

THE



FOUNDRY

STUDIOS

**Refining a Multi-Studio Framework  
for Creative & Digital Intrapreneurship**

**Delivery Report for the Institute of Coding, Feb 2020**  
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*Two studio interns testing a VR project in the Foundry*

# 1. Introduction

This report covers the background and learning surrounding UWE Bristol's work as part of the Institute of Coding (IoC) within theme 1, targeting university learners on computer science and technology related disciplines.

Broadly captured as sub-theme 1.4 and summarised as having an objective to “**pilot and deploy innovative schemes which enable learning to occur within rich industrial contexts,**” through approaches that take the form of “**bringing industry to students or vice-versa bringing students to industry**” and “**setting up of specific physical spaces to support a range of industrially focused teaching and training activities, including industrial software development and enterprise skills development**”.

UWE Bristol was a key stakeholder in two work packages within this sub-theme and was tasked with the delivery of two sub-packages:

- WP1.5 Extra-Curricular Innovation
  - Development of a new multi-studio approach to widen participation and increase engagement around software intrapreneurship.
- WP1.6 Innovative Spaces
  - Development of a pilot ‘affinity space’ learning environment to increase industry engagement with students and curriculum”

This report will give an overview of the activities and outcomes surrounding WP1.5 Extra Curricular Innovation.



*Jacqueline de Rojas and Chris Skidmore MP with interns at the Foundry launch event in May 2019*

## 2. Background

### **// The Early Enterprise and Innovation Studios**

Enterprise and Innovation Studios were a trial initiative in which a range of subject specific student and staff led studios were formed between 2015 and 2017 within the Faculty of Environment and Technology at UWE Bristol. Later they were renamed Enterprise Studios and currently Foundry Studios. For the purposes of this document they will be referred to as the studios.

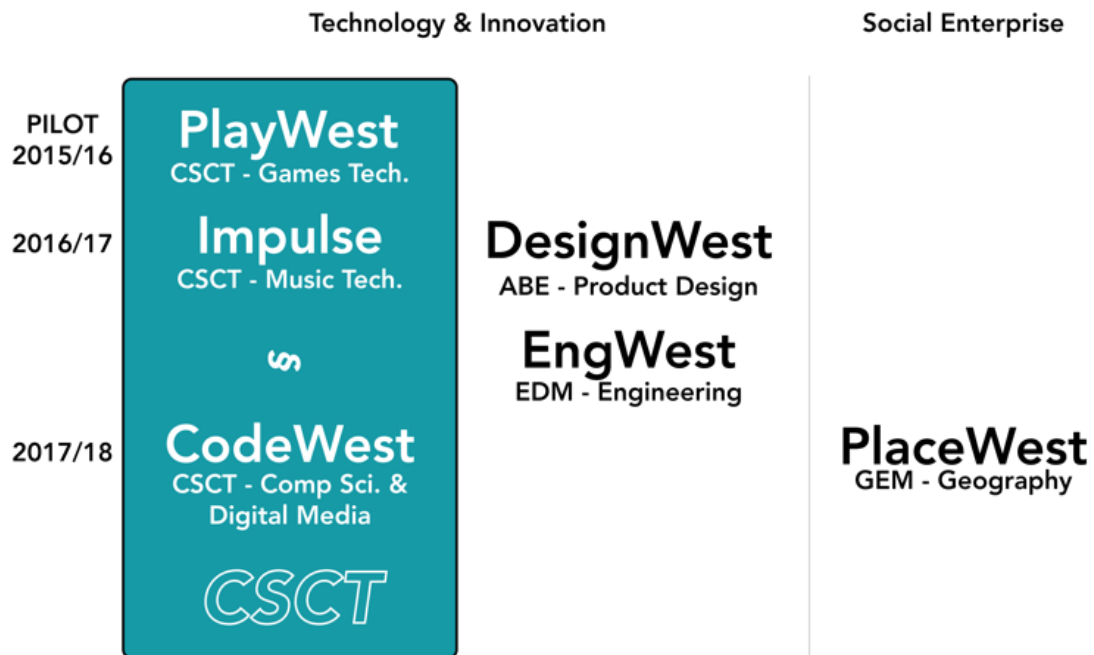
The studios were initially funded by the Higher Education Innovation Fund and their primary goal was to enhance the student experience around employability and professional skills development in undergraduate students through real-world projects, knowledge exchange and business engagement. The pilot studios were designed to be disruptors and find innovative ways for staff members to act as intrapreneurs and navigate the institution's structures and systems to better meet the needs of industry partners while aligning them with students through co-curricular activities and projects embedded into curriculum.

