

#MDXPD

PRODUCT DESIGN 2019

Middlesex University School of Science and Technology



Middlesex
University
London

#MDXPD

"...bringing people and technology together (in meaningful ways) to create useful stuff and things."

At Middlesex University Product Design / Product Design Engineering we design everything! From the curriculum, the recruitment process, and the learning experience, to the studio tables. All with an aim to help students design a brighter, sustainable future for all.

This aim drives the Continuous Design/Redesign Education Programme for BA/BEng/MEng Product Design/Engineering. Our current iteration of programmes were initiated in 2017, with BEng/MEng Product Design Engineering, taking over from our previous BSc Product Design, after creative conversations with students, graduates, industry collaborators, institutional groups and staff. With its sibling, BA Product Design, this latest iteration of our curriculum positions the courses at the leading-edge of design education, and ensures that the content, approach and outcomes are fit-for-purpose for the next three years. The Institution of Engineering Designers accredited the BA with an automatic professional qualification of Registered Product Designer (RProddDes) for all graduates, while the BEng/MEng is lined up for CEng pathway accreditation, once one full cycle (the end of this academic year) is complete.

This iteration has been a great success. The balanced mix of design and engineering during Year 1, and the updated differentiation and further depth in Year 2 embeds creative and technical knowledge and skills, and enhances our hands-on ethos.

The landscape of, and for, design and engineering is rapidly evolving. Empowering students and graduates with an ethical, as well as a theoretical and practical foundation, which is robust enough to navigate rapid change is critical. We are entering a period of enormous, potentially catastrophic, climate, social and technological change. Design and Engineering education has an ethical responsibility to help nurture in students the mindset, and skills, to confront these changes with collaborative, optimistic, and feasible, future visions for sustainable and equitable worlds.

Our open-minded approach to what Product Design & Product Design Engineering can be, is encapsulated in the fascinating range of professional journeys and achievements we document each year. The empowerment of our graduates to evolve with their disciplines, to adapt to leadership roles in sectors ranging from Industrial Design and Design Engineering, to UX and Service, and Robotics illustrates the power of the MDXPD approach, and illuminates the drive and 'gumption' that comes from MDXPD study.

A huge thank you, to finish, to Craig Whittet of Glasgow University/GSA for his wisdom in helping us to continue to develop this approach, and his support in delivering it, over the last four years as our External Examiner. A warm welcome to Barney Townsend of South Bank University who is taking over the role from this year.

Best wishes and iechyd da,

Wyn

BA/BSc/BEng/MEng Product Design/Engineering Programme Leader

INTRODUCTION TO #MDXPD/E

We live in a complex, fluid world, swirling with challenges and opportunities. Design is one of the ways we can approach these opportunities. We are material creatures, in a material world. The 'things' that surround us, and drive us are increasingly interwoven with the virtual 'stuff' that has come to connect us. This is subject to constant change and evolution. Change is always the fundament in life; in society and technology; in design and innovation. The puzzle is how to mediate that change for specific and holistic good. How to explore and navigate pathways towards creating new things that have a positive impact, that 'make the world a better place...'. A Product Designer can be an important part of this exploration.

There are many, unresolved, ways to think about 'Product', 'Design' and a 'Product Designer/Engineer', but, regardless of any particular interpretation, we at 'MDXPD/E' think there are some key skills, experiences and attributes that a Product Designer/Engineer needs. Build skills in Design thinking, design and technological craft and professional practice. Build experiences through wide-spectrum exploration, focussed sectoral exercises and live industry collaborations. Nurture an attitude of imagination, collaboration, sharing, storytelling, curiosity, ingenuity, courage, perseverance and resilience. The watch-words of gumption, humour and grit will go a long way to helping you on your way as a Product Designer/Engineer!

READ ABOUT OUR COURSES ONLINE:

BA Product Design

mdx.ac.uk/courses/undergraduate/product-design

BEng/MEng Product Design Engineering:

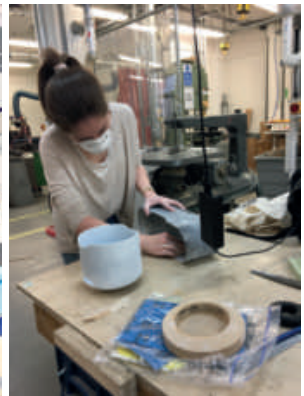
mdx.ac.uk/courses/undergraduate/product-design-engineering

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OPEN DAYS & COURSE LINKS

JOURNEY TO #MDXPD

Misa Tschickart from the Product Design 2019 graduating cohort recounts her journey to *Middlesex University*, which commenced from being inspired by a student of the programme, *Nihal Islam*, and his social media output via the course Instagram hashtag **#MDXPD**



My journey with Middlesex University began in 2014. I was still studying in Lasalle College of the Arts, Singapore when I began dreaming about continuing my studies in the design-hub of Europe - London. However, finding the right university turned out to be quite difficult especially when living overseas, so I attended several graduate events in order to find a suitable course.

During that time I had acknowledged Middlesex University but never gave it much attention; it was just a university amongst many others. However, one sunny afternoon as I was browsing through Instagram, I found an amazing student with stunning posts! His work was beautifully designed, his renders were 'on point', and his sketches neat and clear; overall it was a very professional design presentation.

From that moment on, I knew I wanted to be part of the same course. I told myself if a university can teach him that well, it would be able to bring out the best in me too.

I decided to contact this person and asked him about the Product Design course he studied. This is how I met **Nihal Islam** from Middlesex University, London. Little did I know that our paths would cross more than once in the following years.

A year later, I flew over to London to have a look at the campus. Together with my parents, I wandered through plenty workshops and explored every inch of Middlesex. I was full of joy, as I had never seen such a great variety of facilities within one school. I must have been ridiculously excited as I remember my father having tears in his eyes seeing his

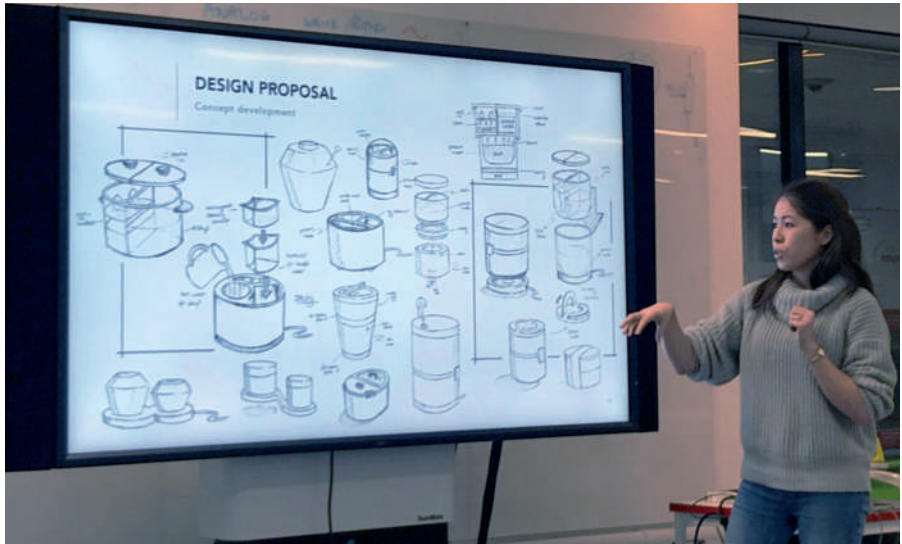
daughter being so thrilled about going to university. I quickly applied to Middlesex University and was even able to join the final year of the Product Design programme.

I wish I could say that I sailed through the course effortlessly due to having studied Product Design before alongside working experience - but in reality, I didn't.

In my entire design career I had been focusing on the aesthetics of a product. It had always been about creating a beautiful solution. Middlesex however, taught me that the essential part of developing a meaningful object is not about finding pretty solutions but asking the right questions.

Countless Universities can teach you the basics of design, an understanding of form and

Find out about Misa's Final Major Project - Page 10
& feel free to follow Misa on Instagram @misa.arts



function but only a few are able to educate you in design thinking. Approaching design from this angle had been something completely new to me and took some time to adjust to, but luckily I was not left alone - in fact, you are never left alone in Middlesex.

We were this fantastic little community of students from all levels who helped each other whenever time permitted. Sometimes senior students gave advice to those in earlier years, but also from the first semester, year one and two students were able to collaborate and contribute to projects with the final years via the annual cross-year project.

It did not matter how much experience you had in design, it was only important how good you were in giving constructive feedback.

Obviously, Middlesex does not only have great students but also outstanding lecturers. Whilst building my prototypes in the workshop there would always be a lecturer around to give me advice. Most of the time they knew exactly how to handle different materials and techniques, and if they didn't, they made all the effort to find a solution as soon as possible.

When I started my final major project, I had almost no experience in ceramics. After just two months, I was able to batch-produce my own products. Some lecturers would ask me about my project even though they were not involved in it directly.

I felt proud of myself that I was able to excite others with my work and I was grateful for the help and support I received; not because it was anyone's

duty or job to do so, but because it felt like they genuinely wanted to be part of the project and provide help, feedback and guidance.

