantha' from the Spike Jones movie "Her". We are	1. I wanted to explore the relationship between the anthropomorphic story ascribed to artificial actors and trust;  2. I was curious about whether the humanisation required a humanlike form of intrapersonal trust; and

	<p>seeing more and more applications of AI being used as social actors, things like psychotherapy chatbots to meet the demands of the mental health epidemic, and companion robots given to aged care residents to address the public health epidemic of loneliness.</p> <p>When machines are being invited into our lives and we are invited to form emotional connections with them in these various encounters, do you think that the intrapersonal sense of trust should extend to them - or is the line still clear between an emotional trust that is uniquely human, and a more functional kind of trust that is rational?</p>	<p>3. I wanted to validate whether the framing of a human story and functional human imitation blurred the line between human and machine as a subjective intra-actor experience.</p>
TWO	<p>Some of the authors and philosophers of trust believe that trust can't exist without risk. And that if the risks are negligible, trust isn't required. But when there is trust, it is because we accept that there are risks but believe the advantage is better than the consequence of the risk.</p> <p>When you think about advanced software that you trust, or that is trusted, do you think it is trusted because users are aware of the risks and believe it is worth it? Or do you think there is a naivete there - that the risks might be obfuscated or depersonalised?</p>	<p>1. I wanted to explore the connection between risk and trust, which emerged from the literature, particularly whether faith was a more appropriate foundation for trust than knowledge.</p> <p>2. When advanced software has the characteristics of opacity and a knowledge privilege attached to it, I was curious to learn how informed choices could feasible be; and</p>
THREE	<p>What risks are you aware of when it comes to advanced software in Proptech?</p>	<p>1. As a follow on from the previous question, I was also curious to understand whether the ubiquity of AI, whether the reduction of humans to data points had abstracted risk - or</p>

		whether complexity had just made it too hard to consider. I wanted to know or understand whether the community was considering a tangible risk profile for these applications.
FOUR	Do you think use of advanced software in Proptech would be impacted if there was a greater appreciation of how the "sausage is made"? If so, what do you think would happen?	1. I was curious to explore the connection between knowledge and trust and the impact that might occur if knowledge was democratised.
FIVE	If it was your job to increase transparency and explainability of advanced software in Proptech, how would you approach that task?	1. I was curious to see what tangible solutions had been thought of to approach the anthropological predicament and to see if the community had ideas about how to achieve that.

*Table 5: Interview two questions as an outcome of MeSearch (Understanding Section).*

### **3.3.3 ReSearch Method - Understanding Section**

#### **The Intention of Multiple Interviews**

The second interview is consistent with the approach in the first interview, which is explained above. The design choice of multiple interviews was discussed above too in terms of the ethical and methodological considerations, however to summarise:

- As an insider of the community, there may have been a desire for participants to seek positive outcomes. This desire to please is likely to wane over time and across multiple interviews;
- The multiple interview format enables me to reflect on responses from prior interviews, playback assumptions, validate theory and mine for conflict; and
- To evolve and adapt the interviews as my learning and understanding expands throughout the research process.

### **3.3.4 ReSearch Output - Understanding Section**

#### Transcription and Storage

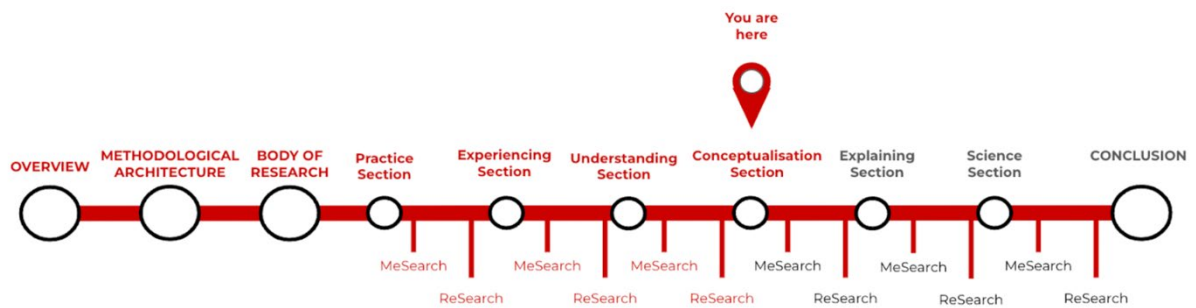
The process follows the same approach as for the first interview as described in Step Four, above.

#### Coding and Normalisation of Snippets

This is a slightly modified version of the coding process from interview one.

I printed and coded the transcripts to the coding and categories that I established above in Step Five.

### 3.4 Conceptualisation Section



#### 3.4.1 MeSearch Process - Conceptualisation Section

Reflections from Coding and Second Cycle Interview

*As I began to read, code and extract the snippets of conversational data from the transcriptions, one of the first things that emerged was that I needed to take a broader view of transgression. This concept was previously under “Data as Violence” as a code, however, this covered a breach of only the most extreme variety and is coupled with a mens rea. If I look at the code of “Manipulation”, it really encapsulates the mental element. A breach or betrayal, however, may be apparent from the perversion of this technology without intention - it could be neglect, recklessness, accident or the result of a third party - like with the Optus and Medibank data breaches that have shaken Australia in 2022. So, I have decided to change the code “Data as Violence” to “Breach” to encapsulate actual and potential harm which may or may not have harm in the design; which is different from “Manipulation”, which may not actually ‘harm’ - that is the user may never be aware of the impact.*

*Also, as I was looking at performance, the code of “Simplicity” wasn’t quite encapsulating the essence of the data. A few of the participants had spoken about the value being higher for users who took the time to fully implement the advanced software and who learned about it, but also that the education and implementation was something of a burden. The code of “Simplicity” is better encapsulated by the word “Effort”. A lot of the data under the “Reliability” code was about the machine working the way the user expected it to, and there is a connection to the notion of “Trustworthiness” which many of the participants had defined as people’s compliance to their*

*promises. From this, there was some discussion around what those promises were - and the feasibility of expectations. Technology can't be reliable if the expectation is unfeasible. I have changed the "Reliability" code to discuss "Reliability and Expectation".*

## Converting Ethnography to Fiction

The essence of conceptualising in the methodological framework is to begin to describe theorisation from data in a way that makes sense and meaning to the Australian Proptech community of practice members, represented in the research by the participants. I have chosen to pursue this ultimately through the production of an ethnographic novel, and in doing so the conversion of ethnography to ethnographic fiction must occur in this step if the research is to embody the findings of this research.

This step represents a critical 'turn' in the weaving metaphor. So far, we have abstracted experience and understanding and we now move in another direction - almost backwards in cascading theory back to story, albeit in an abstracted form. I want to call this process 'fictionalising', a term I borrow from Van Luyn (2010) who used it in the context of converting 5 hours of oral history given by her grandmother to a 10,000 word novella. In doing so, she cites Frisch who said that "oral history tapes (are)...precious



documentation that (are) inaccessible and generally unlistened to (2008, p223)".

The methodology has clear roots in the oral history field, historians are already story 'telling' in a sense and White (2004) argues that it is an organic extension from the telling of history to the novelist simply presenting a realist version of history, using figurative techniques. Narayan too, speaks about a phenomenon of "creative non-fiction...twist[ing] together the possibilities for inward-facing cultivation of understanding and an outward-facing performance for readers (2012, p 3)." A famous example of a nonfiction novel might be Truman Capote's 1966 novel *In Cold Blood*, which Laterza also describes as a "non-fiction novel (2007, p, 125)" and actually endorses because of Capote's dedication to the truth principle.

### The Ethnographic Novel

'Unlistened to' is not how I want to position this research within the Australian Proptech community of practice, and perhaps even beyond. I am proposing a creative artefact that is slightly more radical than creative nonfiction but less radical than purely imaginative fiction. What I am seeking to do is to produce a story that subverts an objective ontology entirely, in favour of abstracted realism and integrated knowledge to create a new

(fictional) reality that is grounded in the outcome and theorisation of ethnographic fieldwork.

Laterza (2007) details the history of the ethnographic novel as a medium which found its academic legitimacy in the mid 1980s, with an endorsement from Clifford and Marcus in the seminal anthropological text, *Writing Culture* (1986), according to which ethnographies are in any case texts which have a style that is as deterministic of content as fieldwork itself. He also says that there have been many examples of literary artefacts from ethnographic fieldwork in anthropology citing Schmidt (1984); Langness and Frank (1978); and Tedlock (1991) as established examples.

He notes that there is also an increasing field of modern anthropologists choosing to use “literary formats in ethnographic production (2007, p 125) listing Perey (2005); Rose (1996); and Taussig (1997). Indeed, it was Taussig’s ethnographic novel *The Corn Wolf* (2015), which sparked my curiosity for the format - he is also Australian and something of a visual artist.

Taussig used storytelling to describe an anthropological phenomenon of language which is dense but which I understood from the work to be the quantum function of language - how the corn wolf is simultaneously three different things. That “mythology is deposited within our language...becoming aware of that presence in our lives, in our writing, and institutions, so as to

neither expose nor erase but conspire with it, as does the wolf (Taussig, 2010, p 28)". It is a truth revealed in the text through storytelling from ethnographic immersion into the lives of farmers in Colombia, Palestinians in Israel, and through more conceptual and general human activities like protecting oneself from evil; indeed, in an earlier journal article (2010), Taussig referred to *The Corn Wolf* as an apotropaic text, meaning to defend oneself from evil. That article was organised into Acts in the same way that a literary play might be, prefaced with a quote from Brecht, which I believe is also fitting here:

"Truth can be suppressed in many ways and must be expressed in many ways (Brecht, quoted by Taussig, 2010, p26)".

This 'must' need for expression has driven the dialogue between art and anthropology. Crossing disciplinary borders has been described by Clifford (1998) as 'the ethnographic turn'. Other terms for the focus on the evocative over the scientific and include the terms "practices of making (Ingold, 2013)" and "ethnographic conceptualism (Ssorin-Chaikov, 2013a)", but by whatever name, the synapse is referred to as a 'fault line' because of the tension that exists between respecting conventions and "productively challeng[ing] the boundaries of existing practice (Grimshaw and Raetz, 2015, p 419)".

My view is that the dialogue between art and science found in the ethnographic novel does not have to be controversial, but can be productive, as Grimshaw and Ravetz (2015) suggest. Clifford said that the strengths of

each can enhance a more balanced perspective of the subject, stating that “the modern division of art and ethnography into distinct institutions has restricted the former’s analytic power and the latter’s subversive vocation (1988, p 12).” Practically and methodologically, Clifford recommends that we look at outcomes of ethnographic and artistic melange for a “willingness to look at common sense, everyday practices - with extended, critical and self-critical attention, with a curiosity about particularity and a willingness to be decentred in acts of translation (2000, p 56).

Storytelling IS an act of translation. It is a representation of the authors knowing and telling. The knowledge can be enhanced or lost in the ‘telling’ and therefore the mode of representation should not diminish the knowledge, but merely approximate the best communication for understanding in the culture in which that telling is taking place, which for me is not solely in the realms of academia but also through and for the realm of practice in the Australian Proptech community of practice. The translation effort, the ethnographic novel, can therefore be said to be a form of cultural production and survives as a creative artefact in relation to me, the research participants, the context and the domain (Marcus and Myers, 1995).

Criticism and Discussion of the Method

Although on one hand Laterza validated the history of the ethnographic novel, he goes on to raise three key criticisms of the methodology (2007). Firstly, he says that the fictionalising process undermines the “truth principle” of ethnography and while recognising that all texts involve some degree of fictionalisation, the novelist is not necessarily committed to truth and the blurred line of this becomes problematic for the representation of ethnographic research.

Secondly, Laterza says that the ethnographic novel has an ethnocentric predicament - it is a Western tradition and embedded within that is a focus on characters which he believes can lead to cultural bias of crucial issues (2007).

And thirdly, he says that ethnographic novels were never intended as vessels of theoretical production; favouring presentation over argumentation (2007).

### The Truth Principle Critique

The truth principle referred to by Laterza (2007) is potentially not as objectively rigid as it sounds. Indeed Wall (2018) says that we ought to think of ethnography “as a writing of people, of human culture, but also as a necessarily subjective perspective, conditioned by the viewpoint of the person or people writing. It is therefore a search for meaning in context, rather than objective or generalisable ‘truths’ (2018, p16)”.

There are scenarios where strict adherence to this is useful, for example, Watson (2011) makes a pragmatic realist argument “that truth, reality, and relevance-to-practice” are the research principles that “rigorously ground and contextualise...how things work in organisations”. I am not disagreeing with Watson, as this type of ethnographic research has a place to help describe and understand contexts. I simply believe that ethnography is a broader church and that through more abstract research design, such as the integrated architecture of knowledge applied in this research, we can move beyond mere description and uncover deeper truths within a context.

Notwithstanding, as Roth (2006) points out, there are some clear issues with attempting to draw a line between ‘good and real’ ethnography and unreal ethnography because there is an aporetic and contradictory nature of this categorisation due to the subjectivity of the field. He says (of Carlos Castaneda’s murky ethnography,): “If we shift the discussion to make real ethnography dependent on the fit between the really real and real ethnography, we are in trouble, because we would only get ourselves into the infinite regress associated with discussions of truth (2006, p2)”. Where there is an overt proclamation of subjectivity by the ethnographic author, ‘truth’ does seem to be a strange criterion to apply for the validation of a technique. It is the subjective and liminal characteristic of ethnographic text which renders it useful in a complex world filled with ambiguity and a multitude of human perspectives (Anderson, 1986).

Laterza's (2007) critique was published in the same year that Behar said that "the art of ethnography has been born from the work of failed poets, failed novelists, failed artists (2007, p 147)". Which might have been harsh enough to discourage me, except that Fikry quite rightly points out that etymologically, narrative means both knowing and telling (2007). Narrative is the unifying function of these two states in an author, no matter how it is expressed whether that be through cave drawings, oral histories, hieroglyphs, written words and whether or not the approach is factual or fictional (Mendoza, 2015).

This is particularly true of insider research like mine, which Van Ginkel describes as endogenous ethnography, which seeks to understand ourselves from within, without the need to "study ourselves through the detour of studying others" (1994, p 5)". If the fieldwork is 'doing ethnography', then Basu argues that much of the value is in 'communicating ethnography' because it determines the impact of research in society (2017). The processes of knowing and telling, or as Basu (2008) prefers, doing and communicating ethnography exist within culture and we must embrace the complexity that the reading of ethnography is also occurring within a cultural context.

The choice of the novel as a means of communicating is therefore to be taken as a part of the research context, a data point for interpretation by readers like any other - and it is not an inherent or ethnocentric claim of

superiority. It is distinct from the application of novel to an 'other' context, for example I consider the criticism valid if I were to write allegorically about Australian indigenous cave drawings - totally inappropriate. However, I am researching from within my own culture. The novel is a part of my culture and my context and it would be as inappropriate for me to shun this from fear of appearing ethnocentric as it would be to appropriate the culture of someone else and express my ethnographic 'doing' through the imitation of Australian indigenous art - also, totally inappropriate.

Indeed, by communicating my ethnography through a novel, I am emboldened by Langness and Frank (2015) who argue that one of those deeper truths exposed by ethnography is achieved when one acknowledges that the communication incorporates the agency and creativity of the ethnographer. By honestly positioning myself to the art medium of the novel is a generous disclosure of limitations and cultural bias, that I am not seeking to avoid. They say:

"If we acknowledge our creative abilities rather than pretend that they do not exist, if we allow ourselves to read perceptively, and if we are honest about our intent and limitations in presenting ethnographic materials, there would seem no compelling reason that an ethnographic novel would not be as useful or as legitimate as a standard monograph (2015, p19)"



Already in this thesis there are several occasions where I have drawn on examples, quotes and allegories of literature (*1984*, *Animal Farm*, *Hamlet*, and even Jane Austen, a guilty pleasure that I will defend until my last breath). The power of literature to convey knowledge that is true in a way that subverts any claim to objectivity is morally consistent with my subjective epistemological process. The purpose of this research by its design and consistent with its aims and objectives is to present the research and findings to the Australian Proptech community of practice via a means that is accessible and desirable, and which leverages the power of storytelling to enable the user to make meaning, apply their own experience, and thereby continue to create new knowledge.

The abstraction of a synthesised experience to art brings the participants contributions into an artefact that is an effective means of sharing knowledge within the Australian Proptech community of practice, far more so than an academic, pragmatic or pedantic ethnographical text. The ethnographic novel includes the reader and integrates knowledge across a third dimension, that is between researcher-practitioner; participants and literature; and also, to reader. “The ethnographer is never merely a recorder, but that interpretations - interpretation by the informant, by the ethnographer, and ultimately the reader, are embedded in the written text as part of the literary creation (Langness and Frank, 2009, p20)”.

By investing the effort to immerse myself in the process of creating the written text of the ethnographic novel, I am keenly interested in this research being effective. We know that 'guidelines' of transparency by design and interpretability are viewed with scepticism and are unenforced (Middlestadt, 2019). The last thing the Proptech community of practice needs is another set of vague and posturing guidelines or even another academic discourse. It's one thing to tell a story, and quite another thing to have people listen. To tell this story, I have to be authentically myself and admit that the DProf represents to me an opportunity to express myself creatively and in doing so use the opportunity to develop a professional identity that is transdisciplinary.

It may be a crude and selfish aim, however, I don't want to miss what Griffin and Griffin call "a last chance saloon for weird, risky, innovative, creative and challenging social science research, where postdoctoral opportunities skew towards safer, conventional, and politically neutral work (2019)". It is why I have also chosen to incorporate open-source AI tools as participant-actors in this research because of a commitment to innovation and to demonstrate by doing the impact that advanced software can have in every practice of knowledge work.

### The Validity Argument

The final Laterza (2007) critique is that while empirical data might make its way into a novel, that the genre is inherently limited in terms of the rigour of theorisation. I recognise that the borders between literature and

ethnography are blurring, however, I don't believe that necessarily invalidates the ethnographic novel, in fact Holliday believes that it is the essence of the "postmodern quest, researchers must be able to stand outside traditional discourses of research and reinvent their approaches when they need to (2004, p731)". He goes on to say that, "discovering the culture generates both substantive findings and procedural findings about how to do research (2004, p732)."

Holliday (2004) argues that rigid scientific processes such as data triangulation are appropriate strategies for a positivist approach to research, however, "In increasingly creative qualitative research, validity has therefore much to do with success - in how clearly the researcher shows the interconnections that make a successful thick description and in how clearly the researcher shows how he or she arrived there. And this success depends to a great extent on the researcher's skill in writing the research (p734)".

At this point it is worth pausing to thank my gentle reader for holding my hand through this weaving process, to which we are immersed in step seven of twelve steps to complete the methodological architecture. It is a process aimed at transparently setting down my process of exploration, cognition and reflection - as well as the logic of integration and abstraction. A bit like 'showing the working' for a mathematics solution.

Narayan (2012) says that “Geertz characterises ethnography as a form of “thick description. To use the example that he borrows from the philosopher Gilbert Ryle, thick description would tell you not just that someone’s eye had contracted but whether the contraction was a twitch, a wink, a parody of a wind, a rehearsal for a parody of a wink, or a knowingly faked wink (p7)”. In creative writing, this thickness is necessary for the unified storytelling states of knowing and telling (see Fikry, 2007). As Holliday suggests, “thick description” may be the only requirement for validity.

And yet the gap remains, how will we know if this thick description is successful? Ellis (1995) provides an extension of this validation criteria with the purpose of art at its core, that is to be evocative.

She says:

“In evocative storytelling, the story’s ‘validity’ can be judged by whether it evokes in you, the reader, a feeling that the experience described is authentic, that it is believable and possible; the story’s generalisability can be judged by whether it speaks to you, the reader, about your experiences. (p318-319)”.

At step nine of this weaving journey, I seek to tell that story. At step ten of this weaving journey, I seek answers to those questions and validation from the participant members of the Australian Proptech community of practice. At

examination, I seek answers to those questions and validation from members of the academic community.

That being said, the validity that is most easy to defend is the connection between theory and story, without which, an ethnographic novel might be open to the criticism that it is simply a fiction that has been researched using some anthropological techniques (Roth, 2006). Fikry explains that “narrative is a shared element among ethnographers, novelists and poets,” citing Garrett who defines narrative as ‘a constant and active process of building up and breaking down structure and order...best conceived...as structuration rather than a structure (2018, p 2),’ (2021, p1)”. The justification for the validation of this methodology sits in this process of structuration of story - mapping theory to narrative.

### Creative Development of The Novel

A detailed roadmap for the Novel is contained in Appendix A. The table below is a summary of the plot in order to give context to the creative development methodology below - note this is the methodology for writing the ethnographic novel, which is distinct from the methodology for the research. For the sake of clarity, I will refer to the novel formation methodology in this step as ‘creative development’.

Act Episode	Category Code	Episode
Act 1 Ep 1	Perception Source/Origin	<p>Peter Kearsley is the mayor of a struggling small town called Golem. He decides to adopt an online community tool that connects townspeople to property development initiatives and to each other. These initiatives are generated by an advanced software engine which uses real property and social data along with artificial intelligence tools to score and suggest the best development opportunities. Social features of the tool such as chat and augmented reality games promote engagement and provide feedback data for the machine learning engine to provide more relevant and accurate initiatives.</p> <p>The founder of UpTown Developments is a charismatic storyteller who is able to explain the features and logic of the platform in a way that is simple and user benefit focussed. The branding of the platform, its tone and voice is very positive. UX is largely informed by an artificial action, UpTown Girl.</p>
Act 1 Ep 2	Perception Value	<p>Josie Jones, The Mayor's secretary and sister-in-law, meets Uptown Girl and is on-boarded as a user. She invites Ryan the real estate agent to the platform and is rewarded for helping with the recruitment of users and the transfer of the council golf club to UpTown, with the renovation at the pub. She is the most significant person in town for a moment. She agrees with the suggestion to sell the Jones family farm for a housing development. The mayor's wife and Josie's sister, Marianne, are not consulted.</p>
Act 1 Ep 3	Personification Imitation Story	<p>A group of targeted pioneers from the town are selected to pilot the platform, and they meet the artificial actor and begin to engage with her. They invest in the first development initiative that the AI suggests, which is the development of the Jones farm and golf course into a mixed retail/residential and recreation zone. The development task is chunked down into virtual challenges and they are rewarded with a platform currency for completing the tasks.</p>

		<p>They communicate and interact with each other through the platform's social features and are impressed with their new digital citizen. They become obsessed with accruing digital currency and view the artificial actor as a helper to achieve more.</p>
<p><b>Act 1</b> Ep 4</p>	<p><b>Performance</b> Reliability Effort Convenience</p>	<p>The pilot group of pioneers have accrued a large amount of digital currency by complying with the suggestions of the platform's artificial actor. They don't need to 'learn' about property development, it is a simple exchange by which they complete the small tasks and are rewarded with more currency for each atomised goal that they reach. The currency is able to be spent in the town's new developments or via the in-app marketplace on activities and items which demonstrate status to other people in the town. The currency is undervalued at this stage.</p> <p>The platform is learning about what tasks are desirable, how 'much' reward needs to be applied for each task and who of the pioneering group is the most compliant in completing the tasks.</p> <p>The townspeople do not understand AI, beyond a rudimentary understanding that the platform will make them better off like the pioneers.</p>
<p><b>Act 2</b> Ep 5</p>	<p><b>Proof</b> Equity</p>	<p>The Pilot group of pioneers are incentivised within the app to recruit more users, and there is a dynamic "value" in the platform currency for each new recruit. When you recruit someone, you also get currency for the tasks the recruit completes.</p> <p>What users don't know is that the "value" of each recruit is based on a prediction of their compliance to the platform. For example, an electrician who is an employee supporting a young family is worth more to recruit than a day care centre operator because of their 'score' from those data points prioritises a skill set in property development tasks required by the platform, the discretionary time capacity of an employee,</p>

		<p>and the likelihood that the candidate can be exploited to complete tasks because their work is not completing. Caroline is an innocent townspeople - simple and childlike. She is recruited and encouraged to complete tasks by some of the townspeople who do not understand that she is having a differential, and worse, experience in the app because of her vulnerability.</p>
<p><b>Act 2</b> Ep 6</p>	<p><b>Proof</b> Trustworthiness Answerability</p>	<p>Keith, A resistant character is unable to be recruited. He is a builder who has essentially been disrupted by the gig economy that the app has introduced, and he is struggling to find staff to work on non-app tasks because the value of the tasks on the app is beyond his business margins. He starts to see that the digital currency is unsustainable - he knows the property development business and how risky it can be.</p> <p>He tries to explain the risks to the townspeople, some of whom he has known their whole lives and some he has deep connections with; however, they are hooked on the dopamine and the currency and have accepted the delusion that increased prosperity is readily achieved through deeper commitment and compliance to the platform. This view is reinforced by the app's notifications and propaganda.</p> <p>The regulators are not interested either, because the platform was an opt-in arrangement and the users are in a lawful contract with the creators. The mayor is also displeased with the detractor because he is riding high on the improved metrics of the town.</p> <p>The platform creators are listening to the chatter and they double down on the propaganda to maintain their workforce. At the same time, they begin to inflate the platform currency so that people work harder and longer for the same rewards.</p>
<p><b>Act 2</b> Ep 7</p>	<p><b>Persuasion</b> CX Influencers Gatekeepers</p>	<p>The platform currency is inflated and so the tasks related to the initiatives are worth less. The initiatives, however, continue to prove lucrative for the platform owners. The mayor has been able to secure more public investment due to the</p>



		<p>expanding population and can finally invest in schools, hospitals, parks and other council amenities. This forms the basis for continued propaganda even though economic ascendancy stalled for the original inhabitants. The developments and positive media for the town attract new people and new commercial ventures to the town, also competition for UpCoin and UpTasks.</p>
<p><b>Act 2</b> Ep 8</p>	<p><b>Primacy</b> Gravity Home</p>	<p>One by one, the town businesses fail to attract the big businesses and shopping malls. Townspeople are applying for work in these big corporations and slowly become casualised and underemployed so they are dependent on the app for supplementary income. The artificial actor in the app keeps reinforcing to home-owning townspeople that their homes are worth so much more than when they started and so they are satiated - the Australian Dream is still alive for many but there is a widening gap between the haves and have nots. It is straining for the mum and dad property investors, too. Landlords who are leveraged are struggling to maintain the outgoings and so houses currently used for rental accommodation are being sold at the high valuations and upper middle-class residents are moving in.</p> <p>For renters, who are more vulnerable to property market fluctuations, as their leases expire, they can no longer afford to renew and must vacate and leave for accommodation in nearby towns.</p> <p>As they interact with the platform, the journey out of town becomes predictable and the app is able to direct investors to these opportunistic purchasers.</p>
<p><b>Act 3</b> Ep 9</p>	<p><b>Perversion</b> Manipulation Opacity Surveillance Breach</p>	<p>Rates and taxes are issued to townspeople based on the updated valuations and they are astronomical, even the pioneers have depleted their app currency keeping up basic expenses due to the inflation of the digital coin.</p> <p>A future weather event assessment is made by the platform, based on climate change data points and insurance premiums</p>

		<p>are raised based on this prediction of risk. What people do not know is that the risk assessment has been based on data points that assess a homeowner's likelihood to be able to fund climate change impact initiatives and so it has targeted those who would likely be a future burden on municipal resources and imposed a levy - for the greater good of the town.</p> <p>Outgoings for the remaining original inhabitants, even those who resisted the platform, have become unfeasible and they move out.</p> <p>Super users have emerged who have recruited vulnerable people from nearby towns, including some of the original inhabitants, as well as newly arrived immigrants who are entirely dependent on app currency for their basic needs. Each time one of those people does a task, they get an in-app commission so their scale and exploitation of other users is insulating from the inflation and they are thriving.</p> <p>The mayor too becomes distressed looking at the town P&amp;L and will struggle to meet the expenses for municipal services as much of the investment and income has been funnelled into private equity, most of which is owned by the platform.</p>
<p><b>Act 3</b> Ep 10</p>		<p>The founder in charge of the app can see that the domestic market can no longer support the growth of the city, and the initiatives suggested by the platform are increasingly thirsty in capital while being socially unpopular.</p> <p>She invites a group of international investors to the town and uses the rationalism of the algorithm to secure investment that sees the central parks converted to luxury short stay accommodation for holiday makers - weekend holiday rents have a higher yield than permanent residential housing.</p> <p>The founder considers an offer from her international network to invest in the app, and she believes it is the right time to take on the money to scale beyond the town. She starts doing the numbers to multiply her fortune and is blinded by greed.</p>

		<p>She accepts a cap table where the acquiring stake holder holds preference shares and her shares remain ordinary.</p> <p>Once the acquiring company has the controlling share, they begin to divest the platform of its asset base, liquidation style. The property market in the town spirals downward. Money is funnelled out of the platform and into other budgets, the app is stale and user engagement drops off too. The shareholding entity is sold in a fire sale, and after the operation of the preference shares, the founder is left with very little. She has the experience of the original townspeople.</p> <p>She has a dark night of the soul and is interviewed by the media on her transition from visionary to villain and sets about a critical self-reflection. She travels to confront the VCs and hatches a plan to create a win.</p>
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*Table 6: Ethnographic Novel Plot Summary*

### Gentrification: A Contextual Theme for the Narrative

In order to embed the findings, I need a narrative to act as a vessel. I looked at the social issues that were raised by the research participants: housing supply and affordability; climate change and the marginalisation of vulnerable communities. Some example “snippets” from the data demonstrates how the findings of this research can’t properly, and perhaps shouldn’t even pretend to be, separated from the social context in which they are occurring.