In 2015 the pilot studio PlayWest was launched and embedded within the Games Technology BSc and MSc programmes. It was led by Andy King and Carina McLane both of whom had significant industry experience as game developers. After a year of activity PlayWest began to receive notable exposure and projects with clients such as Rolls Royce, Hire Association Europe, and European Research Council projects. The model was seen as a success and the desire to trial in other subjects was tested resulting in the commission of six new studios over two years. To encourage the sharing of novel practices, institutional workarounds, and interdisciplinary projects the studios formed the Enterprise Studio Network (ESN) (Figure 1). By 2017, studios had formed across the four departments of the Faculty including Geography and Environmental Management (GEM), Engineering Design and Mathematics (EDM), Architecture and Built Environment (ABE), and Computer Science and Creative Technologies (CSCT). The studios were largely run by academics who had come from industry who were in turn afforded time to run a studio through the allocation of workload and title of a Faculty Business Associate (FBA). FBAs are a role within the Faculty with the prime directive of developing partnerships, supporting colleagues and facilitating a range of knowledge exchange activities. Traditionally this was dominated by the development and securing of Knowledge Transfer Partnerships (KTPs) - a government funding scheme for R&D activities led by industry but with support from the HE sector.

Of the four departments CSCT held the largest number of studios in part due to its disciplines within the creative-digital industries seeing significant growth in the UK economy and triggering a range of funding opportunities to support Higher Education Institutions and industry partners to develop new content, practices and meet the growing skills gap (Bazzelette, 2017). Additionally, the creative-digital sector is comprised by a significant proportion of Small Medium Enterprises (SMEs) often made up of less than 10 people for whom the established KTP framework is uneconomical. Furthermore, the creative-digital industries career paths are characterised by fragmented, portfolio careers – in which the workforce blends traditional employment with (or sometimes exclusively) freelance



contracting. In this kind of job market professionally relevant attitudes, behaviours and skills are paramount to creative and financial success. With this context in mind, Universities have come under scrutiny for not preparing graduates with adequate market awareness and soft skills (Shadbolt, 2017), and equally not engaging with and supporting SMEs (Witty 2013) - often captured under the banner of “enterprise”. The studios looked to disrupt these core issues, while developing new ideas and pedagogic practices to meet the needs of modern students and industry.



*The Enterprise Studio Network at UWE Bristol (2015-2018)*

## // Enterprise, Entrepreneurship and Innovation

Throughout the trial defining the Enterprise and Innovation Studios presented a significant challenge as the words “enterprise”, “innovation” and “entrepreneurship” are often misconstrued or used interchangeably. This in part comes from having many groups working around similar themes of business development and student employability from centralised services, the Business School, and the University Enterprise Zone – for example within UWE there is, [Launch Space](#), [Future Space](#) and [Team Entrepreneurship](#). These “enterprise” activities focus primarily on scaffolding traditional, generic business skills and behaviours with an emphasis on commercial products, B2C/B2B commerce and financial success. These activities are for the most part well catered for in HEIs and UWE Bristol, but follow traditional student-facing rhetoric of “being your own boss”, developing the next “killer product” and being the “first to market”. While this has its place in employment and enterprise discourse, it did not sit well with the realities of careers and lived experiences from staff leading studios and as such indicated new goals and strategies needed to be devised.

