



Foreword



Dr Ian CampbellInterim Executive Chair, Innovate UK

"I am delighted to introduce you to the winners of the 2020 Innovate UK Young Innovators' Awards.

Young Innovators celebrates the entrepreneurial enthusiasm and immense potential of the youth of the UK today. This brochure showcases the incredible talent the UK has to offer; as the next generation of experts and innovators present a fresh perspective, challenge mindsets and inspire others.

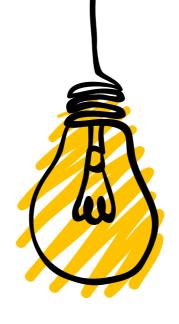
2020 has been a remarkable and unimaginable year for all including young people. Right now, our Young Innovators' programme and #IdeasMeanBusiness campaign are more important than ever. The programme has encouraged and empowered 18-30 year olds from all backgrounds to innovate and succeed, by providing access to the right support and opportunities to turn their ideas into successful businesses.

Together with our partners, the Prince's Trust and KTN, Innovate UK has brought together over 2000 young entre

preneurs from all parts of the UK at #IdeasMeanBusiness events, providing practical advice and inspiration to get their companies off the ground. Each of the 64 award winners, from across every region of the UK, will be presented with a 1-year tailored package of financial support, mentoring and business growth opportunities. Our vision is that this cohort will innovate and grow to become the role models of the future, inspiring others to engage with their innovative ideas, and to realise their potential.

There are many different routes into innovation, and this is clearly illustrated in the stories of our award winners. Wha really stands out is the abundance of ideas that are driven by a passion to bring benefits to society and change the world for the better.

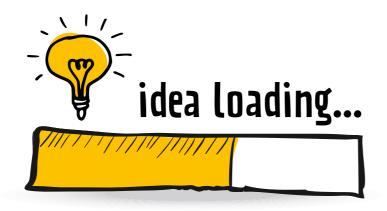
I look forward to seeing what the future holds for this insp rational group. Please help us to support young innovators across the UK, share the stories of our award winners and encourage more young people from diverse backgrounds into innovation "



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The story so far...

In 2017, Innovate UK and The Prince's Trust commissioned YouGov to carry out independent research with 18- to 30-year-olds who were not in employment, education or training, or in a form of insecure or under-employment. The report explored attitudes towards innovation and entrepreneurship, and found that:

- 2 in 5 young people surveyed (39%) had ideas for products and services they think they could sell
- 54% would like to run their own company
- 82% view the business sector as difficult to access
- only 8% would describe themselves as entrepreneurial.

In response to the report's findings, Innovate UK launched a campaign in partnership with The Prince's Trust to find the next generation of innovators: Ideas Mean Business. The campaign launched at a pop-up coffee shop in London. Deborah Meaden, 19-year-old millionaire entrepreneur Ben Towers and business ambassadors exchanged coffee for innovative ideas and provided attendees with business advice. The campaign then went on the road, sharing advice with aspiring young innovators in Cardiff, Birmingham and Newcastle.

Over 12,000 people got in touch to find out more about the young innovators' programme. 150 attended 11 regional innovation events across the UK and online, where they received innovative business advice, and guidance on applying for support through the programme.

24 winners were selected from across the country to receive:

- one-on-one coaching from an innovation champion
- funding to support development of their business
- an allowance to cover living costs

In 2020, New findings from Innovate UK showed that half of young people in the UK think their age is a barrier to business success, with nearly a third lacking the confidence they need to turn their idea into a reality.



The findings were released in March with Innovate UK, part of UK Research and Innovation (UKRI) announcing a £2.2m, Young Innovators Programme in partnership with The Prince's Trust.

The programme aimed to support up to 100 young people over 3 years with individuals benefiting from a £5,000 grant, one-on-one coaching and an allowance to cover living costs.

To support the awards KTN organised online events attended by over 2,000 young innovators. 757 applications were received for the awards with 64 young innovators from across the UK awarded in 2020.

In August 2020 KTN launched the #IdeasMeanBusiness webinar series, partnering with UK Black Tech, Foundervine, UltraEducation, Like Minded Females, St John's Innovation Centre, Nicholas Himowicz, Spencer Ayres, and CareerEar. The series, designed to provide practical advice, expert knowledge and tools for young people, has been viewed by more than 500 individuals.





Nina Birchard

24-year-old Nina Birchard is a Product Design Engineer from Scotland who is using her design skills to address the global issue of infant mortality. She is developing the Newborn Rescue Towel, a low cost emergency medical device designed to tackle the challenges of performing newborn resuscitation in low resource environments.

Nina says, "It is a simple, non-invasive positioning aid which ensures open airways while providing thermal support and an aidemémoire to guide the user through the procedure. It is a novel, game-changing product which is simple to use and easy to produce." The Newborn Rescue Towel has the power to help health professionals save lives.

"The Young Innovators Award seems like an amazing, supportive platform to learn, build and launch your business idea. I am so excited to get stuck in!"

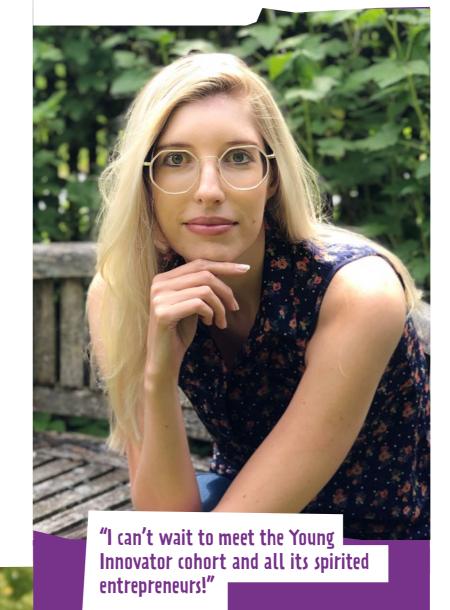


Lucy Fisher

Scottish entrepreneur Lucy Fisher learnt to knit when she was eight years old. But, despite loving knitting, she became frustrated with the old-fashioned ways of doing things and began to wonder how she could make knitting appeal to a younger, tech-savvy generation.

Her business Knit It aims to bring knitting into the 21st century via an innovative, new digital platform which enables knitters to have a choice in how they follow a pattern. The platform uses bespoke software which incorporates interactive tools, charts, embedded tutorials and community features. A second service, the Knit-Pic, enables a photo to be turned into a personalised pattern. The pattern is then sold as part of a bespoke kit, including the necessary yarn and instructions, with links to tutorial videos hosted on Lucy's YouTube channel.

"I hope to gain advice, mentorship and connections to develop a strategic plan to make my vision a reality – to inspire people to Knit It!"



Elena Höge

Scottish entrepreneur Elena Höge is creating games that provide meaningful entertainment for all ages and genders, seamlessly integrating educational content and fun. Her first game is called Wholesome, a mobile forest school experience that teaches children and adults about nature, including how to forage wild food. The game provides users with information on plants and mushrooms, recipes and crafting instructions alongside fun and immersive gameplay.