In addition to all the in-house support, alumni would often come and visit in studio sessions and the weekly guest lectures. Nihal, who graduated in 2016 and now working at *Curventa*, London, also came in and gave a guest lecture during my studies - and I finally had the chance to meet him in person. Even after my graduation, he took care of me, 'like a big brother', looking at my portfolio and giving me tips on how to improve it.

Now, being an alumna myself, it is my pleasure to carry on the tradition and support the new generation of upcoming designers.

SPECIAL FEATURE

UX FOR BEGINNERS

MDXPD Graduate **Tara Fear** talks UX, with advice for students and graduates aiming to transition or step into the ever-growing discipline



BEGINNERS GUIDE TO UX CAREER

You are thinking that a career in UX might be for you? Stop. Before you go into wonderland about UX there are some things you need to know to make this a reality.

Advice number 1: Do not quit your job to pursue UX - not until you have a job lined up.

Advice 2: Do not take the first job that comes because its a UX title - make sure the company is right for you!

Advice 3: Do take your time, UX isn't going away anytime soon.

UX is a great place to kick-start or refresh your career. But behind the 'fun' usability testing is some serious grafting, analysis and research. If this isn't for you, then a UX career will not be a good move for you.

So let's start.

You're in work or out of work or maybe studying, but UX is your dream. Excellent starting point - let's build on that.

So, you have graduated (or maybe you will soon). And you've seen Product Design roles that have nothing to do with your design skills.

Well firstly, that's a myth.

You may not have a UX portfolio - BUT - you have got the makings to be a UX Product Designer!

Firstly, although I despair at paying for products, I highly recommend LinkedIn Premium, simply for *LinkedIn Learning* (or *lynda.com*), which has some great resources for UX design; for beginners to advanced.

Let's assume you're a beginner and have little knowledge of UX. I would recommend the following **videos** to watch: 'What is UX, what is UI', 'UX foundations, Research', 'What is UX and where do you start'.

Tara Fear, SEO Interaction Designer & Middlesex Product Design Alumna

After these videos, you'll have a clearer understanding of what a UX professional is and how to go about tackling research.

Once you have established the foundations of UX you can move onto some bigger issues facing you. I think the biggest fear of mine before starting my UX career was learning the **softwares**. Don't be scared! It's easier than you think, I'm still on that learning journey and absolutely loving it.

My first recommendation to you is to look at job posts you are interested in - see what skills they are asking for, i.e. *Sketch*, *Axure*, *Moqups* etc. Find a pattern with the roles you're interested in and focus on nailing those softwares. Again, LinkedIn Learning is a great place to get tutorials for beginners on any software, it's where I learnt the basics and more.

So, lets talk about **books**. I have been blessed that my boss has provided me with some awesome books to get my teeth into. The top 3 must be 'About Face', 'Rocket Surgery Made Easy - Steve Krug' and 'Just Enough Research - Erika Hall'. These have been invaluable to my learning. 'About Face' has chapters which you can just open up and get stuck into, i.e. I recently learnt a load about personas from it. 'Rocket Surgery Made Easy', is a small book that you could easily read in a few days and has some great usability testing advice, and 'Just Enough Research', is perfect for finding your own research path and different ways of collecting

really useful data and how to analyse that.

Recruiters - you've now been told about e-learning videos and books. Now lets talk about your portfolio. I found that contacting recruiters was a great way to perfect my portfolio. Recruiters can be a great source of help, they want you to do well as you may be their next client, if not now, then some time down the line. They see hundreds of portfolios and have so much exposure to the good and the bad.

Mentor - Another step to take is finding yourself a UX mentor, there are so many lovely UXers out there willing to help, don't be scared to ping them a quick message saying why you admire them as a designer and want their help - a little flattery goes a long way.

Connect - Expand your LinkedIn network with UXers, they post awesome videos and blogs for you to dive into and it's a great way to expand your knowledge.

YOUR FIRST UX PORTFOLIO: THE INS & OUTS

I have recently started to mentor a handful of people but I feel they and others might want more expansion on how to create that first portfolio.

Be done with the sexy portfolios with the tiny writing and big images and get stuck into the **research**. That's what a true UX portfolio is all about. If you can make it look good too then extra bonus points. But the main spine of your portfolio is hard core research and context. I would advise you to show a

few examples of research (*at least 5 of these*) within your portfolio:

- Literature Review
- Ethnographic Research: (i.e. interviews)
- Personas (a real must have)
- Evidence of 'Card Sorting'
- A task flow diagram
- Fishbone diagram
- Focus group studies
- Empathy Map
- A/B testing
- Quantitive Research: (i.e. surveys)
- A Value Proposition
- Evidence of user testing
- Context Scenarios
- Future Scenarios
- User Stories
- Mental Map
- Experience Map

My personal preference would be in this order: literature review; ethnographic research, personas, empathy map, experience map, context and future scenarios, user stories, card sorting and then usability testing.

I know it sounds like a lot, but you can condense this down and squeeze the good bits of information out to present in your portfolio. Remember to take photos of your processes, especially for card sorting and experience map (where you'll start off with lots of sticky notes and a big piece of paper). Find something you hate doing online, on mobile and desktop and find a solution for it. It's important you include both Mobile and Desktop products in your portfolio to show diversity.

So, now you've done your research you should know your users pain points and the type



I thought I needed to go into designing 'physical' products when this wasn't the case. (However, I was fortunate enough to land a job with Dyson as a Design Engineer)

I wasn't qualified to do any of the jobs that had the title 'Product Designer / UX Designer'. By no means is this the University's fault, in fact my teachers were phenomenal at teaching me, but I believe all Uni's in the UK are slightly guilty of neglecting UX and not giving it the attention it deserves. Especially when there are UX courses like the General Assembly that cost 10k for a few weeks - a bit mad if you ask me.

So, you have graduated (or maybe you will soon). And you've seen Product Design roles that have nothing to do with your design skills. Well firstly, that's a myth. You may not have a UX portfolio - BUT - you have got the makings to be a UX Product Designer! In university they teach you how to problem solve, how to cater absolutely everything to the user. Now it's the same principle for UX, apart from the fact that you're working in a

digital environment and not a hands-on physical one.

The main things you'll find, *Digital vs Physical* - Your workshops and my workshops are very different. The workshops I was familiar with were full of machinery (still fun), whereas, the workshops I use now are a sticky note user entered heaven!

Testing products low to high fidelity - you might be used to creating and breaking devices and hacking them for your project. Well, in the digital world it's not much different. You can create low-fidelity prototypes on a screen for users to interactive, you can chop and change bits here and there and iterate as you go along. The difference, it is less messy and won't require work goggles.

Collaboration: Yes, it's a big thing in UX. You may not be working with machinery technicians/engineers but you will be working with researchers/ developers and other digital designers.

The similarities and differences are apparent. However, if you want a job in UX, unfortunately

your Product Design portfolio won't help you, unless its structured around research and digital work. However, if you give yourself 3 weeks (I have seen it done several times with the people I mentor) you can make a strong solid UX portfolio online and absolutely smash it!

Remember **consistency** is key, make sure everything is spaced out equally and when you go page to page the items within your app are not jumping around on the screen. It's nit-picky work but it pays off.

Connect
with Tara Fear
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read her other
articles & posts
[www.linkedin.com/
in/tarafeare/](http://www.linkedin.com/in/tarafeare/)

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ANIMA

Reducing Food Waste at Home

Anima is a set of five decorative produce storing containers, which combat **food waste** in private households.

In order to **reduce unnecessary food waste**, **Anima** educates the user about handling produce correctly to **prevent early disposal** due to incorrect storage. The decorative set keeps food fresh for longer by using characteristics of natural materials to create the perfect environment for each produce. To ensure a minimal impact on the environment all parts of the product are **biodegradable** and **recyclable**.

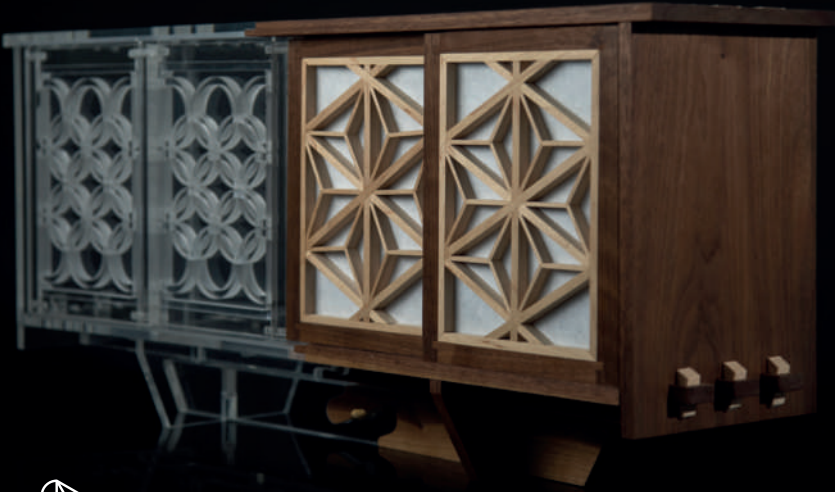
Designed to store produce differently, **Anima** celebrates the growth and appearance of vegetables similar to flowers. Placed on a dining table, produce is visible to the user at all

time. This increases the chance of food being consumed instead of being forgotten. In addition, experiencing the imperfect growth of vegetables questions the debatable aesthetic standards of supermarkets and changes purchasing behaviours.