In 2016 the Enterprise Studio Network created a common purpose document which stated:

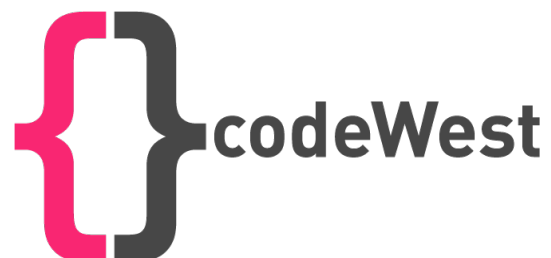
“An Enterprise Studio is a space within a department or subject that creates a bridge for students between their academic course and the industry they will eventually work in. Particularly relevant for industry active programmes, the focus of the studio is to create an authentic experience for students, working on paid, real-world projects; in a supportive environment. These opportunities enrich the student experience and prepare them for work at a level not normally possible through curricular or part-time work.”

(Carina McLane and ESN, 2017)

By the end of the trial period a range of projects had been delivered and new partnerships developed within each discipline. In addition, the beginnings of new streamlined institutional workflows to manage contracting, employment and payroll were forming. But a number of challenges still presented themselves:

- Institutional service structures (like IT Support, Human Resources etc.) were slow to engage with agile needs of this new type of business engagement - with the current workflows presenting many inefficiencies.
- Studios projects were still siloed within disciplines and interdisciplinary collaboration was almost non-existent.
- Project work relied heavily on surplus space not timetabled for teaching and the separation between curriculum and professional work was blurred.
- Individual studio brands did not effectively communicate a unified movement cutting across UWE students and staff to external businesses and partners.
- The studio model had not spread beyond the Faculty of Environment and Technology.

Led principally by the department of Computer Science and Creative Technology and through match funding by the University and the Institute of Coding (IoC) the formation of a new physical innovative space and multi-studio working practices and pedagogies were developed under the brand of The Foundry. This was done with the aim of developing the studio model and activities further, in line with IoC goals and addressing the challenges found throughout the ESN trial.



*C SCT Enterprise Studio Logos for Playwest (games), Impulse (audio/music) and codeWest (web/digital media) c. 2017*

## 3. The Foundry & Institute of Coding

### *// The Foundry and Studios Concept*

The original Foundry concept proposed three key elements and innovations that aimed to develop and resolve issues found by the end of the ESN Trial:

1. To streamline ESN operations, maximise the ‘pull’ benefits of industry recognition around the quality of UWE students and curriculum areas as well as the facilitation of richer, more sustained co-working and collaboration between disciplines, students and industry for impactful projects. This would leverage the university’s true strength – its students, in a disruptive learning environment where the aim of all work is the creative success for those involved, but where the true product is the student experience and outcomes.
2. To co-locate students, staff and industry working in studios, through the design and build of a constructionist, post-industrial technology “affinity space” (Gee, 2004; Barden, 2016). A physical (or virtual) space able to affect the teaching, learning, organisation and productivity of people more deeply than is possible in traditional educational settings. This is achieved by scaffolding ‘optimal flow’ for learning and productivity (Csikszentmihalyi, 1990), whilst leveraging an aesthetic that inspires subconscious ‘doing’, in a space that purposely intends to feel different to usual curriculum and lab space provision.
3. To develop a brand able to elevate student + studio outcomes, technology skills events and outreach well above the noise of a large and complex HEI, a busy regional city-centre hub of creative industries activity, and local HEI competitors. The Foundry and its studios are to act as a beacon for industries and students under a brand that aligns strongly with student perceptions of ‘industry’ whilst still allowing a wide range of professional identities to be assumed.