"All recipes and crafting instructions in the game are real," says 28-year-old Elena, "and can be recreated in real life. We want to inspire creativity, create a connection with nature and get children and adults to go outdoors."



Iona Mackenzie

26-year-old Iona Mackenzie is trying to take the stress out of finding a therapist. Her business, Talk and Grow, is an online matching and booking platform that creates a streamlined and easy-to-navigate system. Talk and Grow provides a tailored search, whilst educating clients on the complexities of counselling. It helps to match clients with a small number of counsellors in their local area. Clients choose a counsellor and book appointments through the integrated scheduling and payment system. Talk and Grow was launched and piloted in Edinburgh at the start of October 2020.



Petra Baiba Olehno

Petra Baiba Olehno wants to create the world's first Shoe Repair Lab: a world-leading centre for circular economy in footwear. Stage 1 of REPAIREL aims to create a one-stop-shop for buying ethical footwear online, giving the power back to the individuals. By providing accessible, transparent and easily comparable information about shoes and brands, people are able to save time researching and buying shoes that align with their values.

The 30-year-old from Scotland aims to revolutionise the footwear industry through a combination of innovation and social impact, while also helping the UK to recover from the economic impacts of Covid-19 and to deliver its Clean Growth Strategy and net-zero targets.

"This programme will take my social enterprise to the next level and reduce some of the current barriers that I face as an immigrant woman with caring responsibilities, living on an income below minimum wage."

Northern Ireland

Taras Lanchev

Scheduling a meeting can often take more time than the meeting itself. Getting calendar slots to align can be a complete headache for everyone involved. "Currently, people spend 15 minutes scheduling a single meeting with one other participant," says 23-year-old Taras Lanchev, "because of the email ping-pong... This is a huge time waster."

That's why the Leeds University graduate invented Calbot, a calendar plugin that automatically and privately scans people's calendars across different organisations to find a time when everybody in the group is available for a meeting. If Calbot doesn't have access to someone's calendar, it will email them on your behalf to ask for their availability.

Normally, the process of arranging these types of meetings would take hours, if not days. Calbot cuts out all the back and forth, saving 243 hours (10 days) of time per month for a team of 20 people that has 10 meetings per week.

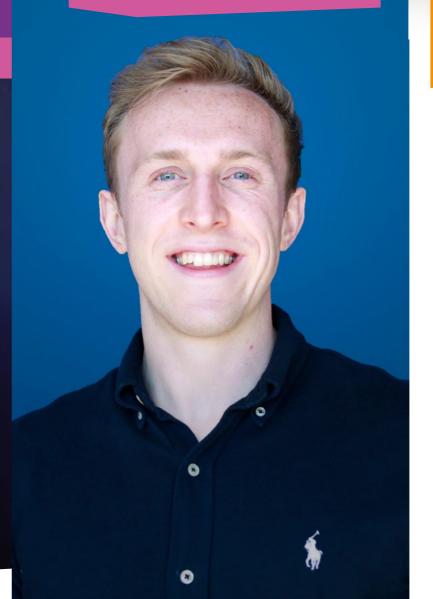
"I am over the moon to be selected as one of the winners."

Ryan Scollan

Ryan Scollan is a sports scientist and esports performance coach. It was a simple step to combine his sports background with his passion for gaming. The result? Gscience: an esports health and performance company.

The 25-year-old from Northern Ireland aims to make the esports and gaming industry a healthier and happier place for all gamers. By providing the necessary knowledge, support and tools, Ryan aims to empower gamers to take control of their health. Gscience is currently developing Optimal, an athlete monitoring system that provides actionable insights into training, injuries, wellness and gaming performance by combining players' health and in-game data. It's the first evidence-based product of its kind in the esports industry.

"I applied to gain access to the resources, network and support needed to accelerate the growth of Gscience."





"I applied to gain the knowledge, visibility and support to follow my dream and make a difference."

Greg Short

25-year-old Greg Short from Newcastle upon Tyne has always been fascinated by the way things work and the benefits they can bring to our lives and society. The electronic engineer was particularly intrigued by hydroponics and vertical farming, with the positive impact it has had socially and environmentally around the world.

Greg aims to develop user-friendly, plugand-play vertical hydroponic systems at an affordable price. Vertical farming today is mostly achieved in huge facilities requiring large start-up costs, energy supplies and widespread distribution. By decentralising vertical farming and making it affordable on a micro level, it can be integrated into urban society in an ultra-local model, providing fresher, tastier and more nutritious foods.

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Zhimin Zhang

Zhimin Zhang's company Veeego started with two graduates who wanted to eat more fresh, local food. The 23-year-old, originally from China, has travelled extensively worldwide including agricultural volunteering in Kenya. She aims to provide people with easier access to a healthy diet while reducing waste and regenerating local communities.

Veeego is an online marketplace where gardeners, individual growers and small-scale farmers can sell their home-grown produce directly to customers. Growers can list their varieties and expected harvesting time, while buyers can pre-order or purchase. There is also a community section, where growers and customers can interact, plus an online shop selling resources to help beginners get into sustainable food production.

"The Young Innovators Award will allow me to focus on what I have passion for."



Megan Jones

Megan Jones is the founder of Curated Makers, supporting micro-businesses by providing retail opportunities on the high street or within retailers like John Lewis, M&S and Paperchase. These 'Made Local Pop-Ups' allow small local makers and artists to showcase their work to new customers. For makers, there is a risk-free commission-based model. For shoppers, pop-ups provide a unique shopping experience. Such exclusive retail relationships are hard for small businesses to access alone. But by acting collectively through Curated Makers, there can be a huge impact. Makers also gain access to a supportive creative community via meet-up events, creative confer-

Megan says, "At present, we can only host one pop-up at a time. However, we have demand and interest from makers, customers and retailers to offer this on a national scale." She hopes that the Young Innovators programme will enable her to expand to multiple events and locations, offering more opportunities to more small business owners.



Benjamin Ndubuisi

Chikeruo Benjamin Ndubuisi grew up in Nigeria and moved to the UK in 2015. The differences in culture and society he experienced opened his mind to a completely new world of opportunities. His innovation, VING. AI, is a secure currency exchange platform for Africans living in the UK. The exchange takes place via an escrow engine, allowing individuals to find a match and safely exchange currency at mutually-agreed rates.

Benjamin explains, "For example, Mr Kayode who works in KPMG in London can exchange £1000 with Mrs Chukwu in Nigeria, whose daughter is doing a degree in Newcastle." VING. Al achieves this by receiving both payments into local currency escrow accounts. Once both funds are received, they complete the transaction. Currencies from both ends are crowdsourced and stay within the source country, avoiding international transfer wait times and high fees.





Rory O'Moore

Rory O'Moore has already been running a successful printing business since July 2019. But now he wants to take that knowledge further and apply it to the world of medical IDs. "Medical IDs have been around since the 1950s with no innovation," says the 21-year-old from the North West. "We're changing that."