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KIKAI-SEI

A Conversation Piece Surrounding The Death of Hand Crafts

A combination of machine and maker; **half-made using automated machinery & half-made using traditional Japanese tools**. 'Kikai-Sei' translates in Japanese and means 'machine made'. The cabinet embodies the unresolved conflict between automation and hand craft, encouraging a discussion surrounding the future of hand made objects.

Kikai-Sei uses Japanese joinery and looks at how to take the understanding of form and function that is demonstrated through that practice and **adapt them to suit new technologies**. Using the CNC router to cut acrylic we are able to demonstrate the complexity of their interlocking joints, simultaneously highlighting the balance that can be had between traditional and automation - allowing both to survive and uplift one another.

'**Kikai-sei**' is more than a cabinet, in-fact the manifestation of a cabinet isn't important, it is about narrative that can be told. Understanding how to pass on knowledge from one generation to another, and transferring that onto a new technology **without losing valuable understanding of form and function**.



RADHA SIVYER
 PRODUCT DESIGN BA, DIS

'LIVE' PROJECTS

Our **Product Design** and **Product Design Engineering** programmes always have 'live' projects interwoven into the curriculum: a snapshot of activity 2018-2019



LIVE PROJECTS, CLIENTS, COLLABORATIONS & COMPETITIONS at MDX Product Design/Engineering 2019

curventa GlenDimplex  morphy richards ROBERTS  RSA 

Our **Product Design** and **Product Design Engineering** programmes have always had 'live' projects interwoven into the curriculum. They are a valuable component of the curriculum, alongside Guest Lectures, masterclasses, and tutorship by practicing designers, engineers and researchers.

They give our students the opportunity to experience multiple perspectives, from a wide variety of disciplines, practices and sectors, within

the broader Product Design/Engineering landscape.

They also help students to examine their personal practice and ethos. We encourage all students to critically reflect upon each project, talk or experience, deconstructing and critiquing that presented to them. The best projects are dialogic. Projects in which all participants learn from one another, and project partners, as well as students develop their thinking and doing based

on the diverse experiences, insights and ideas within both their innovation space, and the broader social and environmental landscape which they all occupy.

This academic year, 2018-19, we've been lucky to work with:

- Curventa,
- Swift Scooters,
- The iMechE,
- The RSA,
- Glen Dimplex
- Morphy Richards &
- Roberts Radios.

Have a look at our **Product Design BA** course online:
<https://www.mdx.ac.uk/courses/undergraduate/product-design>

And **Product Design Engineering BEng/MEng** courses online:
<https://www.mdx.ac.uk/courses/undergraduate/product-design-engineering>



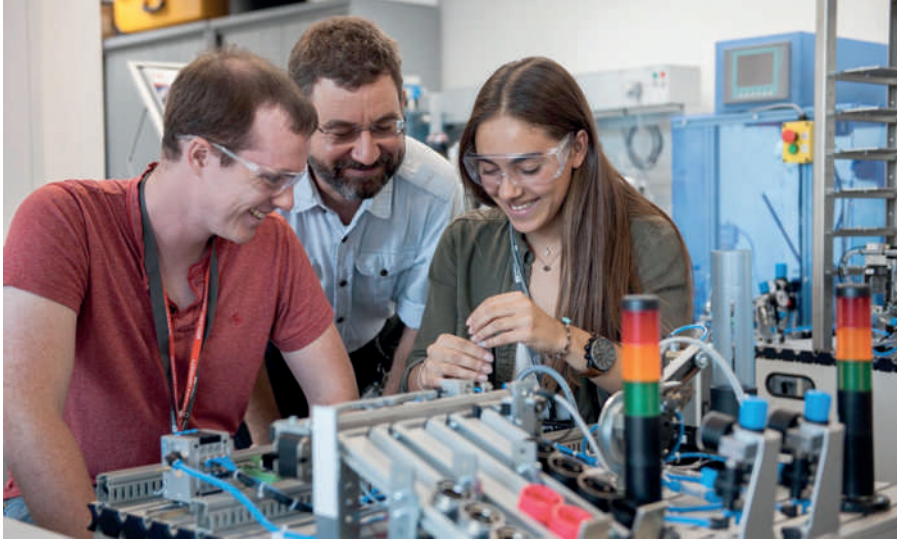
Curventa presenting their 'Design Process' philosophy to Year 2 MDXPD students at briefing



Final Year collaborative contextual analysis at the beginning of the **Glen Dimplex** 'live' project

MDX Digital Twin

Dr Huan Nguyen and his team have secured further funding for their **Digital Twin in Industry 4.0** Smart Factory research project



"It's fantastic to receive two research grants in close succession to fund our Digital Twin project and this is testament to the amazing research taking place at Middlesex.

We are leading the way in developing digital twin and smart factory modelling in the UK and worldwide."

Dr Huan Nguyen

The Department of Science & Technology (DST) India and the UK India Education & Research Initiative (UKIERI) has awarded Dr Huan Nguyen and his team £200,000 for a two year project starting in April 2019 to fund the Digital Twin Modelling for Automation, Maintenance and Monitoring in Industry 4.0 Smart Factory project.

The aim of the project is to develop a digital twin to mirror the Festo smart cyber factory Industry 4.0 facility at Middlesex and bring this model to India to help facilitate the automation

Find out more about Design Engineering
<https://www.mdx.ac.uk/courses/computer-science-engineering-and-maths/design-engineering>

and smart maintenance/ monitoring of Industry 4.0 in Sricity's industries.

Commenting on the research, Dr Nguyen said: "It's fantastic to receive two research grants in close succession to fund our Digital Twin project and this is testament to the amazing research taking place at Middlesex. We are leading the way in developing digital twin and smart factory modelling in the UK and worldwide.

"The joint funding call between DST (India) and UKIERI (UK) received 104 joint proposals and eleven were granted demonstrating the highly competitive nature of the application process. We are very proud that Middlesex was awarded one of the grants."

The project offers a platform to evaluate system limitations and the impact of malfunction in manufacturing processes. This enables real-time data collection, analysis and decision making, which are crucial for the proper operation of the Cyber Physical System. This process will help reduce instrumentation cost and make monitoring and

maintenance within factories affordable, as part of the increasing trend of applying artificial intelligence (AI) to every aspect of life.

There is also a strong desire for partner countries to address safety issues and sustainable development through automation in manufacturing industries. This research will contribute to preparing the industry/ manufacturing sector in India for the era of Industry 4.0 as well as promoting the excellence of Middlesex's research capability.

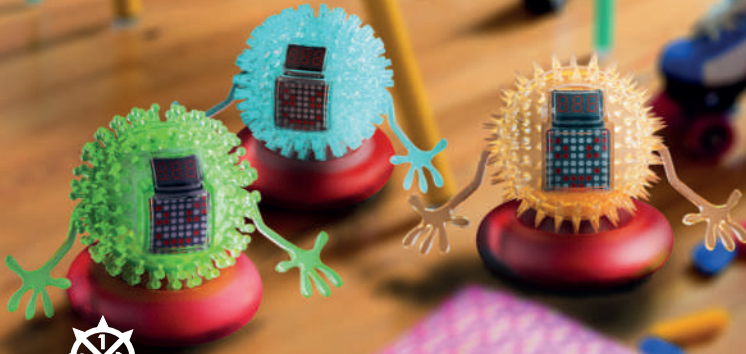
The project team will recruit several key personnel including postdoctoral research fellows and PhD students in both the UK and India. It is also expected that the research will contribute to the development of the Connected Curriculum programme in partnership with Siemens and Festo, benefiting MDX students through the latest research outcomes and enhance their learning experience.

The research will involve collaboration with international and UK partners and industry. The UK team, led by Associate Professor Dr Huan Nguyen as Principal

Investigator, includes Dr Ramona Trestian, Professor Mehmet Karamanoglu and Professor Balbir Barn. The Indian team from the Indian Institute of Information Technology (IIIT) Sricity is led by Professor Hrishikesh Venkataraman (PI) and Dr Raja Vara Prasad (CI). Other partners are the technology firms Siemens and Festo and the India based industrial partner, Sri City Private Limited (SPL).

For more information on Dr Nguyen visit www.mdx.ac.uk/about-us/our-people/staff-directory/profile/nguyen-huan

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XIGER

An Encrypted Interactive Puzzle Game

Play is essential for our learning and adapting to the current and future living. It is also an important element for achieving and enhancing a better mental and physical health. Research shows that the act of 'play' is hugely beneficial for young children. Play enhances learning, encourages children to explore the world they are currently living in and prepares them for the future.

As there are still many parents who do not understand the importance of play for both themselves and their children, I have created **Xiger**. A simple **encrypted interactive puzzle game** to encourage **family play time**.

Xiger is based around the concept of an incurable dormant micro-organism that lives in your blood. The Xigers are the real culprits of all the nuisance of your daily life and the only way to stop these unwanted nightmares is to combat them by completing the puzzle.

Shake! Bounce! Squeeze! And Scream!