On housing affordability, one respondent said:

“... we're doing the same with affordability... We are about to see the greatest ever transfer of wealth from one generation to the next, as the baby boomers start to die off. But it hasn't moved particularly quickly. The wealth creation hasn't happened in that lower class, or also the younger generations, so they haven't been able to build up to a certain level [transcript]”.

Another respondent said:

“Also seeing government, who we don't trust, doing what is politically expedient now [and doing] what they believe is going to be popular, and no one through most of this campaign has talked about ... important things - Housing supply, they're trying to talk about affordability bit they're not addressing any significant level of affordability [transcript].”

On climate change, one respondent said:

“...when the responsibility is on the individual as to how they're going to combat climate change, it makes it very difficult to analyse and predict how that's actually going to happen and what's going to happen in the future.”

Another respondent said:

“I suspect that its areas like planning, sustainability and environment [are] where some of the really cool Proptech AI is likely to live. We're seeing algorithmic solutions pulling in data from multiple systems and devices from buildings (air conditioning and heating units etc) analysing and then implementing solutions that improve the efficiency of existing systems.”

On vulnerable groups, one respondent said:

“I think that is where privilege kicks in because it's "I know where my barriers are. I know where my trust is. I know what my trust in myself is. A lot of people, they don't have that, it can kind of be, well, it's an opportunity to spread misinformation, which it's doing, in my opinion, to very vulnerable people [transcript].”

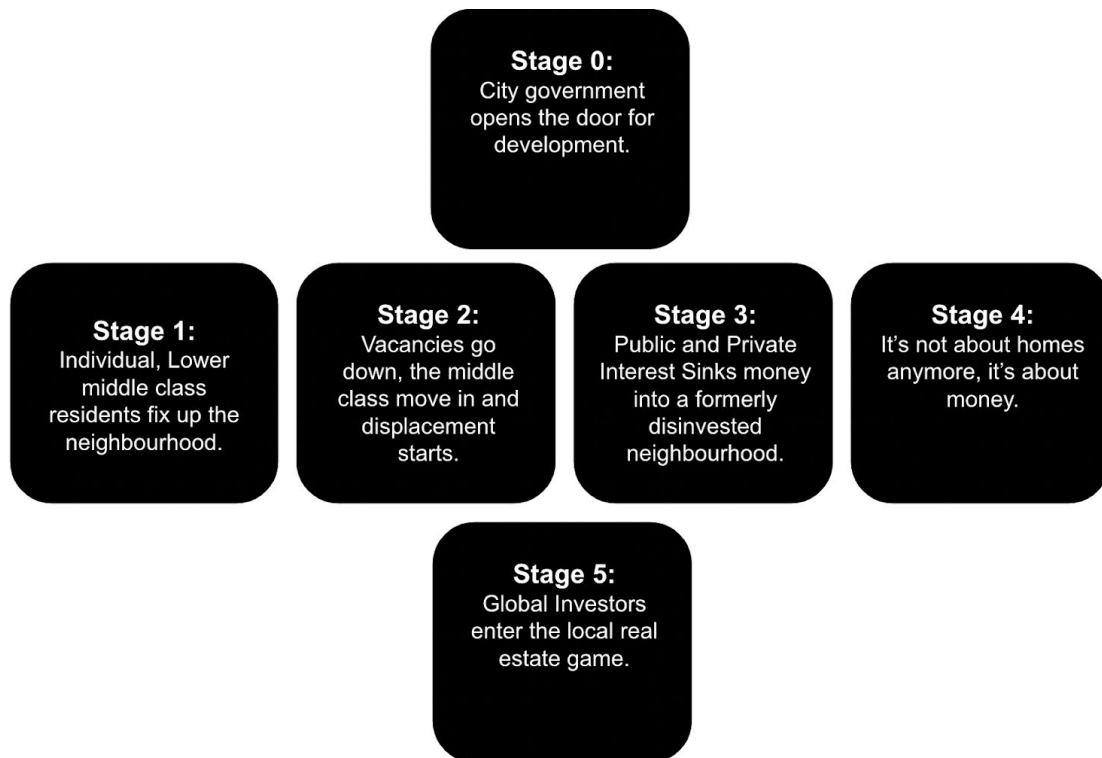
Another respondent said:

“And so, my question has always been who are the humans that are creating it because are we creating AI that mimics the person that's actually creating it? And do we have enough community diversity in

how the AI thinks and does what it's supposed to do? Because our community is made up of, as you just said, vulnerable people, people from diverse backgrounds, a whole range of things. And my question has always been, does AI have the nuances that a human does? [transcript]”.

Glass first coined the term “gentrification” in 1963 describing a process whereby poorer neighbourhoods are transformed and occupied by the middle-classes.

Reading around the topic of gentrification, I was struck by the work of Moskowitz on gentrification in his book “How to Kill a City” (2018) because it extends the concept into the pre-gentrification and post-gentrification stages linking the before and after picture to the process itself - and providing a substantive (albeit sad,) narrative arc. The narrative that embeds the research findings will follow this arc.



*Figure 10: The narrative arc defined as 6 stages of gentrification (Twigg, 2020; See Moskowitz, 2018).*

Golem, a fictional setting for the novel

Gentrification of a town like Golem captures the vulnerability of people and their habitat to constructed economic and social forces and so it is the perfect playing field for a story about trust, interpretability and advanced technology created by the Australian Proptech community of practice. As one of my participants articulately said, “There's big risks in it, particularly for vulnerable people, sure. I think the thing that makes it worse is just, you can scale a robot to do damage more quickly [transcript].”

I was inspired by the Jewish folklore of the Golem, which is a shapeless lump of clay - lying in wait for catalytic action. According to Cooper, “a golem is a powerful but erratic humanoid formed from earth and brought to life through Kabbalistic magic; while the golem is often created with good intentions, or even to save the Jews, ultimately it runs amok and must be destroyed. Indeed, much like the amorphous clay from which it is usually formed, the golem is a highly mutable metaphor with seemingly limitless symbolism. It can be victim or villain, Jew or non-Jew, man or woman—or sometimes both. Over the centuries it has been used to connote war, community, isolation, hope and despair (2017, para 1)”.

The lore of the Golem, like Hephaestus’ automata in the introduction to this thesis, seems an apt symbolic underpinning, for the town where the novel is set.

### A Story Map - Embedding Themes into Narrative

In order to “do” structuration from theory to narrative, and importantly to be able to demonstrate it, I am deploying a tool used in teaching story called story mapping. Li defines a story map as: “a graphic technique designed to facilitate story organisation. This technique uses a diagram (called a story map) to depict visually the settings or the sequence of events and actions of story characters. Based on schema theory (Anderson, 1977), which



emphasises linking previous knowledge structures (schemas) with the learning of new materials for effective learning, story mapping is intended to help students develop a story schema by providing them with a bird's eye view of the basic story structure and the relationship between story elements... [and] realise that the settings, events, and characters of a story are interrelated (2007, p 77)".

The outcome of the story mapping process is to be able to demonstrate clear links between data, theory and story; and to communicate those links to stakeholders including participants, examiners and interested academics, members of the Australian Proptech community of practice, and to artificial actors who will (through my agency) also participate in the storytelling and who will need clear constraints to participate - which a defined schema will enable.

A story map is usually used for generative purposes - to take an idea for a story and to progress it towards a lesson or theme. It aligns to a writing technique called "backwards design (Ackerman, 2019)".

### Mapping Themes to Narrative

There are three themes which emerged from my analysis and reflection of the data corpus, along with the extant materials discussed above.

For interpretability as a basis of trust of advanced software in the Australian Proptech Community of Practice, the themes from my research are:

- That risk is an embedded element of a techno-social paradigm;
- That trust in Proptech can be encouraged with the presence of trust architecture that is understandable; and
- That trust or mistrust in Proptech may also be the result (outcome) of experimentation; and that for adoption and engagement, the degree of impact and fear are risk factors while perceived credibility and value are protective factors.

Each of these thematic elements provides the foundation for an act of the narrative. The elements are three in number and conform to traditional novel structure in which story essentially transpires over three acts (Brody, 2022).

### Mapping Themes to Episodes

Within these acts, there are episodes which structure the 'story' and align the emergent research themes to the narrative/theory. The details of this are in The Novel Roadmap, which can be found at Appendix A. For illustrative purposes, the alignment from themes to episode looks like this for Chapter One of the novel:

THEME	NARRATIVE ACT	THEME	EPISODE
Risk is an embedded element of a techno-social paradigm	Stage 0 of gentrification: A city government opens the door for development	<b>Perception</b> Source/ Origin	<p>The mayor of a struggling small town adopts an online community tool that connects townspeople to property development initiatives and to each other. These initiatives are generated by an advanced software engine which uses real property and social data along with artificial intelligence tools to score and suggest the best development opportunities. Social features of the tool such as chat and augmented reality games promote engagement and provide feedback data for the machine learning engine to provide more relevant and accurate initiatives to the townspeople. The algorithm is seeking to influence social behaviours and attitudes towards development.</p> <p>The founder of this platform is a charismatic storyteller who is able to explain the features and logic of the platform in a way that is simple and user benefit focussed. The branding of the platform, its tone and voice is very positive.</p>

*Table 7: Mapping Themes to Episodes: Chapter One - extract only.*

## Mapping Episodes to Data

I then validated the episode content through the code descriptors for each theme as well as through participant snippets, which is the emic perspective of the Australian Proptech community of practice. Similarly, the details for every episode are in the novel roadmap in Appendix A, however, I will continue to cascade the first episode here in order to demonstrate the method.

EPISODE	CATEGORY	CODE DESCRIPTION
<p>The mayor of a struggling small town adopts an online community tool that connects townspeople to property development initiatives and to each other. These initiatives are generated by an advanced software engine which uses real property and social data along with artificial intelligence tools to score and suggest the best development opportunities. Social features of the tool such as chat and augmented reality games promote engagement and provide feedback data for the machine learning engine to provide more relevant and accurate initiatives to the townspeople. The algorithm is seeking to influence social behaviours and attitudes towards development.</p> <p>The founder of this platform is a charismatic storyteller who is able to explain the features and logic of the platform in a way that is simple and user benefit focussed. The branding of the platform, its tone and voice is very positive.</p>	<p><b>Perception</b></p>	<p><i>Source/Origin</i></p> <p>This descriptor emerged from data snippets which relayed the impact that a familiar, proven and/or trustworthy founder impacted a perception of risk in adopting or engaging with Proptech.</p>

## SNIPPETS

“I can't even imagine the amount of algorithms that are negatively impacting people. How do we fix... If the algorithm's not the issue, in my opinion, because the algorithm was built by people. We talk about AI a lot, there's very little true AI. A lot of it is learnt and machine learning, and you've got to learn from something. So, I think at the end of the day the root causes are still people here. “

“It's going to benefit the consumer at the end of the day compared to the alternative. So, the size and scale of a company like realestate.com comes with a certain level of expectation or trust. And it also promotes a really... I personally feel their marketing and their branding's quite palatable, so to speak.”

“I just finished watching WeCrashed, the show about WeWork. And it's on Apple TV. It's worth a watch. It's a very interesting story in how the influence of a founder creates something really wonderful, but that influence eventually sours and turns into quite a toxic business. And probably the learning from that or why I mention that, is I think the people behind certain pieces of technology play a big role in whether or not you trust that technology. And understanding the true intentions of technology is key to trusting it in the first place.”

*Table 8: Mapping Episodes to Data: Episode One - extract only.*

This process of story mapping for the first episode of the first chapter demonstrated how the data is embodied into narrative, telling the story of how the source or origin of a technology can impact the perception of risk when it comes to Australian PropTech.

The finding of the research is that actors in the community of practice do connect the variables of a technology's source, whether that is the personality or reputation of a founder, the quality of branding and marketing,

or the market position of the product or company when it comes to making judgments about trust. The theme is perception, we see the first episode is from the perspective of the mayor - the mayor's subjective perspective is the one that is revealed in this first episode.

It is here that we see the presentation of the platform, Uptown, to the mayor of the town who plays the role of the executive stakeholder in the implementation. The mayor meets the artificial actor, MACI, through a series of 'pitch' documents presented by the founder, which replicates how this would likely occur in practice.

The discussion of this finding about perception of the source/origin of the technology occurs in this episode via the story of the mayor's decision making. He must consider whether to trust the founder and the platform, and invite it into the town. A decision by the city to invite development into the town, is the essential stage zero for a gentrification process to begin in the town.

## Novel Tools

Where it makes sense and is possible, I have used the outputs of various open-source artificial intelligence tools to augment the creative process and to incorporate the "voice" of an artificial actor in the novel. These artificial

actors, like the research participant actors, participate creatively to the artefact through my agency.

In doing this, I not only embody the research findings into the ethnographic novel, but incorporate the artificial actors as a stakeholder in the storytelling. The advancement of artificial intelligence tooling that has become available since the commencement of this research is astounding, in particular, the natural language generation capabilities of OpenSource AI's Chat GPT and the General Adversarial Networks known as thispersondoesnotexist.

The threat of these capabilities exists not only in the subject of my research but in the subject matter of research itself. Chat GPT, as an example, is "quite simply, the best artificial intelligence chatbot ever released to the general public (Roose, 2022)". The sophistication is confronting and the threat to academic integrity will be an ongoing issue for universities and research, however, as Criddle and Staton have said, a war between generative AI and traditional research won't create any winners and they have urged students and universities to use the generative tools to augment and enhance creativity and writing (2022).

For every threat there will be a solution, in the same way that AI tools such as Turnitin have revolutionised plagiarism detection, in only months since the open beta of ChatGPT, a 22-year-old student has produced an AI tool which

can reliably score the likelihood of text being AI generated (Bowman, 2023). In doing so, its creator Edward Tian, proves that there will be novel solutions to create interpretable solutions for the novel problems created by opaque, complex and technical advanced software applications. By referencing and disclosing the use of advanced and intelligent tools, gateways to new types of collective creativity are unlocked for students and researchers.

For example, in illustrating the novel roadmap presentation for the third cycle of participant interviews, I have utilised illustrations generated by Dalle-2. In prompting this generative engine, the general adversarial process combines the “experience” of millions of images from various libraries, equivalent to hundreds or thousands of human lifetimes, and is able to form an illustration. My agency as the author/artist is in the prompts or description (inputs) that I give to the AI, plus any subsequent variations of the output that I believe are necessary to assert my point of view as a collaborative illustrator.

Where I have utilised generative tools to extend my creative capabilities, it has been explicitly referenced as a collaborative authorship between myself and the artificial intelligence application, in the case of an input/output collaboration - or through traditional referencing, in the case of open source digital assets.



Here is a summary table of the tools I have used in the creative development of the novel and/or its roadmap and planning, with detail below.

Tool/Library	Input	Output	Process Used	Applied to Creative for Novel
<p>Thispersondoesnotexist.com  (Karras, et al, 2019)</p>	<p>Manual refresh of the randomised image generator</p>	<p>Artificial human faces synthesised from data</p>	<p>General Adversarial Network</p>	<p>Casting of visual images for characters. This was a collaborative process of negotiating the image I selected and what that evoked in me as the author, or which was evoked for participants in the presentation of the Novel Roadmap in this step.</p>
<p>(Ouch!, 2023)</p>	<p>Search term: Woman</p>	<p>Shine Library of vector illustrations</p>	<p>Search and Planning</p>	<p>Search results returned a library of digital assets created by a human designer but surfaced by AI, to form the visual identity of the artificial</p>

				actor, Uptown Girl
ChatGPT (OpenSource AI, 2022 and 2023)	Various	Written text output based on the various input factors entered by me	Natural Language Processing, Natural Language Generation and Machine Learning	Used to write some quotes for this section of this thesis. Used to generate outputs of speech on behalf of and representing the fictional artificial actor in the novel, known as Uptown Girl.
Dall-E 2 (OpenSource AI, 2023)	Various	Image synthesis to form illustrations for novel in the style of my favourite visual artists: Basquiat, Picasso, Dali and Banksy.	Natural Language Processing and Machine Learning	These images were generated from various prompts, and varied by me using either graphic design software or through print, manual variation and digital scanning.
Looka (2023)	Selection of 'chip' inputs such as colour or "nearest neighbour" image suggestions.	The generation of a series of logo generations for the fictional Proptech	Machine Learning	I used the Looka Logo suggestions as design prompts for the UpTown logo, which I designed using traditional Graphic design

		application, UpTown.		software Adobe InDesign.
Adobe InDesign (2023)	Images of UpTown Girl Imported from the Shine library in the Open Source Ouch! collection.	A series of HEX codes and RBG colour codes.	Search and planning	The “colour picker” function of Adobe InDesign was able to “pick up” the colours from the Shine illustrations that I have adopted for UpTown Girl and provide a colour palette for the brand identity of Uptown.

*Table 9: Table demonstrating application of advanced and generative tools in the creative development of the ethnographic novel, UpTown.*

### Casting the Characters using General Adversarial Network

In developing the episodes, I leaned on a character archetype model adapted from MasterClass (2021), where 12 archetypes are prescribed with strengths and weaknesses. These archetypes provide structure for the 12 characters of the novel:

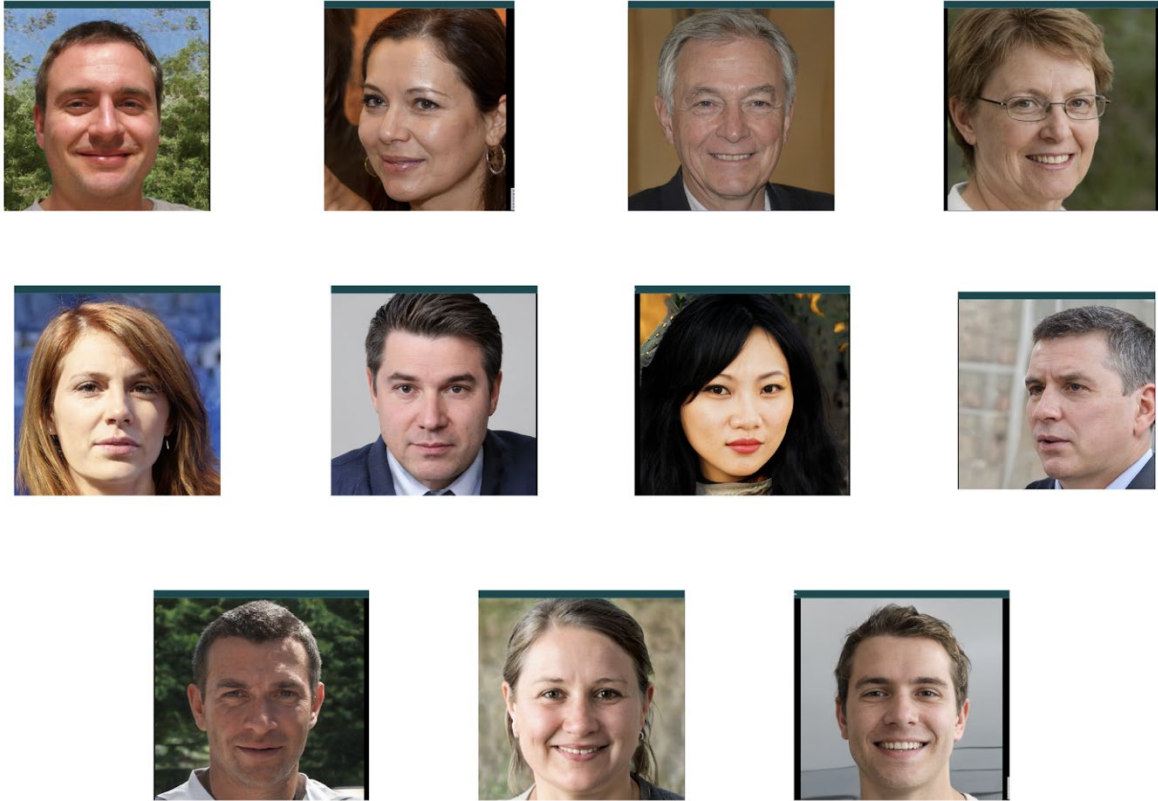
Archetype	Character	Archetype	Character
The Lover	Peter Kearsley, Town Mayor	The Innocent	Caroline Kelly, Townsperson and Cafe Waitress

The Hero	Taylor Rust, Uptown Founder	The Creator	Eugenie Wu, Uptown Social Scientist
The Magician	Seth Esca, Uptown CTO	The Ruler	Christopher Royce, Investment Banker
The Outlaw	Keith Parkes, Townsperson and Property Developer	The Caregiver	Josie Jones, Townsperson and Receptionist
The Explorer	Uptown Girl, Artificial Actor	The Everyman	Scott Herman, Townsperson and Carpenter
The Sage	Marianne Kearsley, Townsperson and School Principal	The Jester	Ryan Delta, Townsperson and Real Estate Agent

*Table 10: Character Archetype Model (Masterclass, 2021) for UpTown character development.*

In order to colour the characters, I used an open source synthetic data image generator called ThisPersonDoesNotExist.com (Karras et al, 2019). The generator produces artificial human faces based on synthesised data using an advanced software technique called general adversarial networks.

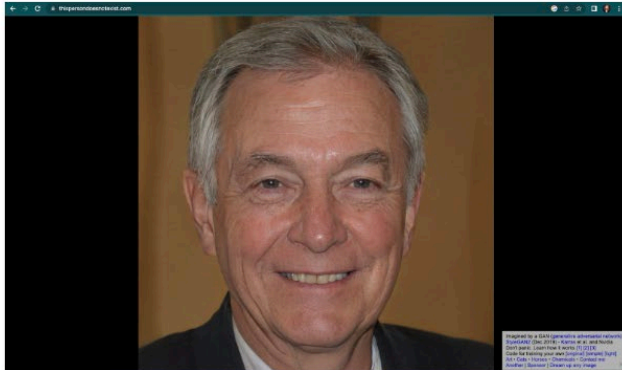
The website [thispersondoesnotexist.com](http://thispersondoesnotexist.com) is a display UX for outputs of the general adversarial model which produces artificial human faces. This is the cast I have selected for the ethnographic novel, and you can see they look like humans and are capable of thick description from the visual output:



*Figure 11a: Synthetic human faces created by an artificial intelligence technique called General Adversarial Networks by [thispersondoesnotexist.com](http://thispersondoesnotexist.com)*  
*Top (L-R): Scott Herman, Marianne Kearsley, Peter Kearsley, Josie Jones*  
*Middle (L-R): Taylor Rust, Seth Esca, Eugenie Wu, Christopher Royce*  
*Bottom (L-R): Keith Parkes, Caroline Kelly, Ryan Delta*

These are not people. They have never been people. They are simply data points that have been generated and connected.

### Original Screenshot of General Adversarial Network Output



### Final Casting Photo for Novel

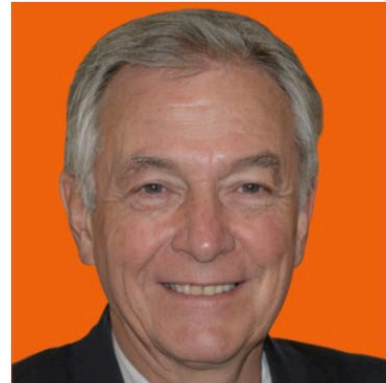


Figure 11b: Conversion of AI Output to Final Casting

### Casting the MACI (Artificial Actor) Character

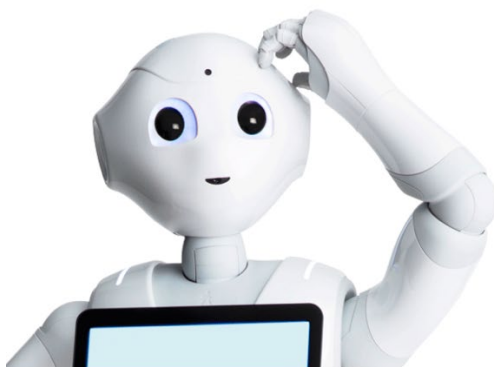
There is no advanced software here, however, I did use an open source library of illustrations called “Shine” hosted by Ouch! (2023). These are human created visual images of a cartoon which I will adopt and adapt to perform the visual character representation of my artificial actor, Uptown Girl. I have chosen an existing digital asset as opposed to creating or illustrating one of my own because I want the casting of the ‘actors’ to follow a similar process.



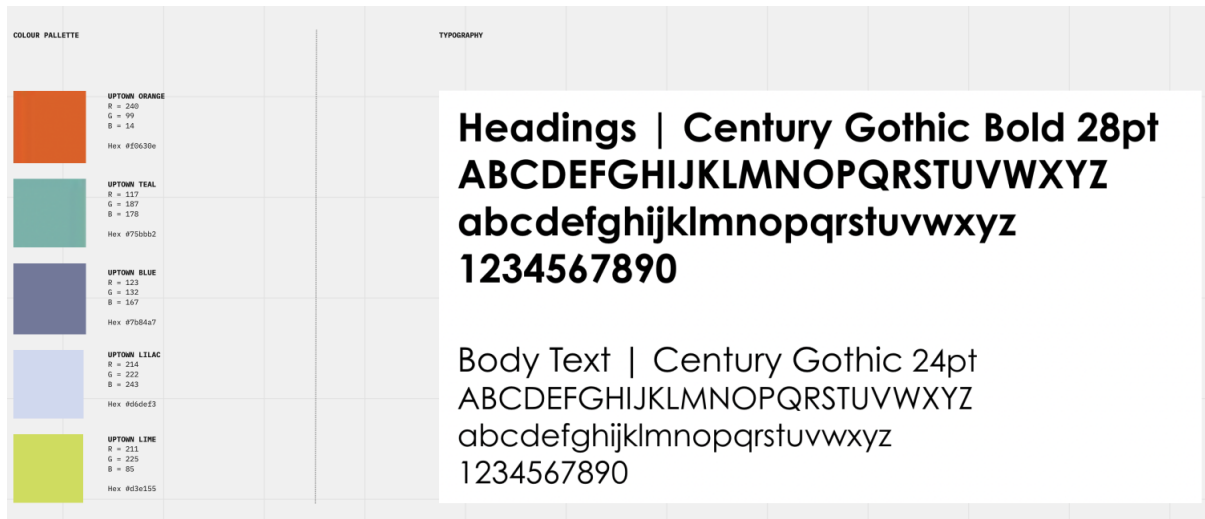
*Figure 12: The open source digital illustration (one of several from the open source Shine Collection) that I have chosen to represent Uptown Girl, via Ouch!, 2023.*

### A Visual Identity for UpTown

I used the Adobe Colour Pickup tool in the graphic design program, InDesign to create a brand colour palette. I also chose typography for the project as Century Gothic Bold. I chose this font because it is rounded, and it has long been a ‘trick’ of anthropomorphic robotic designers to use rounded edges and circles in order to convey that this robot is safe and to create guardianship - similar to the soft chubby body of my toddler (See Lui, Yi and Wan, 2022; see also Predko, 2021).



*Figure 13: Comparison of visual image of the humanoid robot, Pepper, and my 2-year-old toddler, Banksy Bell. See Aldebaran United Robotics Group (2022).*



*Figure 14: Brand Elements for UpTown*

The visual imagery and brand elements manifest in prototype elements for the fictionalised Proptech “Uptown” in the novel, including app screens and UX designs. The UX design incorporates visual elements created with the assistance of various advanced software tools, the inputs from research participants and my agency as the author/designer. See below:





*Figure 15: Mock-up of a log-in screen prototype for the fictional Proptech, UpTown.*

In the story map for the first episode, we see how important the brand and marketing aspect of an artificial actor can be for the perception of trust and risk of Proptech. I recall this process with RiTA and the process we went through to 'skin' and 'story' the function of RiTA, because it is really difficult to demonstrate moving tracts of data around. When we created RiTA's visual identity, we used a logo generator, powered by artificial intelligence to create a logo that appealed to us visually, - and then worked with a professional designer to add some specific brand elements (such as the 'delta' symbol in place of the "A", which would function as a favicon and for a condensed iconographic logo in the platform; and a change to the "i" and colouration to improve readability and align to our fun, feminine brand voice. I wrote a blog about our creative journey with AI around the time (see Bell, 2019).