Rory aims to use near-field communication and QR technology to develop smart ID products, allowing users to share relevant personal and medical information to nearby smart phones with a tap. This information could include emergency contacts, medical conditions and allergies. By providing more accurate information, Rory hopes to relieve the strain on ambulance call-outs.

"I want to show other disabled young people that they can run a successful business."



Rogiros Theophanous

Physics graduate, Rogiros Theophanous, is the founder of Augment PUI. Originally from Cyprus, he has always been interested in technology and engineering, entering robotics competitions and technology seminars throughout his school years.

Now he wants to help support the work of SMEs by providing them with an affordable, user-friendly, cloud-based IT platform for their digital resources. "Large companies and corporations have the resources to house their own IT departments," says Rogiros. "SMEs rarely have the expertise or finances to outsource their IT, so they are stuck using outdated and unreliable computers and software. This leads to unsecure infrastructure, prone to cyber-attacks and hardware failure, causing data losses and impaired productivity."

"I deeply believe that to have any detectable impact on the world as we know it, any individual needs to be part of and act through a group of like-minded people."



"I know that Young Innovators will help me to push my business and myself so much further than I could alone."

Anna Watkins

"It starts with seaweed slime," says Anna Watkins of Uncommon Alchemy. "Add heat. Pour in some natural plasticiser. Stir in ethically sourced mineral powder for colour and shine... Three ingredients and a little time. That's all it takes to make a sustainable, attractive alternative to leather and plastic."

The 27-year-old from the North West believes that the material revolution doesn't need expensive laboratories: it can be done in an ordinary kitchen. She has spent the last 10 years building skills in various design disciplines and is now applying those skills to experimenting with and developing biomaterials.

Uncommon Alchemy proves that being a conscious consumer doesn't have to mean sacrificing style or self-expression, producing beautifully handcrafted notebooks, wallets, tech cases and lampshades made from a unique seaweed leather.

Antoinette Adams

Antoinette Adams is the founder of JWEL, a jewellery company selling pieces across four collections: Mother Earth, Fine Silver, Antique and Handmade. The Mother Earth collection collaborates within a community of reiki healers and yoga teachers, to create a bespoke chakra experience for the individual customer. JWEL also celebrates the finest eras of history by uniting antique jewellery with appreciative buyers and creating collectors within its own community.

Antoinette has a degree in Fashion, Public Relations and Communication from University of the Arts London. She intends to complete a Masters degree in jewellery and metalwork, to explore avenues for JWEL to expand into the wider art market.

"I'm really looking forward to working with like-minded people to help push my idea further and hopefully motivate others to do the same."



Michael Omotosho

Yorkshire-based industrial designer Michael Omotosho wants to create products that make everyday processes easier. He developed Plugull, an electrical plug pull that makes it easier to remove stiff or fiddly plugs from sockets. The product has been designed with special consideration for those suffering from loss of dexterity and arthritis, with weak hands or other challenges.

This simple device aids in removing plugs without any interference in electrical connections on devices. The 28-year-old says, "It is very easy to attach and use - and great for colour and cable management, with a glow in the dark option for nighttime visibility."

"I would like the opportunity to grow my business idea and gain the support needed to achieve commercial success."



Casey Woodward

Casey Woodward is the founder of AgriSound, a York-based agri-tech business that uses the Internet of Things solutions for the remote monitoring of beehives. "We have developed a core line of products for beekeepers which enable real-time monitoring of beehive productivity and colony health, from any web browser, which are now sold via a UK distributor," says Casey. Pollinators play a vital role in food production and are under increasing threat from climate change, agricultural intensification and infectious diseases. IoT technology presents an opportunity to predict changes and provide earlier interventions to protect pollination numbers.

"I've applied for the programme to meet like-minded entrepreneurs and benefit from the diversity of businesses around us."

Wales



Alex Newnes

Alex Newnes is committed to the development of sustainable, eco-friendly alternatives to single-use and non-recyclable plastics. Having grown up rurally around Wales, Alex has always been amazed at the amount of plastic that is used in agriculture and its persistence in the environment. PlantSea is finding solutions that are derived from seaweed.

In particular, the 27-year-old is concerned with developing and producing a bio-plastic film that is fully degradable and non-toxic. This could be used to replace petroleum-based non-degradable plastic wrap that is currently used by agriculture for wrapping, packaging and as a mulch film. These bio-plastics are intended to persist until the end of use, around 6-12 months, after which time they will dissolve in the environment or can be turned into the soil.

"This could drastically reduce the plastic consumption of agriculture and reduce waste production."



Shannon Thomas

they are for the planet."

When Shannon Thomas lost her grandmother Jen, tried her hand at creating flower arrangements for her funeral and quickly found a new passion in flowers. The 27-year-old from Wales set up Jennie's Floral Design to be a floral design studio with sustainability at its heart.

"The traditional supply of flowers in the UK has detrimental effects on the planet at most stages of the chain: air pollution, pesticides, floral foam, wastage and single-use plastic - to name a few," says Shannon. She hopes to work with local British growers, only use sustainable sundries and to introduce recycling schemes for vase and wreath bases, encouraging customers to reuse items that they already own.

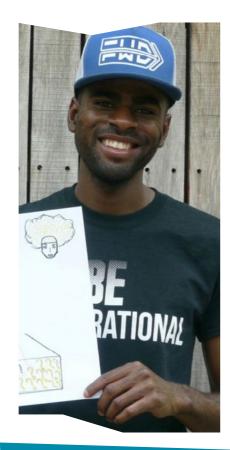


Shayan Ahmed

Shayan Ahmed is a 23-year-old Economist and Mathematician from the West Midlands. He co-founded Lisn with the simple objective of improving services in the NHS by listening to their most valuable resource: their staff.

The Lisn Solution ties together a mobile app, a machine learning engine and a dashboard. Together, they collect anonymous staff feedback and opinions, analyse these free-text responses and convert them into insights in a useful way for NHS management. Shayan is co-designing the Lisn Solution with Walsall Healthcare NHS Trust, to ensure it is fit for the audience and delivers on its aim: to capture insights in real-time and to identify immediate opportunities for the hospital to flex and adapt.

"The Young Innovators Award looks like a fantastic bundle of support, which will allow me to bring Lisn to the masses and help our NHS."



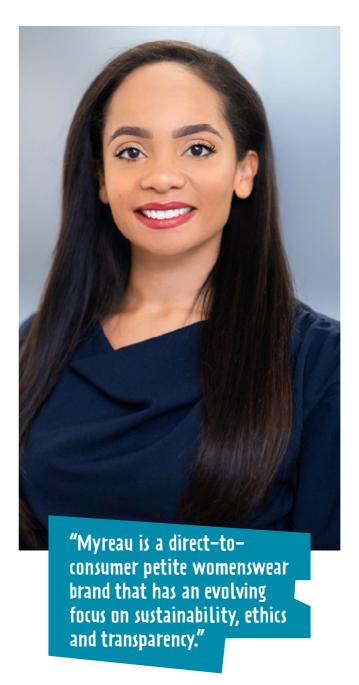
"Our vision is to be the Uber for independent driving instructors."