You need to stop the **Xiger** from causing you more headaches by identifying and fulfilling one of the designated 4 hidden actions within a 2 mins time limit. *Or you will suffer more...*



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REPLAY

View Your Game, Your Way

Replay is a service that is based on the growing trend of **filming 5v5 football games** and uploading them to online platforms such as YouTube. Using this trend to **enhance a players' experience**, both during and after the match.

This service has multiple parts to its function. It has 3 main physical components, which are cameras, chest mounts, and a docking/charging station. The service also has an online aspect, what comprises of a website and editing application, along with the servers that hold the videos.

Replay is an all-in-one service. It starts when a team at 'PowerLeague' / 'Goals' plays a 5v5 league match at their local PowerLeague or Goals venue. Each player in the match will wear a camera and a chest mount, so they can get point of view footage from each player's angle. After the match, all the players will have access to all the footage from their game.

Using the **Replay** website and editing application, they can easily create highlight reels or analysis videos, that can then be uploaded with a click of a button.

This lets players who do not have the resources/technical knowledge to film their games before, now have the ability to share with their friends.



Ben Plass
PRODUCT DESIGN BA

Middlesex Host IMechE London Finals

Middlesex University First Year team reach second-place in the **Greater London Regional Heat** and are heading to the **IMechE Design Challenge Finals**



“The competition requires our students to follow the complete design engineering process, from conception through design & implementation to operation. The experience stands them in good stead as they develop their design engineering careers.”

Dr Aleksander Zivanovic,
Technical Tutor BEng/MEng
Mechatronics degrees

At the beginning of April, the London regional finals of the Institution of Mechanical Engineers' (IMechE) Design Challenge was hosted at MDX. Six universities from the London region took part. The competition for Year 1 undergraduates was on Tuesday 2nd April and for Year 2 undergraduates the following day. Middlesex University First Year team reached second-place and are heading to the IMechE Design Challenge Finals.

The aim of the Design Challenge is to connect engineering students to their discipline in a practical way, by requiring them to design, build, run and present a device meeting strict technical specifications and within budget.

The 2019 Challenge for Year 1 students was to create a device that will climb up the outside of a 15mm copper pipe lifting a chain and go back down again, in the shortest time possible. Year 2

students are tasked with making a similar object that can stop halfway on its journey up or down the pipe.

Competing teams are judged not only on the effectiveness of their device, but on their communication skills: a technical poster they have produced about the design, and a verbal presentation to the judging panel. The winning team goes through to a national final at the Institution's headquarters in Birdcage Walk later in the year.

A team of first year MDX Mechatronics students won the national Design Challenge in 2016, when the task was to create a miniature version of a Line Launcher, a device which fires a rope from one ship to another at sea. At MDX, participation in the competition is embedded in the curriculum and all design engineering students are encouraged to enter.

GUEST LECTURE SERIES

We run an annual Guest Lecture Series of 10-15 weekly hour-long talks for Product Design, Product Design Engineering and Design Engineering, but open to all at Middlesex University. We bring together a vibrant mix of speakers from the full spectrum of design and engineering. A mix of leading practitioners, opinion leaders, radical thinkers and emerging talents to inspire and support professional development in our students and staff. We go on to work with many of the speakers through collaborative projects and internships!

We've been lucky to been visited by so many amazing people over the last few years, as you see below, with more to come next year and beyond!

• **Nick Weldin** – MDX Robotics • **Pravind Appiah & Raj Grewal** - Design Manager & Senior Designer: Glen Dimplex • **Jonathan Joanes** – 3D Designer: Metaphor • **Alexandra Deschamps-Sonsino** - Head of Labs: Bulb and Author: Smarter Homes • **Michele Panegrossi** - Creative technologist and Sound Designer • **Nihal Islam** – Product Designer, Curventa • **Paul McMahon** – Airbus/European Space Agency • **Dr Andy Bardill** – Director: redLoop • **Sophie Harker** - Aero Engineer: BAE Systems. IET Young Woman Engineer of the Year 2018 • **Dean Brown** - Independent Designer and MDXPD HPL • **Karl Toomey** - Head of Creative with INT Works • **Stephen Wood** - Senior Director: XLabs Innovation, Virtusa Polaris • **Adam Amos** - Chief Operating Officer at Pigzbe • **Gary Pyper** - Vice President of Design and Invention at Seven Towns Ltd • **Alex Zivanovic** - Senior Technical Tutor, Middlesex University Faculty of Science and Technology • **Pierre-Yves Paslier** - Founder of Skipping Rocks Lab and OoHo! • **Eris Chinellato** - Lecturer in Design Engineering, Middlesex University • **Ozak Esu** - Electrical Engineer, Cundall. IET Young Woman Engineer of the Year 2017 • **Dr. Simon Atfield** - Associate Professor, MDX Interaction Design Centre • **Michael Sulu** - Post-Doctoral Research Associate in Biochemical Engineering, UCL • **Yasmin Ali** - Energy Engineer, E.ON Energy • **Samuel Plant Dempsey** - Product Designer, TFL • **Chris Lefteri** - Chris Lefteri Design, Author of 'Making It' • **Amanda Briden** - Consulting Team Leader at OI Engine, IDEO • **Daniel Tauber** - Interaction Designer, IDEO London • **Marco Paladini** - Robotics Research Engineer, Ocado Technology • **Rob Darwin** - Entrepreneur •

Contact **Ahmed Patel** - a.m.patel@mdx.ac.uk if you are interested in sharing your experiences in our Guest Lecture Series.

MDX Living Pavilion

A flagship for innovation & sustainability on campus

The project was a learning-by-doing challenge for **Architectural Technology** students, and is now an opportunity for collaborative & cross-disciplinary work



'I enjoyed sharing my knowledge with students, getting them to understand the practical process of what goes into a building' says *construction site manager Kevin Milner*. 'The students are the next generation going into the building industry. From working with me, they've got a head start knowing someone in construction already.'

Construction is complete on a new multi-purpose activity, learning and wellbeing space for the University. Designed and developed from conception to delivery by Architectural Technology students in collaboration with the Estates team and industry professionals, MDX Living Pavilion embodies the learning-by-doing approach which is a pillar of the University's philosophy. The timber structure, with a green roof, flooring made from recycled plastic and sides open to the elements, housed an exhibition during Staff Conference and Graduation, and was a draw for students

and their families for Graduation photographs.

The Pavilion plays a number of roles including as a flagship for collaboration between departments, a showcase for sustainability and innovation on campus, an events venue and an outdoor classroom. It has planning permission for the next five years and is designed as an easily-adaptable structure so it can continually evolve. Projects to develop it further and publicise it will be embedded in the curriculum for students on different courses. For example, Film students will make a promotional video and Product

Read more about the Multi Purpose Campus Space by searching for 'MDX PAVILION' on mdx.ac.uk



Design students will make a sign. The incoming cohort of Architectural Technology students will conduct a post-occupancy survey, examining how the Pavilion is performing and any defects to it, and setting up a timelapse camera to see how people interact with the space.

Yoga classes have been held there in August and next month it will be used for the Teaching & Learning Conference. A MDX film student has booked it to shoot a short film about space and black holes. Other possible uses include as a space for welcome events, student

societies and outdoor films, for community and schools outreach events and as a quiet place for contemplation.

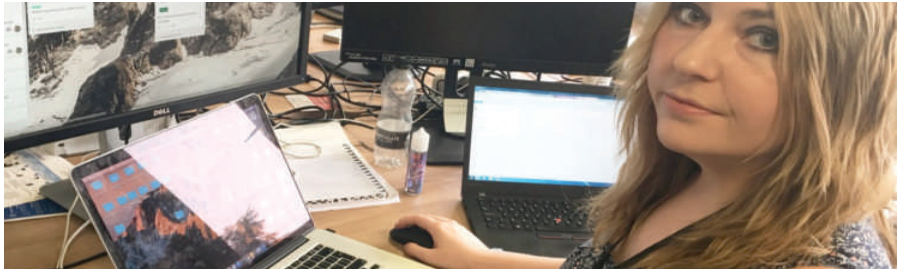
Since the conception of the project by MDX academics Tong Yang and Homeira Shayesteh in 2017, two cohorts of Architectural Technology students have worked on it. German Didenko, who concentrated on the Pavilion substructure, said of the project: "I learned a lot about teamwork and planning, how to make changes if necessary to bring down the cost, and got insight into the industry". Romuald Beyeck Rifo, whose design for

the look of the Pavilion was selected out of all of his coursemates, said working with architects "teaches you how to pursue what you want to do. But you have to do whatever they advise you to sometimes".

Homeira says: "The Pavilion is the result of collaboration and support of many within MDX and beyond. It provides a great opportunity for all to use it. Mehmet Karamanoglu's leadership and James Kennedy's mentorship were crucial. In particular, our close collaboration with the University's Estates Office was what made it all possible..."

#mdxpd | 60 seconds

An Interview with **Tara Fear**, MDXP Graduate 2016 and UX Special Feature Author



You are?

My name is Tara Fear, I'm a Senior Executive Officer of Interaction Design (UX) for the Government at the Office for National Statistics.

Why Product Design?