### *// Intrapreneurship*

In a counter to the established discourse around enterprise and entrepreneurship the foundry studios aimed to develop and encourage ‘digital intrapreneurship’, or “the application of enterprising behaviours, attributes and skills” (QAA, 2018) across technology sectors identified as “the future cornerstone of lasting growth and profitability for industry” and a “simple but powerful approach to accelerating innovation” (Deloitte, 2015) in large and complex organisations.

Intrapreneurs are vital to organisations as they drive productivity by taking risks to solve important and/or specific problems. They develop policies, technologies or applications and are drivers of innovation within an organisation through experimental and creative processes that require room to grow and the autonomy to take measured risks. Importantly, intrapreneurs will be seen as investors, not employees. They are able to spot trends, see opportunities before competitors, and will grow personally as a company does, fostering the growth of others around them.



These skills, behaviours and competencies are equally relevant for SMEs and freelancers in a creative economy in which subcontracting and division of work of large productions and projects means that the workforce is fluid, fragmented and consists of numerous collaborating businesses, which in turn introduces a need for competitive advantages, market awareness and future facing attitudes.

### **// Studio Goals and Benefits**

At the heart of the studios is the need to practice our craft through the delivery of projects with and for clients, within and external to the university. From this we aim to achieve a number of goals and benefits.

For our students we develop their:

- Soft skills – addressing the lack of opportunities to exercise and develop skills such as communication and collaborative working strategies (Shadbolt, 2016).
- Professional identities – exposing students and raising their awareness of the commercial and industrial constraints and practices by providing opportunities to adopt the behaviours of the professional.
- Creating “intrapreneurs” who can integrate, lead and innovate effectively within businesses, teams or productions.
- Portfolio and résumé – providing the student with more than an experience but an artefact that stands as a professional, real-world record of ability and understanding. Addressing the problem of many entry level positions requiring “two-years of experience” or “x-number of professional credits/shipped titles”.

For our staff we enable:

- Opportunities to develop links to the “real-world”, beyond the bubble of academic research.
- Authentic projects with which to develop practice, research and scholarship.
- Pathways to maintain relevance and remain on the cutting edge of industry practices.

For our University we:

- Develop links with business and new partnerships – working towards mutually beneficial outcomes.
- Enhance our visibility – through impactful and headlining project delivery.
- Facilitate opportunities for inter/multidisciplinary collaborations.

For our industry partners we:

- Link employers to future talent, employees and freelancers.
- Enhance the technical, creative and soft skills of the future workforce.
- Provide access to top researchers and practitioners in the field.
- Provide a low-risk environment to develop innovative content, technologies and workflows.

## // Project Methods

The focus of the studios is fundamentally one of student experience. However, the point at which industry meets the student is centred around the project, which might be the creation of new content, technologies or workflows. How we set up these projects, structure the students' interactions with them, and manage the partners' expectation of the outcome is of paramount importance to success.

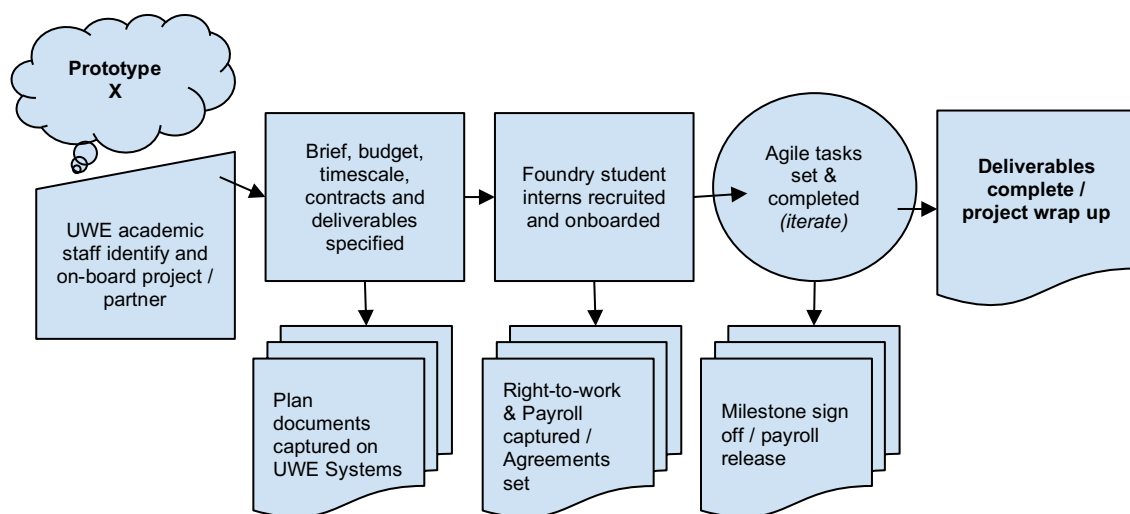
These projects can take multiple forms and these are largely dependent on the subject area and practices within the industry it faces. As a result of this, a one-size-fits-all approach is not appropriate.