Miguel Garcia

Miguel is a young TechEntrepreneur who's creating a mobile app which connects new and disabled drivers with qualified driving instructors in a quick, efficient and safe manner. "I came up with this idea due to personal experience, finding a driving instructor after passing my theory test was a stressful challenge.

His app, Miream, makes it easier for new learners to find a local qualified driving instructor. The application allows the learners to view instructors' profiles, book and pay for lessons and also leave a review, which will aid other users.

"Our vision is to be the Uber for independent driving instructors," says Miguel, "giving them the platform to advertise their experience to the right target audience."



Abbey Gregg

26-year-old Abbey Gregg from the West Midlands aims to fill the white space between the fast-fashion and luxury market. Her direct-to-consumer womenswear brand, Myreau, targets and empowers the modern-day petite women. The brand has an emphasis on slow fashion that promotes moderate consumption, producing timeless, versatile garments with a contemporary touch.

"We aim to collaborate with factories and mills who are at the forefront of sustainable manufacturing," says Abbey. "We will use natural, recycled or deadstock fabrics that have been ethically sourced." She hopes Myreau will be community-driven by encouraging feedback and involving the consumer in every step of the journey.

Andrew Reece

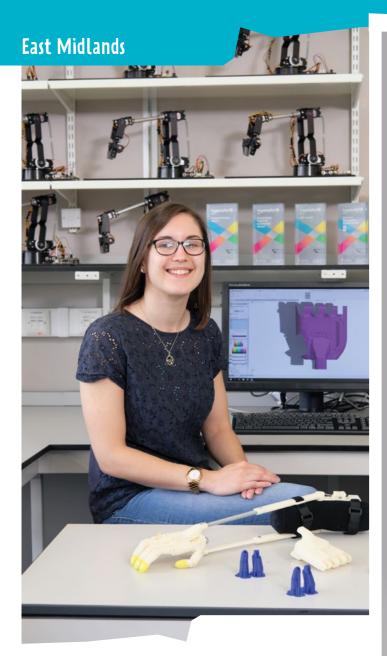
After programming for almost a decade, Andrew Reece became frustrated with previewing tools available for testing code. "Humans are bad at pretending to be computers," says the 26-year-old, "so even experienced programmers make many errors as they write code. Debugging these errors with existing tools is like trying to understand a spreadsheet where you can only see one row at a time. It is slow, expensive and reduces programmers' quality of life."

Andrew's innovation, WhiteBox, is a tool for software developers that shows them how their code behaves, in real-time, as they write it. The immediate feedback and explorable representations enable more accurate mental models, fewer bugs and more opportunities to improve programme design.

"I am hoping to make WhiteBox an industry-standard tool and to encourage other companies to consider more possibilities in the human-factors design of their products."



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"Our mission is to make prosthetics accessible to children across the globe."

Kate Walker

Kate Walker is a Product Design Engineering graduate based in the East Midlands. After meeting a young girl in need of a prosthetic, Kate used her dissertation project to design and manufacture a prosthetic that would be able to grow with her, unlike any other prosthetic available on the market.

ExpHand Prosthetics provides life-changing upper limb prosthetics that give children their independence back. They produce affordable, 3D printed prosthetics that are sent directly to consumers, eliminating multiple journeys to limb centres for fittings. Parents can fit their child's prosthetic themselves and adjust the prosthetic to grow with them, increasing the lifetime of the product.

Madelaine Dowd

Madelaine Dowd has spent the majority of her career working in disaster zones around the world, helping survivors: from finding tsunami escape routes in Japan to equipping refugee shelters in Syria for winter. When the Grand Safety Challenge at the Royal College of Art asked entrants to address general safety down the Thames - as well as reducing risk in one of the world's most dangerous jobs, maritime piloting - Madelaine got thinking.

Her solutions were awarded "Best Innovation" as well as "Most immediate life-saving potential". The Embark® pilot ladder and rigging system reduces the potential risk in a ship to ship transfer at sea by 80%. With fatalities occurring annually and incidents going unreported, Embark® also incorporates an app that creates an accountability system and ensures the safety of the product before the maritime pilot embarks on their climb to board the vessel.

"I am excited to gain support to commercialise my life saving product and to shake up the maritime industry with our innovation as a global solution to one of the most in demand and dangerous jobs."





Michelle Best

Michelle Best is the founder of Blossom & Best, designing and producing innovative handmade disability clothing for children and teenagers with disabilities or medical conditions. The 28-year-old says, "My daughter Yasmin suffers from urinary and faecal incontinence. I understand the challenges and pain faced by parents of children with disabilities. They struggle to find suitable clothes in mainstream markets."

Her homemade solution quickly attracted attention and became a sellable product. Magic Pants lets children and teenagers be themselves without stigma. They are worn by children and teenagers suffering incontinence due to conditions such as autism, sensory difficulties and spina bifida. Combining her degree in design and knowledge of fabrics and personal experience, Michelle is creating her own line of clothing perfect for children with disabilities.

"I applied for the programme to help take my business to the next level and start manufacturing my products."

East of England

Rhiannon Jeffreys

27-year-old Rhiannon Jeffreys is a professional musician, specialising in flute, clarinet and saxophone. She has been teaching music for over 10 years and wants to pass on her enthusiasm and skills to students online.

Starling Music Academy is a 100% online tutoring service to help students pass music theory exams. Each student is assigned a personal Theory Tutor who will support their learning, provide direct feedback and decide which resources to set the student, based on their progress. Rhiannon hopes to expand into working with music and theatre schools to create a complimentary music theory curriculum for their pupils, as well as running music theory workshops in primary schools.



Folu Ogunyeye

Folu Ogunyeye from Milton Keynes is passionate about empowering young people. A former Member of Youth Parliament, she is now seeking to make change through innovation, social enterprise and online platforms.

Enter Folu's innovation: Vamos Careers. Vamos is a student-led platform that leverages technology to boost social mobility in the transition from university to employment. Making the very first steps onto your career journey can be confusing. Vamos provides online tools that will make navigating the mysterious world of work much easier. Tools on their Pathfinder platform allow students to explore career pathways that best match their current skill sets. The peer mentorship community empowers users to upskill, with collaborative resource banks and opportunities to get involved in student-led projects.

"I applied to the Young Innovators programme so that my business can make a positive impact as soon as possible."





Penelope Roberts

Penelope Roberts is a PhD student at the University of Essex, working on the development of robotic companions for care homes and hospitals. Her company RoboNurse4NHS aims to provide socially-aware robotic companions for people at home or in hospitals and care.

Due to an ageing population and longer life expectancy, the demand for care for long term health conditions in the UK increases each year. Semi-autonomous robotic companions offer users a customisable and personalised assistant, reducing cost and the demand on current services. It will also allow users to retain their independence for longer, providing customisable companionship.