I chose Product Design to help people. When I was younger, I would break and remake my grandparents disabled equipment to suit their needs. I was always fascinated with the thought of creating my own products to help people. I have always believed that the user needs come first. Post University, I always thought a 'Product Designer' was someone who created physical products, and when working at Dyson as a Design Engineer, I started learning about a whole new type of Product Design, one that was digital and not physical - UX. Now I have transitioned into a whole new world of design, UX (User Experience Design). UX Product Design lets me fulfil my dreams of catering to everyone through universal design, for people who are blind, deaf, have learning disabilities as well as those without any ailments.

What's a standard day like for you as a Designer?

As I have experience in both

physical and digital design, I'll explain a little about a standard day in each role:

+ When working at Dyson as a Design Engineer, I would be designing on Siemens NX CAD and then 3D printing or CNC machining my designs. I could also be found tinkering in the many workshops developing models.

+ As a UX designer my day can vary from coding, to using Axure RP, Sketch, InVision, and Moqups, to facilitating UX workshops, to taking day's out and travelling around the UK researching people.

My typical day consists of: (i) design meetings with the team, similar to a workshop where we use electronic art-boards and sticky notes on walls to capture our ideas; (ii) creating paper and digital prototypes and testing prototypes on users out in the field with researchers; (iii) iterating designs to make them into functional and interactive designs on Axure and Sketch; (iiii) creating pixel perfect captivating designs in Sketch on both mobile and desktop view; (v) hand over to the software engineers who will code designs to make them into prototype / fully functional product.

UX design is not at all laborious, it is exciting and something new crops up everyday. You don't have to be a software engineer to be a UX designer - you don't need to code. All you need is empathy for users, a creative mind to problem solving and the ability to not over complicate and simplify things.

What's your favourite design tool?

For physical Product Design my favourite tool is Siemens NX CAD with Keyshot software to create beautiful rendered products.

My favourite UX design Tool is Axure RP - it's a highly capable software that allows you to design interactive prototypes without the need to code, it takes quite a bit of practice but once you get the hang of it, it is addictive.

What are you great at?

My strength is looking at designs in a new light and focusing on improving accessibility. For example, I'm currently working on the designs of the 2021 Census, which will be rolled out to over 65 million homes across Wales, England Scotland and Northern Ireland. It is my aim to make the Census as accessible as possible. I'm making the

Read Tara Fear's featured
'UX for Beginners' pages 05-08

Census accessible for those who are: (i) deaf, by adding British Sign Language (BSL) videos on the Census; (ii) blind, by making the Census screen-reader friendly, so it has audio; (iii) dyslexic and dyspraxic, by highlighting complex words or important information with contrasting colours to make the census easier to read; (iiii) those who's first language isn't English, by adding Welsh, Gaelic and Ulster Scots and other languages to the Census.

I feel like it's my duty to use this strength to make designs accessible and universal, it's also my aim for The Office of National Statistics to be the most accessible website in the UK and be a leader of 'accessible design' going forward.

What do you wish you could improve upon?

Although I love digital design, I sometimes miss workshop machinery and getting messy by breaking and making things. I was the head technician in Harrow School's Design Department and I gained qualifications in metal and wood working and CNC machining; it seems a shame that I haven't got access to machinery to keep my skills up and improve myself in this area. However, that doesn't mean I don't practice CAD anymore, as I practice around 2/3 hours a week after work at home, and some day soon (maybe next year) I'm hoping to get a place with a garage that I can open my own workshop with machinery and practice there. I'm also looking to improve my UX skills and I'm taking the Nielson Norman Groups' UX course and exams in November to further my skills.

What is a Product Designer in the 21st Century?

Product Design is really evolving, especially with the Internet of Things, and more and more physical products are starting to require App's to run. So digital design is really starting to peak as the connectivity between products increase. I also think 21st Century Product Design is all about sustainability, no more useless plastic wastage and more thought going to procuring sustainable and recyclable materials for products.

When you type in 'Product Design Roles' on Google search, you will see that the majority of roles returned is UX Design - not Industrial Design, there is a change happening to the Product Design world, the meaning of 'Product Design' is evolving to cover a larger scope of roles from digital as well as physical. A Product Designer to me, is someone who makes a product, whether it is tangible or online and delivers a new, unique or improved solutions to users.

What's your advice for future Product Design/Engineering students?

My advice is get a strong LinkedIn Profile and make connections - you would be surprised how many job offers I have sent to my inbox every week because of my LinkedIn presence - it's an invaluable tool. Also, find yourself a mentor for what you want to do, someone who inspires you or works in a sector you would love to get involved in. It will open up your contacts as they will share with you and it will be an excellent way to learn first hand.

I mentor UX (and some Design Engineering) so if you are struggling to find someone, I would be happy to help you look, or help you myself.

What are the big, looming challenges for designers...for society?

Challenges facing designers and society is as mentioned previously, sustainability and accessibility. So many products are made with little care to user needs or the environment these days. We have huge landfill problems all over the world and our oceans are filled with plastic, up to 12.7 million tonnes of plastic enter the ocean each year! We need to become more resourceful in how we choose materials for our products. Furthermore, there are over 13.9 million disabled people in the UK and as designers we need to cater for their needs as well as everyone else.

Who are the first 5 names on your fantasy exhibition Private View invite list?

If I was to hold a fantasy exhibition I would include the following people:

- + Sundar Pichai - CEO of Google
- + Don Norman - Author of The Design of Everyday Things
- + Steve Krug - Author of Don't Make Me Think - UX
- + Brian Chesky - CEO of AirBnB
- + Olof Schybergson - CEO of Fjord (one of the world's leading service design consultancies).

Connect with Tara Fear on LinkedIn and read her other articles & posts
www.linkedin.com/in/tarafear/

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HOLD

Empowering OCD Sufferers to Break Down Barriers for Treatment

Hold has been designed to aid in the **treatment and management of Obsessive Compulsive Disorder**. Its function is to assist in creating a **support system** between its user and a chosen individual through **non-verbal communication**.

Hold is used by OCD sufferers during times of anxiety, offering a tactile distraction from their intrusive thoughts whilst asking for intervention in a subtle manner.

Hold is able to combine a self-help approach with professional treatment by collecting data highlighting particular behaviour patterns and triggers which in turn will allow for a more detailed conversation with a healthcare professional.

Hold is a pebble-shaped hand held product designed to be carried by the

user daily and like pebbles, no two OCD sufferers are the same. Their symptoms can vary greatly and change over time.

Hold's subtle yet beautiful design has been carefully considered to ensure that the user is more inclined to carry it around on a daily basis, without acting as a neon sign highlighting an individual's state of mental-health.



TOM DOWNEY
PRODUCT DESIGN BA, DIS

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RECORD



A Device to Detect Early Signs of Dementia Symptoms

Dementia is one of the leading causes of death as it does not have yet a treatment to prevent, cure or slow its progression, but it does not mean that there are no alternatives to help sufferers somehow delaying the onset of their symptoms.

This is the main concept behind **"Record"**, to intervene in the current 'average' process of the individual with Dementia, in order to help them achieving a **'timely diagnosis'** at the earliest stage possible.

It is aimed to look for early clues for symptoms of this disease; the app will collect existing data by synchronizing other health apps and plug-ins which will give information about the person, which can then be interpreted by a professional as early clues of the first

The concept behind the wearable, which is an audio recording device, is to catch the instances when this first symptoms appear in a straight forward action of pressing a button, which will

save audio records with 30 sec pre-buffer. These recordings will be automatically updated to the 'Record' app stamped with date and time of when this was taken, these will then appear reflected in weekly, monthly or yearly graphs, which then will be reviewed by a professional.



Laura Uribe
PRODUCT DESIGN BA, DIS

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SAFETAG

A smart personal safety device to use during daily commute

Safetag is a response to the current **rise in street violence and robbery** noted by the UK police statistics. It is addressing **women's** feeling of **insecurity** and higher **perception of danger** when on the streets. A recent rise in mobile phones being snatched using mopeds has made walking openly in the streets with your phone a **high-risk** situation, especially for **lone females**.

SafeTag is an accessory made for women. It was designed to look like an ordinary travel tag. When not in use it can be attached to a handbag and treated like a bag charm but with intention to be easy to reach when an emergency occurs.

SafeTag allows you to access several functions and data from your phone without needing to take out the actual high value item from your bag – no

longer attracting attention of potential offenders.

Safetag sends emergency call out when in danger and allows the user to remotely access several functions on their phone. This includes sending messages, making phone calls, accessing maps and sharing GPS location. You can also plan and save daily commute journeys on the device. In situations of higher risk of danger, the device can reach emergency services and close contacts in a **safer** & quicker way.



KAROLINA SKUPIEN
PRODUCT DESIGN BA

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E-CLIPS

Digital Calendar For Two Person Split Shift Time Schedule

e-clips is a digital calendar that aligns two people's time schedules benefitting people with busy or irregular timetables such as **split-shift workers**.

This device creates a great opportunity using technology and is simple to use. Through a visual approach it supports time management, and allows the showing of unsegmented time flow.

The interaction is happening through the table-top device monitor, which can synchronise data from Google calendar and share user activities on the display.