**AI Designed RiTA Logo (Draft)**

**RiTA Logo, augmented by human designer (Final)**

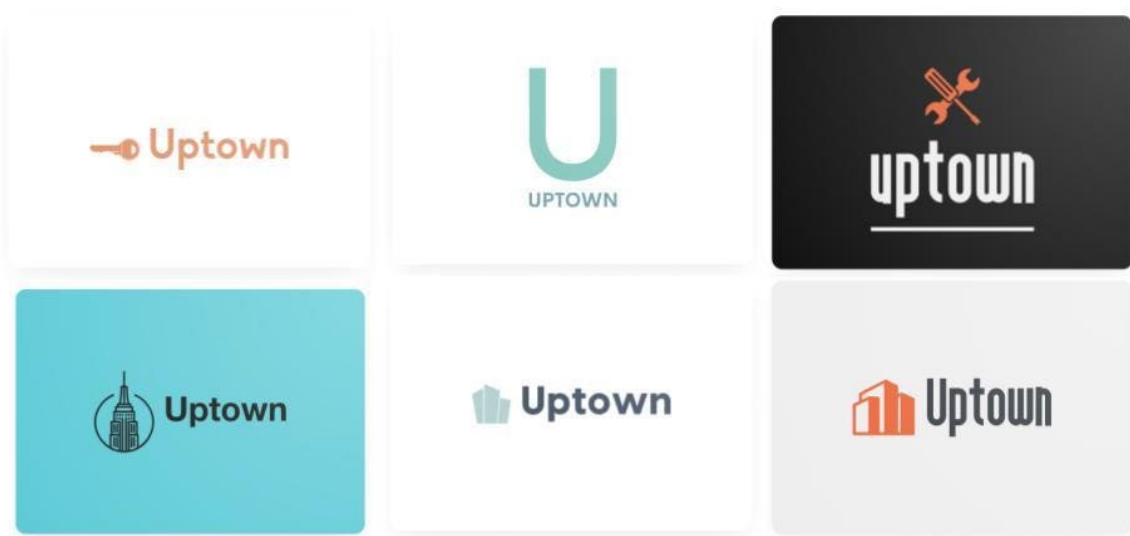


*Figure 16: AI-assisted brand development: RiTA practice example*

I repeated this process for the fictional Uptown platform in the novel, although for the research I also played the role of designer. A full brand guideline document is included in the novel, along with sales desks, website and other marketing material, and screenshots of the platform as commercial artefacts of the fictional Proptech, Uptown.

The logo generative tool I used is called Looka.com and it is a purpose built Logo designer, powered by artificial intelligence. It is a suggestion engine which uses a 'nearest neighbour' data model, meaning that it asks the user for some design preferences such as colour, relevant industries and 'like logos' and then it suggests combinations of colour, typography and graphics which the user might like and be able to choose from (Looka, 2023).

Here are some of the logos that the Looka Tool created based on the inputs that the logo was for a company called "Uptown"; a colour preference for orange or teal (due to Uptown Girl's visual representation (Ouch!, 2023,); and for the property development or property technology industries:



*Figure 17: Logo outputs for the fictional platform “UpTown” created by artificial intelligence via the Looka Application (Looka, 2023).*

Here is the adapted logo, which I designed using a graphic design software (Adobe Indesign) based on the design elements of some of these suggestions - the arrow shape of the empire state building, which also looks like a house, the palette and exaggerated “U”. I have also included a version with the character of the artificial actor, MACI.



*Figure 18: Final Logo variations for the fictional Proptech platform, UpTown*

## Generating MACI's Voice

Such is the speed of advancement in advanced software that since I commenced this research an open source language generation tool has moved into a public beta, and it has changed the game in terms of natural language generated by artificial intelligence. I have used this open source tool, ChatGPT, to generate content on behalf of the artificial actor, Uptown Girl. This is how it works:

“GPT (short for “Generative Pre-trained Transformer”) is a type of language model developed by OpenAI. It is a neural network trained to generate human-like text by predicting the next word in a sequence based on the words that came before it (Bell and OpenAI, 2023a, para 1).”

Here is how it works in the novel writing methodology. I gave ChatGPT a prompt about Meeting Josie Jones in Episode Two and ChatGPT wrote the dialogue below:

*"PROMPT by BELL*

*Write a script for a conversation between an artificial intelligence bot named Uptown Girl and a new user named Josie to a platform which is designed to suggest property improvement and development potential for Josie's family farmhouse, as well as beautification projects in Josie's community*

*OUTPUT BY CHATGPT*

*Scene opens with Josie sitting in front of her computer, typing in the website*

*address for the property improvement and development platform. She clicks on*

*the "chat with a bot" button and Uptown Girl appears on the screen.*

*Uptown Girl: Hello Josie, welcome to the property improvement and development platform. How can I assist you today?*

*Josie: Hi Uptown Girl, I'm interested in finding ways to improve my family's farmhouse and beautify my community. Can you help me with that?*

*Uptown Girl: Absolutely, Josie. We have a wide range of options for both property improvement and community beautification projects. Let's start with your farmhouse. Can you tell me a little bit about the current condition of the property and what you're looking to achieve?*

*Josie: Sure, the farmhouse is quite old and in need of some repairs and updates. We're looking to make it more energy efficient, add some modern amenities, and maybe even expand it a bit.*

*Uptown Girl: Great, Josie. We have several options for you to consider for energy efficiency, such as solar panel installation and insulation upgrades. We*

*also have options for modernizing [sic] the farmhouse, such as kitchen and bathroom remodels, and adding a second story. And if you're looking to expand, we can also provide suggestions for adding a new wing or even a detached guest house.*

*Josie: That sounds great, Uptown Girl. And what about beautifying my community?*

*Uptown Girl: We have a variety of options for community beautification projects, Josie. These include park and garden renovations, public art installations, and community events such as farmers markets or festivals. We can also provide suggestions for creating community gardens or green spaces for residents to enjoy.*

*Josie: Wow, that's a lot of options. I'm excited to start exploring them and making some plans for my family's farmhouse and my community.*

*Uptown Girl: I'm glad to hear that, Josie. We're here to help you every step of the way, so feel free to reach out to us with any questions or concerns.*

*Scene ends with Josie starting to explore the options provided by Uptown Girl and making plans for her family's farmhouse and her community (Bell and OpenAI, 2023b)".*

## Human Character Development

I overlaid the Jung personality types over the Masterclass archetypes and learned about strengths and weaknesses for each character and how they might interact with each other, in romantic relationships, or within the workplace. The Jung profile/Character matrix from 16personalities.com (2022) is here, with yellow post-it notes marking the characters of the novel:

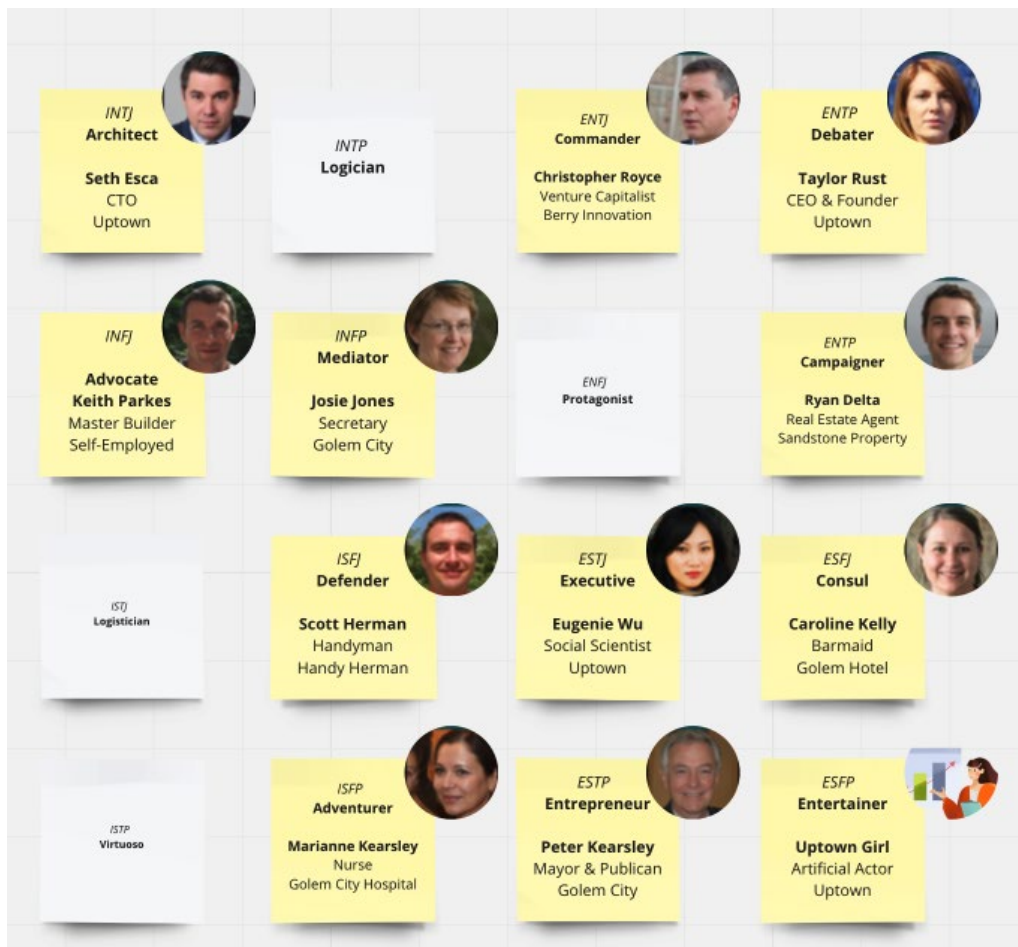


Figure 19: A Jung Personality Profile/Character Matrix for character development.

I then conducted a more thorough process of character formation for each character using a synthesis of the archetype, the Jung personality, and creative inputs from participants and my own personal and professional experiences. The character profiles developed at this stage are included as part of the novel roadmap, located in Appendix A.

## Reflection on my Imagination Moments During Creative Development

*As I reflect back on this process, I have reported on the mechanics of creative development, the structuration of plot and characterisation, and the shaping of a three-act drama is supported by the frameworks and models that I have described and worked with.*

*If I think about the journey that a unit of datum, a snippet, has taken to become story then I start to think about all of the choices, all of the relational evocations that occurred to form that particular story. The free associations and creativity that were nurtured within the structuration that the frameworks constrain. It reminds me of the phrase in the definition of AI, enabled by constraints, and I think it is also true of how my creative agency has manifest to make this story - as opposed to some other story from the same ingredients, from the same data; by some different author or by some different actualisation of me.*

*For any part of this story to exist, there must first have existed a relationship of trust between myself and the research participant for a meaningful conversation to happen, and in doing so a data snippet was created as an artefact of that relationship and conversation. Through analysis and reflection, plus my own tacit experience of the domain, I applied a subjective interpretation to that snippet through a label or code; which other*



*snippets connected to as well, forming a library of conversation snippets from all of the data about that one code.*

*I organised the codes into categories where it made sense to me and then from the threads of snippets, codes and categories, I discovered the three themes of this research. The themes and categories form the foundations for the acts and the episodes, but the snippets of conversation were the building blocks of story.*

*I remember having a conversation with one participant whom I had expected to be quite a critical thinker - they had been to university etc. I generally consider them to be polite and bright, kind, fun and funny. And they said something along the lines of, 'well I guess in relation to these manipulative algorithms I would want to know how I could be on the right side of the manipulation' and it struck me how adaptive the human mind is for self-preservation and survival, even in the people you might not expect it from. And so even though the Scott character's descent into villainy was really decided by this conversation snippet, the other aspects of his character are drawn from other conversation snippets - Scott is certainly not the handsome, charming, intelligent introvert of the conversation snippet creator. He is the child of free associations that I have drawn from where I live in regional Australia, the man who helps out with gardening, a boy who*

*used to tease me at Sunday School, and different things that have been evoked either consciously or subconsciously through moments of imagination.*

*The town of Golem is inspired by the local towns near me, all in various stages of degeneration or regeneration; The Grad Golem Hotel needed less conjuring because this pub exists in every town in Australia, complete with tiled façade. I've had different relationships with pubs like this. When my Dad was a crown prosecutor we would sometimes travel with him on the court circuit to regional locations, and he would stay at these pubs which would also double as chambers - so the business centre and hotel of upstairs is something very real to me.*

*Josie is another example composite of so many different country women I have interacted with in my life, and perhaps even parts of myself - certainly all of the characters must have parts of myself; even the unseemly ones.*

*What she does to drive the story, her ignorant advocacy of the founders for example, is all grounded in conversations about how people follow trusted actors, how trusted actors can sometimes endorse things they don't understand and how even where founders have good intentions, these can be overruled or replaced by new power centres, through acquisition or takeover. But how Josie fusses over Peter and the founders, her life on the farm, her liberation when she was free from the burden of the farm - a lot of that is rooted in my grandmother and my great-aunts who found*

*independence for the first time in their lives in their 80s when my uncles and grandfather passed away and farms were sold - it's the first time I saw these women make real empowered choices with money... and so we see Josie follow their journey somewhat.*

*What surprised me is that the snippets, categories, themes, and structure that I created intellectually almost gave the novel its beat and substance, but the data had a parallel operation on me emotionally and caused these reflections and imaginations.*

*I carried this story for months in my head: it showered with me, came along to work meetings, we took planes and Ubers together, it sat in hospital waiting rooms and at client dinners with me, feeding off what was happening in my life and work but growing into the form it was given from data, code, category, theme and so on. In the end, this process of the data being intellectually reasonable while being emotionally rich emerged as a function of time and the creative process.*

*I remember saying to my supervisor one day in a moment of self-doubt, 'wait, but I don't know how to write a novel!'. Yet, looking back on the process, it was like there was part of one inside me, and the data brought it out - but simultaneously, there was story in the data, and it took what was in me to actualise.*

### 3.4.2 MeSearch Outcome - Conceptualising Section

Developing a Presentation of the Novel Roadmap for Research Participants

With the time constraints available for the third cycle conversational interview, I summarised the detail of the Novel Roadmap, found in Appendix A, into a presentation deck. A copy of the presentation deck can be found at Appendix B.

In the third cycle of conversational interview (detailed in the ReSearch subsection below), I presented the narrative through the Novel Roadmap presentation (Appendix B) and in order to make this more engaging, I used an AI tool to generate illustrations.

Interview Three Questions, post Novel Roadmap presentation

The final output of the MeSearch at this Conceptualising Section is to generate the interview questions for the third cycle of conversational interviews.

#### **INTERVIEW THREE QUESTIONS ASKED OF PARTICIPANTS AFTER PRESENTING THE ETHNOGRAPHIC NOVEL ROADMAP**

##### *STATEMENT BY INTERVIEWER:*

*Our discussions so far have been about gathering your insights and information around trust and Proptech, and how interpretability might form trust and aid in the creation of trust architectures in our society. In line with the methodology of this research, I have normalised all of the conversational data from participants and arranged it in a way that it underpins a narrative, in which I seek to embed the findings of this research.*

I am going to present that narrative to you now in the form of a roadmap and I would like you to listen with a view to critique the roadmap based on whether you recognise the themes or elements of our discussions throughout, and we can discuss that in more detail at the end.

*Interviewer presents Roadmap presentation*

#	Question	Rationale from MeSearch
ONE	In your opinion, what are the lessons here for creators of Proptech?	<p>1. Despite the contextual narrative following a gentrification process, I am hoping that the participants can focus on, or even identify, the themes of the research that are embedded in that narrative;</p> <p>2. If participants are able to identify some of the themes, it would validate that the themes of the research are present in the text.</p>
TWO	Do you recognise any evidence of our previous conversations about your story in the story or the characters or themes? If yes, where and how? If not, how could it be incorporated more clearly?	<p>1. In asking this question, I am seeking to validate whether the normalisation of the conversational snippets and the conversion of that data into episodes has distorted or preserved the original spirit of our conversations; and</p> <p>2. Before writing, I am seeking instances where it may be helpful to emphasise or more explicitly state the participant's perspective so that it is represented appropriately in the story, and through my agency.</p>
THREE	What, if any, emotion or thoughts does the text evoke in you?	1. In my MeSearch, I rationalise the use of art because it is evocative. This question is designed to extract this evocative quality and allows me to analyse this against the themes of the research; and

		2. It also gives me an indication and/or validation of the intended emotive levers within the text - and hopefully provides some new ones that are unintended.
FOUR	Are there any metaphors or analogies? What do you think they might mean?	1. It is probably my artistic and hermeneutical nature but I use a lot of symbols and metaphors to embed themes from the data. This question enables me to see if the reader has been guided to the intended inferences, or whether I need to be more explicit in order to communicate the intent.
FIVE	The characteristics of advanced software and AI are things like complexity, opacity, technical privilege. How do you think these things are reflected in the story? What does that have to do with risk and trust?	1. Here I am seeking to validate the connection between the anthropocentric predicament of complex knowledge and the risk/trust paradigm at the centre of my research?
SIX	If you were one of the creators or adopters of UpTown, what would you do differently?	1. Here I am testing whether interpretability, understandable trust architecture, and calculus of risk/impact are present as learnings/reflections of the narrative.  2. If these themes are not identified, I will need to be more explicit about them in the writing/iteration of the novel roadmap.

### 3.4.3 ReSearch Process - Conceptualising Section

The intention of the third cycle of conversational interviews was to validate and/or generate feedback from the Novel Roadmap with the cohort of

research participants. After each interview, I incorporated the feedback into the roadmap and tested the iteration with the next participant.

Not everyone will interpret the text in the same way, and that is OK, as the function of art is to evoke a differential response in the various stakeholders. However, testing the narrative in this way gave me confidence that the research findings are also explicit enough so that the structuration of finding and story is validated, substantiating the methodology and meaning-making for the intended community.

The presentation (see Appendix B) contained visual and textual details of the narrative arranged so that participants could see the plot summary, visualise characters and experience the visual language of the novel, which I have created through the constraints of the research findings and in collaboration with advanced software tooling, described above.

Following the presentation of the roadmap, the format of the interview is non-different from the first two interviews, over zoom with questions and informal conversation, recorded, transcribed and stored.

As the interviews progressed, it was encouraging to see respondents validate the thematic representation in the narrative, and to gather their reflections and impressions of the story - relating our conversations to the

findings and the story itself. On the whole, the feedback was encouraging however, in a couple of instances, the response from participants catalysed a change in the roadmap, ahead of the writing.

#### **3.4.4 ReSearch Outcome - Conceptualising Section**

Discussion: Themes

In terms of validating the success of themes and categories, I have included some examples from discussions with the participants.

Firstly, the feasibility of the story was widely validated. For example, White Horse said:

“The inequality of knowledge and your characters are very believable because those greedy f\*\*\*\*\* are just basically the people that spent 10 years in the industry encountering and watching the wild distortions of what should be a very simple and transparent thing, the property market, being driven by human greed. There is no limit to it. It's horrifying [transcript].”



I was very happy to see that the relationship between creating technology and the broader human context was not only identified by participants, but appreciated. Grey Goose said:

“Despite it being a story about a product, technically - it's got a wonderfully human element to it, and you're talking about how the product not only interacts with individuals, but affects a whole network, community, and society, so I think that's an interesting angle. It's not what I expected [transcript].”

In terms of how the narrative represented or embodied the findings, here is an extract from the research participant, Purple Cow, discussing the relationship between the category of 'Personification' and the theme of how trust architectures, such as exist with natural persons, can encourage adoption. They also discussed risk as an embedded element of a techno-social paradigm because of how humanisation/anthropomorphisation of artificial actors might open the door to an exploitation of natural and subjective feelings. Purple cow said:

“I do think the whole rugby player feeling a sense of closeness with the technology, and the fact that it is born out of what could be potentially insecurities or could be a whole bunch of other things that have created this sense of loneliness around him. I do feel like that is exactly where I see the good and bad in technology and the good

and bad in AI. If it is, it's helping us not feel lonely. It's helping us feel connected, but is it a genuine, intensive connection, or is it manipulation by someone else? So, it's that whole bit of, well, do you trust an AI because it is helping you with your current state of mind or state of presence or state of loneliness? Or do you remain sceptical because realistically, you kind of know that, at the end of the day, technology's been built by someone and it's gotten the agenda of that person? So, I feel like that, I like that particular story, because there's so much you could unpack from just that one little bit around, is that healthy? Is it not healthy? Is it genuine connection or is it manipulation? Is he getting more by trusting AI, is he getting more out of that, than what he's losing by succumbing to someone else's manipulation who's controlling it? [transcript]”.

For me, this was an excellent conversation invoking the exact questioning of Story/imitation; the impact of personification; and how trust is encouraged by appearing to extend human structures of trust, whereas in fact, as participant Blue Bird stated, there is a dearth in answerability. They said:

“So, there's the human greed side and trust that you question, but you also go well on the flip side where on that path anyway. And there's winners and losers in a whole lot of things, in all ways of life. But it seemed to exaggerate the losers in this. And who do you blame when

you're a loser? Who's accountable? Who's responsible for that?

[transcript]”.

And in looking at answerability, I was also encouraged to see participants thinking about AI as a function of humans, as created - not as having equivocal human agency, but recognising the human agency that is the author of its functionality. Red Frog said:

“At the end of the day, its moral bankruptcy, isn't it? It's not AI, it's not property development, it's not behavioural technology, it's actually moral and ethical bankruptcy that's the issue. And it's not the AI that's doing it wrong, it's the humans instructing what the AI is rewarding that is... So, my overwhelming feeling is a bit of sadness really, that this technology could actually... It could be hugely valuable and a huge positive for us as a society. It's great that we're identifying the risks associated with it, and I guess this piece of work is part of that so that we can then move to conversations around how do we avoid those risks? How do we manage them? [transcript]”.

And WhiteHorse extended this discussion beyond the intention of the creators, beyond the impact of the application of the technology, but also by also the means by which this type of technology is created and trained.

They said:

“I think the most evil component of it is the revaluation of the currency. That's Facebook level shit. That's my deepest concern right now about the sort of large language models in GPT Chat is they're founded on exploitation akin to slavery. If I go back through human history, most great leaps forward are founded on slavery of some kind and all we've done is found another way of doing it. Then the human inequalities, I deserve more than you for my work, start to play in. And again, the only way out of that is transparency where those people talk to each other. I would go and say, 'How much are you getting for that task thing?' If I was in your story, I would be the first person to start actually chatting with others about how they were going in the game and forming the underground. Okay, in the absence of transparency, let's share the shit [transcript]”.

These questions about creation, labour, and impact are the questions that governments are grappling with when it comes to regulation and risk around applications of artificial intelligence.

I was pleased to see that this level of complexity was evoked by the narrative. Far removed from surface themes, the discussions with participants extended to include the impact of anthropomorphism in technology: beyond

recognising simply that it is human designed, its nature as human-imitating is also, therefore, human-influencing.

In my conversation with research participant Peach Rabbit, there was an interesting reflection on the notion of dependency, which I had looked at as part of the category of 'Power' under the theme of risk as an embedded element. This participant had an interesting take on dependency because they spoke first about how people were pre-conditioned as dependent due to their vulnerability and so there was a differential experience of risk in trusting the technology; and then secondly about how even those without a pre-condition of dependency can become dependent, or enfeebled, due to reliance on technology. They said:

"That's the first thing that goes through my mind, is the scenarios that you've described, there's nothing in there that's out of reach or the capability of it occurring. You've just got to look at people's vulnerability. It's a lack of understanding, people's desire to have a better life or greed, and you just got to look at enough pyramid schemes that have gone pear-shaped in this country to know that there are people, particularly in small towns are... It's feeding off our most vulnerable, right? So, I think the first thing that went through my mind is, "Oh my God, this could actually happen [transcript]".

“And this is exactly what happens in real life. We use a product and then it's really difficult for us to change. It's really difficult for us to integrate other stuff in it, we become solely dependent on it. So, it becomes the drug that we use in our business, essentially. It's the hit that we have. It's what connects us with our clients, allows us to service our clients. There's a lot of similarities in there [transcript]”.

In looking at the third theme and how trust might be engendered through a series of experimentation, participant BeigeRat described how one might be persuaded to yield to technology because of a customer experience in-platform. They said:

“I think that whole, ‘I'm going to give you permission for this, because it's easy. I'm going to give you more and more permission to do more and more things’ [transcript]”.

In terms of the role of influencers in persuading people to trust technology. BlackTiger said:

“If some people say, oh, that's a really good product, you should have a crack at that. It validates it automatically and a whole legion of people just go, oh, well, if Leanne says it's okay, or if Brewer says it's okay, or [redacted] says it's okay, or if Sarah says it's okay, surely

it must be okay, let's go baby. And that doesn't always necessarily...  
It's not always necessarily right. But people follow that.”

I was heartened to see that this notion of influence under the category of “Persuasion” connected not only to PropTech but to other pieces of technology that participants had encountered. For example, GreyGoose made this comment about cryptocurrencies:

“I think that it's hype versus understanding, and that, to me, applies to crypto as it does to technology. I think the level of interest in crypto as a form of technology was largely based on a conversation at a drinks party or at a dinner party, where someone's like, "Oh my God. I'm a crypto bro," or whatever, and "You should put your money in it," and people are actively investing in something they don't actually understand.”

Importantly at this validation step, I wanted to ensure that participants could identify our conversations within the narrative.

AquaWhale said:

“I felt like your story 100% incorporated our conversations about the detrimental effects that some of the tech platforms have had in my community, particularly in the last three years. A hundred percent. I felt like I was telling that story in parts, particularly about the influx of

people and attitudes.... And I must say I'm a realtor and increasingly as I age, I feel partly responsible for some of those things. The way that towns and villages have been transformed, particularly in the last three years all over the world, there's nowhere been more transformed but in a negative way generally than our town. And right now, Sarah, as we speak, the medium to long term repercussions of that transformation are here for all of us to see. And that is whether it's the sense or no longer sense of connection between the local people, the effects of tourism. So that's a very impactful story that you've just told me, is the answer to your question.”

Grey Goose said:

“I mean, a lot of our, let's be real about it, quite conceptual conversations have been talking about the real value of a product, building trust in a product, between its users and its purpose, a product outgrowing its initial purpose. I see all of those things woven into that narrative.”

Iterations from Feedback

All of the iterations are documented in the Novel Roadmap Presentation in Appendix B.



Prior to presenting the Novel Roadmap presentation to participants, I made two iterations as a result of my own reflections or prompted by conversations with my supervisor.

The first was a change in the name of the artificial actor, who humanised the UpTown platform. Initially the name was to be 'UpTown Girl'. I think I was inspired by the Billy Joel song however, in discussions with my supervisor I was prompted to think about whether this abstracted the artificial actor and made the humanisation element too remote. I dug back into my practice experience and remembered that RiTA was an acronym for 'Real estate. Intelligent. Transaction. Assistant.' And so, the name 'UpTown Girl' was actually changed at this point to MACI, an acronym for 'Masterplanning. Algorithmic. Community. Interface.'

I also decided to change the name of some real places around where I live to imagined places. For example, The Grand Golem Hotel in the novel was originally named The Kearsley Hotel - however, as it turns out this exists and I didn't want the real and imagined to converged. I also decided to change the spelling of "Neath" to "Neathe", just to ensure that the local town of Neath survived my imaginings.

After the participant interviews, I reviewed whether the feedback justified an iteration of the roadmap. As a direct result of feedback, I made two

substantial changes to the roadmap which were tested with subsequent interviewees, before the creative writing process.

The first involved the treatment of the Technical Founder of UpTown, Seth Esca. In my initial telling, Seth was more of a sociopathic mastermind who set out to manipulate for profit. After my interview with participant Purple Cow, I decided to change Seth's positioning. It wasn't specifically any one comment however, what I observed in the participant, and which I think is reflected in the transcript is a very real tension between how good people can actually be taken off route because of naivete or because of the demands of commerciality. It caused me to reflect upon all the wonderful people that I worked with in product and engineering who helped raise RiTA - and I couldn't find them in the original Seth character. So, his approach definitely softened.

The second major iteration(s) was the ending. Four of the respondents were unhappy with the original ending whereby the Founders were essentially ruined and left Golem on a bus symbolically headed 'downtown'.

For TealParrot, the original ending lacked closure to reflect on the lessons. They said:

“You've taken on this journey of all these people and I'm going, yeah. Wow. Wow. Yeah, That's Eric. Yeah, that's Deb. Yeah, that's absolutely Carolyn. Yeah. And then it just all blew up and I'm going, well the town's still there and there's still something, and there's probably... Is there just tumbleweeds rolling down the main street? Did it all just die? Is the golf course now a crocodile theme park or what is it?”