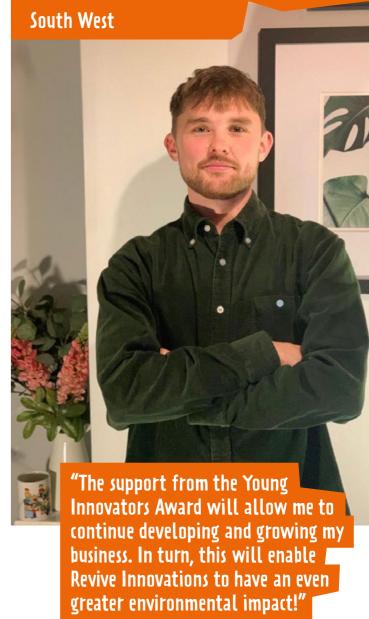
"The Young Innovators Award will enable me to develop my idea, make it a success and to help myself while benefiting and supporting others."

Lucy Watts

Lucy Watts from the East of England is developing an e-learning platform to educate and empower disabled, unwell or caring individuals. The 27-year-old disability activist will use people's lived experience of illness, disability and care to help others navigate the system, including preparing for applications, assessments and reviews.

In the future, she also hopes to produce lived experience-led courses aimed at care staff, healthcare and social care professionals and teachers. Lucy says, "The business will not only run CPD accredited courses - improving the lives and experiences of people from all walks of life - but will also offer paid work opportunities for people with lived experience, who will be co-developing the courses."





Kieran Devlin

Kieran Devlin wants to reduce the impact of waste materials on our environment. The 23-year-old started the research and development behind his company, Revive Innovations, during his final year studying Product Design at the University of the West of England. He hopes to challenge consumer attitudes towards sustainability in design, paving the way for a more luxurious and desirable recycled product market.

Revive Innovations is a sustainable design startup that creates innovative materials and products to recycle waste in unique ways. Building circular design systems enables new and beautiful purposes for targeted waste streams, whilst creating more accessible recycling infrastructures. Revive's current project is establishing an accessible recycling infrastructure and creating innovative ways to repurpose optical discs. This includes CDs, DVDs, games and software discs.

Charlotte Hawkins

Charlotte Hawkins and her co-founder started Earthly Biochar after designing the first domestic biochar kiln for eco-conscious gardeners. Biochar improves soil health, increases crop yields and is a form of carbon storage. When Charlotte was unable to find a UK supplier to meet customer requests for large scale biochar supply, she realised they had to act.

Whilst doing a PhD investigating biochar's role in food production, Charlotte aims to set up the UK's first carbon-negative biochar production facilities to turn 'waste' wood into a biochar and sequester CO2. In the making of biochar, carbon is captured and stored which would have otherwise been released into the atmosphere. Earthly Biochar will use waste resources to make an effective soil improver whilst mitigating climate change.

own businesses."

"I hope to inspire young people to tackle global issues and start their



Alaya Holloway

20-year-old Alaya Holloway is a first-generation student and wants to help others who are the first in their family to go to university. Her company FirstGens aims to boost social mobility in the UK and support diversity and inclusion within higher education and professional establishments.

FirstGens offers tailored workshops, skills development, mentorship, role models and funding. By providing the essential tools and skills for students to master their studies, navigate graduate recruitment and flourish within a professional career, FirstGens wants to tackle systemic barriers. Alaya is a final year law student and a champion for the equality of racial outcomes within education and the workforce.

"I hope to make connections with business professionals and leaders within the education market, that I may not have been able to p network with otherwise.



"This has never been achieved before in the prosthetic industry."

Diana Kviatkovskaja

Diana Kviatkovskaja of Chisel Robotics has a vision to completely redefine amputees' experience with their prosthetic legs, by introducing a patient-focused future. The South West based entrepreneur is creating this future with a state-of-the-art wearable device and an app, that can be used with any prosthetic leg for lower limb amputees.

This provides improved and targeted care to a lower limb amputee 24/7 in both indoor and outdoor environments, eventually allowing an amputee to have maximum control over their mobility and quality of life. This same technology can be used to help clinicians provide more targeted care through detailed mobility insights.



Ilham Said

23-year-old Ilham Said is reinventing the way students learn through conversational technology. Her business, Engineer 2 Engineer, is a fast-growing peer-to-peer communication platform. It's all about breaking down barriers to stimulate conversations, one question at a time.

Students, academics and businesses come together in one space to connect and solve problems. E2E generates analytics-driven feedback for the faculty and provides targeted support for students, as well as a personalised learning experience for each user. Conversational technology has already revolutionised the workplace. Ilham believes that this will make a huge impact on engagement in an academic context. Within 8 months the platform has already grown to support over 700 students and academics.

Jake Street

Jake Street is a recent graduate from Nottingham Trent University who is determined to create a solution to the threats that children and other vulnerable individuals face online. The 22-year-old from the South West says, "I wanted to create a solution because of my own experiences online - as well as being aware of other people's experiences and the impact that these attacks can have on the individuals that experience them."

Jake is developing an app, to be installed on children's devices, which is able to identify social attacks such as cyberbullying, grooming and exposure to distressing content. A parent will be able to view the threats that their child experiences and monitor their child's online activity. Jake also wants to help educate parents on which apps are the most dangerous for their child and why, filling an education gap.





"Having the opportunity to inspire other young innovators to realise their aspirations and dreams is an incredibly exciting prospect."

William Testeil

William Testeil wants to create the first mobile app specifically designed to help families improve their well-being in a fun and simple way. The Family Well-being app will help children and parents collectively keep healthy, while spending more quality time together. "While there are numerous mobile applications to help individuals improve their health, there are very limited options for families," says the 23-year-old International Business graduate. "The content will consist of three categories: exercise, nutrition and mental health."

By using gamification features and a range of family-specific challenges, William hopes to create a fun and simple tool that encourages families to exercise more easily, eat better and take care of their mental health together.



Daisy Bailes

After leaving fashion college, Daisy Bailes found limited opportunities for sewing careers in the UK, despite the booming fashion industry. She set up Wild Daisy to fight her own frustrations with the fast fashion industry.

Using her experience working in vintage, couture and in clothing alterations, Daisy creates new designs from old clothing, particularly denim. "Denim has been the most popular staple in most people's wardrobe for decades," says the 21-year-old designer, "but its production has disastrous effects on the environment and produces enormous textile waste." Wild Daisy focuses on reducing end-of-life wastage in the fashion industry, using patchwork methods to utilise every inch of fabric.

"My dream is to make a difference to the textile industry in the UK and provide a good alternative to imported fast fashion."

Ameenah Begum

Ameenah Begum from the South East is turning cosmetics waste into art materials. Her company Cos Colours creates one of a kind artist materials suitable for all abilities. They are zero waste and eco friendly from production all the way to packaging.