Felician Farkas
PRODUCT DESIGN BA

MDX Showcases Innovation to Mayor of London & Microsoft UK CEO

Robot & Sandbox exhibits demonstrate the University's commitment to accessible technology and 'learning through doing'



Middlesex University students impressed London Mayor, Sadiq Khan, at the launch of London Tech Week, Europe's biggest festival of live tech events, helping him programme a collaborative robot to drop a toy car onto a stunt track.

Once they had played with Sawyer the robot - manufactured by Machine Building Systems in Derbyshire - visiting schoolchildren, media and tech professionals could run their hands through Middlesex's interactive sandbox exhibit, onto which gradient lines and colours for different altitudes are projected via a Microsoft Kinect 3D scanner and a computer.

The Mayor's promotional agency London & Partners chose Middlesex for the event, along with Imperial College and King's, on the strength of last year's Strategy Launch at London City Hall,

which featured a series of high tech exhibits. The universities were showcased on the ground floor of the Francis Crick Institute before a series of conversations led by Bloomberg Technology's Caroline Hyde with leading tech figures such as Microsoft UK CEO Cindy Rose and CEO and co-founder of Unruly Sarah Wood, and an address by the Mayor.

In his speech, the Mayor described his vision for London as the world's test-bid city for innovation. To achieve this, he said, "we must take a more collaborative approach, that relies on our tech community, our public authorities and universities and colleges working more closely together". He told guests that "the story of London has always been about young Londoners making their mark and leaving a legacy."

Third year Mechatronics BEng student Ali, who made a robotic boat for his final year project, introduced the Mayor to Middlesex's robot and explained what he and his colleagues were demonstrating. He said he had taken part in many events over his three years of studying, but not usually with VIPs and journalists. "Guests were extremely happy to have a chat, always concluding that we were the future of this country" he says about the launch.

Head of Department of Design Engineering and Mathematics, Professor Mehmet Karamanoglu said he was "thrilled" at the opportunity for Middlesex students and staff to be part of the event. "This was a great opportunity for our students to showcase to London and beyond what creative and innovative technology solutions they can provide," he said.

PEPPER TO PARLIAMENT

Middlesex's robot, **Pepper**, gives evidence to the House of Commons Education Select Committee's inquiry into the Fourth Industrial Revolution



Pepper, one of Middlesex's resident robots, made history on 16 October 2018 by becoming the first robot to answer questions from the **Education Committee** during a session on the Fourth Industrial Revolution and the implications for education of developments in artificial intelligence.

Joined by Middlesex's Executive Dean of Science and Technology, Professor Martin Loomes; Babak Jahanbani, General Manager at world-leading technical education equipment and solution provider Festo Didactic; and two MDX engineering and computer science students, Joana Da Cunha Miranda and Nicholas James Fitton, Pepper talked about how a new way of thinking is needed by tomorrow's workers to get the most from technological innovation.

Professor Loomes emphasised that education systems must adapt to the speed of advances in technology and their implications. Middlesex is a

university that is agile and responsive to these changes, and has invested heavily in teaching methods that will enable students to develop key skills to adapt and innovate in the changing workplace.

Professor Loomes said, "Predicting the future, the role that technology will play, and the impact on people is notoriously hard. Injecting technology into situations changes them and the roles that people will play will evolve accordingly. A traditional view of robots is that they will automate simple, repetitive tasks on a production line. The development of robots like Pepper shows that robots may well be integrated into more social settings.

"The challenge will be having an education system that can adapt to rapid evolution and support lifelong learning. At Middlesex University we have been among the first to invest heavily in technology such as compliant robots capable of

integration into social settings and a manufacturing 4.0 cyber-factory, and we are pioneering curriculum approaches that use this environment for problem-based, skills-focused learning to the full."

Middlesex University is committed to developing teaching methods that equip students for their working lives and is keen to move away from the traditional division between academic and technical routes. This arbitrary split does not reflect the reality of the emerging jobs and skills landscape.

Academics at Middlesex are continually developing ways of thinking which reflect the fusing of technologies. For example, our Building Information Modelling Management programmes bring together areas of engineering, construction, management and smart environments in ways not imagined before. The economy needs graduates who are equipped to tackle this technological convergence and drive value from technology as innovators, creators and lifelong learners.

Watch the video
on YouTube
<https://youtu.be/nf5DHabiZao>

REDLOOP

Middlesex University Design & Innovation Centre / Faculty of Science and Technology



redloop is a research-led, design and innovation centre run by the Faculty of Science and Technology at Middlesex University, London. Run by Dr. Andy Barhill and Dr. Kate Herd, our approach of innovation-led research and research-led innovation brings together expertise, social and ethical philosophies and commercial experience from across the Faculty, the University and its collaborative networks. Flexible and scalable teams of experts from across the University come together at redLoop to meet client and project demands.

As a team of designers, we make significant contributions to high profile research within the university through the formulation of innovative concepts, the creation and visualisation of innovative concepts, and working with industrial partners in leading edge manufacturing.

Much of our current work is in biomedical engineering:

Continuous Regional Analysis Device for Neonate Lung (CRADL)

is a pan-European, multi-million pound research project developing real-time lung imaging technology for neonates. You can watch the project video at <http://cradlproject.org/> and see us at work in the redLoop studio. We have made significant contributions to the CRADL project by developing new product architectures to optimize manufacturability and reduce costs, affective design features to improve parental emotional response to the devices, and affordance design features to reduce error in the use of the device by medics. We have devised an entirely new approach to 'measure' shape, which is an important component of this lung imaging technology. We went to Finland in June to

measure 30 babies laying in different positions and are now able to provide neonatologists with a new understanding of how chest shape changes according to body position. This work has international importance for medical imaging. The project finished at the end of June but has just been successful in receiving a further £2 million EPSRC grant to enable the team to continue to develop this technology over the next 3 years. Middlesex University will be working with UCL and Cambridge University on this next phase.

Oral cancer detection device:

We are part of a team working across Middlesex University and University College London that is developing a device to enable dentists to perform early diagnosis of oral cancer. We are developing the wearable device through user

Find out more about **redLoop** at
<http://redloopdesign.com>



and activity centered design processes and industrial design taking it from proof of concept through to a testable prototype in a clinical setting.

Other projects have included:

Alexandra Palace: redLoop are STEM partners with Alexandra Palace. We are currently designing and building devices and demonstrators for their new visitor attraction and learning centre. Upon completion, this project will result in four teaching 'episodes' to be run with school children from across the whole of North London, and offers Middlesex University Student Ambassadors opportunities as workshop facilitators.

The Quest Study: Branding including logo, website and marketing materials for Quest, a research project that aims to understand how best to support

people in distress, by exploring individual experiences of suicidal thoughts and attempts, and people's views about helping others who may be suicidal. Find out more at:
www.thequeststudy.org

Product design for subjective wellbeing (how to design stuff that makes you happy): with Professor Pat Jordan.

We act as a 'transition space' between the University and the outside world, and as such we are able to provide students with amazing opportunities to work on real design projects with commercial clients. During the 2018-19 academic year the redLoop team have worked alongside 5 placement students (three from mdx PD and two from Loughborough University), each of whom have played a key role in bringing our projects to fruition, overseen by the redLoop team.

The placement student team, 2018-19:

Middlesex University:
 Huw Jones
 Ben Jordan-Readings
 Adil Kauim

Loughborough University:
 Suzy Olutola
 Ben Arnold

If you're interested in a placement with redLoop please drop us an email.
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REFLECTION

A Smart Mirror That Reflects You & Your Environment

This **open source** mirror presents the user with information such as the **date, time, calendar events and custom news** but also **live air quality updates** through the SmartHomeostasis sensor which provides data from within the home. The sensor is embedded within the base tray of an Aloe Vera plant pot which itself is a natural air quality purifier.

The sensor will inform the user of the status of their **air quality, temperature, air pressure and humidity conditions** within their home which is known to effect health when exposed to poor levels of air quality for long periods of time.

The mirror will also take a photo of the user every day and allows for an annual reflection video with the ability to look back at memories throughout their life. The mirror also adopts **the principles of**

mirror meditation and mindfulness which will encourage the consumer to take time out from conventional screen-based activities **to focus on themselves and their wellbeing** which has recently been proven beneficial to our health according to NHS studies. The act of taking time out to focus on yourself and be distracted through random tasks and requests provided by the mirror could have the potential to generate happiness and an improved wellbeing.



KANE FERNANDES
PRODUCT DESIGN BSc



TOTEM

Helping Discover The Hidden Gems of The City

Totem is a **situated conversational agent**, meaning it provides useful information about the specific place where it is placed, through conversations happening on Twitter.

Totem is manifested through a physical structure that displays information and serves as a point of contact with the user, and a Twitter account which the user can converse with.

Users interact with **Totem** through a **simulated natural conversation**. As different users interact with the **Totem**, it presents different examples of what's going on in the area, or what a specific user might want to do.

As a **Totem**, this structure represents the **local area**. This is done through **representative data visualisation** of the borough statistics. Through the overlay of different panels, it is possible to

achieve an effect in which the information is hidden or shown depending from where you're looking at it. Information is shown in pairs of panels to create various kinds of overlays, which invites the user to move around **Totem** to find more about the area.