The types of projects we utilise are:

- Live Projects – embedded into curriculum through module delivery. Potential for high engagement numbers and time resource shared by module leaders.
- Sprint events (hackathons/jams) – fast, intensive, sometimes competitive, project delivery to a set brief or theme. Potentially large engagement numbers, high infrastructure/resource needs, quick turnarounds, potentially lower quality.
- Ad-hoc / Small projects (days/weeks) – low student number but a depth of engagement for participants in a short period. Low supervision required. Complexity of set-up can potentially outweigh the benefits.
- Medium/Large scale projects (months/years) – opportunity for long-term engagement, placement year/summer internship, student ownership and significant development. Potential for disengagement over time and long term supervision required.
- Speculative projects – iterative, internal projects funded by surplus and/or investment. Opportunity for systems/infrastructure development.

## // Project Lifecycle

While every project is often different in its procurement, execution and delivery - some similarities exist in the mechanisms within the university with particular reference to the safeguarding of the partner, student and institution.



Generic studio project life-cycle

There are a number of methods for paying student interns while working in the Foundry which largely depend on the size and length of the project. It is paramount that the legal right-to-work check is carried out for any student who may be completing paid work. This must be carried out and verified before any work is offered and started.

<b>Technical Payment</b>	<b>Casual Worker</b>	<b>Temporary Staff</b>	<b>Fixed Term</b>
<p>This is used for introductory payment for students when they are first interacting with a project and allows for a trial period with clearly defined scheme of work.</p> <p>This allows for an agreed milestone payment. Generally, a 3-month block of work for X amount of money.</p>	<p>Normally used after completion of an original technical payment.</p> <p>This is where monthly timesheets are completed by the student for work agreed.</p> <p>There is less control over the number of hours students are working and a clear element of trust.</p>	<p>This is generally used of longer projects (up to 6 months)</p> <p>This can be fixed hours or ADHOC timesheets</p>	<p>Used for 6 month + projects normally for graduates.</p> <p>Salary based</p>

The Foundry has baseline pay-grades for both undergraduates and graduates working in the space that start at the [Real Living Wage](#) and increase based on experience. This is reviewed regularly and fits in with the University’s pay-grade system. For medium to large projects that last one month and over, we recommend using “Technical Payment and Milestone” system in which a package of work / milestone agreement of deliverables is negotiated and payment for the intern is released on completion.

Example: produce prototype X, agreed 12hrs per week over 3 months =£1500, milestones every month = £500 monthly pay-out.