"We provide an innovative solution to the €2m cosmetic waste problem," says the 25-year-old, "minimising the amount of colour cosmetic waste heading to landfills and incinerators by transforming them into shimmery watercolour paints. The community is already getting involved by donating their waste makeup to the cause and spreading this environmental message." Her goal is to mass-manufacture an array of unique and sustainable palettes for artists all over the world, utilising partnerships with cosmetic retailers, independent galleries and art stores.





Marcus Comaschi

Marcus Comaschi, age 26, is a freelance design engineer with a passion for sustainable design and environment protection. His goal is to develop a system that produces fresh and healthy food locally in the UK, using Gyroponics. The result is Marcus' innovation: GyroPlant, a sustainable and scalable technology that utilizes movement and gravity to enhance the growth of food.

Marcus says, "As the mechanical infrastructure and plant growth times are also reduced, hydroponic fruit, vegetables and plants can be grown at competitive prices. Gyroplant's objective is to sell food to local grocers and individuals from our own farms across the UK, mitigating the need for complex and expensive logistical operations."

Valentina Dipietro

26-year-old Valentina Dipietro is a material designer, researcher and graduate of the Royal College of Art in Textiles (MA) and NABA Milan in Fashion Design (BA). Adopting an experimental approach, Valentina works at the intersection of biology and design to explore innovative and disruptive sustainable designs for products, interiors and architecture.

She is the founder of Mykor, a biotechnology and design company which has digital design and bio-fabrication at its core, inspired by nature. Mykor is a biocomposite material made of wood waste, natural dyes and mycelium - the 'root' of mushrooms. The mycelium behaves like a natural glue and binds the wood. The resulting materials are fire retardant, insulating and sound-absorbing and are available in a range of attractive colours.

"My big why is wanting to make a difference, connect local communities and educate others to be environmentally responsible."





Christopher Elliot

Christopher Elliot is the founder of Untrapped: a onestop student rental portal, managing the entire rental lifecycle, both for a student and landlord. It provides both parties with a central hub for all things rent-related including documents, available properties and communications.

As a graduate in Economics and Finance from the University of York, Christopher could see the potential for improving the current student housing system. "Increasing regulation, compliance and tax burdens have many landlords questioning the commercial viability of student buy-to-let. Untrapped's offering will significantly reduce the total cost of student letting, improve compliance and drive the overall market standards."

"I am both thrilled and honoured to have been selected for the Innovate UK award. I hope the funding and support will enable me to soft test the product in at least two major cities in the UK."

Michael McCreadie

Michael McCreadie, a recent university graduate, knows all about the frustrations faced by students when moving in and out of university accommodation each term. Students are forced to move their belongings out of their accommodation every holiday, using self-storage or shipping to solve this issue. But traditional storage can be a hassle for students, who don't want the logistics or expense of removal vans, insurance and sourcing boxes.

Michael invented Kit Keeper to solve this problem, tailored especially for students. Kit Keeper provides an all-inclusive service that handles boxes, transportation and storage. Michael says, "Over the previous 2 years I have proved the business model in the city of York. Now I am working on expanding the business full time throughout the UK...There are 2.4 million students in the UK and I would like to leverage our position to serve the growing market."





Ellis Parry

Millions of people live with neurological conditions or injuries. Ellis Parry wants to help sufferers to improve their quality of life. His identical twin brother suffered a brain injury in 2012 and this experience motivated Ellis to found Neumind. The 29-year-old's initial focus is to help some of the 26 million people in the UK, USA and EU who are living with a brain injury.

He and his co-founder are developing Alfred, a smart phone app that empowers individuals to live a more functional and independent life. Alfred uses technology to augment an individual's memory and executive functions. When implemented, it will support the entire caregiver network and deliver evidence-based therapy at a fraction of the cost of current services.

"I feel uniquely placed to make positive change in this space. I owe it to my brother and others."

London

Isaac Atwal

Isaac Atwal from London wants to facilitate positive change in professional sectors. His social enterprise, TipStart, targets motivated professionals working in consulting, law, finance, journalism and government and policy.

TipStart uses a scalable digital platform and algorithm to take individuals currently working in these sectors and match them with graduates from disadvantaged backgrounds, who want to work in that sector. Through these pairings, tips, contacts and insights about the sector can be shared with young people. In exchange, graduates are encouraged to share their perspectives, educating about prejudice and discrimination, to help the professionals become better colleagues and recruiters.





Pete Barr

Peter Barr from London is developing Enayball: a new visual arts tool that enables anyone with a physical disability, even the most highly paralysed, to draw, paint or create independently. Enayball can be attached to a wheelchair or used on a tabletop. The wheelchair application is at floor-level and paints a line in synchronicity with users' remote-controlled movements. The tabletop application is for people with limited grip or who experience involuntary movements, such as Cerebral Palsy, and struggle to hold a pen or paintbrush.

"The global disabled assistive devices market was valued at \$14 billion in 2015 and is expected to surpass \$26 billion by 2024," says the 25-year-old. "I have identified a gap in the market for tools designed for people with disabilities that are easy-to-use at home. Enayball gives users a sense of freedom from the challenges of everyday life."

"I strongly believe that art is a human right and should be accessible to everyone."

Sara Berkai

Sara Berkai is studying a master's degree in Child Development [edtech focus] at the University of Oxford. She wants to democratise education and technology, providing children with informal STEM learning opportunities.

Sara aims to do this with Ambessa Play, which provides STEM toy kits and workshops, encouraging children to learn through play. For every kit purchased, a refugee child out of school receives one for free, diversifying the STEM pipeline for children globally.

"I've been struggling to turn an idea into a business reality and looking for mentorship for the development of my business."





"I want to meet my generation's future business leaders so that we can team up and take on the world."

Benjamin Bowler

When Benjamin Bowler was working for Universal Music Group in London, he saw the challenges presented by the sheer number of daily submissions from hopeful artists. "They receive hundreds of thousands of demos a week, most of which are never listened to," says Benjamin. The movie industry already uses AI to sort and label film rushes. Benjamin thought he could use AI to develop a new approach to sorting and selecting music demo tracks.

SendMusic helps major music labels evaluate, sort and highlight potential hit tracks from the sea of submissions they receive into their demo inboxes. Using the latest machine learning technology and neuroscience research, semantic labelling and auto filtering will help music labels find and sign the next big hit.

Jasmine Douglas

Three years ago, Jasmine was struggling with low confidence, made worse by a never-ending stream of rejections from graduate jobs. By experimenting with entrepreneurship to create her own opportunities, she found a new purpose.

To help other young women self-actualise through business, she launched Babes on Waves Business Club: an online community and networking platform for diverse female founders and aspiring entrepreneurs. As a British/American woman with Nigerian heritage, Jasmine wants to champion underrepresented founders by maintaining a majority space for women of colour. The platform was created in 2018 and re-established in 2020, providing networking, coaching and resources to help women grow their business and personal confidence.

"We aim to support 200 diverse entrepreneurs through our membership by the end of 2021."