DIEGO MARTIN
PRODUCT DESIGN BA

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DROP POD

The Ultimate Lounge Chair

The **DropPod** is a creation of ergonomics and immersion applications to help a user escape a current environment to be in one of their own whether it's to read a book or just relax for a minute between shifts.

The memory foam padding allows the user to be fully immersed in the chair's ergonomic design using real primary and secondary human anthropometrics to combine relaxation with the right posture and touch sense.

The **DropPod** also includes a massaging system for that small extra comfort for people trying to get away from the outside world making the experience more immersive.



DENAS BULEVICIUS
PRODUCT DESIGN BSc

MDX Team Win Innovation Award in EuroBot Contest for Creative Thinking

Touchscreen interface, text-to-speech instruction and Latte Panda circuit board charm and impress the judges



The university has built on its growing reputation for student robotics by winning a prize for innovation in Europe's foremost amateur autonomous robotics competition.

In the final of **Eurobot 2019** in La Roche-sur-Yon, France, where the task was to programme tabletop robots to pick up and correctly sort coloured pucks while avoiding bumping into other robots, Middlesex impressed judges with a text-to-speech instruction system and a touchscreen interface for their devices.

Artur Graczyk, Camille Croci, Chibuike Okpaluba, Muhammad Ali Hussain Javed, Szymon Klimek and Szymon Malecki faced a field of over 200 teams that generally were 10- or 15-strong, but still managed to move MDX up 12 places on its ranking last year.

Eurobot, which began in 1998, has been keen to add new elements to keep the format fresh, says MDX engineering and computer science technical tutor Michael Heeney. MDX's team *Brainstorm* stood out for using robot

operating system ROS, rather than a more familiar programming language, and a powerful main circuit board called the Latte Panda; having speakers on their robots for the text-to-speech system, which helped them avoid human error; and for having just one pullcord that activated all three of the competing bots at once wirelessly.

READ THE FULL ARTICLE ONLINE:

unihub.mdx.ac.uk/student-life/news/2019-news/mdx-robotics-team-win-innovation-prize-in-eurobot-contest-for-their-creative-thinking

#mdxpd | 60 seconds

An interview with Google Design Specialist & MDXPD Alumni **Hawanatu Koroma**



You are?

Hawanatu Koroma, Design Specialist at Google and hopefully will be one of the first to break into the Tech/Fashion Industry

Why Product Design?

I've always had an interest in Engineering and Design. I Studied Mechanical Engineering Technology at Greenwich University for a year. In that year, I decided I wanted a career that's more design based. I was pleased to learn about Product Design at Middlesex University, which I thought was a perfect merger of both my interests. Now, looking back I'm happy I made the change.

What I love about Product Design is that it teaches you to be diverse, to think through problems through someone else's perspective and it has a lot of transferable skills.

What's a standard day like for you as a Designer?

A standard day as a designer, would start by having breakfast at work, checking my emails and calendar for meetings, then proceed to create complex

slides and magically simplify them, turning presentations and pitch responses into engaging collateral for the Google sales team. And of course, enjoying the free perks at work.

What's your favourite design tool?

Adobe Illustrator! I've always loved the process and outcome of design, the ability to start with nothing, and to then use creative tools to create beautiful art-works.

What are you great at?

Not giving up. Failure scares me, however it doesn't stop me from trying and I don't mind trying as long as I eventually get it right.

What do you wish you were great at?

Fast decision-making; I tend to juggle ideas which can be time consuming - and also be confident in both my decisions and designs.

What is a Product Designer in the 21st Century?

Thanks to social media, designers are now able to create opportunities and take control of their future. Designers who are struggling to find employment after University/College usually freelance or create businesses on Instagram. It shows how driven and passionate they are about design, considering the misconception in the media about millennials.

What's your advice for future Product Design students?

1. Be willing to learn and improve your skills sets

2. Have a diverse design interest (interior, architecture, UX/UI etc...) this will help with ideas and concepts

3. Be up to date with the latest Designs

4. Visit exhibitions to get a sense of where the future of design is heading

5. Don't be afraid of change

What are the big, looming challenges for designers...for society?

Unfortunately, as much as social media can help, it can also hinder designers. The requirements from employers or to be an entrepreneur is high. Although we have sites such as Kickstarter, it can be hard making the connection between digital (a concept) and physical designs.

Who are the first 5 names on your fantasy exhibition Private View invite list?

It would most likely be an exhibition consisting of female designers. Based on research, women face a lot of struggles within the Design/Engineering Industry, whether is trying to break into the industry or establishing a career, it would be great to have an exhibition that allows amazing female designers to network and share their experiences.

CONNECT WITH HAWA ON LINKEDIN:
<https://www.linkedin.com/in/hawsofdesign/>

COMPETITION GLORY & INSPIRING VISITORS AT WORLD SKILLS UK

Students win 1 Gold, 1 Silver & 3 Bronze medals - and introduce 85,000 visitors to robots, life-size Super Mario and science challenges



For a seventh year, Middlesex University London has taken a prominent role in the UK's largest interactive skills, apprenticeships and careers event WorldSkills UK LIVE, organising four WorldSkills UK skills competitions whose finals took place during the fair.

One hundred and six MDX students and staff travelled to Birmingham NEC to help deliver and compete in contests in robotics, automation, mechatronics and industrial electronics, and a demonstration competition in laboratory technician skills. The University came away with one gold medal, one silver and three bronzes, placing it sixth out of the institutions taking part.

MDX's gold medal-winning students will now join Squad UK and hope to represent the country at the next WorldSkills International event in Russia in

August 2019 following the Team UK selection next March.

These contests have "immediate relevance to what we do on a daily basis," says MDX Professor of Maths and Design Engineering Mehmet Karamanoglu, who co-ordinated the Middlesex presence. They embody the combination of academic and technical education; a work-based approach to learning focused on solving real-world problems; and study programmes embedded with creativity which Middlesex offers students to equip them for the Fourth Industrial Revolution.

The University "has developed a number of academic programmes where the technical ability standard is set at the level expected to be found at international level," Professor Karamanoglu says.

“Engaging our students with their discipline in an authentic way and giving them the opportunity to translate this to a wider public is one of the reasons that we put so much effort into these activities” says Professor Karamanoglu.

To read the full article search for 'World Skills' at www.mdx.ac.uk

SMASHfestUK

SMASHfestUK is a collaborative ecosystem researching and developing new approaches in co-design and public engagement with communities underserved by STEM and Arts informal education and under-represented in STEM and Arts education and careers



2018-19 was a thrilling year for SMASHfestUK. The multi-award winning SMASHfestUK was awarded the prestigious **THE Award 2018** for Outstanding Contribution to the Local Community, **The Engineer 'Collaborate to Innovate – Young Innovator'** Award, and funding awards from The Science and Technology Facilities Council 'Nucleus', The Royal Academy of Engineering 'INGENIOUS' and the British Science Association to explore co-design and immersive narrative embodiment effects in informal education, working with disadvantaged communities in Deptford and Bradford, and an exciting group of partners from academic, science, engineering and cultural disciplines. The new phase project leads with a top-level storyline entitled 'Space Plaque'.

THE judges praised the immersive experience technology, science and arts event for young people and

their families from communities underserved by informal education as "an inspiring example of collaboration" and "truly innovative".

Middlesex University, the University of Greenwich and the media company, The Refinery, lifted an Outstanding Contribution to the Local Community prize at the Times Higher Education Awards - widely referred to as the "Oscars of higher education" - at a ceremony at Grosvenor House Hotel on 29th November for SMASHFestUK. The judges continued: "Immersive experiences have been used to encourage young people to engage with practical solutions to disaster scenarios, a truly innovative way of stimulating interest in STEM and arts subjects, as well as ecological issues, while also reaching out to the wider community". Times Higher Education editor John Gill said: "At a time when universities face challenges and headwinds, it is particularly important to champion the values, creativity and dedication of those who

live and breathe higher education.

"As ever, our shortlists represent the best of the best, but our judges also reported that this year's entries were the strongest that they could remember. It's THE's great honour to help celebrate their success."

The Engineer Collaborate to Innovate Young Innovator 2018

Award recognised the SMASHfestUK 'Living in Space' project. A multi-part, co-designed semi-immersive experience involving partners from across London and South Wales - Middlesex University, The Refinery, Deptford Green School – Design and Technology Year 9 students, Llangatwg Community School Year 8 students, Haberdashers' Aske's Hatcham College Sixth Form, Christ the King Sixth Form, AstroCymru, Monster Paw Games, Little Inventors, University of Greenwich, Science and Technology Facilities Council, Royal Academy of Engineering and UK Space Agency.

#ImmersiveNarrativeEmbodiment #DiversityInSTEAM
#SocialJustice #CreativeCollaboration #STEMHeroes

Living in Space was framed around a worst-case scenario of Earth being too inhospitable to survive following a massive flood and formulated and co-designed during a previous project - The Earth and Sky tour – before being brought to life by numerous collaborators who helped to inform a set of activities that would inspire youngsters to look at the engineering and science necessary to live in space.