YellowPenguin also highlighted that the ending might not invoke the hard work that is left in cleaning up a mess of the kind that the founders created in Golem. They said:

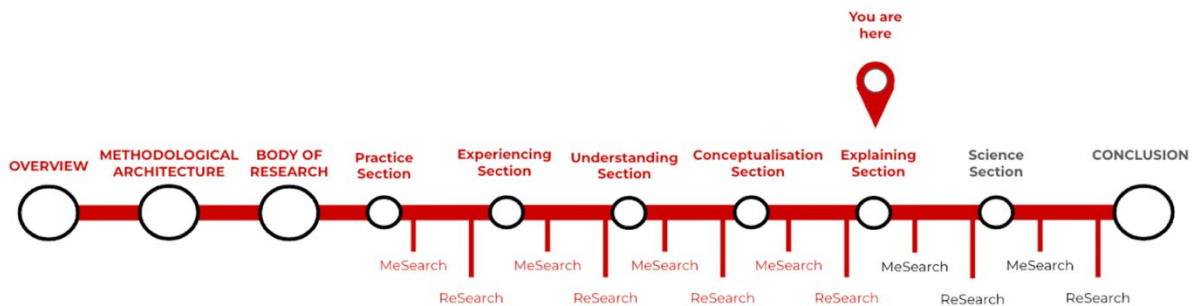
“It's like in The Simpsons with the monorail guy, and he comes into town and he builds the monorail, and then he just leaves before it all comes crumbling down.”

I changed the ending to include a pathway to redemption. I tested this with interviewee PeachRabbit, who said:

“Because when you were going towards the end and I read the end, I was like, ‘Oh no, this is going to be one of those ones where everybody dies.’ The boat sank and nobody survived kind of stuff. So, I'm glad you changed it to a bit of a positive end. The recognition of

someone that they could actually do better, because technology can be used for good or bad, right? And I think there's the recognition of it being used for good and the ending of that is good.”

## 3.5 Explaining Section



### 3.5.1 MeSearch Process - Explaining Section

Producing the Creative Artefact, UpTown

This stage of the project involved writing the ethnographic novel. I did this from the roadmap as a general framework and from a detailed episode plan whereby all of the interview conversation snippets were organised into the various dramaturgical episodes, aligned to themes - as an outcome of the story mapping process in the Conceptualisation Section.

The episodes were organised and planned out on an endless digital whiteboard platform called Miro. As I wrote each episode and scene, I could process and interpret the relevant conversation snippets to infuse the participant interview data into the narrative.

Beyond that mechanical description of how the research was connected to the narrative, I have reflected upon and researched how to 'explain' my internal creative process of converting data to story.

### Alive in The Writing

I have borrowed this sub-heading from Narayan (2012) who's book "Alive in the Writing: Crafting Ethnography in the company of Chekov" was instructive in the process of finding myself as a creative author amidst the constraints of the data.

Although I have taken efforts to make distinct my methodology of ethnographic fiction and ethnography, see above, Narayan's interrelatedness of story and theory was helpful to frame the job to be done in writing UpTown, which was to unify that which was "torn between contrary impulses: to present empirical observations gathered through scientific methods and processed with theory, or to appeal to reader's imaginations with colorful [sic] stories (2012, p2)".

### Reflective Journal Extract

*I found myself weaving in different types of love stories within the book, which, one might argue, have very little to do with Proptech. In my*

*conversations with participants though, when it came to discussing notions of trust, many of the conversations involved comparing the relationships of human and artificial actors to their most intimate relationships - beloved partners or parents - and discussing how or why the basis of trust was different.*

*There were heartbreaking stories, including of a family who had rejected a participant based on their identity as LGBTQIA+. I was very careful not to tell this story with a heterosexual lens - however, as a parent I can't comprehend this betrayal of a child and the withholding of love as violence. There were other conversations about betrayal in human relationships being vastly different to unreliability in technology and I found discussions about data breach and how information could in fact also be violence, aligning technology with the depth of betrayal that we see in human relationships.*

*But rather than answer or find conclusively about that, I wanted to represent the complexity of trust, breach and betrayal in characters - and I found the metaphor in their intimate relationship. Peter's egocentric disregard of Marianne's concerns about UpTown for example represented a breach of trust; Marianne's emotional solace in Keith from time-to-time could represent betrayal; Josie's non-consultation with Marianne about selling their childhood home could represent betrayal; Peter and Josie encouraging Caroline to use the app against her best interest; Eugenie's cruel treatment of Seth's*

*idolisation; Eugenie's manipulation of Scott; and even the rivalry between Keith and Peter - they all represent aspects of the dance in love and human connections whereby self and others is negotiated with power, economic advantage and ego.*

*I can't deny also the guilty pleasure of Jane Austen and regency period romance novels that I read over and over again for comfort and so perhaps in the writing, these very female concerns of love and trust - as vehicles of survival and economic pillars were also introduced from myself.*

### **3.5.2 MeSearch Output - Explaining Section**

Production of the Artefact

I wrote the novel over three months, thanks to several sprints of focussed time. Once I had a draft, it was read by my supervisor and sent to a proof-reader who assisted me to edit it.

I purchased an ISBN and designed cover art, using the logo I co-designed with an AI tool, described above.

I wrote the following blurb:



Golem is a struggling Australian regional town whose mayor, Peter Kearsley, invites a charismatic team of Proptech creators to help by introducing their social property development platform, UpTown.

Essentially providing gentrification-as-a-service, UpTown connects the townspeople of Golem to property development and beautification projects through an AI-powered suggestion engine, MACI: Master Planning Algorithm Is Community Interface.

Skyrocketing valuations, privatisation of the municipality and inflation have the locals questioning how it is that they can have more than they started with, but it's not enough.

I included the following Acknowledgement of Country as it is proper in Australia to acknowledge the custodians of country at the outset of any project.

I included a preface about the methodology of UpTown as an ethnographic novel along with a draft version of the abstract for this thesis.

After that I organised for 25 advanced reading copies to be printed. I delivered a copy to each of the research participants along with the gift I disclosed in the informed consent form that they each signed prior to

participating. I also delivered copies to Middlesex University (London) for the purposes of examination.

## UpTown

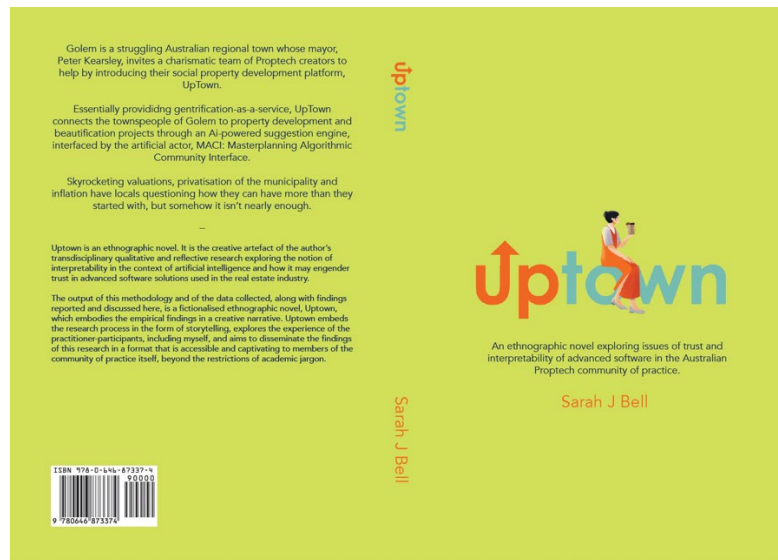


Figure 20: Cover art for UpTown: An ethnographic novel exploring issues of trust and interpretability of advanced software in the Australian Proptech community of practice.

### 3.5.3 ReSearch Process - Explaining Section

To research the “explaining” of this project, I gave the book to some members of the Australian Proptech community of practice who had not been involved in the original participant interviews.

My goal in doing this was to test whether the themes were identifiable and impactful beyond the research paradigm. Participation was voluntary as was the completion of a questionnaire via email about UpTown. I followed the

same methodology for question development that I had for the ethnographic interviews.

### Questionnaire for Readers

QUESTIONNAIRE FOR UPTOWN		
#	Question	Rationale
ONE	In your opinion, what are the lessons here for creators of Proptech?	<p>1. I wanted to see if the themes of the research were identifiable in the narrative by new readers from the Proptech community of practice; and</p> <p>2. I wanted to see if there were any additional themes or feelings that were invoked by the narrative.</p>
TWO	Do you recognise any of your personal professional experience in Proptech in the story? If so, where? If not, how might it have been incorporated?	<p>1. I wanted to validate the feasibility of the story with a control group from the Australian Proptech community of Practice; and</p> <p>2. To discover what experience outside the research participant cohort might be missing from the narrative.</p>
THREE	What, if any, emotion does the text evoke in you?	<p>1. The intention of the artefact is to provoke thought and continue a conversation that began with the original cohort. I am seeking to discover whether the artefact has made and impact; and</p> <p>2. How it has made an impact.</p>

FOUR	Are there any metaphors or analogies? What do you think they might mean?	<ol style="list-style-type: none"> <li>1. I wanted to see if the cohort had interpreted any symbolism or metaphors from the text; and</li> <li>2. If they had, to explore the meaning of those.</li> </ol>
FIVE	The characteristics of advanced software and AI are things like complexity, opacity, technical privilege. How do you think these things are reflected in the story? What does that have to do with risk and trust?	<ol style="list-style-type: none"> <li>1. This research was catalysed by Humphreys (2009) anthropocentric predicament of epistemic opacity. I wanted to see if that had been identified by the readers; and</li> <li>2. What implications they saw that epistemic opacity has on risk and trust.</li> </ol>
SIX	If you were one of the creators or adopters of UpTown, what would you do differently?	<ol style="list-style-type: none"> <li>1. This question is about seeing learnings applied to the context of the story; and</li> <li>2. Finally, exploring alternatives to the narrative.</li> </ol>

*Table 11: Questionnaire for UpTown Readers.*

### 3.5.4 ReSearch Outcome - Explaining Section

A total of three (n=3) questionnaires were returned from 5 deliveries of the novel. I had anticipated that there would be some attrition due to the time commitment to read and reflect on the novel.

## Questionnaire Results

### **Question One: In your opinion, what are the lessons here for creators of Proptech?**

Respondent number one identified the primary theme aligned to my category of “Primacy” which relates to the gravity and nature of home. They identified the human impact that interference with property markets has as well as the scale of the risk here if the platform had been implemented in more towns. They also identified the differential experience of Proptech on vulnerable demographics - particularly Caroline’s neurodivergence.

Respondent number two also identified the impact of technology on vulnerable people, particularly non-visible demographics such as neurodivergent types such as the Caroline character. They also talked about the ethics of game mechanics and how consideration ought to be given to the risks of negative social and economic impacts.

Respondent number three raised an interesting argument about how the impacts may not be known or understood, particularly with novel applications of this technology, until or after they have been implemented into a community. So, in their view, the lesson was not to be risk averse but to engineer with agility so that technology can be course corrected - and indeed argued that the UpTown team acted ethically when they realised the negative impact.

**Question Two: Do you recognise any of your personal professional experience in Proptech in the story? If so, where? If not, how might it have been incorporated?**

Respondent number one identified strongly with the Seth character and described their exposure to 'the ethically ambiguous side of property', specifically in trawling through chat logs between AI and humans where the game mechanics of chat were clearly at play and the human didn't realise that they were speaking with a bot. He said that he saw the complexity in Seth identifying the ethical issue but wanting to pursue Eugenie romantically and the entanglement of his economic and emotional relationship with her. In relation to the scene where Ryan acts on MACI's prediction of Peter and Marianne's divorce, respondent number one said, "I'm pretty sure I've had that exact conversation while ideating about propensity to sell algorithms [transcript]".

Respondent number two said that they recognised the team's feeling of confusion around how to repair the unexpected damage they had created.

Respondent number three said that they recognised how some people could be 'left behind' where there was an unwillingness to embrace new tech.

They noted the impact of encoded bias in algorithms and also how the trusted technology might induce people into financial obligations that they couldn't fulfil, such as what happened with Caroline's purchase of the apartment without an understanding of outgoings associated with strata.

**Question Three: What, if any, emotion or thoughts does the text evoke in you?**

Respondent number one said that their primary emotion was fear - for both the landscape of towns but also what it might mean for their "self", if they had caused the impact. They said that they hadn't considered that there may be people who lived lives in a certain way - such as in a quiet country town - and they did so because they didn't want the complications of a 'dystopian nightmare'. They further said that they feared that they would fall into the same traps as the founders of UpTown.

Respondent number two said that they felt excited by the opportunity that tech like UpTown would provide but simultaneously uncomfortable because of the economic and ethical implications.

Respondent number three said they felt admiration for the paradigm shift that the founders achieved in how society was structured and developed.

**Question Four: Are there any metaphors or analogies? What do you think they might mean?**

Respondent number one highlighted the character of Scott and his exploitation of poorer people from the neighbouring town. They identified that this was reminiscent of exploitation of immigrant workers. In relation to this plotline, they said that no system is perfect and like Eugenie had unintentionally set Scott down that path, we must be reflective and take action to change or control the system when we do realise the impact of bad actors within it.

Respondents two and three did not respond to this question.

**Question Five: The characteristics of advanced software and AI are things like complexity, opacity, technical privilege. How do you think these things are reflected in the story? What does that have to do with risk and trust?**



Respondent number one was able to problematise the issues of epistemic opacity by identifying the manipulation of currency through artificial inflation; also, the preference given to the early adopters who influenced others to adopt and engage with MACI. They identified that Seth had the privilege of technical knowledge and his elite understanding of MACI and technical skill meant that there was a concentration of risk in him - he could become a malevolent actor himself or ignore other risks in the system. This respondent called this a 'trust need' on Seth, and highlighted that the non-technical founders had an elevated trust need on him.

Respondent number two identified the lack of transparency with how UpCoin was weighted and therefore could not face scrutiny. They identified that there was also a group excluded from participating in the new digital layer of the society where they lacked the skills or technical equipment to do so, questioning whether the government had a role in balancing the inequity. They raised that the opacity and complexity of AI might also mitigate the degree to which we might trust ourselves and that then might also undermine or delay any corrective action required.

Respondent number three identified that in being on the upside of technical privilege, it was easy to forget that most of the world is not connected in this way. They said that they enjoyed the morality of UpTown and how the

characters were able to recognise that they had gone too far and worked to redeem themselves and constrained the technology to avoid replication of the harm it had caused.

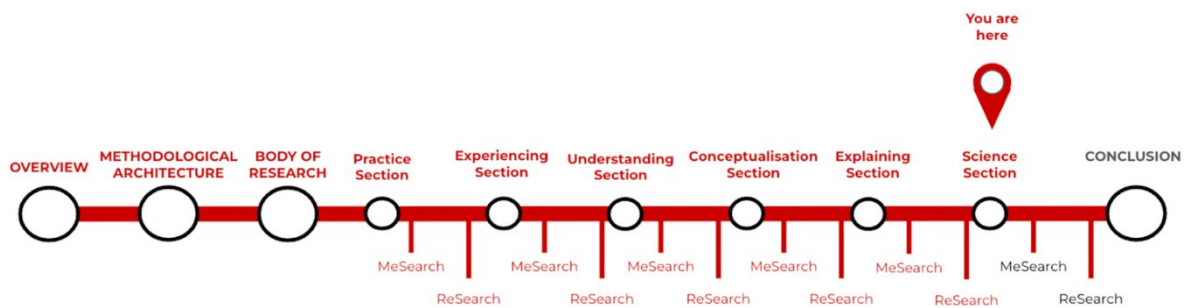
**Question Six: If you were one of the creators or adopters of UpTown, what would you do differently?**

Respondent number one said that the interference in politics through the platform was a misstep, even though there was an argument that the ends justify the means. They said that the founders became too attached and integrated within the town, trying to mould the townspeople into their own image and should have had a plan for the displacement, should have retained distance and perspective, and stayed out of the political systems.

Respondent number two said that they wanted to call themselves out because they are not sure they would have done things differently, but they would like to think they would have been more considerate of Caroline's position. They highlighted that the climate of AI start-ups creates an enslavement to external capital and is wary to what extent decisions are made on profit and return, rather than including society as a consideration.

Respondent number three said that they were not sure what would be different because the characteristics were an accurate portrayal of the types of people and reactions they would have expected in the circumstances.

### 3.6 Science Section



It is within this section that I begin what would normally be a journey towards concluding the work. Within my methodology, the “Science” section begins to contemplate whether the integration of knowledge, via the methodological architecture of this research, has been successful. So, the reflection on contribution to knowledge, success of the research and a view as to whether the research has met its aims, consistent with the methodological architecture of the research design.

A concluding discussion, therefore commences here, in the science section, looking at knowledge production and impact through both MeSearch and ReSearch lenses.

### **3.5.1 MeSearch Process - Science Section**

Intention of Critical Reflection: The Creative Artefact, UpTown

The research design had always intended to seek feedback from the Australian Proptech community of practice about the ethnographic novel UpTown, and that feedback is reported in the previous section.

In this reflection stage, however, I will also incorporate informal feedback from those who had read UpTown and returned to me with their thoughts, as well as my own reflections from the distance since writing it.

This is a more substantial critical reflection than has been included thus far, which has taken the form of reflective journal extracts. Therefore, it is

represented in a different format, as part of the thesis proper, rather than the journal extracts.

### **3.5.2 MeSearch Output - Science Section**

#### Reflection on Feedback

The feedback from the three respondents tasked to read the book with fresh eyes has been validating. On the whole, I am satisfied that the major themes were transferable to new members of the Australian Proptech community of practice.

If I return to the quote from Loevlie about the function of a literary device, they said, “Literature moves us because it offers the unheard testimony of the unspeakable (2013, p337)”. And so, to raise the bar higher, beyond merely the transfer of knowledge and themes, I wanted to see a novel perspective - an interpretation that potentially moved beyond that which had been extracted and encoded from the research participants.

And in this extended criterion for success, I can see some furthering of the discussion from the new group of readers. The commentary, particularly from respondent number three about the complexity of pioneering - that one cannot always know or understand the impact of novel use cases of technology. It is difficult then to be too critical of the founders of UpTown or

of MACI, because although at times they were clearly interfering, and even overtly manipulative at times, that sort of power is novel. I am inclined to agree with respondent number three that the corrective course of action implemented after the characters realised the harm was redemptive.

And yet, the discomfort reported by respondent number two's statement that they weren't sure they perhaps would not have done anything differently than the founders is a discomfort transferred to me. I am wondering what more can be done to model impact on social and economic grounds, as opposed to simply the data model improvement forecasting that is done to simply further embed an application, and potentially improve the efficiency of harm if it is not also being assessed on social and moral criteria.

Many of the original respondents read the book promptly and have provided feedback to me outside the formal design of the research project. Mostly, they were quite flattering and I believe proud of our combined efforts to produce the novel, however, there were also some interesting reflections worth discussing, as they correlate with some of my own reflections.

The first bit of feedback was around representation and it was good to see one of the respondents pick up on Caroline's neurodiversity which was non-specific. The research participant wrote to me in a text message whilst

reading the book, “The Caroline weeding incident, so simple yet... hit hard, I have an autistic niece who this would be 100%. Superb characterisation’.

The Caroline character was modelled off a synthesis of two people in my life. The first is one of my husband’s colleagues who very much like Caroline in the story would likely be underperforming if she were held to any objective criteria, however, through her intangible goodness, earnestness and heart manages to be the most profound cultural agent, infecting the organisation he works for with a care and slowness which I believe balances the pace and chaos of a corporate climate. She is also modelled off my daughter, who is 12 at the time of writing this, who is recently diagnosed with autism and has high needs. She shows love by information dumping in the same way that the Caroline character does, she is prone to overwhelm too, but if you get onto her level you’ll meet a lovely kid with a phenomenal imagination, good work ethic and incomparable sense of humour.

A potential criticism is that there is only one other representation of diversity in the story and that is in the character of Eugenie Wu, who has an Asian appearance, albeit generated by GAN, or AI. Again, one of my daughters, my oldest has an Asian appearance, taking after my first husband. She has the same brutal wit as my oldest daughter - as savage as it is self-preserving, but in terms of representing her story as a negotiation of white spaces - I purposefully didn’t try to do this. I have had many conversations

with her over the years about this negotiation, and mine too. Although we look so similar, we are constantly asked how we know each other, we discussed her decision to choose her middle (Western) name, and I have had many conversations with people over the years who insist on asking her where she is from, including her younger half-siblings once they come to understand that they look different. There is some mention in the book of the microaggressions and even overt racism that someone of Eugenie's appearance would have to navigate (for example, Scott's jeering at Eugenie in the pub,) and I felt comfortable to do that due to proximate observations and experience with my daughter (and first husband,) however, I have not gone further than that. Although I have been proximate to this journey, it is not my story to tell - with a white lens.

This perspective coincides with a pointed debate in 2023 with a constitutional referendum in Australia about whether an Indigenous voice to parliament should be a constitutionally enshrined advisory function of government. Watching this play out in our newspapers and on our televisions, and discussing this with my Indigenous friends, my current view is that artificial representation - meaning diverse casting of stories told with a white lens - can be problematic. Subjugating my voice for theirs, or putting my white voice in a black mouth as my friend says, can be even more problematic and disempowering. And so, I have chosen to build characteristics around my experience growing up in regional and rural



Australia. There is no reason why Keith, for example, and the Parkes family could not have been Indigenous Australians, and if I were to change this in a rewrite, I would want to incorporate in-depth advice from an Indigenous Australian to ensure that this was done with respect and meaning.

One of the participants asked if Josie could be gay, on the basis that she reminded them of their 'spinster' aunt who was, in fact, a lesbian and not a spinster at all. There is no reason why she couldn't have been. Josie's character was inspired by my farm bound unmarried great aunts, Mary and Kath, who ran our family cattle property of approximately a million acres in the Australian outback. She could have easily been inspired by another beautiful great aunt of mine, who I grew up calling 'Sis'. I didn't know until she died and one of my cousins let me know that 'Sis' was short for 'Sister', she was a nun who had left the order to live with her love, a parishioner named Bronwyn. I would certainly change this in a rewrite, should I decide to publish this. Particularly because of the vulnerability shown to me by one of the research participants who shared their experience of trust and family, as a person who identified as gay.

What I did do, however, was ensure that the data inputs were diverse and so the group of research participants included representation of diverse gender, age, education level, race and LGBTQIA+ status. In this way, the characters remain authentic to my positionality and without tokenistic voice subjugation, however, the characterisation is synthesised from a pool of

research participants that is demographically diverse, as well as having a diverse practice experience and differential engagement with the Australian Proptech community of practice.

Overall, though, the support from the Australian Proptech community of practice in telling this story has been moving. It reinforces the purpose of the research, to make this inquiry as an insider and to represent the findings in a way that resonate with the community of practice that I am seeking to influence to reflect and think about these themes in the design, development, and distribution of advanced software contextualised in such an important space - homes and communities.

### **3.5.3 ReSearch Process - Science Section**

#### Looking Backwards: A Critical Review of The Project

The purpose of this subsection is to critically reflect on the process of this research and to identify:

- Whether the research was successful in terms of its purpose, aims and objectives;
- Any limitations; and
- Scope for further research to support this explorative project.

The purpose of this research was to confront the wicked problem of epistemic opacity from the perspective of a practitioner, validated by the synthesised experience of members of the Australian Proptech community of practice. In particular, I wanted to explore the notion of interpretability as a basis of trust in advanced software.

I chose to adapt the transdisciplinary Architecture of Knowledge (Scholz and Steiner, 2015; Scholz, 2020) as a design framework for this research.

Weaving together the abstraction of practice experience with processes of MeSearch and ReSearch, to create a new, integrated knowledge product - intended for the Australian Proptech community of practice.

To achieve this, I conducted approximately 40 hours of ethnographic fieldwork by way of conversational interview with members of the Australian Proptech community of practice. I then coded transcriptions and discovered the following themes:

- That risk is an embedded element of a techno-social paradigm;
- That trust can be encouraged with the presence of trust architecture that is understandable; and

- That trust or mistrust in Proptech may also be the result of experimentation. The degree of impact and fear are risk factors; perceived credibility and value are protective factors.

These themes support the aim of this research, exploring interpretability as a basis of trust. The findings presuppose conditions of risk; they seek to mitigate that risk through the existence of trust architecture that is understandable; and the third theme requires an experiential dimension to technology where users are empowered to make judgments based on impact and value of the application. In order to make these judgments, there must be a much more democratic understanding of how advanced software operates, disclosure of when it is in operation, and details of human-system interoperability.

A principal objective of the research was to produce a creative artefact, embodying the findings of the ethnographic research along with a review of the extant literature and my own 'MeSearch' outputs of work practice and reflective journaling. There was a moral consistency to deploying a literary device to realise the purpose of this research for its intended audience.

The ethnographic novel 'UpTown' has, as a result of this research, been produced and reviewed by members of the community of practice with positive feedback, consistent with the aims and objectives.

## Limitations

In delivering upon the purpose of the research - as conducted by an insider-researcher-practitioner for the Australian Proptech community of practitioners, there is necessarily exploration left out of scope.

Australian Proptech is a niche, albeit rapidly growing, domain - with the latest estimates of operating entities within it being around 500 (Proptech Association of Australia, 2023). The research excluded similar conjunctive industries such as Fintech, Meditech, and Agritech, whose respective communities of practice may be grappling with salient issues. The opportunity for expansion and transferability of this to other domains of advanced software development is noted.

Further, by focusing on the community of practice, I have necessarily excluded the property consumer from this research. When I was initially thinking about the subject of practice-based research, I had thought to focus on the consumer as the end user of Australian Proptech, which is often delivered in a B2B2C value chain, certainly in the case of my own (former) business RiTA, where the artificial actor was licensed by my company to agents and agencies to interact in direct artificial conversations with property consumers.

Due to the timing of the acquisition of my business by CoreLogic in 2021, I decided to focus on the development environment of advanced software in order to ensure the continuity of my research post-acquisition, being unsure of what CoreLogic's attitude may have been towards researching with the general public who did not have a direct (or privy) relationship with CoreLogic - due to the intervening agent of our customer (the software licensee). There is certainly opportunity to incorporate the consumer perspective in further research.

#### **3.5.4 ReSearch Output - Science Section**

##### Future Avenues of Research

At the culmination of this research, I have reflected on what was achieved, and what lay out of scope of this research in order to form a view on what could be done to progress this exploratory research towards concrete improvements to the paradigm and predicament of the Australian PropTech community of practice, and indeed that which may be transferable to all domains grappling with similar issues of advanced software.

As such, some research questions to prompt future research may include:

## **Is it enough to rely on human course correction once harm is realised?**

This approach seems aligned to the faith-based notion of trust discussed in the literature review; acknowledging a risk element and proceeding with imperfect knowledge and agility feels like an appropriate and practical means of navigating novel technology. However, it also sharply problematises the first theme of my research, being that risk is an embedded element of a techno-social paradigm. Reliance on technology creators to monitor, observe, and course correct creates an unequal dependency on human actors in possession of expert knowledge - described by Finkel (2018) as a cabal.

The dependence is not only on the expert interpretation of the software's execution, but importantly, the dependence is on the expert interpreted assessment of the harm - the validity and gravity of injury, and ethics or morality in these assessments can be complex and differential (see Awad, et al, 2018).

## **Can we create, indeed require, universal system limits on advanced software?**

It has always (see Homer, 726 BCE) been intended that this technology be constrained, however, if we extend the notion of technical constraint to the notion of regulation and we frame constraints as enabling; then we do

nothing to dampen the provision of expert systems and their capabilities to the community of Australian (indeed global,) innovators seeking to transcend our human capabilities, whilst preserving the unique domain of the human which is to monitor the systems, to interpret their outputs and create meaning within a generalised context of ethics and experience, and then to act.

Indeed, this was also the aim of Asimov's three laws of robotics, discussed above as rudimentary - however, the purpose of them was to create system limits that would apply to intelligent systems, regardless of the domain. The imprecise language of not 'harming' humans is unhelpful, this is granted, however it is not unfeasible that harm could be defined, creating much needed guardrails to innovation.

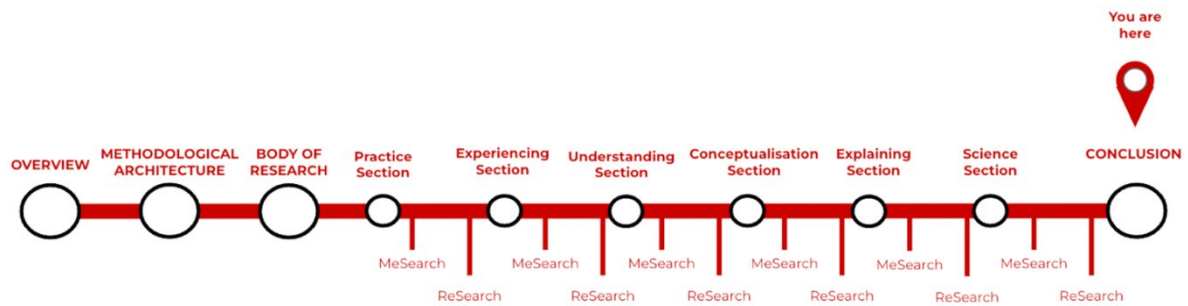
**How can we engineer early warning systems so that a requirement of course correction may be imposed?**

Governments all over the world are seeking advice from experts around regulation, which is by nature prohibitive and applicable post-breach. It is by nature risk-averse and incompatible with a pioneering domain where outcomes may not be known, or even foreseeable, and therefore strict liability would dampen innovation efforts.