"I hope to est my idea into a

Tabby Bunyan

Tabby Bunyan is taking on the fast fashion industry with her upcycling fashion brand, Re_considered. The 21-year-old uses unwanted clothes and materials - like tablecloths and duvets - to create new and desirable pieces, targeting an 18-35 year old female demographic.

Re_considered began as an Instagram project during lockdown, when Tabby rediscovered her love for sewing and upcycling. Within a month she was selling pieces through online retail platforms, including 200+ upcycled masks which were sold and donated to local communities throughout the height of the pandemic. Alongside her degree in Spanish and Film Studies, Tabby hopes to create a platform that inspires people to reconsider their wardrobe and make sustainable fashion more norm than luxury.

"I hope to establish my brand and learn how to turn my idea into a reality that can make a change."

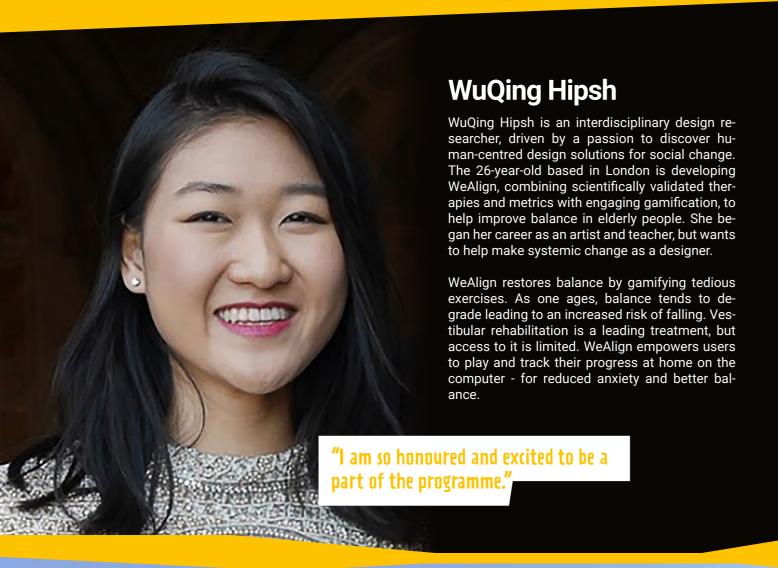


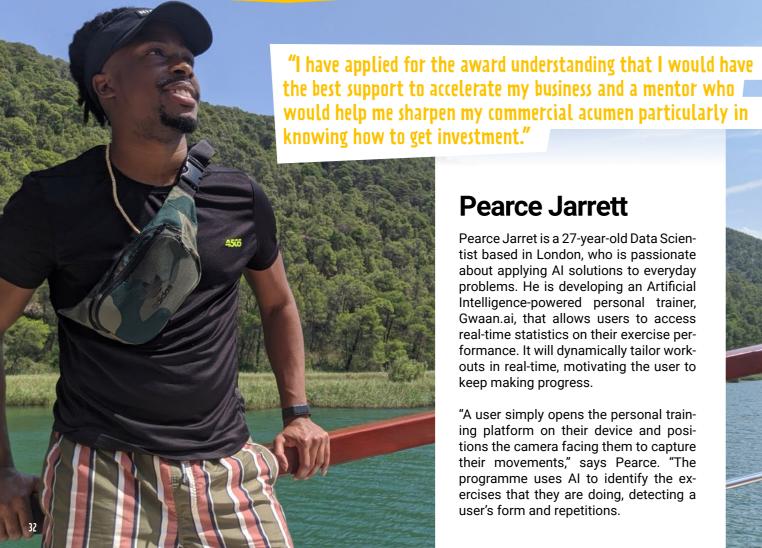
"By capitalising on neuroscientific-based state-of-the-art technology, we can provide motivational, effortless and rewarding rehabilitation."

Eve Gregoriou

Eve Gregoriou, aged 28 from London, is a PhD researcher at UCL in the Department of Clinical and Movement Neurosciences. She already has 10 years of R&D experience, with expertise in brain stimulation applications. Her company NeuroVirt aims to help stroke survivors reach their full recovery potential, with a focus on hand impairment. "77% of stroke survivors suffer from hand impairment," says Eve. "My aim is to help people reach their full recovery potential by making rehabilitation fun and engaging whilst tracking kinematics."

She has achieved this by developing a device that uses virtual reality and a haptic data glove. The rehabilitation process is turned into a game for the patient, played while immersed in a beautiful environment. Meanwhile, the doctor can access accurate data on the hand's condition and track progress through the glove.





Pearce Jarrett

Pearce Jarret is a 27-year-old Data Scientist based in London, who is passionate about applying AI solutions to everyday problems. He is developing an Artificial Intelligence-powered personal trainer, Gwaan.ai, that allows users to access real-time statistics on their exercise performance. It will dynamically tailor workouts in real-time, motivating the user to keep making progress.

"A user simply opens the personal training platform on their device and positions the camera facing them to capture their movements," says Pearce. "The programme uses AI to identify the exercises that they are doing, detecting a user's form and repetitions.



Karen Jelenje



Reiss Jones

Reiss Jones of Synthesea, a student start-up from Imperial College London, hopes to develop sustainable lipid sources for farming. Synthesea is building a biological platform that produces sustainable omega-3 for aquaculture that costs up to 80% less than current sources.

The 21-year-old Biologist explains that the farmed fish industry is simply unsustainable. "Farmed fish need omega-3 to grow and be nutritious. Currently, this is sourced from fish oil, which is made by squeezing fish caught wild. This is terminally unsustainable, requiring 816 fish to feed enough omega-3 to just one farmed salmon."

"I want to inspire more entrepreneurs to build a sustainable economy."



Emilia Molimpakis

Having witnessed a close friend develop de pression and fall through the cracks in the Ukhealthcare system, Emilia Molimpakis qui academia with the aim to close the gap be tween cutting edge research and clinical reality. "Depression is on the rise but assessing it involves outdated, highly subjective questionnaires that produce inaccurate results, says the former UCL post-doctoral researcher in Cognitive Neuroscience and Linguistics

Emilia's online platform empowers clinicians to assess and monitor the treatment progress of depression faster, more accurately and objectively. The system uses video games alongside an analysis of people's facial micro expressions and speech patterns. Users will be able to distinguish between the different types of depression and comorbid disorders, such as Alzheimer's and Parkinson's, as well as find the right treatment much faster.

Sofia Sabben

24-year-old Sofia Sabben from London is reinventing sportswear to work for all women. Her company, Shape, is on a mission to create sportswear that does exactly what it says on the tin: provide full support so that you can concentrate on your workout.

Sofia explains, "Currently, the opposite is true: sportswear is not supportive and neither is it inclusive for all women. sportswear is also known to be expensive and there is a lack of sustainable options in the market." Shape is developing products from recycled materials and operating with sustainability at its forefront. "We want women of all sizes to feel powerful and stylish in our sportswear - and not spend a fortune in the process."