The public co-creation element alone involved, alongside the partner group, members of the public participating in space engineering and science based activities with seven universities, UCL Women's Engineering Society, Fraser Nash, plus space scientists including Hannah Sargeant, Space Exploration Systems Researcher, OU; and Jess Durk, Theoretical Cosmology Researcher QMUL & STFC Astronomer.

Ideas generated during this process informed the Living in Space project brief, culminating in the experience during the main Deptford 2018 SMASHfestUK festival. The experience had multiple stages of creative science and engineering engagement, which required visitors to register and train before embarking on their mission. It was designed to ensure that participants considered themselves to have a role other than 'astronaut'. These included being a member of the Asteroid Mining and Resource Section, the Science and Engineering Team, or being a Space Colonist.

'Space Plague', is a phased co-designed experience exploring Immersive Narrative

Embodiment effects amongst communities underserved by STEM and Arts informal education and underrepresented in STEM and Arts education and careers.

Funded by the Science and Technology Facilities Council 'Nucleus Award', the Royal Academy of Engineering 'INGENIOUS' and the British Science Association, and is a partnership between SMASHfestUK CIC, Middlesex University, the University of Greenwich, the Rutherford Appleton Labs - Diamond Light Source and ISIS Neutron and Muon Source, the Structural Genomics Consortium at the University of Oxford, the British Ecological Society and the National Science and Media Museum.

The project will run across three Phases, with events in Bradford July 2019, Deptford February 2020, and Bradford July 2020. There will be ongoing Co-Design, Co-Production and Co-Delivery cycles throughout the process.

The Phase 1 live prototype, at Bradford 19th-21st of July, was a great success. Creating a fully formed, fully immersive experience, while testing the storyline, various activities and experiences with a live public audience (target range 7-12 and their families) and collaborative delivery team.

The co-design process, to date, has involved:

- + 60 Year 5 pupils, and 6 teachers from Haberdashers Aske's Temple Grove Free School in South East London.
- + 20 Final Year and 2 Year 2 Product Design and Engineering students from Middlesex University.

- + 2 MSc Creative Technology students from Middlesex University.
- + 4 BSc Film and TV Production students from the University of Greenwich.
- + 8 Design, Engineering and Film Academics and Technical Tutors from Middlesex University and the University of Greenwich.
- + 3 Scientists from the Structural Genomics Consortium
- + 4 Scientists and Public Engagement staff from the Rutherford Appleton Laboratory – Diamond Light Source and ISIS Neutron and Muon Source.
- + 1 Scientist from the British Ecological Society
- + 1 Independent Public Engagement/Science/Performance expert.
- + 1 Science academic from Birmingham University.
- + 3 Professional Actors/Performers.
- + 15 Bradford community volunteer facilitators, through the National Science and Media Museum.
- + 3 Bradford engineering volunteers.
- + 4 SMASHfestUK Core Team.

The rich range of experience, experiences, perspectives and creativity that this collaborative group have brought together, & the training in co-design and immersive experience development and delivery that SMASHfestUK team have facilitated, ensured that Phase 1 at Bradford was successful as an experience in itself, and as the building block prototype for the next Phase. The Lewisham Homes Garden Party Co-Design event begins the next stage of Co-Creation with the Lewisham community, starting development of Phase 2 for the next full event in Deptford, Feb 2020.

#mdxpd | 60 seconds

Staff on the Middlesex University Product Design/Engineering Programmes are active professional practitioners and researchers. Here is an interview with **Dr Kate Herd**, Programme Leader for Product Design/Engineering at **Middlesex University** and Associate Director at **redLoop: MDX Design & Innovation Centre**



Be interested in what's going on in the wider world, and curious about the things that surround you. Engage with people. Be willing to make mistakes.

You are?

Dr Kate Herd – I'm Programme Leader for the Product Design/Engineering programmes here at Middlesex, and Associate Director of redLoop: the mdx design and innovation centre.

Why Product Design?

Product Design is such a broad field and has allowed me to pursue a

Dr Kate Herd, Programme Leader for Product Design/Engineering programmes at **Middlesex University** & Associate Director of **redLoop**

very varied career - I've been employed as a Product Designer and an academic. I've run my own design business - I've done everything from supporting innovation in SMEs, designing laboratory equipment for growing bacteria, developing a patented hair accessory now on sale around the world, through to the design and build of international competition standard minigolf courses. As an academic, design research offers amazing opportunities, with people at the heart. My PhD explored the notion of customer co-design in mass customised projects. I would find myself at conferences as the lone designer, talking to a room full of engineers and business experts explaining the need to design for people and experiences.

What's a standard day like for you as a Designer?

There is no standard day – with teaching, every class, every student is different. So even if I run the same project twice the experience is never the same. At redLoop we work on such a breadth of projects that one day I'm talking to a client about STEM outreach projects for schools, the next I'm working with colleagues on prototypes for cancer

detection and lung imaging in premature babies, the next I'm doing research into designing for happiness.

What's your favourite design tool?

A pen, paper...and people.

What are you great at?

Seeing the positive.
Pursuing details.

What do you wish you were great at?

Lots of things!

What is a Product Designer in the 21st Century?

The notion of the product probably is the broadest it has ever been. We can design not only physical forms, but can create and influence experiences, interactions and behaviours. A key role of design is to identify opportunities through which we can enhance quality of life. Our role comes with a big responsibility because of the impact and influence of the things that we can design.

What's your advice for future Product Design students?

Keep an open mind and forget much of what you learnt in school/college. Be willing to try things to find out what you're passionate about. And sketch. Lots. It's a key method of

communication. So many people think that they can't draw after spending years believing it (or being told it). But anyone can learn to sketch well with the right input and practice.

Be interested in what's going on in the wider world, and curious about the things that surround you. Engage with people. Be willing to make mistakes. Don't design for landfill. Find the things in life that make you happy.

What are the big, looming challenges for designers ...for society?

Design can solve so many problems (as well as create them). As designers we also have a huge responsibility and role to play in terms of the environment, product perception and product consumption. As the world continues to change at a rapid rate, designers need to remain flexible, be willing to learn, and be open to change. We need to take responsibility for the things we design and the decisions that we make.

Who are the first 5 names on your fantasy exhibition Private View invite list?

- + My friends and family
- + Tig Trafford –
my A-Level D&T teacher
- + Victor Papanek
- + Randy Pausch
- + David Shrigley

PRODUCT DESIGN NEWS

A message from **Prof. Mehmet Karamanoglu**, Head of Department, *Design Engineering and Mathematics*



Product Design is our longest running programme in the department and it has influenced many other programmes we developed since. The first intake was in September 1996, and 23 successful years later, it is still going strong and continuing to develop and shape our thinking and practice. When the programme first started there were merely 8 other offerings in UCAS listings with 'Product Design' as the programme title. Two decades later, you'll now find a myriad of titles in almost in every university in the UK offering a programme titled as such. Despite this growth, our programme, and its sibling **Product Design Engineering**, have preserved their uniqueness and remained true to their core values, evolving with the landscape and profession.

I was very fortunate to be the first programme leader at the start, but within few years the helm was passed onto Wyn Griffiths who continued to lead the developments with a strong team of staff around him.

Under Wyn's leadership, the programme evolved beyond recognition and has continued to challenge the norm. Our students achieved great successes whilst on the programme and even more so after graduation. We often welcome our alumni who graduated a decade or more ago to come back to talk to the current students and share their experiences with them.

We are now approaching another phase in the programme. Wyn is now moving on to explore further projects as Principal Investigator with *SMASHFestUK*, our multiple award-winning community engagement and co-design research programme, while providing further opportunities for our students.

Dr Kate Herd, another member of the core team will now be taking over the programme leadership role to shape it even further. While this is not a goodbye for Wyn, we wish them both well in their new roles while still contributing to the success of the programme.

While Kate will spend more time with the programme, she will maintain her commitment to our in-house design practice redLoop, continuing to work with Dr Andy Bardill, who leads this unit. Andy is another longstanding member of the programme who was involved from the very early days and still contributes to the programme.

But I am afraid there is a goodbye to be said, and that is one of our first 'Designer in Residence' who then became a member of staff, Helena Ambrosio. Helena has spent most of her career in practice but also wanted to pursue work in academia too. She has managed to do this, with great success, but has decided to go back to industry for a while. Helena has recently joined the Lloyds group, with a very exciting opportunity - leading the setup of an Experience Design group within Lloyds. We wish her well. I am optimistic that she will maintain contact and open up other collaborative activities to bolster what we currently have with many other industry partners.

OPEN DAYS

Join us at one of our Open Days

Our undergraduate open days are a great way to help you make your decision about Middlesex. As well as experiencing our outstanding facilities and getting a feel for life at Middlesex, you'll get to meet staff and students and have your questions answered about your course and on general subjects such as admissions, fees and funding and finding accommodation.

OUR NEXT OPEN DAY
Sunday 06 October 2019

FUTURE EVENTS
Saturday 23 November 2019

Visit us online for dates on future open days:
www.mdx.ac.uk/get-in-touch/meet-us/ug-open-days

PRODUCT DESIGN

Have a look at our **Product Design BA & Product Design Engineering BEng/MEng** courses...

<https://www.mdx.ac.uk/courses/undergraduate/product-design>
<https://www.mdx.ac.uk/courses/undergraduate/product-design-engineering>

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