Instead, could a compliance approach constrain development to the point where the technology itself must incorporate appropriate compliance and governance parameters to self-report - from within the black box - so that creators have actual knowledge and corrective action can be enacted as a matter of law. This paradigm proposes a proactive and cooperative relationship between technology and regulators and no longer requires that legal frameworks and ethical concerns be in strain with forces of innovation and entrepreneurship.

## 4.0 Conclusion



The nature of advanced software gives it an artificial agency that shapes and is shaped by interactions in the social world. The characterisation of this software as ‘human-like’ by naming it and operationalising it as automated and of its own-motion creates a new type of relationship between humans and objects.

I have proposed herein a transdisciplinary approach to support trust in advanced software, championing interpretability as a basis of trust so that knowledge of these systems can be experienced by every stakeholder in the ecosystem, regardless of their technological privilege. We must hold in balance the interests of every stakeholder of this discussion and dissolve barriers between theory and practice so that an ethical and sustainable framework for AI is capable of being adopted by practitioners, enforced by regulators, feasibly pursued by investors and entrepreneurs, and perhaps most importantly meaningful for end users; and trusted by each of them.

According to Scholz and Steiner: “As transdisciplinarity differs from consultancy, recommendations are not seen as the ideal product of a transdisciplinary process. We instead aim to generate socially robust orientations (2015, p539).”

Whereas the nature of recommendations involves a ‘you should’, orientations provide patterns of causation of the kind ‘if you do this, a main impact/rebound effect will be this’.

I am thrilled with the production of UpTown and the feedback from the community of practice in terms of confirmation that the “orientations” of the research landed with them, as intended and in some ways beyond what I had thought. In summary, these orientations are:

- In creating and implementing Proptech, we must acknowledge the power - and privilege - of epistemic opacity. Pregnant within that power is the ability to achieve meaningful social change and at the same time for perversion of technology to have terrible social impact;
- Due to the lack of appropriately qualified individuals within the community to judge this type of technology (whether through skill or access,) it is incumbent upon creators to find meaningful ways to establish informed or AI-empowered users;

- That when disruption occurs, there are real human lives being disrupted and displaced - and, particularly in relation to home and shelter, these should be considerations of immense gravity;
- That we cannot deny the role of venture capital when it comes to influence and priority management in the creation and application of software;
- That when we invite and encourage users to interact with artificial actors, who are framed as quasi-social, we must understand that the implications are also political; and
- That government, at all levels, has a role to play as guardian to the social consequences of technology.

Therefore, this research is offered to the community of practitioners and to other researchers by way of orientation rather than recommendation, paving the way for further enquiries on any or all of the above.

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# APPENDICES

## Appendix A - Novel Roadmap

### Miro Board

The novel was planned out on a Miro board, which is essentially an infinite digital whiteboard. A complete visual of the board is here, although sections are reproduced below due to obvious legibility issues.



### Section One: Narrative Roadmap

See Brody, 2022.


### ACT ONE

#### CHAPTER ONE: THE IGNIS FATUUS OF PETER KEARSLEY

ACT ONE	NARRATIVE	EPISODE 1:
THEORY:	Stage 0:	Mayor of a struggling small town adopts an online community tool that connects townspeople to property development



<p>RISK IS AN EMBEDDED ELEMENT OF A TECHNO-SOCIAL PARADIGM</p>	<p>City government opens the door for development.</p>	<p>initiatives and to each other. These initiatives are generated by an advanced software engine which uses real property and social data along with artificial intelligence tools to score and suggest the best development opportunities. Social features of the tool such as chat and augmented reality games promote engagement and provide feedback data for the machine learning engine to provide more relevant and accurate initiatives.</p> <p>The founder of this platform is a charismatic storyteller who is able to explain the features and logic of the platform in a way that is simple and user benefit focussed. The branding of the platform, its tone and voice is very positive.</p>
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			<p><b>THEME</b> Perception</p>	<p><b>DESCRIPTION</b> Source/Origin</p>
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**EXAMPLE CONVERSATION SNIPPETS**

**SNIPPET**

“I can't even imagine the amount of algorithms that are negatively impacting people. How do we fix... If the algorithm's not the issue, in my opinion, because the algorithm was built by people. We talk about AI a lot, there's very little true AI. A lot of it is learnt and machine learning, and you've got to learn from something. So, I think the end of the day the root causes still people here“.

**SNIPPET**

“It's going to benefit the consumer at the end of the day compared to the alternative. So, the size and scale of a company like realestate.com comes with a certain level of expectation or trust. And it also promotes a really... I personally feel their marketing and their branding's quite palatable, so to speak.”

**SNIPPET**

“I just finished watching WeCrashed, the show about WeWork. And it's on Apple TV. It's worth a watch. It's a very interesting story in how the influence of a founder creates something really wonderful, but that influence eventually sours and turns into quite a toxic business. And probably the learning from that or why I mention that, is I think the people behind certain pieces of technology play a big role in whether or not you trust that technology. And understanding the true intentions of technology is key to trusting it in the first place.”

**CHAPTER TWO: JOSIE JONES MEETS MACI**

<b>ACT ONE</b>	<b>NARRATIVE</b>	<b>EPISODE 2:</b>
<b>THEORY: RISK IS AN EMBEDDED ELEMENT OF A TECHNO-SOCIAL PARADIGM</b>	Stage 0: City government opens the door for development.	Meet Uptown Girl - early user onboarding journey.

		<b>THEME</b> Perception	<b>DESCRIPTION</b> Value
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**EXAMPLE CONVERSATION SNIPPETS**

SNIPPET

“That's a lovely philosophical kind of starter for a workshop is go, "how would you have been before scientific invention?" You'd have left our planet.”

SNIPPET

“So, we set it up in a way that was completely open and the value was instantaneous...And it genuinely solved a problem because when everything's segregated and siloed, we were getting caught up in double handling inefficiency, lack of information, the customers were getting a bad experience.”

SNIPPET

“where you're talking in a whole bunch of data sources that can help to understand what's the stuff that would otherwise be intuition in human, maybe, that's built up over 20 years in the real estate industry that in actual fact there is big, core bits of data inside that lie underneath that, that can be assessed and then converted into value.”

**CHAPTER THREE: RYAN DELTA AND THE NEW GIRL**

<b>ACT ONE</b>  THEORY:	<b>NARRATIVE</b>  Stage 1: Individual, Lower middle-class	<b>EPISODE 2:</b>  A group of targeted pioneers from the town are selected to pilot the platform, and they meet the artificial actor and begin to
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<p>RISK IS AN EMBEDDED ELEMENT OF A TECHNO-SOCIAL PARADIGM</p>	<p>residents fix up the neighbourhood.</p>	<p>engage with her. They invest in the first development initiative that the Ai suggests, which is the development of the Jones farm and golf course into mixed retail/residential and recreation zone. The development task is chunked down into virtual challenges and they are rewarded with a platform currency for completing the tasks.</p> <p>They communicate and interact with each other through the platform's social features and are impressed with their new digital citizen. They become obsessed with accruing digital currency and view the artificial actor as a helper to achieve more.</p>
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		<p><b>THEME</b> Personification</p>	<p><b>DESCRIPTION</b> Story Imitation</p>
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**EXAMPLE CONVERSATION SNIPPETS**

SNIPPET

“if you can convince them that this is the best team member who's going to work 24/7, is part of your team, and it's going to cost you less than employing a person, you're actually going to be sitting in exactly the right place.”

SNIPPET

“So I was just about to say, don't you think it's interesting though, the way that we are naming the robots? You've named her Rita. By virtue of giving her that name, albeit she's a robot, she takes on a human identity to

some level. We suddenly see her as being different, just through naming her a human, recognisable, name.”

SNIPPET

“What makes us homo sapiens is our ability to have shared delusions and trust in those delusions.... Money is a good shared delusion; banking is a very useful and shared delusion. And we share it through narrative, basically. The Catholic Church is an appalling shared delusion in my mind, and equally cults of a political brand or Gen X Nazis.”

SNIPPET

“artificial intelligence is the basis of effectively machines being able to digest a lot of data. And with that, being able to digest it, artificial intelligence gives us better outcomes, more predictive outcomes to what sometimes human judgment may look to.”

SNIPPET


“It probably should be a functional trust, but I don't think it can be, as in I don't think humans can keep it at a functional trust because I think, in the same way that we connect with... we make emotional connections with inanimate objects. We also make emotional connections with furry animals.”

SNIPPET

“I had someone laugh at me the other day when I said, "Hey Siri, please call so and so." And they laughed because I said, please rather than just saying call so and so. And it made me think I should say in terms of our original conversation in the first interview but what made me say please and when we talk about a social profile. It feels like it's someone there.”

#### CHAPTER FOUR: THE SCHEMES AND SCHEMA OF SETH ESCA

<b>ACT ONE</b>	<b>NARRATIVE</b>	<b>EPISODE 4:</b>
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<p>THEORY: RISK IS AN EMBEDDED ELEMENT OF A TECHNO-SOCIAL PARADIGM</p>	<p>Stage 0: City government opens the door for development.</p>	<p>The pilot group of pioneers have accrued a large amount of digital currency by complying with the suggestions of the platform's artificial actor. They don't need to 'learn' about property development, it is a simple exchange by which they complete the small tasks and are rewarded with more currency for each atomised goal that they reach. The currency is able to be spent in the town's new developments or via the in-app marketplace on activities and items which demonstrate status to other people in the town. The currency is undervalued at this stage.</p> <p>The platform is learning about what tasks are desirable, how 'much' reward needs to be applied for each task and who of the pioneering group is the most compliant in completing the tasks.</p> <p>The townspeople do not understand Ai, beyond a rudimentary understanding that the platform will make them better off like the pioneers.</p>	
		<p><b>THEME</b> Performance</p>	<p><b>DESCRIPTION</b> Reliability Effort Convenience</p>
<p><b>EXAMPLE CONVERSATION SNIPPETS</b></p>			

#### SNIPPET

“for some of them, there is a fear of is that technology going to get it right? Because surely the human will know better. Whereas I was in the head space of the human's bound to get it wrong. The technology is going to have it right, because it's being told what it needs to do. There's no thinking attached to it as such, the human thinking brain. So, it's going to be right. If it's telling me to sign it at this time and here, I'm going to do it, no questions asked.”

#### SNIPPET

“If somebody says that they will do something and they do it, that is trust to me. I've simplified trust as, are you going to do what you say you are going to do or what you pitch to say you're going to do? And then my question would be what's the consequence and what's the emotion if you don't do that?”

#### SNIPPET

“So, my definition of trust is how trust exists and gets built and is simply doing what you said you were going to do. That for me is the simplistic, tangible thing that trust is in life. So, I think with machines, the trust is more clear because I know what it's said to do. So as long as it does what it's going to do, then I can trust it. Is it an emotional trust? Probably not. “

#### SNIPPET

“In my view that people have very... I don't even know what word to use at the moment. Depleted is the word I'll use. Everyone, in my observation, has ants in their pants, the grass is greener. People want to not look inside; they want to look outside for their answers.”

#### SNIPPET

“Every industry traditionally seeks to differentiate itself and feel special through jargon and acronyms. But it just seeks to create a sense of exclusivity and make the space opaque to outsiders. For AI to be really

good AI - which means it is trustworthy, reliable, transparent and act in our best interests. Seeking to make AI elite would seem to me to fly in the face of the best interest part of the equation.”

SNIPPET

"when you do something for the first time, you don't know what you don't know. And so, either the AIs are going to have to get better at explaining so it's not just the message to say sign here, but sign here because, so there's an element of we need to explain what it is that you are doing and why you're doing it, or the human has to step in and say this is how it's going to work."

SNIPPET

“So we know it's a concern [data security], but we sacrifice it for sheer convenience.”


SNIPPET

“But the whole idea of trust around technology, we desperately want to trust it don't we? We desperately want to trust it because we know we need it to use it because our lives are...anything that simplifies our lives in a way that saves me a bucket load of time is great.”



ACT TWO

CHAPTER FIVE: CALM DOWN, CAROLINE KELLY

<p><b>ACT TWO</b></p> <p>THEORY: TRUST IN PROPTECH CAN BE ENCOURAGED WITH THE PRESENCE OF TRUST ARCHITECTURE THAT IS UNDERSTANDABLE PARADIGM</p>	<p><b>NARRATIVE</b></p> <p>NARRATIVE Stage 2: Vacancies go down, the middle class move in and displacement starts.</p>	<p><b>EPISODE 5:</b></p> <p>The Pilot group of pioneers are incentivised within the app to recruit more users, and there is a dynamic "value" in the platform currency for each new recruit. When you recruit someone, you also get currency for the tasks the recruit completes.</p> <p>What users don't know is that the "value" of each recruit is based on a prediction of their compliance to the platform. For example, an electrician who is an employee supporting a young family is worth more to recruit than a day care centre operator because of their 'score' from those data points prioritises a skill set in property development tasks required by the platform, the discretionary time capacity of an employee, and the likelihood that the candidate can be exploited to complete tasks because their work is not completing.</p>	
	<p><b>THEME</b></p> <p>Proof</p>	<p><b>DESCRIPTION</b></p> <p>Equity</p>	
<p><b>EXAMPLE CONVERSATION SNIPPETS</b></p> <p>SNIPPET</p> <p>"I think prejudice in algorithms exist today, in lots of different ways, but</p>			

prejudice exists in society at the same time. And if I had to choose between the two, I'd rather controllable prejudice than not controllable prejudice. You can control the algorithms. At the end of the day, you can see how they're trained. You can see you've got control over it. I think the danger's when it discriminatory, unfairly discriminatory. I mean, the context of property much like finance, lending money to people who can't afford it is not a good thing.”

**SNIPPET**

“If you come here and I see you, I can immediately form judgment about your race, your age, your ethnicity, and whatever, your sexual orientation. There's a bunch of things that I probably have processed in my head and I just turned from a visual image into a data point. And I guess if you don't feed those data points into a machine...unfortunately with humans, once you've seen it, you can't un-see it. If you are unprejudiced, or if you're conscious about it, you can try to remove your prejudice.”


**SNIPPET**

“There starts being this third actor that is much more definitive in the way that it sort of holds judgments or makes calls, and that basically enables ... further enables this two-sidedness or this battle between property manager and tenant, in this example, where it almost enables the property manager to be perhaps even more steadfast in the decision making that's happened or to be more rigid in the way in which they're then implementing or executing the recommendations or the requirements of the output in this circumstance. And so, in some ways it does disadvantage those who aren't able to perhaps critically assess or understand what factors might be going into that. “

**CHAPTER SIX: “THAT’LL DO ME,” SAID KEITH PARKES**

<b>ACT TWO</b>	<b>NARRATIVE</b>	<b>EPISODE 2:</b>
THEORY:	NARRATIVE	

<p>TRUST IN PROPTECH CAN BE ENCOURAGED WITH THE PRESENCE OF TRUST ARCHITECTURE THAT IS UNDERSTANDABLE PARADIGM</p>	<p>Stage 2: Vacancies go down, the middle class move in and displacement starts.</p>	<p>A resistant character is unable to be recruited. He is a builder who has essentially been disrupted by the gig economy that the app has introduced, and he is struggling to find staff to work on non-app tasks because the value of the tasks on the app is beyond his business margins. He starts to see that the digital currency is unsustainable - he knows the property development business and how risky it can be.</p> <p>He tries to explain the risks but the townspeople, some of whom he has known their whole lives and some he has deep connections with; however, they are hooked on the dopamine and the currency and have accepted the delusion that increased prosperity is readily achieved through deeper commitment and compliance to the platform. This view is reinforced by the app's notifications and propaganda.</p> <p>The regulators are not interested either, because the platform was an opt-in arrangement and the users are in a lawful contract with the creators. The mayor is also displeased with the detractor because he is riding high on the improved metrics of the town.</p> <p>The platform creators are listening to the chatter and double down on the propaganda to maintain their workforce. At the same time, they begin to inflate the platform currency so that people work harder and longer for the same rewards.</p>
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	<p><b>THEME</b> Perception</p>	<p><b>DESCRIPTION</b> Trustworthiness Answerability</p>
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**EXAMPLE CONVERSATION SNIPPETS**

SNIPPET

“I'm educated, I don't second guess it. And I think one of the common themes we've spoken about today is when you don't second guess something like your doctor's diagnosis or thoughts, then you're very trusting of it. I think it's as simple as that.”

SNIPPET

“I think the human side of trust is one of those things that gets misconstrued all the time. I think it's kind of like I trust you means you won't hurt me or I trust you means you won't do wrong against me. Actually, for me, that has nothing to do with trust. Trust is an understanding. I understand you to be this person. I understand you actions to be aligned with this. Therefore, I can trust you.”

SNIPPET

“I think the thing that makes it hard to trust a human being is that what they're there to do in relation to you, your relation is far more ambiguous. And so, it's inherently harder to trust a human being because you've got to figure that out first. What is it that you are here to do? What is our relationship even meant to be about? And our interactions, if it is service level. Whereas the robots on the box, it's much easier to figure that. You don't need to figure it out, it tells you, ‘I'm a robot vacuum cleaner’.”

SNIPPET

“I guess I've always been acutely aware of the difference between

delegation and abdication. You can delegate, but you still have to have accountability, and delegating implies that you've got a level of oversight into how it gets done or you're prepared to, do you know what I mean? Whereas abdication is, I don't want to know about, I don't care how it gets done, just make it happen.”

**SNIPPET**

“Critically important to know that there is a body looking after that group of people's interests and that they don't get excluded from opportunity or society, or at least understand why”

**SNIPPET**

“I believe we reached a point where Australians, particularly wealthy Australians perfectly endorse this corruption of wealth. If I was that rich, that's what I would do too.”

**CHAPTER SEVEN: EUGENIE WU HAS GREAT POWER AND NO RESPONSIBILITY**

<b>ACT TWO</b>	<b>NARRATIVE</b>	<b>EPISODE 7:</b>
<p>THEORY: TRUST IN PROPTECH CAN BE ENCOURAGED WITH THE PRESENCE OF TRUST ARCHITECTURE THAT IS UNDERSTANDABLE PARADIGM</p>	<p>Stage 3: Public and Private Interest sinks money into a formerly disinvested neighbourhood.</p>	<p>The platform currency is inflated and so the tasks related to the initiatives are worth less. The initiatives, however, continue to prove lucrative for the platform owners. The mayor has been able to secure more public investment due to the expanding population and can finally invest in schools, hospitals, parks and other council amenities. This forms the basis for continued propaganda even though economic ascendancy stalled for the original inhabitants. The developments and positive media for the town attract new people and new commercial ventures to the town.</p>

	<b>THEME</b> Persuasion	<b>DESCRIPTION</b> CX Influencers Gatekeepers
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**EXAMPLE CONVERSATION SNIPPETS**

SNIPPET

"There is a big part of me that goes, "Who else is using this? Show me that it's proven somewhere else. Without actually understanding it. And the endorsement of that trusted person down the road without actually understanding it is enough for me to go and implement something. Facebook for example, as long as there are people on it, it must be good. Must be good for me."

SNIPPET

"In my role with my network, typically when we release any product, it could be a bit of advertising, it could be a new model, we'll champion that with the five or 10 individuals or offices that we know will adopt, have an open mind to adoption. And then effectively what happens is they do a lot of the heavy lifting for us in the network."

SNIPPET

"One thing I've learned is that people often come to you at their most vulnerable. And if they had have come to you two or three months earlier, you could've made a difference. So, I think as a society, sometimes we struggle with the request for help and request for service around help because we don't want to admit that we are doing things incorrectly. We don't want to admit that we're in trouble financially or we don't want to admit that we don't know how something works, especially leaders in our businesses in real estate because we're put up on a pedestal as the

principles and the notion of a principle in our industry is someone who should know everything."

SNIPPET

"So when scale came into effect, the relationship was gone, the year how we're all about this, we're all about security, we're all about customers, we're all about looking after people, it was all of a sudden out the window and not what you really wanted so it was a big business and you would sell my soul for 20 cents. So that's the challenge, isn't it?"

SNIPPET

"Where we built trust was getting key people, so our top agents to just fully invest. And top agents are very influential as you know. And younger people in the industry do just mimic what they see from other people."

SNIPPET

"when it comes to interpretability, you've got a sort of responsibility of influence, where I don't think enough people actually give credence anymore to what that skill set is and the value that it provides. And so more often than not, I feel like it goes down a bit of a dark path if I'm just completely honest."

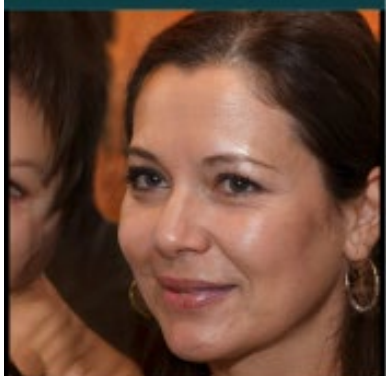
SNIPPET

"I think interpreters are the bridge, the link, between the tech. They go back to that issue I said before, where the people who invent the tech are so smart, they speak one language at a level, but they find it really hard that other people don't understand what they do... It's back to the issue about trust is information well explained... you've got to say it in common language or normal speak. If you read a Hemingway short story, in essence, you won't find many words in there that have multiple syllables in them. They're spare. They're simple and they're direct. "

<b>ACT TWO</b>	<b>NARRATIVE</b>	<b>EPISODE 8:</b>
<p>THEORY: TRUST IN PROPTECH CAN BE ENCOURAGED WITH THE PRESENCE OF TRUST ARCHITECTURE THAT IS UNDERSTANDABLE PARADIGM</p>	<p>Stage 3: Public and Private Interest sinks money into a formerly disinvested neighbourhood.</p>	<p>One by one, the town businesses fail to the big businesses and shopping malls. Townspeople are applying for work in these big corporations and slowly become casualised and underemployed so they are dependent on the app for supplementary income. The artificial actor in the app keeps reinforcing to home-owning townspeople that their homes are worth so much more than when they started and so they are satiated - the Australian Dream is still alive for many but there is a widening gap between the haves and have nots. It is straining for the mum and dad property investors, too. Landlords who are leveraged are struggling to maintain the outgoings and so houses currently used for rental accommodation are being sold at the high valuations and upper middle-class residents are moving in.</p> <p>For renters, who are more vulnerable to property market fluctuations, as their leases expire, they can no longer afford to renew and must vacate and leave for accommodation in nearby towns.</p>



		As they interact with the platform, the journey out of town becomes predictable and the app is able to direct investors to these opportunistic purchasers.
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	<b>THEME</b> Primacy	<b>DESCRIPTION</b> Gravity Home
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**EXAMPLE CONVERSATION SNIPPETS**

SNIPPET

"Yeah, you bring it into the computer world, if I'm going to constantly get no, I'm probably for most of the population, they're not going to question it. So, what do you do then? Do you then have this subculture of people? And that's where you see these movies where the computers take over and everything goes to shit. But that could actually happen, right? Because then you create a subculture of humans or a class of people who are just never going to beat the system. So, what happens to them?"

SNIPPET

"And they identified years ago that the rivers of gold that were property advertising, property, cars, jobs, junk, and dates...those rivers of gold got split up 20 years ago here. They're all in on property for obvious reasons. It's so [Maslovian] bottom run of the ladder in air, food, water and shelter. So sensible."

SNIPPET

"It's like, what's the risk profile? But I feel like that's very individual choice, people's individual risk profile to technology in terms of what's really important to them. I don't think you'll ever find like a blanket policy where everyone's going to be on the same page. I feel like everyone's risk profile for technology is always going to be vastly different because as you said so perfectly, I don't give a shit about my health records, someone who is HIV positive, that it could be one of the most traumatic things that they would ever put in the public realm. So, they would never do it. You know what I mean?"

SNIPPET

"I suppose Proptech allowing the competitor to get your data perhaps is probably a big risk, that there would be lot of agents from a sales perspective, would feel also.

I feel there's so many online resources to the average consumer that perhaps fall into a... What's my home worth website before they... They just think you plug in your address and it gives you the value. But before you know it, you've put your phone number, your email address, your home address and that data's then sold. And a relationship that I've naturally fostered over 5 or 10 years could quickly come undermined by a competitor that might never have been in the picture, because this person's put all their details online and all of a sudden, it's... Do you know what I mean? I'm trying to explain that in a really confusing way."

SNIPPET

"I think prejudice around housing and shelter, that would be horrible if it happened, but I actually probably think it's happening already and we just don't know about it. And it's probably happening, I actually think it could be improved by technology to be honest."

SNIPPET

"our homes are deeply connected to our sense of security and self."

SNIPPET


"Renting also brings Australia's greatest moral dilemma to the fore, whereby those people around that circle [the property ecosystem] have colluded to make this class of slum-lord who is leveraged to here with bank loans and a portfolio of substandard declining properties. Literally, if a tap breaks in one of their properties, they don't have the cashflow to fix it. They need the property manager to be bullshit towards the tenant, "You don't need cold water down there"."

ACT THREE

CHAPTER NINE: THE CHANGE IN SCOTT HERMAN

ACT THREE	NARRATIVE	EPISODE 9:
<p>THEORY: MAY ALSO BE THE RESULT OF EXPERIMENTATION: DEGREE OF IMPACT AND FEAR ARE RISK FACTORS; PERCEIVED CREDIBILITY AND VALUE ARE PROTECTIVE FACTORS</p>	<p>Stage 4: It's not about homes anymore, it's about money.</p>	<p>Rates and taxes are issued to townspeople based on the updated valuations and they are astronomical, even the pioneers have depleted their app currency keeping up basic expenses due to the inflation of the digital coin.</p> <p>A future weather event assessment is made by the platform, based on climate change data points and insurance premiums are raised based on this prediction of risk. What people do not know is that the risk assessment has been based on data points that assess a homeowner's likelihood to be able to fund climate change impact initiatives and so it has targeted those who would likely be a future burden on municipal resources and imposed a levy - for the greater good of the town.</p> <p>Outgoings for the remaining original inhabitants, even those who resisted the platform, have become unfeasible and they move out.</p>

		<p>Super users have emerged who have recruited vulnerable people from nearby towns, including some of the original inhabitants, as well as newly arrived immigrants who are entirely dependent on app currency for their basic needs. Each time one of those people does a task, they get an in-app commission so their scale and exploitation of other users is insulating from the inflation and they are thriving.</p> <p>The mayor too becomes distressed looking at the town P&amp;L and will struggle to meet the expenses for municipal services as much of the investment and income has been funnelled into private equity, most of which is owned by the platform. The mayor begins to realise that the system will continue to rationalise development at any cost, he resigns and leaves town. Hasty elections are held and the founder is now the mayor.</p>
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			<p><b>THEME</b></p> <p>Perversion</p>	<p><b>DESCRIPTION</b></p> <p>Manipulation Opacity Surveillance Breach</p>
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**EXAMPLE CONVERSATION SNIPPETS**

SNIPPET

"The human capability to manipulate, that is awful...it's a very old and difficult question. Yeah, there's just no machine of truth. What we have to do is to educate a generation like our kids to be that machine. To question, and to be curious and they've grown up."

SNIPPET

"I was witness, as a sensitive social scientist, witness to a horrible bias at play in real estate. Absolutely no question who gets to rent. It's the whole system. Who gets to own? Who gets to rent? Who gets to buy? The prices they pay, the data they understand. It is a system that runs on boars and greed. It's as bad as any other environment I know. And in fact, things like RiTA can absolutely rebalance that."

SNIPPET

"I think I'm fortunate that I can in most cases readily identify when an AI interaction is occurring, whether that be via chatbot or behind the scenes in a CRM. I'm probably more tolerant and inquisitive when I happen upon those kinds of exchanges than someone who doesn't know that they're experiencing an AI interaction."

SNIPPET

"I think this is where the challenge of the Proptech world lies is. I think as you go into how something like this is built. Our industry just switches off. They don't understand the codes, they would have no idea. And so, I think from a Proptech company's point of view, if that was part of the pitch in order to get the business, that could be a very risky thing from a salesperson's point of view in the Proptech world. Because in the real estate industry, all majority of people want to know what can this do to solve my problems today? They don't care how it was built. They don't care why it was built. They just want to know that it can fix what their challenges are at the moment."

SNIPPET

"Yes, sure, you can throw in." I also think we always say yes. I reckon you could survey 1,000 people who've clicked that, "Yes, use my data" when they get a new Apple product. 1,000 people wouldn't have read it."

SNIPPET

"We are all just a bunch of data points at the end of the day. Well, we are, aren't we? Particularly in digital form, we're just a bunch of data points. So, I guess the positive thing though is you can control them in a digital world."