Melenie Schatynski

31-year-old Melenie Schatynski is on a mission to help more young people learn to code. As a people-centric developer and educator herself, she spends her time creating beautiful things and wants to give others the tools to do the same. Her innovation, Ocobox, is a coding editor and chatbot assistant which helps teach coding skills and resilience to young people. Aimed at students taking GCSE or A Level Computer Science, it hinges on the principle that failure is the first attempt in learning.

Learners will be introduced to the Python programming language through both structured and open-ended activities. Alongside this, a friendly chatbot will use artificial intelligence to provide learners with on-demand help and support. Ocobox encourages independent learning, giving students the confidence to ask questions and teachers time to focus on deeper learning.

"I'm on a mission to reinvent attitudes to failure when coding. I believe failure is just a first attempt in learning."

Alex Tep

Biology graduate and former science teacher, Alex Tep, knows all about the inventory management struggles faced by UK schools. Everything from pens to footballs and microscopes need to be tracked. When the 25 year old taught himself to code after leaving teaching, Bunsen was born.

Bunsen is a free inventory management and equipment scheduling app for school supplies. Teachers can reserve equipment for lessons from a shared stockroom.

The Bunsen demo has gathered over 50 pre-registrations and is already being used by schools.





Marcos Souto Ulloa

Marcos Souto Ulloa, co-founder of Sweed, aims to set up the UK's first commercial land-based seaweed farm. Marcos and his team hope to revolutionise the seaweed industry by sustainably delivering quality dried or fresh seaweed to local B2B clients such as restaurants, cosmetics companies and food production companies.

At Sweed, they have developed a new type of seaweed material which is moldable, home-compostable and water-soluble (if desired) that can be used to replace plastics and other non environmentally friendly materials used in feminine hygiene products, cosmetics and food wrapping industries. "Our Sweed material can significantly reduce the waste accumulated in landfills in the UK and the amount of plastic that reaches the ocean", says Marcos.

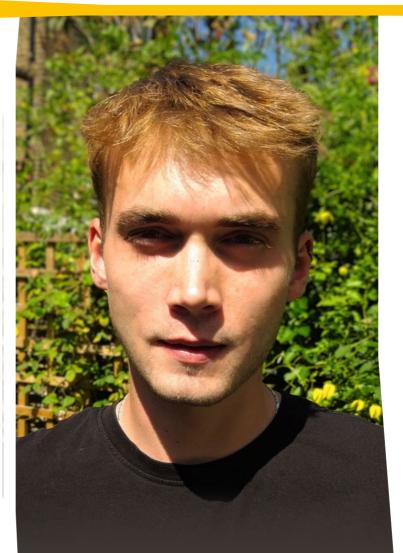


Julie van Bemmel

21-year-old Julie van Bemmel is a digital communicator in her final year at the London College of Fashion. She is focussing her studies on empathy within digital communication.

Julie's app, Komodo, provides social and gamified mood tracking, designed to help digital natives explore and cope with complicated feelings. The app rewards its users with 3D shapes and textures that they can use to visualise their feelings. By helping its users to feel supported in recognising, accepting, investigating and detaching (non-identifying) their feelings, Komodo is the most accessible introduction to mindfulness for a new generation.

"I want Komodo to become a reality with a solid foundation and room for growth. I believe that this programme can help me in taking my first steps."



Fred Peel Yates

22-year-old Fred Peel Yates from Hackney is interested in energy harvesting and investigating ways we can harness ambient energy that otherwise goes untapped. His sustainable technology start-up NoFootprint plans to incorporate small-scale renewable energy solutions into clothing, to charge mobile phones and other portable devices.

Their vision is to develop shoe inserts capable of repurposing the kinetic energy from footsteps into usable electricity. Enabling people to generate their own power would be a monumental quality of life improvement, addressing the constant and familiar concern of making sure their phone has charge. The mechanical engineering graduate says, "This would be a radical and disruptive innovation, capable of circumventing some of the strain on the National Grid, all in a clean and renewable manner."

"I applied in hope of helping to bring an end to climate change."



Damian Zabielski

Damian Zabielski, age 22, is an innovative youth worker who has helped deliver events and programmes to over 30,000 young people across the UK. His philosophy of 'young people designing the world around them' led him to build a successful youth-led consultancy and now MindMapper UK: helping young adults to find and access mental health support in a quick, easy and personalised way.

MindMapper UK is the ultimate digital mental health gym for young adults. Users are able to tap into a global community of MindMappers from the palm of their hand. Services include partnering up with a virtual MindBuddy, access to lifestyle-specific resources and mental health PT. With 16 to 25-year-olds having the highest cases of mental health problems, and over 75% never receiving any support at all, Damian hopes to satisfy a clear market demand for simpler navigation to mental health support.

Who we are...



Innovate UK

Innovate UK drives productivity and economic growth by supporting businesses to develop and realise the potential of new ideas.

We connect businesses to the partners, customers and investors that can help them turn ideas into commercially successful products and services and business growth.

We fund business and research collaborations to accelerate innovation and drive business investment into R&D. Our support is available to businesses across all economic sectors, value chains and UK regions.

Innovate UK is part of UK Research and Innovation. For more information visit **innovateuk.ukri.org**



Prince's Trust

Prince's Trust

The Prince's Trust believes that every young person should have the chance to embrace exciting opportunities, so it helps 11 to 30-year-olds to find the tools and confidence to try free courses and start something new.

The charity works with young people across the UK and beyond by helping them to build confidence, kickstart a career, learn new skills, get job ready or explore being their own boss through free programmes.

More than three in four Trust-supported young people across the UK start something new by launching their own business, or moving into jobs, education or training.

Whether looking to build new skills, get into employment or explore self-employment – The Trust is here.

There are lots of ways to contact The Prince's Trust. If you'd like more information, please head to the charity's website and chat to one of their friendly team: princes-trust.org.uk/contact-us



KTN

Connecting for Positive Change

KTN exists to connect innovators with new partners and new opportunities beyond their existing thinking – accelerating ambitious ideas into real-world solutions.

Our diverse connections span business, government, funders, research and the third sector.

Find out more about how we can work with you, **ktn-uk.org**.



Innovate UK EDGE

Innovate UK EDGE is for every high-growth potential innovative SME and is focused on accelerating their growth as a business.

Our objective and knowledgeable specialists help ambitious leaders identify the best strategy and harness world-class resources to grow and achieve scale.

A first engagement, which starts with a thorough audit of challenges and opportunities, typically results in targeted action in one of the following areas: exploiting innovation, sourcing funding & finance or entering new markets.

The most outstanding scaling businesses that are disrupting their industries, capable of internationalisation and achieving over 50% growth p.a. are invited to join our Scaleup Programme for enhanced support.

You can connect to one of our innovation and growth specialists near you for bespoke, fully funded support that will give your business the edge, via: www.innovateukedge.ukri.org

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Find out more about the Young Innovators Programme ktn-uk.org/programme/young-innovators/

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