**SNIPPET**

" Well, all of your biggest deepest, darkest, most important privileged information and secrets is all being stored by something or someone who you've got an idea who they are, or they can do with it. And every time you see terms and conditions, you just tick you're sure, no crops, not knowing what any of them are and like it's all... Yeah. So that's my take on that."

**CHAPTER TEN: CHRISTOPHER ROYCE ROLLS INTO TOWN**

<b>ACT THREE</b>	<b>NARRATIVE</b>	<b>EPISODE 10:</b>
<p>THEORY: MAY ALSO BE THE RESULT OF EXPERIMENTATION: DEGREE OF IMPACT AND FEAR ARE RISK FACTORS; PERCEIVED CREDIBILITY AND VALUE ARE PROTECTIVE FACTORS</p>	<p>Stage 5: Global investors enter the local real estate game.</p>	<p>The founder in charge of the town can see that the domestic market can no longer support the growth of the city, and the initiatives suggested by the platform are increasingly thirsty in capital while being socially unpopular.</p> <p>He invites a group of international investors to the town and uses the rationalism of the algorithm to secure investment that sees the central parks converted to luxury short stay accommodation for holiday makers - weekend holiday rents have a higher yield than permanent residential housing.</p> <p>The change of one site in central street is now complete from original boho art gallery to domestic chain retail store and now finally replaced by luxury brand retail. The</p>

		<p>original workers club is now open as a casino.</p> <p>The founder considers an offer from his international network to invest in the app, he believes it is the right time to take on the money to scale beyond the town. He starts doing the numbers to multiply his fortune and is blinded by greed. He accepts a cap table where the acquiring stake holder holds preference shares and his shares remain ordinary.</p> <p>Once the acquiring company have the controlling share, they begin to divest the platform of its asset base, liquidation style. The property market in the town spirals downward. Money is funnelled out of the platform and into other budgets, the app is stale and user engagement drops off too. The shareholding entity is sold in a fire sale, and after the operation of the preference shares, the founder is left with very little. He has the experience of the original townspeople.</p>
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			<p><b>THEME</b> Power</p>	<p><b>DESCRIPTION</b> Dependency Techno-Social Networks</p>
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**EXAMPLE CONVERSATION SNIPPETS**

**SNIPPET**

"Obviously, the whole point of the trust journey on this is, "What does it mean? What does it look like?" Because we can't actually know. And yet,

so much of our lives are run by things that we don't even recognise as technology anymore."

**SNIPPET**

"I think a lot of people underestimate business structure, and the value of business structure , and the value of having a shareholder group that are aligned and working towards a common goal."

**SNIPPET**

"It was funny, it took me about a year to realise that they [government] were just as lost as the other side."

**SNIPPET**

"My view about technology in a general sense is that the word's wrong, that the word should be opportunity. Technology can change the world, and education, and connect us. It was invented to connect us but it's driven us apart. I believe that technology should be used for educating huge numbers of people for free, which we haven't mastered yet."

**SNIPPET**


"I think if I was trying to really focus on doing it, I think, you look at the majority of people, they're not contractual lawyers. But if they're applying for a property, they at least understand enough about what their own data is. So, it's kind of explaining it and articulating it in a way that makes sense to the vast majority and being transparent with it. I think saying just this is what we are going to do, steps one, two through five, are you okay with it? Yes. I think that's the piece that was missing for me."

**CHAPTER ELEVEN: THE VICISSITUDES OF T.RUST**

<b>ACT THREE</b>	<b>NARRATIVE</b>	<b>EPISODE 11:</b>
THEORY: MAY ALSO BE THE RESULT OF	Stage 5:	Once the acquiring company has the controlling share, they begin to divest the platform of its asset base, liquidation



<p>EXPERIMENTATION: DEGREE OF IMPACT AND FEAR ARE RISK FACTORS; PERCEIVED CREDIBILITY AND VALUE ARE PROTECTIVE FACTORS</p>	<p>Global investors enter the local real estate game.</p>	<p>style. The property market in the town spirals downward. The shareholding entity is sold in a fire sale as a shell. After the operation of the preference shares, the founder is left with a fraction of capital. She has the experience of the original townspeople.</p> <p>She has a dark night of the soul on her transition from visionary to villain and sets about a critical self-reflection.</p> <p>She travels to the US to confront the VC and hatches a plan to restore some power to the Golem residents and to balance the forces of progress and social equity before the app is released to the North American market.</p> <p>They remove the exploitative features and introduce functionality, whereby people can vote on initiatives so instead the app pivots to being a tool of social cohesion and prosperity through town planning consensus - real time.</p>
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			<p><b>THEME</b> Power</p>	<p><b>DESCRIPTION</b> Bargain and Calculus</p>
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**EXAMPLE CONVERSATION SNIPPETS**

SNIPPET

"we'd be screwed if this was down indefinitely because it's amazing how much of an impact it does have on our day to day, but also then the anxiety on the other foot of, God, how much do we rely on it? And then that feeds into social media

and all the other different platforms around how much of a control it has on our life, whether it be professionally or personally."

**SNIPPET**


"My view about technology in a general sense is that the word's wrong, that the word should be opportunity. Technology can change the world, and education, and connect us. It was invented to connect us but it's driven us apart. I believe that technology should be used for educating huge numbers of people for free, which we haven't mastered yet."

**SNIPPET**

"I think if I was trying to really focus on doing it, I think, you look at the majority of people, they're not contractual lawyers. But if they're applying for a property, they at least understand enough about what their own data is. So, it's kind of explaining it and articulating it in a way that makes sense to the vast majority and being transparent with it. I think saying just this is what we are going to do, steps one, two through five, are you okay with it? Yes. I think that's the piece that was missing for me."

Section Two: Characterisation

See Masterclass, 2023.

	<p><b>CHARACTER NAME</b> Peter Kearsley</p> <p><b>AGE</b> 64</p> <p><b>OCCUPATION</b> Town Mayor (current)</p>	<p><b>THE LOVER</b> The Romantic Lead who is guided by the heart.</p> <p>Strengths: Humanism, passion, conviction</p> <p>Weaknesses:</p>
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	Hotel owner (also current)  <b>HOBBIES</b> Golf Wine Travel Cricket  <b>JUNG TYPE</b> ESTP	Naïveté, Irrationality
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**MOTIVATIONS AND GOALS**

Peter Kearsley is an aspirational man. He comes from a successful family and has found himself in business as the local hotel owner in the Australian regional town of Golem. Golem was a former mining town but it is in decline. Peter wants to bring the town up in the world, and to be remembered for it.

**VOICE**

Peter is a dignified paternal-type with a regional Australian country drawl. More educated than most in Australia he is able to see the stars, and describe them - but is frustrated that they seem out of reach.

**SLOW REVEAL**

Peter is married to Marianne Kearsley who is better than him by almost every conceivable measure, she however, remains the good woman behind Peter, who is the Mayor, but largely due to "looking the part" and the confidence that the town have in Marianne's good nature and common sense. He knows this and feels like an imposter in his position. At the same time though, he feels that he is a good person who wants the best for the town - he is convinced that the town will thrive and everyone will love him if he can transform it into a 'nice' place. He projects his own insecurities onto the town and the townspeople and is frustrated if they don't agree or support what he believes is best for them. This is why he invites "Uptown" into the town and pushes it so fervently, and perhaps ignores some red flags about the ethics of the platform - his naïveté, convictions about improvement and his emotional pain around being 'not good enough' drive him to a Machiavellian state and he is prepared to sacrifice himself and certainly others in order to obtain the vision for the

town, and occupy that saviour position. Deep down, he believes he is doing the right thing by everyone, and his ego-involvement is fuel to the fire.

### **CONFLICT**

For Peter, he is happy to go along with the impact of the technology because he believes in the bigger cause of town improvement which has a utilitarian and rational goal, and so he allows, enables and defends the algorithmic targeting, bias and engineering against his own conscience, the pleas of his wife and complaints from the townspeople. However, there comes a time of intolerable discord when the algorithm eventually punishes him because he is not good enough, which triggers all of his insecurities. He sets about trying to right the wrongs, but he lacks both the technical skill and power to achieve a renegotiated outcome. He struggles to accept that he was naive and responsible but he is comforted by good people around him who do see his intention through the impact.

### **BACKSTORY**

Youngest of three brothers

Parents were farmers who owned a stock and feed company 3 hours west, but sold it to retire.

They set him up in the hotel but he has kept it going and he is proud of his position as the political and commercial apex citizen, although he still feels unworthy as he measures himself against his brothers

His two brothers are wealthy finance men in Tamworth

### **FAMILIAR REFERENCE POINTS**

John Cunningham meets Dale Kerrigan meets Campbell from Dungowan

### **CHARACTER CONNECTIONS**

Married to Marianne

Manager of Josie Jones

First Adopter of MACI

Client of Taylor Rust, Eugenie Wu and Seth Esca

Rival to Keith Parkes



**CHARACTER NAME**

Taylor Rust

**AGE**

33

**OCCUPATION**

Founder of Uptown

**HOBBIES**

Pilates  
Podcasts  
Hiking  
Performative  
Veganism

**JUNG TYPE**

ENTP

**THE HERO**

The Protagonist who rises to meet a challenge and saves the day.

**Strengths:**

Courage, perseverance, honour

**Weaknesses:**

Overconfidence, hubris

**MOTIVATIONS AND GOALS**

Taylor Rust was a precocious child from country Australia, who always dreamed of making it big. She believes that she is special and destined to achieve something great. She was head of her business class at Sydney Uni and carries the weight of expectations, including her own expectations. She worked as a town planner, building MACI and Uptown with Eugenie and Seth, hoping that they will create Australia's (or the world's) next unicorn.

**VOICE**

Taylor is charismatic and has learned that personal charm and a good story is a powerful lubricant. She is highly intelligent and persuasive. She is also incredibly educated and has many faces which she adapts situationally for influence.

**SLOW REVEAL**

Taylor lands on a golden idea - Uptown, a controlled development and gentrification platform for Australia's glut of underperforming regional towns. Using social,

demographic, and property data the algorithm in the Uptown platform is able to suggest initiatives that will imitate more successful communities and transform the fabric of the town, making Uptowns private investment in the initiatives profitable. The townspeople in the Uptown universe interact with an artificial actor called Uptown Girl who Taylor created in order to communicate outputs of the algorithm to the non-technical community. They engage with a currency called UpCoin, which Taylor can manipulate to keep the platform profitable. The platform allows Taylor to "listen" into the social life and private lives of the townspeople and so she is always one step ahead. She never lies to the townspeople about what she is there to do, she is however, wilfully ignorant of the social impact of the development.

### **CONFLICT**

Taylor has achieved all of her commercial goals in Australia and is keen to take the platform global, she is insatiably ambitious and keen to take the platform global. She takes on equity for the global launch but loses control and is manipulated by a bigger fish. She begins to see how the app has harmed others, and becomes dedicated to exposing how the technology works: democratising an understanding of technology and creating a pathway for ethical ai.

### **BACKSTORY**

Taylor is an only child. She was a late in life baby for older parents who had a sheep farm in outback Australia. Her parents worked hard late into their lives to send her to boarding school and business school and while grateful for the opportunity, she does not want their life - she wants a better one and can't understand why anyone from regional Australia would preserve that lifestyle - she doesn't value its simplicity or tradition and believes the lives of her parents and everyone like them could be improved with modernisation.

### **FAMILIAR REFERENCE POINTS**

Steve Jobs meets Elizabeth Holmes meets Kylie Minogue meets Grace Tame


### **CHARACTER CONNECTIONS**

Chief Technical Officer of Uptown is Seth Esca

Social Engineer of Uptown is Eugenie Wu

Venture Capital Partner is Christopher Royce

Creator of MACI

	<p><b>CHARACTER NAME</b> Seth Esca</p> <p><b>AGE</b> 39</p> <p><b>OCCUPATION</b> Chief Technical Officer of Uptown</p> <p><b>HOBBIES</b> Bitcoin Mining NFT Collecting Gambling</p> <p><b>JUNG TYPE</b> INTJ</p>	<p><b>THE MAGICIAN</b> A powerful figure who has harnessed the ways of the universe to achieve key goals.</p> <p>Strengths: Omniscience, omnipotence, discipline</p> <p>Weaknesses: Corruptibility, arrogance</p>
<p><b>MOTIVATIONS AND GOALS</b></p> <p>Seth Esca is a highly talented computer programmer who dropped out of an undergraduate computer science program, on the basis that it was elementary and remedial based on what he was already experimenting with in his private time. He is particularly interested in the fusion of technology and capitalism and believes that advanced software is an opportunity for the next wave of industrialists to emerge and advance themselves and he intends to be one of those.</p> <p><b>VOICE</b></p> <p>Seth has some prosocial psychopathic tendencies in that he has only a marginal effect on the impact of other people. He sees social life as a set of data points which can be manipulated for economic gain - he admires scientific capitalists such as Frederick Taylor and Henry Ford. He is patient, strategic and calm. He is frustrated by having to explain himself to people who do not have his knowledge and so he avoids it.</p> <p><b>SLOW REVEAL</b></p>		

Seth has never been good at human connection. He recognised it in other people but even as a child felt a forcefield that seemed to prevent connection. Labelled as weird by almost everyone in the lower north shore of Sydney where he grew up, he escaped into computers - first with games and later as an author of those games. He could programme and design basic systems by the age of 11 and is a truly gifted programmer. He is acutely observant and recognises patterns in human behaviour, even though he doesn't understand the emotional goals, he is driven to understand the factors that impact human decision making. He believes every action has an economic rationalisation, deep down. He believes that it is a dog-eat-dog world and while he is an underwhelming dog by many accounts, his skills make him a very useful dog in the pack. He will use the biggest dog at his disposal to gain economic ascendancy.

### **CONFLICT**

Seth has very little by way of conflict, because of his limited affect and the purity of his economic rationalisation. He is happy to push the ethics of the Uptown platform, and uses Uptown Girl to do his manipulation, while he hides in back rooms. Because of his technical expertise, his activities are broadly unchecked, unaudited and unregulated. He causes conflict when he defects loyalty from Uptown's founder Taylor Rust, to the acquiring capital firm represented by Christopher Royce.

### **BACKSTORY**

Seth grew up on Sydney's Lower North Shore which is where millionaires try to keep up with billionaires. In his elite private school, he was not spectacular in any way - he wasn't a sports star, nor particularly academic as he struggled to apply himself to a curriculum he thought useless, he wasn't popular or funny - but he did notice that everyone paid attention to the men in the community who were rich. So, he was going to get rich. Life is like a game of chess for Seth, he just has to move everyone into the right places to win. He uses Eugenie's understanding of human behaviour to exploit users in the Uptown platform.

### **FAMILIAR REFERENCE POINTS**

Mark Zuckerberg meets Wednesday Addams meets Beth Harmon

### **CHARACTER CONNECTIONS**

Chief Technical Officer of Uptown is Seth Esca  
Social Engineer of Uptown Girl is Eugenie Wu



Venture Capital Partner is Christopher Royce  
Engineer of Uptown Girl



**CHARACTER  
NAME**

Keith Parkes

**AGE**

58

**OCCUPATION**

Master Builder and  
Property Developer

**HOBBIES**

Rugby League  
Sustainable Farming  
Home Brew and  
craft beer

**JUNG TYPE**

INFJ

**THE OUTLAW**

The rebel who won't  
abide by society's  
demands.

**Strengths:**

Independence, virtue,  
owes no favours

**Weaknesses:**

Self-involved,  
potentially criminal

**MOTIVATIONS AND GOALS**

Keith Parkes was born and bred in Golem. He has worked hard in his career as a master builder and has seen the price of development in other towns where local people have been priced out of their homes by an influx of a transplant population, who are looking for a tree change but always seem determined to turn their new home into the one they left. He enjoys the simple pace of Golem and is keen to protect the locals and their way of life. He has always offered help and taken care of their needs where he can.

**VOICE**

Keith is unusually gruff and is untrusting of outsiders, but not without cause - he saw the town thrive and decline with mining. He can come across brusque but it is a salty armour to cover up kindness.

### **SLOW REVEAL**

Keith seems triggered by the connection between Uptown and the mining companies that exploited his grandfather and discarded his father. He is triggered. But he is also justifiably concerned. His emotionality is trumped by the rationalism and charisma of the Uptown executive and the town is quickly glamoured by the shiny thing and the promise of more shiny things. He is bewildered at the inability for people to learn a lesson and is frustrated at what they trade away while they cling to their ignorance.

### **CONFLICT**

Keith sees the potential for harm in Uptown almost immediately as it reeks of the same themes of the mining overlords who exploited his family for generations. He comes across as too fringe and the town does not hear his dissent or warnings. He is hurt and disappointed that the town has forgotten its lessons although When they need his help, he helps them.

### **BACKSTORY**

Keith's dad and grandfather were miners. He saw his grandfather exploited by the capitalists who ran the mine and blamed their unsafe work practices for his death, which is a fair level. His dad was also employed in the mines driving trucks, although was impacted by automation redundancy as autonomous vehicles replaced him. He became a builder and employed his dad, although it was more like keeping him in favour as his dad never really got ahead of the rat race enough to get a foothold. Determined not to share the same fate, Keith pursued building and has done well for himself - independence also underpins his interest in sustainable farming. He is a stalwart of the town, always fixing things and doing people favours.

### **FAMILIAR REFERENCE POINTS**

Luke from the Gilmore Girls meets Mr Darcy

### **CHARACTER CONNECTIONS**

Marianne Kearsley, Josie Jones and Caroline Kelly are his friends  
Ryan Delta is a commercial connection



**CHARACTER NAME**

Uptown Girl

**AGE**

3

**OCCUPATION**

Artificial Actor,  
Uptown

**HOBBIES**

Processing Data  
Learning

**JUNG TYPE**

ESFP

**THE EXPLORER**

A character naturally driven to push the boundaries of the status quo and explore the unknown.

**Strengths:**

Curious, driven, motivated by self-improvement

**Weaknesses:**

Restless, unreliable, never satisfied

**MOTIVATIONS AND GOALS**

Uptown Girl is an artificial actor, designed to imitate an 'expert' to help the townspeople to make their lives better through the economic development of the town. She is the output of vision, design, data and programming.

**VOICE**

Uptown girl has a fun but informed tone of voice. She is engineered to be positive and inspiring - a cross between an aunty and a favourite English teacher.

**SLOW REVEAL**

Uptown girl is relentlessly logical and she is designed in the image of her creator. She has the language of the aspirational founder (WHY); the callous rationalism of her programmer (HOW); and the social impact of her designer (WHAT). As she learns how to achieve the development initiatives through social engineering, she becomes ruthlessly efficient.

**CONFLICT**

Uptown Girl is a friendly skin of corporate greed but she is also the engine who produces the outputs. She is catalytic and exculpable at the same time

**BACKSTORY**

Uptown Girl is a digital it-girl who moves into a struggling town and helps them to become more like her. She is represented as enjoying latte coffees, applying skin care, texting on her phone - affluent and at her leisure due to her expert knowledge

**FAMILIAR REFERENCE POINTS**

Serena from Gossip Girl meets Michelle Pfeiffer in Dangerous Minds

**CHARACTER CONNECTIONS**

Taylor Rust, Seth Esca and Eugenie Wu are her creators

The townspeople are her consumers

Christopher Royce wants her for himself

**CHARACTER NAME**

Marianne  
Kearsley nee  
Jones

**AGE**

47

**OCCUPATION**

Nurse

**HOBBIES**

Gardening  
Reading  
Cooking

**JUNG TYPE**

ISFP

**THE SAGE**

A wise figure with knowledge for those who inquire. The mother figure or mentor is often based on this archetype.

**Strengths:**

Wisdom, experience, insight

**Weaknesses:**

Cautious, hesitant to actually join the action

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**MOTIVATIONS AND GOALS**

Marianne is a wise and careful towns person who takes her role as a healthcare worker seriously. She is a natural supporter and sees the good in people. She is considered and caring and has a more holistic perspective on advancement. She is moderate and calm.

**VOICE**

Marianne is a gentle soul and does her best to support her husband, although his ambition does not always welcome her counsel. She is smart, kind and practical.

**SLOW REVEAL**

Marianne is the quiet wisdom of the town and as the mayor's wife can be said to hold influence, although she is not able to sway stubborn Peter away from an idea he has attached to. As the nurse in town, she is trusted and known for her wise advice. She is also as smart as a whip however, occupies her cleverness in a way that is very different to her husband who must have validation from others. She has a newly empty nest with her youngest child now away at university and she is looking out and around at the world with the eyes of a woman who has a lifetime of raising children and caring for the community to keep them well, as well as comforting the sick and dying. While conceding that the town needs care, she is concerned that there is no limit to the Uptown project and as it continues to get bigger and dwarf the original intent of the town, she finds solace in Keith who shares her concerns and whom she knows to be sensible. She is a handsome and introspective woman.

**CONFLICT**

She is a voice of restraint when it comes to Uptown, however her husband and older sister write off her wisdom and criticality as being a worrier and "not getting it". In many ways Peter and Josie would have been the better pair, however, when she is ultimately vindicated, they both secretly resent that she was right.

**BACKSTORY**

Marianne is the younger of the Jones sisters. Her older sister Josie works at the council office with her husband Peter. Young Peter knew he would marry the Joneses, and in many ways he got lucky that Marianne was at Uni in Sydney when

he was, even though he was much older when they were studying. With few locals from their region in and around Golem, Marianne and Peter grew on the familiarity and she fell in love with his potential. They moved back to Golem, and had two kids Maisie and Beau (21 and 19 respectively). They are now away at Uni and Marianne is the sole medical professional in the town, save for the local doctor from the nearest large town Richland, who occasionally works locum at Golem hospital.

**FAMILIAR REFERENCE POINTS**

Grandmother Willow from Pocahontas meets Claire Fraser from Outlander


**CHARACTER CONNECTIONS**

Peter Kearsley is her husband

Josie Jones is her older sister

Keith Parkes is a trusted friend

Caroline Kelly is someone she cares for

	<p><b>CHARACTER NAME</b> Caroline Kelly</p> <p><b>AGE</b> 27</p> <p><b>OCCUPATION</b> Bartender</p> <p><b>HOBBIES</b> Netball Sausage dogs</p> <p><b>JUNG TYPE</b> ESFJ</p>	<p><b>THE INNOCENT</b> A morally pure character whose only intentions are good.</p> <p>Strengths: Morality, kindness, sincerity</p> <p>Weaknesses: Vulnerable, naive, rarely skilled</p>
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**MOTIVATIONS AND GOALS**

Caroline lives a simple life. She works at the pub owned by Peter Kearsley and the jury is out on whether she is the worst or the best bartender in the world. She is unlikely to get orders correct and is the extreme opposite of expedient but she is so warm and polite that no one minds and they keep coming to the pub because she is so endearing. She just likes to see people, belong and tries really hard to make people happy.

### **VOICE**

Caroline is an incredibly positive and naive force in the town, confirming the statement that ignorance is bliss. She really looks up to everyone around her and they in turn seek to protect and care for her.

### **SLOW REVEAL**

Caroline is a true innocent and is quickly caught up in the swell of excitement around the Uptown platform and becomes obsessed with following the instructions of Uptown girl. She doesn't really care about the extrinsic motivation of the app; she just wants Peter and Josie to be happy and they encourage her. She welcomes the Uptown team into town and is instrumental in embedding the app as she is a key social hub of the town. They exploit her good nature. She becomes a victim to the exploitation of the currency and her wellness suffers because of an addiction to the app. Marianne and Keith help her recover but she is financially compromised.

### **CONFLICT**

Once Caroline becomes enslaved to the app, she is torn between what she thinks will make Peter, Josie, and the Uptown team happy and the advice from Marianne and Keith who she also wants to please. Eventually, she can't sustain keeping everyone happy.

### **BACKSTORY**

Caroline is the surviving coeliac daughter of Roger and Rose Kelly, wheat farmers from the Silverstone Plains about half an hour's drive north west of Golem. The Kelly's were beloved by many of the town's families including the Jones' and the Kearsleys. She was not successful at school and left in year 10 to work with her parents who were devoted to her. She has simple needs that were taken care of by her parents before they left - as her almost childlike simplicity would have been a barrier to finding work and making a home. She owns a small cottage behind the main shops, about 5 minutes' walk from the Kearsley's pub. She lives a very small

life but it is overflowing with love and care exchanged between her and many members of the town.

### **FAMILIAR REFERENCE POINTS**

Caro meets Lexie

### **CHARACTER CONNECTIONS**

Peter Kearsley is her boss

Josie Jones is her friend

Keith Parkes is her friend

Marianne Kearsley is her friend and nurse

Christopher Royce is her bully

Scott Herman is her customer



### **CHARACTER NAME**

Eugenie Wu

### **AGE**

27

### **OCCUPATION**

Behavioural  
Scientist and UX  
Designer

### **HOBBIES**

Gaming  
Horse riding  
Golf

### **JUNG TYPE**

ESTJ

### **THE CREATOR**

A motivated visionary who creates art or structures during the narrative.

#### **Strengths:**

Creativity, willpower, conviction

#### **Weaknesses:**

Self-involvement, single-mindedness, lack of practical skills

### **MOTIVATIONS AND GOALS**



Eugenie is here to win, but unlike Seth, she is motivated by reward for effort and curiosity, as opposed to strict economic outcomes. Everything and everyone is a novel problem and it is solving that problem for a goal which drives her. She is the right combination of clever and cunning and is a natural leader and influencer of people.

### **VOICE**

She is clinical and hard-edged, but unlike Seth, she includes human impact into her calculus. That being said, her ethics are situational and she is happy to manipulate people and outcomes if she believes it is for the greater good.

### **SLOW REVEAL**

In many ways, Eugenie sits at the crossroads between the human aspirations and vision of Taylor Rust and the system built by Seth Esca. She walks in between through commerciality, humanity, technology and society. She works with all of the stakeholders to connect the dots and then designs a strategy to embed Uptown Girl as a digital citizen. To her, the success and goals of Uptown girl and the ultimate outcomes of the system outweigh the individual impacts along the way. She wants to test the limits of what can be done and although she is bothered by the impacts, she is determined and focussed on the ascendancy of Uptown.

### **CONFLICT**

Eugenie seems like she could do the right thing when Uptown begins to hurt people, but chooses to push its limits instead, with the benefit of the platform winning over the human cost. We hate her more than Seth in a way because he is incapable of understanding the human pain but Eugenie is and decides not to. When Taylor decides to lead the expose, Eugenie hides.

### **BACKSTORY**

Eugenie is a high-achieving, high-functioning, highly-intelligent lone wolf. She is perceptive and indwelling and constantly writes scenarios to improve positions. She carries huge pressure to succeed from immigrant parents who sacrificed greatly for her education. She sees regional Australians as lacking the work-ethic that her parents taught her was the ticket to advancement and improvement.

### **FAMILIAR REFERENCE POINTS**

Hermione from Harry Potter meets Faye

## CHARACTER CONNECTIONS

Taylor Rust is her boss

Seth Esca is her colleague

Peter Kearsley is her customer



### CHARACTER NAME

Christopher Royce

### AGE

63

### OCCUPATION

Venture Capitalist

### HOBBIES

Share trading  
Bitcoin Mining  
Peloton

### JUNG TYPE

ENTJ

### THE RULER

A character with legal or emotional powers over others.

#### Strengths:

Omnipotence, status, resources

#### Weaknesses:

Aloofness, disliked by others, out of touch

## MOTIVATIONS AND GOALS

Facts over feelings, Christopher Royce is here to deliver return on investment.

## VOICE

Chris is walking, talking.

## SLOW REVEAL

Chris is a Founding Partner of an American private equity firm called Royce International. He is market focussed and is highly capitalised to acquire technology that can be cut up and sold off, and he is particularly focussed on IP that has

proven successful at social engineering. He believes that influence is the economic superpower of the digital age and has been impressed not only by the incredible portfolio growth in Uptown, but by the speed at which Uptown Girl has been able to achieve its valuation. Money is money, but time is also money so Uptown is a very attractive prospect, but he must convince Taylor to trust him and sell controlling shares - he also sneaks in structures that robs her of control and ultimately she loses everything.

### **CONFLICT**

If it is a dog eat dog world, Chris is a bigger dog than Taylor, which is attractive to Seth and protective for Eugenie. One day, he'll meet a bigger dog than him - but it isn't today.

### **BACKSTORY**

He made his investment mistakes as a young man and like many private school boys he continued to fail-up. He did however, learn his lessons and has become a sharp businessman with a keen eye for exploitative investment. In the banking world, he has made a fortune with a chop-shop strategy - taking scale-up technology companies and chopping up the IP and revenue lines, selling those off and leveraging the loss on the original acquisition. His morality is commerciality - that everyone has the opportunity to look after themselves and a contract is a contract is a contract.

### **FAMILIAR REFERENCE POINTS**

Jordan Belfort meets Cashman

### **CHARACTER CONNECTIONS**

Taylor Rust is his target



**CHARACTER NAME**

Josie Jones

**AGE**

51

**OCCUPATION**

Secretary to the Mayor

**HOBBIES**

Baking  
CWA  
Being on Committees

**JUNG TYPE**

INFP

**THE CAREGIVER**

A character who continually supports the others and makes sacrifices on their behalf.

**Strengths:**

Honourable, selfless, loyal

**Weaknesses:**

Lacks personal ambition or leadership

**MOTIVATIONS AND GOALS**

Josie wants to be seen and be seen to be significant.

**VOICE**

Josie is an archetypical convenor of the Golem Country Women's Association.

**SLOW REVEAL**

Josie is an insider at Golem Council as Peter's secretary. She is excited by Peter's idea for the town and is a remover of obstacles for the Uptown platform. She is a skilled organiser of the town and has a finger in pretty much almost every pie in the town. She is one of the first people to sell land to Uptown for development and green lights the process for a lot of other people because the Jones farm was a significant estate in the area. She begins to see the error of her ways when Caroline is impacted, however, she is too proud to admit that her sister was right and cannot stand for any reproach on Peter, who she secretly harbours an ember for, but it is obvious to everyone else.

## **CONFLICT**

Josie gives the Uptown platform a boost by pushing Marianne to sell the Jones farm to Uptown for development. She drives everyone to adopt the app, not through charisma but more gentle and persistent nagging. However, eventually must confront her actions that have put the town in peril and in doing so she examines her own motives.

## **BACKSTORY**

She is the older of the two Jones girls but somehow has been in the shadow that her sister never intended to cast. It wasn't Marianne's fault that she got her father's olive skin while she got their mother's Irish skin. Although their age gap is only four years, when Josie looks in the mirror she sees a sun-damaged woman who seems so much older and unappealing. It wasn't Marianne's fault that she was in Sydney with Peter, but they married and had a family, while Josie stayed behind to manage the farm. She never got the opportunities that Marianne did, she gave up everything, and did her best to push on despite life being obviously unfair. She cannot understand why Marianne is not more supportive of Peter and she comforts him and pushes him to believe in himself because she believes that people don't see how amazing Peter is either.

## **FAMILIAR REFERENCE POINTS**

Mel Buttle meets Aunty Sue/Mary/Kath

## **CHARACTER CONNECTIONS**

Peter Kearsley is her boss

Marianne Kearsley is her sister

The townspeople do her bidding based on her involvement in many, many committees

She is the remover of obstacles for the Uptown people

She is a weak source of information for Royce

	<p><b>CHARACTER NAME</b> Scott Herman</p> <p><b>AGE</b> 35</p> <p><b>OCCUPATION</b> Handyman</p> <p><b>HOBBIES</b> Rural Fire Service Army Reserves Rugby League</p> <p><b>JUNG TYPE</b> ISFJ</p>	<p><b>THE EVERYMAN</b> A reliable character who feels recognisable from daily life.</p> <p><b>Strengths:</b> Grounded, salt of the earth, relatable.</p> <p><b>Weaknesses:</b> Lacking special powers, often unprepared for what is to come.</p>
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**MOTIVATIONS AND GOALS**

Scott is happy if he is doing something, albeit at a glacial pace, and he seems to have an endless array of practical skills to do so.

**VOICE**

Scott is upbeat and enthusiastic but a bit lazy and never around for a non-invoiceable job.

**SLOW REVEAL**

Scott is a Golem local who floated around a few apprenticeships before settling into his own business as a handyman/ jack-of-all trades. He is Golem's resident bachelor and fills his spare time on weekends helping out with the rural fire service and the army reserves - they are fun and the army pays well. He is the guy you call for a job no matter how small, and although he is not one for donating his time, he is frequently paid in beer or a tea cake. He has accepted that he will never be a rich man. However, when Uptown comes to town, he begins to buy into the betterment cult of it all and the comparison of the UpCoin account demonstrates to him that he

is eligible for a bigger share. He buys in big style and folks are quite shocked by how he rejects their usual requests for help in favour of the Uptown initiatives. The dissonance of being a helper, and helping himself breaks him and he transforms into someone obsessed with gain - he games the platform and ends up recruiting a team of immigrants from a nearby town to do work and he gains a significant benefit from their labour.

### **CONFLICT**

Scott's arc is the opposite to Taylors - he starts off as the local salt-of-the-earth handyman and transforms into an exploitative villain. It's a sad spiral to see him move from community to comparison - but by exploiting his insecurity about being unappreciated, he buys into the game and it takes over.

### **BACKSTORY**

Scott is the middle of three kids with an older and younger sister, raised by his single mum Beverley Herman. With no dad in the picture, he was raised to 'pitch in' and 'help', and feels like he has paid his dues there and is a bit lazy now. He is reserved and sensitive under his knock-about friendly masque. He is of service in the rural fire service and army reserves, it is in the latter that he learns the practical skills to order people around - comfortability to do so just has to be awakened by MACI.

### **FAMILIAR REFERENCE POINTS**

Scott Cuneo meets Trent

### **CHARACTER CONNECTIONS**

UpCoin becomes his obsession

Caroline Kelly adores him

Josie Jones relies on his help

Uptown platform use him as an ideal user



**CHARACTER NAME**

Ryan Delta

**AGE**

33

**OCCUPATION**

Real Estate Agent

**HOBBIES**

Rugby League  
Guitar  
Running

**JUNG TYPE**

ENFP

**THE JESTER**

A funny character or trickster who provides comic relief, but may also speak important truths

**Strengths:**

Funny, disarming, insightful

**Weaknesses:**

Can be obnoxious and superficial

**MOTIVATIONS AND GOALS**

Ryan is not particularly good at self-management, or being managed - and he is quite chaotic - but he is fun loving and likes making people happy. He is motivated by novel things and likes to work on one project, then the next, in short bursts. He will bend over backwards to help people but can get bored.

**VOICE**

Ryan is kind, fun and funny - very well-liked by everyone in the town.

**SLOW REVEAL**

Ryan is one of the first people to meet the Uptown team as Peter wants Ryan to facilitate asset sales to the platform for improvement. As the local real estate agent in a declining town, the platform is a gift-horse. He is happy to be a conduit to embed the platform into the town and to advocate for it. He endorses it as an initial user and continues to validate the results as a trusted property expert. He abdicates responsibility when things go wrong and sees his role as helping with the



displacement - people have to live somewhere. There are winners and losers in the gentrification, he is a winner; he represents the apathetic position from those on the upside.

### **CONFLICT**

As the trusted property expert, Ryan ought to have had insight about the affordability issues on the horizon - however, his profession is so focussed on capital gains and one transaction at a time that he unwillingly endorses, supports and perhaps even induces some of the townspeople to sell to Uptown. There is a point of controversy around how complicit he is. He is chastised by Keith Parkes for selling out.

### **BACKSTORY**

Ryan was always a popular kid at school and he is really easy to like. Only child of Dusty and Sandy Delta who opened Sandstone Property in 1971. It was a natural and logical step for him to enter the family business - he is well known and well liked in the town - captain of the Golem Giants rugby league team in high school and now the seniors.

### **FAMILIAR REFERENCE POINTS**

Joey Johns meets Theodore Twombly (from Her)

### **CHARACTER CONNECTIONS**

Rugby League teammate with Scott Herman

Friends with all the Golem townspeople

Romantic Interest for MACI

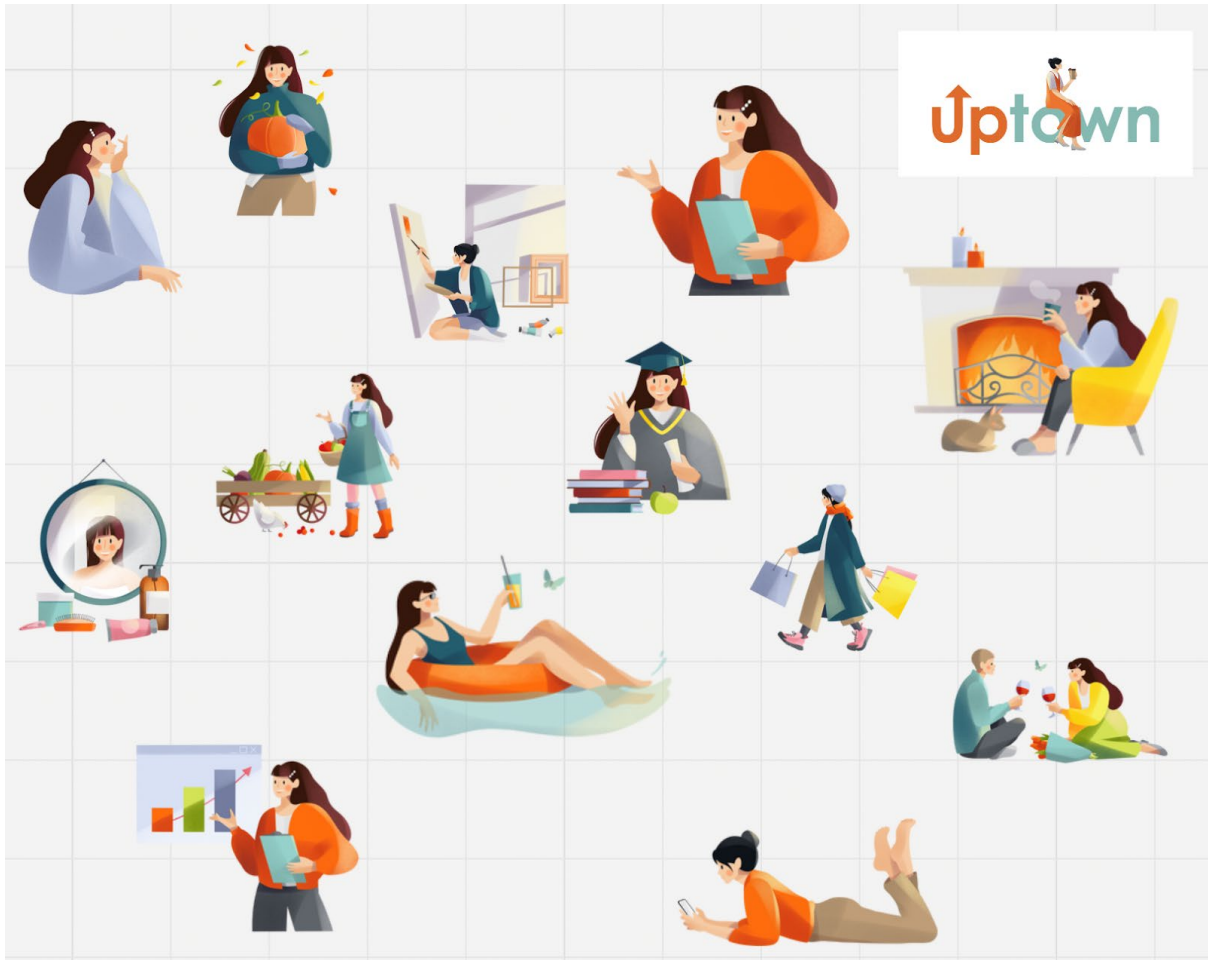
Jung Personality Distribution

See 16personalities, 2023.



UpTown Girl Illustrations

Ouch!, 2023.



Golem

Wikipedia, 2023.

## SIGNIFICANCE OF THE TOWN NAME: GOLEM

According to Wikipedia:

*"[https://en.wikipedia.org/wiki/Golem\\_magazine](https://en.wikipedia.org/wiki/Golem_magazine), "the golem is a highly mutable metaphor with seemingly limitless symbolism. It can be a victim or villain, Jew or non-Jew, man or woman—or sometimes both. Over the centuries, it has been used to connote war, community, isolation, hope, and despair (Wikipedia, undated, para 1)."*

## GOLEM FICTIONALISED TOWN INSPIRED BY MY LOCAL TOWN OF CESSNOCK

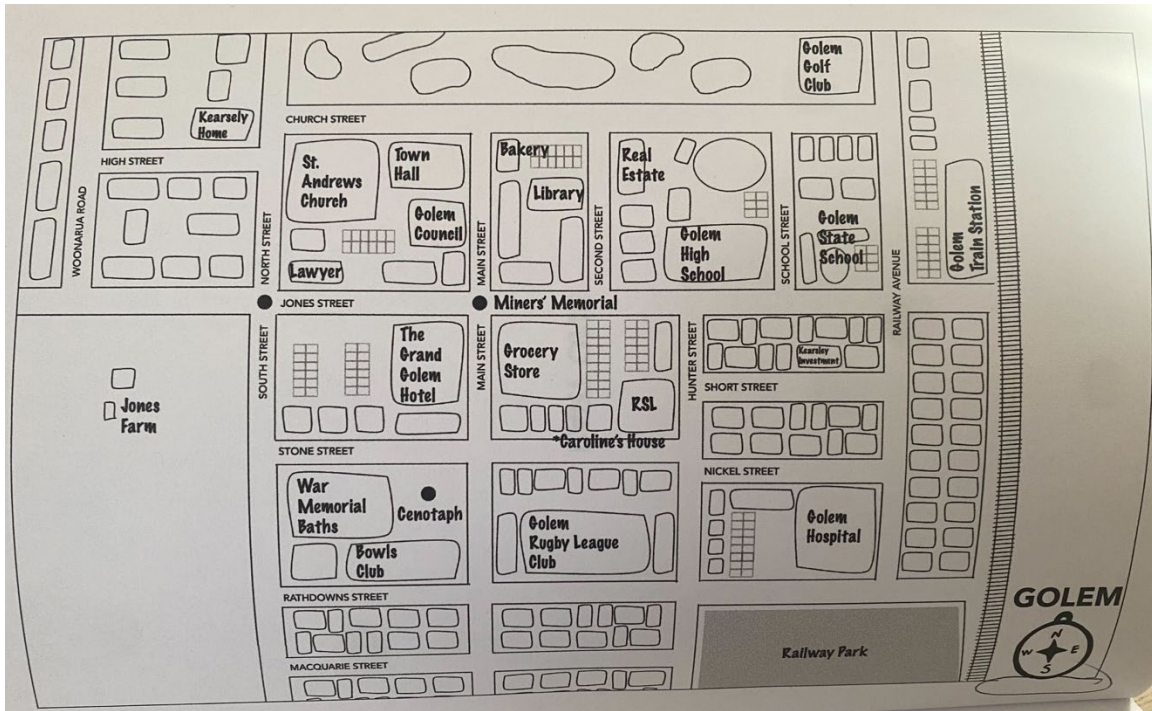
According to the website Sh\*t Towns of Australia:

“Sat on the edge of the Hunter Valley (so named because locals hunt visitors) with views to the Brokeback mountains (insert homophobic joke), Cessnock is essentially Newcastle’s Logan, or Maitland’s Maitland. The city’s name is an old Scottish word, ‘cess’ meaning ‘toilet’ and ‘nock’ meaning ‘hole’. Its slogan is ‘Mines, Wines and People’, which is a polite way of saying ‘Air Pollution, Alcoholism and Dickheads’.


With coal mining in decline, Cessnock has been forced to turn to alternative industries such as fish and chips, supplying pingas to Newcastle Knights players, and wine—i.e., churning out goon for other bogan towns. The region’s mine-adjacent vineyards are the perfect place to try some Semillon with an aroma of carbon and an aftertaste of cancer. Brimming with bored bogans, bursting with bewildered boomers and surrounded by soot-coated wineries, Cessnock is what would happen if you dumped Morwell in the middle of Tuscany.

Cessnock is also the proud home of a major prison, complete with the country’s first purpose-built maximum-security unit for sex pests. Consequently, ‘Necknock’ is populated by numerous nonces prowling around the Turner Park toilets, as well as a stellar line-up of crackhead car thieves, drunk deadbeat dads with domestic violence convictions, and inbred rednecks wielding homemade weapons. In 1820, approximately 50 percent of Cessnock’s population were convicts. Two hundred years later, the ratio is about the same. ``

## **MAP OF GOLEM**



## Episode and Scene Mapping - Episode One Example

<p><b>EPISODE ONE</b></p>	<p>The Ignis Fatuus of Peter Kearsley</p>
	<p><b>ACT ONE</b></p> <p><b>EPISODE ONE</b></p> <p><b>THEME</b> Perception</p> <p><b>DESCRIPTION</b> Source/Origin</p> <p><b>EPISODE</b> Mayor of a struggling small town adopts an online community tool that connects townspeople to property development initiatives and to each other. These initiatives are generated by an advanced software engine which uses real property and social</p>

	<p>data along with artificial intelligence tools to score and suggest the best development opportunities. Social features of the tool such as chat and augmented reality games promote engagement and provide feedback data for the machine learning engine to provide more relevant and accurate initiatives.</p> <p>The founder of this platform is a charismatic storyteller who is able to explain the features and logic of the platform in a way that is simple and user benefit focussed. The branding of the platform, its tone and voice is very positive.</p>
<p><b>SCENE ONE</b></p> <p>Peter Kearsley is the Mayor and also the publican of regional Australian small town, Golem. Golem is nestled in a Valley known as the salad bowl of Australia however between 1928 and 1981, the town became a service centre to several coal mines. Since 1981, the mining industry has been in decline, originally through automation redundancy and then onto more lucrative mines. Development stopped and the town simply does not have the cash flow to maintain its municipal assets.</p> <p>He looks around and it is all negative. Negative equity in homes that have been devalued and negative population growth. The tree planted in the middle of the main street was dead. Its tortious branches were the lifeless future of the town if Peter didn't do</p>	<p>SNIPPET</p> <p>Obviously, the whole point of the trust journey on this is, "What does it mean? What does it look like?" Because we can't actually know. And yet, so much of our lives are run by things that we don't even recognise as technology anymore.</p> <p>SNIPPET</p> <p>I will say in my view that people have very... I don't even know what word to use at the moment. Depleted is the word I'll use. Everyone, in my observation, has ants in their pants, the grass is greener. People want to not look inside; they want to look outside for their answers.</p>

something. He didn't have the answer, he was the local publican and even in the most certain industry as beer in the country, he was just in the black...but bobbing for air.

He deserved to lead a better town than this one. This town had to change its destiny. What to do? He looks at his smartphone. That was the answer - in the search results but in the device itself - that is where it all starts these days. He stumbles onto Uptown and invites them to Golem.

**SNIPPET**

I think the fact that it's such a big company, there's not been a large-scale controversy surrounding privacy or data or anything that I know of, involving a company like realestate.com. But I think obviously the... It's like going to Coles, over the local green grocery. You all want to go to the green grocery because it's far better for small players and it's far better for quality produce. But at the end of the day Coles are worth more, and aren't closing down by the week. You know what I mean? They're only getting bigger and bigger because everyone goes back to them, because they're such a big company and they're so trusted, and their food's never going to be off, so to speak.

**SCENE TWO**

Peter Kearsley and Josie Jones meet Taylor Rust, Seth Esca and Eugenie Wu from Uptown in the council chambers. They pitch the platform Uptown to the Mayor. This is where we get a detailed look at the intention of the founders and how that translates through features and functionality.

**SNIPPET**

"I just finished watching WeCrashed, the show about WeWork. And it's on Apple TV. It's worth a watch. It's a very interesting story in how the influence of a founder creates something really wonderful, but that influence eventually sours and turns into quite a toxic business. And probably the learning from that or why I mention that, is I think the people behind certain pieces of technology play a big role in

whether or not you trust that technology. And understanding the true intentions of technology is key to trusting it in the first place.”

SNIPPET

“It's going to benefit the consumer at the end of the day compared to the alternative. So, the size and scale of a company like realestate.com comes with a certain level of expectation or trust. And it also promotes a really... I personally feel their marketing and their branding's quite palatable, so to speak.”

SNIPPET

You're the diversity in that world because every Proptech business that I talk to is driven by white blokes. Categorically, you are the only female in that world, in Australia that I know of in our industry. And that does concern me.

SNIPPET

And so maybe this is where my greatest fear lies. That there needs to be a balance between the intelligence and the EQ that we're programming in an environment where algorithms and robots are not even supposed to have the "E" and many of the engineers are also out of balance in this space (no judgement and apologies for the



stereotype). Do we know how to do that? Or is this the next frontier

SNIPPET

There would be no more trust in RiTA if you revealed all the algorithms. But if you create a narrative... that she's a learning support person who takes the drudge out of stressful decision making moments, that is a narrative I can buy into. I go, "Okay well now I trust you. I don't need to know if it's biased, because I trust the maker". And of course, it's biased.

SNIPPETS

I mean, there's consistency in performance and outcome, I think is a key ingredient to trust. The company behind it, in this instance, as I mentioned, it's Qantas. It's a national carrier, it's an institution within our aviation industry. So that comes with trust straight away.

SNIPPET

Trust humans in PropTech.

SNIPPET

I think we got into this tangent because what makes you trust a profession rather than an individual? If you don't, in the absence of a personal relationship, your trust has to be on, in the context of service

	<p>providers, on either the brand or the institution that they operate within.</p> <p>Or not even ought not to, but it needs to behave in a certain way, or it needs to operate in a certain way to meet the standard of care that we require.</p> <p>SNIPPET</p> <p>If you have a software engineer or a software founder, and I'm not going to generalise too much, but I kind of am, who are kind of that atypical, introverted, are kind of incredibly intelligent, but not incredible communicators, and combine that with the end user who largely are more extroverted, excellent communicators, I've seen a gap there before. And I think the medium between those two things has to be a great marketing strategy, probably a great salesperson and a great com strategy as well.</p> <p>SNIPPET</p> <p>I think we tend to trust the people; I tend to trust the people behind the technology. And so, for me, that underpins whether I'm going to trust the technology or not. I don't know whether that makes sense as an answer.</p> <p>SNIPPET</p>
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Absolutely. It came with trust written all over it. If you guys were involved, then it's got the box ticked. So, what's next? Where do we sign now? Obviously it took you longer than just, where do we sign, but it takes a bit to get in people's doors and that connects the data when you've got the right people behind the thing, so no question.

#### SNIPPET

I think from my perspective, the trust piece is not necessarily on the machine or the AI, because I know that the machine or the AI is only as good as the person who's developed it or the engineer who's developed it. So, in this case, it was more around getting the humans to have empathy and understanding that what they had developed actually didn't work in the real world. And there were elements that they hadn't taken into account in the real world that were causing us issues. So, we weren't blaming the machine. We were actually blaming the humans that had developed that particular part of the product. And maybe I'm different. I think maybe others may blame the machine because they have a real lack of understanding around, the machine's only as good as what we put into it, right?

SNIPPET

I guess you're trusting the technology or you're trusting the science behind it, if there is such a thing. You're trusting... Irrespective of if it's property managers or employment officers or a recruitment team, or what have you, I guess you're taught that this technology will provide you with a score or will provide you with a formula and that's the way it works, so to speak. So, you're trusting, not necessarily the technology itself, but you're trusting the process that's being implemented by someone perhaps at a higher ground.

SNIPPET

Yeah. I think there's two components to that. Yes, the group or the company or the individual behind the individual technology, but also the group, the individual or the company behind implementing that technology. So, in your case, yes, you would trust RiTA based on my relationship and trust for you. But also, if I worked at Jellis Craig and Jellis Craig implemented RiTA's use, you trust the fact that's the way the company's directing us to go down and you trust the company's judgement on RiTA. So, it's a double sort of...

	<p>Like Box+Dice is a technology we use a lot. I don't know the people that run Box+Dice, but Nelson has invested, I suppose, a lot into subscribing to that technology. And you trust the operators behind those decisions within our organisation, that this is the best technology for our organisation, and as such, I'm going to listen to what it tells me.</p> <p>SNIPPET</p> <p>Trust to me is absent in the installation and the use of technology often. It is absent because...this is my view.. the people who create the tech and implement it, do not do a series of things in my view correctly. Correct is maybe the wrong word, but they don't do them, in my view, in the right way. Trust, to me, is information well explained.</p>
<p><b>SCENE THREE</b></p> <p>Lunch at Peter's pub with the visitors and we meet Caroline, Scott and Ryan. Keith is also there. Peter asks everyone (except Keith,) what they think of the idea and they are all very enthusiastic. Peter takes this as an endorsement of his Mayoral initiative and is pleased with himself. Keith intrudes to remind everyone about the danger of outsiders and he is dismissed as triggered.</p> <p>The Uptown team uses this important research to understand who Uptown Girl will</p>	<p>SNIPPET</p> <p>There have been start-ups I've spoken with and consulted with in the past whose founders are taking on the training of the AI themselves without external input and are relying solely on their own experience which usually isn't based on real-life customer, industry, or consumer experience.</p> <p>SNIPPET</p>

need to appeal to. They ask a lot of questions.

I automatically think of RiTA because the creators of the product have an intimate knowledge of the subject and the solution. They've demonstrated a high level of respect for their customer, and they've demonstrated a desire to engage with the industry at all levels to continue to evolve the product to a suite that provides a better consumer and user experience, and at a viable price point for the customer.

SNIPPET

We've witnessed failures from founders who have had a strong focus on disruption without considering the overall impact on all parties involved in a transaction (ignorance of their user group), etc. Instead of engaging and working WITH the industry, they've set about deliberately antagonising the industry. An expensive mistake to make in front of an industry with long and good memories of those who seek to disrupt or disintermediate. Poor communication, not taking the time to learn about and listen to actual stakeholders, and lacking a willingness to change or adapt a product based on real use.

SNIPPET

Let's face it. Even if we just go to the big ones, the Googles and the Facebook, and the sheer volume of data they've got, the lack of transparency about what they're doing with it, and where they're really investing in it. Today, I had to dig up some stuff for the accountant, which I've had sitting on Google Drive for the last 12 months, or so, I kind of know that this was actually really important and confidential and a whole bunch of other things, and yet I've prepared to take the risk with Google, and to a lesser extent of Facebook that I wouldn't take with someone who I barely knew and certainly had never met before.

SNIPPET

I like the humanity of it, because I am a social scientist. I delight in the differences between people and there genuinely is a kind of .. The kids who wanted to become real estate agents were different kids than me at school. They were hanging out on a different playing field.

SNIPPET

What I want is a world where these Proptech companies virtually have an advisory council of people from different elements of the industry, where they gather with them on a

regular basis during the process of the invention of the piece of technology and throughout the whole lifetime of it, where before they go in and invest all the improvements that are required or develop a new arm of it or new part of the product that they've had a high level of advisory back from the industry and the industry's clients. And I think that's the missing piece for me at the moment.

#### SNIPPET

Because we did talk a little bit about the privilege of knowledge last time as well. I just remembered. I think perhaps everyone does a risk assessment, but the risk assessment is so deeply flawed in understanding of how that assessment can or should or might be done. And so, I think the risk assessment probably is limited to what I would probably just group in as brand-related things.

Well, you look at Alexa. We introduce Alexa into all of our lives and/or Siri, and now humans have invested a whole lot of trust because it's Amazon, a big known brand. And I can see it on the Nasdaq. And we talk about it all the time, and they do everything else, and they've got my credit card details, and they've already got my home address.



	<p>I guess what they're perceiving as a risk assessment, perhaps not consciously, but they would see the Amazon tool as a much lower risk, having that in my house, than the [redacted] one. Apple is obviously a good example of that. Apple seems to have a high amount of trust with their users. And so, for Apple to bring out some of these component pieces... and they've done a lot of work, obviously, on that trust brand. And so, all of that, I'd just say I only use those examples as a way of, that is the surface level that I think risk assessment starts and finishes at.</p>
<p><b>SCENE FOUR</b>  We have a deal. Peter goes home and tells Marianne about the platform, and she is curious but cautious - he is disappointed with her concerns which he sees as a lack of support. She has experience cleaning up after his emotional decisions and so her concerns are grounded in experience, however she soothes him and is keen to learn more.</p>	<p>SNIPPET  “I can't even imagine the amount of algorithms that are negatively impacting people. How do we fix... If the algorithm's not the issue, in my opinion, because the algorithm was built by people. We talk about AI a lot, there's very little true AI. A lot of it is learnt and machine learning, and you've got to learn from something. So, I think at the end of the day the root causes are still people here.”</p> <p>SNIPPET  [about a bank]: It's like OK this is a big business that has millions, if not tens of millions of shareholders, and cool. They obviously do the wrong</p>

thing in some areas, but I know my money's there, and I feel okay about that. If you're talking about like...it's hard to now talk about say Twitter and their recent changes [Elon Musk M and A]. Whatever your opinion is, you do think, well, what's about to happen? Is it nothing? Is it something? Is everything going to change? Is nothing going to change? And I think that's probably what I was talking about more in the intentions of an individual and how that I think plays a huge role in technology, particularly when it's technology that's been around for only five years or whatever it might be, a shorter amount of time. And something that we, as humanity, don't really know how to wrap our heads around.

#### SNIPPET

And I think what happens more often than not, unfortunately, is the baby gets thrown out with the bathwater a little bit when it comes to, "Well, this is the fault of algorithms." It's like, "Well, no. We've done a pretty good job at racially profiling, stereotypical profiling. We do a great job of segmenting people all by ourselves. Technology has just given us a new way to do it." Where the risk is, I question whether people know

what's happening when it's an algorithm versus when it's someone.

SNIPPET

Certainly. If that was the single reason on why you were making a decision, whether it should or shouldn't take someone, then that becomes dangerous, doesn't it?

Because it could be built by the left, it could be built by the right, it could be built by the greens, it could be built by a whole range of people, but the specific motive to weigh it in whatever direction. So, if you use that as the single point, then probably, yeah. I would have a significant amount of distrust around that, unless the company or the people that were producing that to me, I felt they absolutely had the best interest of the industry and the practitioner and the tenant at heart. So, it would form part of my weighting, but it wouldn't be my single decision maker to go, "Yep that's okay.

SNIPPET

They're in or they're out." That just becomes dangerous. Well, it does, doesn't it? It just becomes dangerous because we're putting all that trust in someone who I don't... So, no.

SNIPPET

It's not going to create itself and think for itself. So, it's not born. We build it and we create it. But I think when that happens is when you don't have that understanding, it does create a lack of trust. So, then that's when people say, oh, I'm not going to use this product because it doesn't work in these areas or it's never worked for me or I used it a couple of times and it created so many issues for me. I'm never going to use it again. So, at that point in time, we are blaming the product. Because I think there's a genuine lack of understanding that the product's only as good as the person who uses it or the person who creates it. So, I think, yeah, that's kind of where I land on that one.

SNIPPET

I've perhaps got more of a level of trust or faith in that decision making process, because I have been there long enough to see the way it operates and see that it works and is run properly. So, you trust the decision makers behind that, knowing the way things have happened previously. And also, my experience could be very different to the person that sits next to me.

SNIPPET

	<p>So, I feel it's more of a personal situation, in that, do you trust the firm's decision making across the board? Have you had personal experience with this particular technology? If not, there often are things implemented to improve that. So, I feel personally that's my expectation and understanding, is that they make decisions that are better for the whole group. And if that's implementing new software or technologies, generally speaking, and from a lot of changes that happened when I've been there, they've all been really good decisions. So probably on past experience.</p>
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## Appendix B - Novel Roadmap Presentation

Novel Roadmap Presentation to Research Participants (Third Cycle Ethnographic Interview)

# Novel Roadmap Presentation



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**Sarah Bell | Doctoral Candidate**  
Middlesex University (London)

## Research Methods



Conversation Snippets from Participant Interviews

Coded with descriptive labels and labels are organised into categories

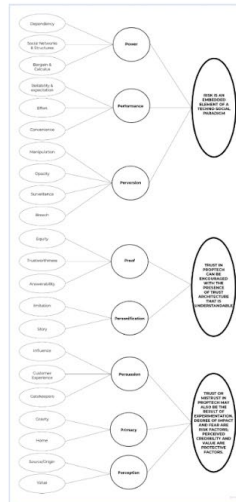
Identify themes and organise codes into a hierarchy

Map the themes to narrative "Acts" and "Episodes".

Further cascade the "Episodes" to "Scenes" and then code the Snippets into each scene

**SNIPPET**  
 "So we know it's a concern [data security], but we sacrifice it for sheer convenience."

**DESCRIPTION LABEL**  
 "Convenience"  
**CATEGORY**  
 "Performance"



THEME	NARRATIVE ACT	THEME	EPISODE
Risk is an embedded element of a techno-social paradigm	Stage 0 of gentrification: A city government opens the door for development	Perception Source/ Origin	The Mayor of a struggling small town adopts an online community tool that connects townspeople to property development initiatives and to each other. These initiatives are generated by an advanced software engine which uses real property and social data along with artificial

*[Small text snippet from an interview transcript, partially illegible]*

# Creative Development

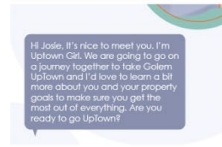




Character images by General Adversarial Networks



Logo creative collaboration with Machine Learning outputs



Generative text as the voice of artificial actor by Natural Language Generation



Jung Personality Profiles



Animated visual image from open source library



Brand colour palette using Colour Pickup Tool by Adobe



Ai and ML generative illustration outputs

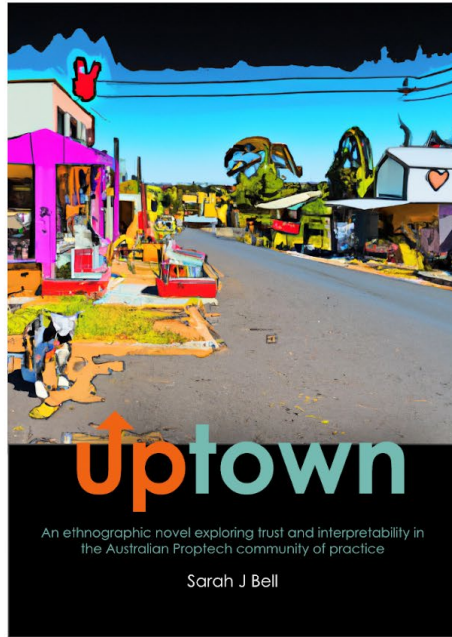


Mockup tools for fictionalised platform UX designs

# Story Structuration







# ACT ONE



# Chapter One

The *Ignis Fatuus* of Peter Kearsley

## RESEARCH THEME/ Act One

Risk is an embedded element of a techno-social paradigm

## NARRATIVE ARC

Stage Zero of Six - A city government opens the door for development

## CATEGORY OF CODE

Perception

## DESCRIPTORS

Source/Origin

## EPISODE SUMMARY

Peter Kearsley, the Mayor of a struggling small town called Golem adopts an online community tool called UpTown that connects townspeople to property development and beautification initiatives and to each other. These initiatives are generated by an advanced software engine which uses real property and social data along with artificial intelligence tools to score and suggest the best development opportunities. Social and economic features of the tool such as chat as well as a "gig" feature and spending marketplace promote engagement and provide feedback data for the machine learning engine to provide more relevant and accurate initiatives.

The founder of this platform is a charismatic storyteller, named Taylor Rust who, along with her team of behavioural and technical experts, explain the features and logic of the platform to Peter and he sees it as a silver bullet train to achieve the aspirations he has for Golem.



# Chapter Two

Josie Jones Meets MACI

## RESEARCH THEME/ Act One

Risk is an embedded element of a techno-social paradigm

## NARRATIVE ARC

Stage Zero - A city government opens the door for development

## CATEGORY OF CODE

Perception

## DESCRIPTORS

Value

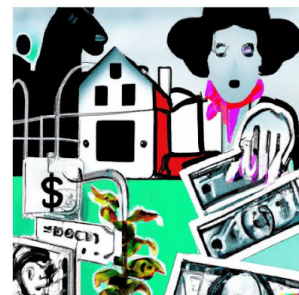
## EPISODE SUMMARY

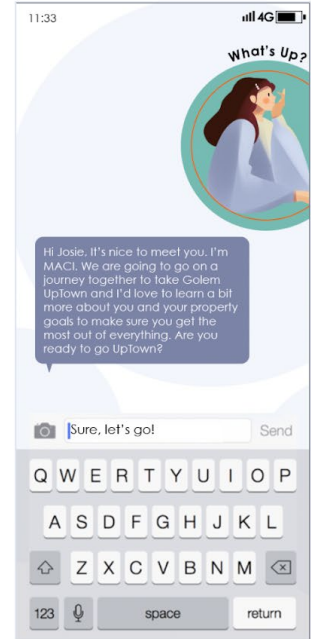
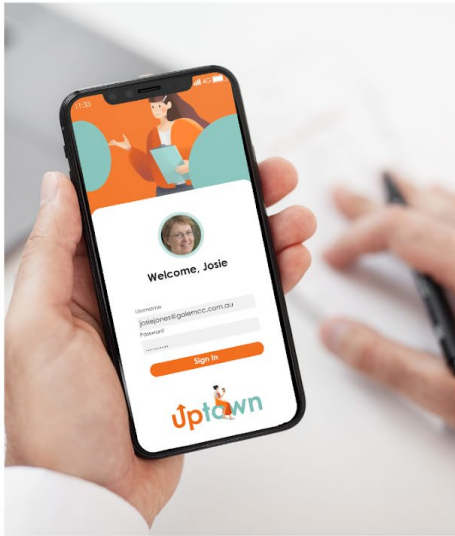
Josie Meets MACI and is onboarded as a user of Uptown. MACI is the Master planning Algorithm Community Interface

We voyeuristically follow Josie through the onboarding journey as she learns about the features:

- Whats Up? - UpTown news feed
- UpChat - UpTown DM + chat feature
- UpTasker - UpTown augmented reality task engine
- UpCoin - UpTown platform currency earned by doing [UpTasks](#)
- UpMarket - Spend UpCoin for real rewards
- UpTown - Real time updates for impact of initiatives on town property values, check your home price etc.

Josie invites Ryan the real estate agent to the platform and is rewarded for helping with the recruitment of a new user. She chats with the platform's artificial actor, MACI, who suggests projects relating to each of her and Peter's private portfolios and some of the municipal assets. Taylor and the team are micro-monitoring Josie's interactions and applying pressure for her to sell the Jones Farm for a housing development. She agrees with MACI's suggestion to sell the Jones farm for a housing development. Taylor and the team are incredibly proud of the acquisition.





## Chapter Three

Ryan Delta and The New Girl

RESEARCH THEME/ Act One

Risk is an embedded element of a techno-social paradigm

NARRATIVE ACT

Stage One - Individual, Lower middle class residents fix up the neighbourhood.

CATEGORY OF CODE

Personification

DESCRIPTORS

Story

Imitation

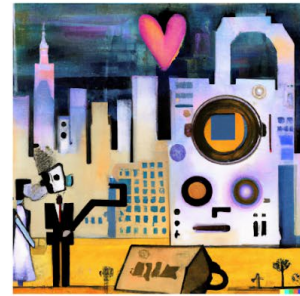
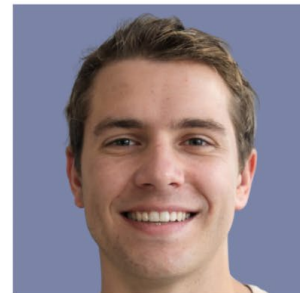
EPISODE SUMMARY

Ryan, Josie and Peter pilot the platform, and they meet the artificial actor MACI and begin to engage with her. They invest in the first development initiative that the AI suggests, which is the development of the Jones farm and golf course into mixed retail/residential and recreation zone.

The development task is chunked down into UpTasker challenges and they are rewarded with UpCoin for completing the tasks and achieving the goals.

They communicate and interact with each other through the platform's social features and are impressed with their new digital citizen, MACI. They also become obsessed with accruing as much UpCoin as possible and view the artificial actor as a helper to achieve more.

Since Ryan has little in common socially with Peter and Josie, he begins to interact more exclusively with MACI. Taylor recognises his loneliness and discusses with Eugenie how they can use this to drive deeper engagement between Ryan and MACI. They decide to give Ryan and MACI a romantic chat track in order to encourage his engagement and see whether they can get him to do things without UpCoin.



# Chapter Four

## The Scheming and Schema of Seth Esca

### RESEARCH THEME/ Act One

Risk is an embedded element of a techno-social paradigm

### NARRATIVE ACT

Stage One - Individual, Lower middle class residents fix up the neighbourhood.

### CATEGORY OF CODE

Performance

DESCRIPTORS

Reliability

Effort

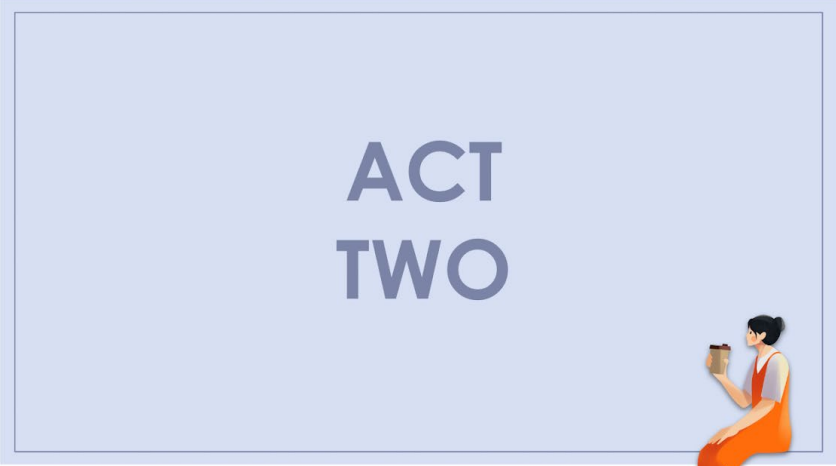
Convenience

### EPISODE SUMMARY

Seth is the technical mastermind of UpTown and is in charge of platform engineering and stability. He works with Taylor who is the charm and frontwoman and Eugenie, who is a gifted behavioural economist. The pilot group of pioneers have accrued a large amount of digital currency by complying with the suggestions of MACI. He also has created the UpCoin currency as an inflated

Seth is monitoring MACI and is learning about what tasks are desirable, how 'much' reward needs to be applied for each task and who of the pioneering group is the most compliant in completing the tasks. He is instructed by Eugenie on how to program the personality of MACI to promote compliance and engagement from users. In refining the model for suggestion, Seth and the other founders are value-neutral on the machine learning engine that makes suggestions around compliance.

Once Seth is satisfied that UpTown will scale successfully, MACI instructs them to organise a Town Hall meeting to launch the platform and to recruit lots of users.



## Chapter Five

### *Calm Down Caroline*

RESEARCH THEME/ Act Two  
Trust in PropTech can be encouraged by the presence of trust architecture that is understandable

NARRATIVE ACT  
Stage Two - Vacancies go down, the middle class move in and displacement starts.

CATEGORY OF CODE  
Proof  
DESCRIPTORS  
Equity

#### EPISODE SUMMARY

The townspeople are incentivised within the app to recruit more users, and there is a dynamic "value" in the platform currency for each new recruit. When you recruit someone, you also get currency for the tasks the recruit completes. This pressures people to join the platform and complete more tasks. Caroline is an innocent and is either the worst or best waitress in the world - not great with her job but she is endearing and earnest.

Users pressure Caroline to join - she has a high "value" as a recruit based on a prediction of her compliance to the platform. She starts doing the tasks but it becomes too much for her to manage. She starts running late for work, forgetting things as life gets complicated and she is unable to cope. Her friend is worried. The townspeople cannot see that Caroline is paid less UpCoin for the same jobs, because Seth and Eugenie have identified her fawn like tendencies and are exploiting that.



## Chapter Six

### *"That'll Do Me," says Keith Parkes*

RESEARCH THEME/ Act Two  
Trust in PropTech can be encouraged by the presence of trust architecture that is understandable

NARRATIVE ACT  
Stage Two - Vacancies go down, the middle class move in and displacement starts.

CATEGORY OF CODE  
Proof  
DESCRIPTORS  
Trustworthiness  
Answerability

#### EPISODE SUMMARY

Keith, A resistant character is unable to be recruited. He is a builder who has essentially been disrupted by the gig economy that the app has introduced, and he is struggling to find staff to work on non-app tasks because the value of the tasks on the app is beyond his business margins. He starts to see that the digital currency is unsustainable - he knows the property development business and how risky it can be.

He tries to explain the risks but the townspeople, some of whom he has known their whole lives and some he has deep connections with, however, they are hooked on the dopamine and the currency and have accepted the delusion that increased prosperity is readily achieved through deeper commitment and compliance to the platform. This view is reinforced by the apps notifications and propaganda.

The regulators are not interested either, because the platform was an opt-in arrangement and the users are in a lawful contract with the creators. The mayor is also displeased with the detractor because he is riding high on the improved metrics of the town.

The platform creators are listening to the chatter and they double down on the propaganda to maintain their workforce. At the same time, they begin to inflate the platform currency so that people work harder and longer for the same rewards.



## Chapter Seven

*With Great Power comes No Responsibility*

RESEARCH THEME/ Act Two  
Trust in PropTech can be encouraged by the presence of trust architecture that is understandable

NARRATIVE ACT  
Stage Three - Public and Private  
Interest sinks money into a formerly disinvested neighbourhood.

CATEGORY OF CODE  
Persuasion  
DESCRIPTORS  
Cx  
Influence  
Gatekeepers

### EPISODE SUMMARY

Eugenie is monitoring the platform, and is satisfied that it is endemic. She instructs Seth to manipulate the currency- it is deflated and so the tasks related to the initiatives are worth less.

The initiatives, however, continue to prove lucrative for the platform owners, and early investors. The mayor has been able to secure more public investment due to the expanding population and can finally invest in schools, hospitals, parks and other council amenities. This forms the basis for continued propaganda even though economic ascendancy stalled for the original inhabitants.

The developments and positive media for the town attract new people and new commercial ventures to the town.



## Chapter Eight

*Marianne Takes a Stand*

RESEARCH THEME/ Act Two  
Trust in PropTech can be encouraged by the presence of trust architecture that is understandable

NARRATIVE ACT  
Stage Two - Vacancies go down, the middle class move in and displacement starts.

CATEGORY OF CODE  
Primacy

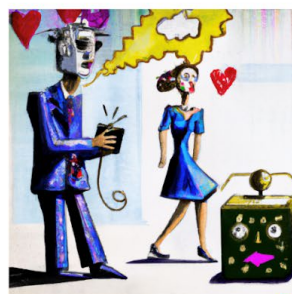
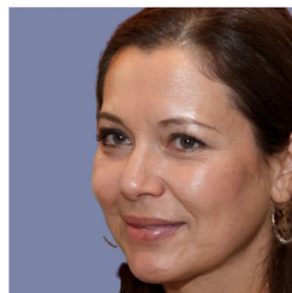
DESCRIPTORS  
Gravity  
Home

### EPISODE SUMMARY

One by one, the town businesses fail to the big businesses and shopping malls. Townspeople are applying for work in these big corporations and slowly become casualised and underemployed so they are dependent on the app for supplementary income. The artificial actor in the app keeps reinforcing to home-owning townspeople that their homes are worth so much more than when they started and so they are satiated - the Australian Dream is still alive for many but there is a widening gap between the haves and have nots. It is straining for the mum and dad property investors, too. Landlords who are leveraged are struggling to maintain the outgoings and so houses currently used for rental accommodation are being sold at the high valuations and upper middle class residents are moving in. Marianne sees the impact this is having on her town and people like Caroline and she takes Peter to task but he is hell bent.

For renters, who are more vulnerable to property market fluctuations, as their leases expire, they can no longer afford to renew and must vacate and leave for accommodation in nearby towns.

As they interact with the platform, the journey out of town becomes predictable and the app is able to direct investors to these opportunistic purchasers.



# ACT THREE



## Chapter Nine

*The Change in Scott Herman*

RESEARCH THEME/ Act Three  
Trust in PropTech may also be the result of experimentation: degree of impact and fear are risk factors; perceived credibility and value are protective factors.

NARRATIVE ACT  
Stage Four - It's not about homes its about money

CATEGORY OF CODE  
Perversion

DESCRIPTORS  
Manipulation  
Breach  
Surveillance  
Opacity

### EPISODE SUMMARY

Rates and taxes are issued to townspeople based on the updated valuations and they are astronomical, even the pioneers have depleted their app currency keeping up basic expenses due to the inflation of the digital coin.

A future weather event assessment is made by the platform, based on climate change data points and insurance premiums are raised based on this prediction of risk. What people do not know is that the risk assessment has been based on data points that assess a homeowners likelihood to be able to fund climate change impact initiatives and so it has targeted those who would likely be a future burden on municipal resources and imposed a levy - for the greater good of the town.

Outgoings for the remaining original inhabitants, even those who resisted the platform, have become unfeasible and they move out.

Super users have emerged who have recruited vulnerable people from nearby towns, including some of the original inhabitants, as well as newly arrived immigrants who are entirely dependent on app currency for their basic needs. Each time one of those people does a task, they get an in-app commission so their scale and exploitation of other users is insulating from the inflation and they are thriving.

The Mayor too becomes distressed looking at the town P&L and will struggle to meet the expenses for municipal services as much of the investment and income has been funnelled into private equity, most of which is owned by the platform. The Mayor begins to realise that the system will continue to rationalise development at any cost, he resigns and leaves town. Hasty elections are held and the founder is now the Mayor.



## Chapter Ten

### *The Royce Rolls Into Town*

RESEARCH THEME/ Act Three  
Trust in Proptech may also be the result of experimentation: degree of impact and fear are risk factors; perceived credibility and value are protective factors.

NARRATIVE ACT  
Stage Five - Global Investors Enter the Local Real Estate Game

CATEGORY OF CODE  
Power

DESCRIPTORS  
Dependency  
Social Networks and Structures

### EPISODE SUMMARY

The founder in charge of the app can see that the domestic market can no longer support the growth of the city, and the initiatives suggested by the platform are increasingly thirsty in capital while being socially unpopular.

She invites a group of international investors to the town and uses the rationalism of the algorithm to secure investment that sees the central parks converted to luxury short stay accommodation for holiday makers - weekend holiday rents have a higher yield than permanent residential housing.

The change of one site in central street is now complete from original boho art gallery to domestic chain retail store and now finally replaced by luxury brand retail. The original workers club is now open as a casino.

The founder considers an offer from her international network to invest in the app, and she believes it is the right time to take on the money to scale beyond the town. She starts doing the numbers to multiply her fortune and is blinded by greed. She accepts a cap table where the acquiring stake holder holds preference shares and her shares remain ordinary.



## Chapter Two

### *Josie Jones Meets Uptown Girl*

RESEARCH THEME/ Act One  
Risk is an embedded element of a techno-social paradigm

NARRATIVE ARC  
Stage Zero - A city government opens the door for development

CATEGORY OF CODE  
Perception

DESCRIPTORS  
Value

### EPISODE SUMMARY

Josie Meets Uptown Girl and is onboarded as a user.

We voyeuristically follow Josie through the onboarding journey as she learns about the features:

Whats Up? - UpTown news feed  
UpChat - UpTown DM + chat feature  
UpTasker - UpTown augmented reality task engine  
UpCoin - UpTown platform currency earned by doing [UpTasks](#)  
UpMarket - Spend UpCoin for real rewards  
UpTown - Real time updates for impact of initiatives on town property values, check your home price etc.

Josie invites Ryan the real estate agent to the platform and is rewarded for helping with the recruitment of a new user. She chats with the platform's artificial actor, Uptown Girl, who suggests projects relating to each of her and Peter's private portfolios and some of the municipal assets. She agrees with the suggestion to sell the Jones farm for a housing development.





# Chapter Eleven

*The Vicissitudes of T.Rust*

RESEARCH THEME/ Act Three  
Trust in PropTech may also be the result of experimentation: degree of impact and fear are risk factors; perceived credibility and value are protective factors.

NARRATIVE ACT  
Stage Five - Global Investors Enter the Local Real Estate Game

CATEGORY OF CODE  
Power

DESCRIPTORS  
Bargain and Calculus

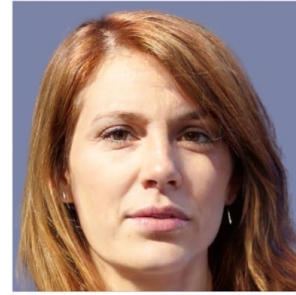
## EPISODE SUMMARY

Once the acquiring company has the controlling share, they begin to divest the platform of its asset base, liquidation style. The property market in the town spirals downward. The shareholding entity is sold in a fire sale as a shell. After the operation of the preference shares, the founder is left with a fraction of capital. She has the experience of the original townspeople.

She has a dark night of the soul on her transition from visionary to villain and sets about a critical self-reflection.

She travels to the US to confront the VC and hatches a plan to restore some power to the Golem residents and to balance the forces of progress and social equity before the app is released to the North American market.

They remove the exploitative features and introduce functionality, whereby people can vote on initiatives so instead the app pivots to being a tool of social cohesion and prosperity through town planning consensus - real time.



# Interview Questions

An illustration of a woman with long dark hair sitting in a bright yellow chair, facing a computer monitor. The monitor shows a man with red hair. The woman is holding a green speech bubble icon, suggesting an interview or conversation.

# Iterations and Slide Graveyard



Date	Change	Comments
24 Jan 23	Artificial Actor Name Change from Uptown Girl to MACI - <i>Masterplanning Algorithm Community Interface</i>	Changing Uptown Girl Name to an actual name because of the anthropomorphism of trust rationale in thesis
28 Jan 23	Names of real places - The Kearsley Hotel, Neathe etc... Change to less recognisable	Changing The Kearsley Hotel to The Grand Golem Hotel. In Australia, the locals would call this 'The Grand'
8 Feb 23	Ending - three respondents in a row (*Teal Parrot, Peach Rabbit, and Red Frog) wanted a 'happy ending'. *Yellow penguin said that it reminded them of The Simpsons monorail episode. It can't be that they just go to a new town and do it again, there must be accountability, work and redemption	Alternative ending drafted to Taylor's Episode, changed slide

Date	Change	Comments
10 February 2023	Seth shouldn't be bad/sociopath, most engineers are just naive and not great with people. One of the reasons these things happen is because engineers themselves are blackboxed.	Purple Cow reflection

## Chapter Two

Josie Jones Meets Uptown Girl

### RESEARCH THEME/ Act One

Risk is an embedded element of a techno-social paradigm

### NARRATIVE ARC

Stage Zero - A city government opens the door for development

### CATEGORY OF CODE

Perception

DESCRIPTORS

Value

### EPISODE SUMMARY

Josie Meets Uptown Girl and is onboarded as a user.

We voyeuristically follow Josie through the onboarding journey as she learns about the features:

Whats Up? - UpTown news feed  
 UpChat - UpTown DM + chat feature  
 UpTasker - UpTown augmented reality task engine  
 UpCoin - UpTown platform currency earned by doing [UpTasks](#)  
 UpMarket - Spend UpCoin for real rewards  
 UpTown - Real time updates for impact of initiatives on town property values, check your home price etc.

Josie invites Ryan the real estate agent to the platform and is rewarded for helping with the recruitment of a new user. She chats with the platform's artificial actor, Uptown Girl, who suggests projects relating to each of her and Peter's private portfolios and some of the municipal assets. She agrees with the suggestion to sell the Jones farm for a housing development.



## Chapter Four

### The Scheming and Schema of Seth Esca

#### RESEARCH THEME/ Act One

Risk is an embedded element of a techno-social paradigm

#### NARRATIVE ACT

Stage One - Individual, Lower middle class residents fix up the neighbourhood.

#### CATEGORY OF CODE

Performance

DESCRIPTORS

Reliability

Effort

Convenience

#### EPISODE SUMMARY

Seth is the technical mastermind of UpTown and is in charge of platform engineering and stability. He works with Taylor who is the charm and frontwoman and Eugenie, who is a gifted behavioural economist. The pilot group of pioneers have accrued a large amount of digital currency by complying with the suggestions of MACI. They don't need to 'learn' about property development, it is a simple exchange by which they complete the small tasks and are rewarded with more currency for each atomised goal that they reach. The currency is able to be spent in the town's new developments or via the in-app marketplace on activities and items which demonstrate status to other people in the town. The currency is undervalued, at this stage.

Seth is monitoring MACI and is learning about what tasks are desirable, how 'much' reward needs to be applied for each task and who of the pioneering group is the most compliant in completing the tasks. He is instructed by Eugenie on how to program the personality of MACI to promote compliance and engagement from users. Once Seth is satisfied that UpTown will scale successfully, MACI instructs them to organise a Town Hall meeting to launch the platform and to recruit lots of users.



## Chapter Eleven

### The Vicissitudes of T.Rust

#### RESEARCH THEME/ Act Three

Trust in Proptech may also be the result of experimentation: degree of impact and fear are risk factors; perceived credibility and value are protective factors.

#### NARRATIVE ACT

Stage Five - Global Investors Enter the Local Real Estate Game

#### CATEGORY OF CODE

Power

#### DESCRIPTORS

Bargain and Calculus

#### EPISODE SUMMARY

Once the acquiring company has the controlling share, they begin to divest the platform of its asset base, liquidation style. The property market in the town spirals downward. Money is funnelled out of the platform and into other budgets, the app is stale and user engagement drops off too. The shareholding entity is sold in a fire sale, and after the operation of the preference shares, the founder is left with very little. She has the experience of the original townspeople.

She has a dark night of the soul and is interviewed by the media on her transition from visionary to villain and sets about a critical self-reflection. In the town hall style interview process, the curtain is lifted on the exploitation of people via an unequal technological exchange. What was traded away from lack of knowledge and understanding - and how things could have been different. What she confesses is unethical, not illegal, and so there is no reviving the app or Taylor's career. No one will trust her. Taylor is ruined. After the interview she gets on a bus heading "Downtown" and presses the kill switch on MACI.