This allows interns to work in their own way and perhaps learn/upskill to meet the needs of the project. They may be very efficient and complete the work before the project deadline and the typical number of hours or need to put a lot of learning hours until they feel confident. At the end of this time we can assess the work ethic, quality of outcome and their interaction within the team to make the choice whether to:

- A. Join the project team and use casual payment hourly timesheets
- B. Issue another technical payment ( e.g. quality is high but work ethic not great)
- C. Provide no more work on the project as the work or ethic is not good enough

Ultimately the learning outcomes for the student intern is that they understand the relationship between their attitude to work, the extent of their ability, skills, and need to self direct learning to cover understanding to meet the job requirements, their role in a team and ability to communicate with stakeholders. When this happens within a project that is authentic, with real stakeholders with genuine deadlines and reward, the learning experience switches away from simulation and feeling like another assignment. In early iterations of the studios we experienced students gaming the system and submitting excessive hourly pay sheets with very little tangible outcomes. This milestone model puts the onus of work and preparation for work on the student intern and teaches them how to specify the time taken to undertake tasks, which enforces the processes of timescale, budget and client/supervisor management found in professional life.

For more specific information on how we set-up and run projects in the studios, please refer to the Foundry Project Process document (Appendix 1), which is issued to new UWE Bristol academics looking to start a Foundry project. This project process has been developed in collaboration with the university services and represents our move towards standardised, agile process for project start-up.



*Ada Lovelace Foundry social media artwork*

## 4. Case Studies

To highlight how the Foundry framework operates, case-studies are presented that demonstrate some of the disciplines and practices, as well as, the creative, student and industry outcomes.

### *// Studio Projects*

During the academic years of 2017/18 and 2018/19 and with the support of the IoC, the Foundry Studios have impacted a significant number of businesses, students, graduates and academics through the delivery of unique projects in its innovative space and has resulted in:

**63** studio projects completed

**265** student / graduate internships provided

This has involved the hard work and dedication of numerous people including academics, technicians, administration and support staff across the faculty to provide professional portfolios and experiences that would not have been otherwise possible.

While the profile of staff members is diverse they hold a common feature in that the academic staff supervising and coordinating subjects have industry experience and are active professionals in both the academic and industrial contexts. This kind of academic profile is critical in the success of the studios ability to develop authentic working practices with the students, practice intrapreneurial skills by navigating institutional, bureaucratic barriers and finally ensure realistic, achievable project plans and deliverables created by the students and with the clients. This kind of profile is often contrary to the traditional research and teaching profile of academics, but is increasingly prevalent in practice-based subjects.

The following case studies give further detail on three projects delivered through Foundry Studios situated within subjects from the Computer Science and Creative Technology department.

## i-Patch Pirates I & II

<https://playwe.st/ipatch/>

Originally commissioned in 2018 by the University IT Services and marketed at the forefront of the University's [Cyber Security Week](#), i-Patch Pirates is a "serious game" with the purpose of educating and informing players within the University of the perils and good practices of cyber security. The game cuts across academics, students and services allowing players to identify a "galley" and thus introduces a university wide competitive element.

The foundry studios engaged 16 student and graduate interns from the Games Technology BSc and MSc programmes with a range of years, backgrounds and abilities fulfilling a mix of technical and design roles. Collaboration with students on Broadcast Audio & Music Technology BSc embedded into the team to provide bespoke dynamic music and audio systems ensured face-to-face working methods. Artwork and sprites were commissioned externally and led by student concept and gameplay design.

"Working on i-Patch Pirates and other projects in the Foundry has meant that my skills have been taken seriously and I've been treated like a professional. Meeting with clients directly has given me the confidence to run projects and approach new clients and companies that I wouldn't have otherwise."

Ellie Dunstan, Foundry Intern

Students from the Pirates development and audio teams have gone on to final stage interviews and employment at major game studios such as Rockstar North and Rare. The iPatch Pirates serious game has been presented internationally at UCISA, INFOSEC Europe to great acclaim and is currently licensed and modified for other companies such as Bristol Airport to raise cyber security awareness outside of the original HE sector.



*i-Patch Pirates splash screen logo.*



## InvestWest

<https://investwest.online/>

InvestWest is a new Bristol-based company, who wanted technical development for their idea to better connect investors to businesses in need of investment. A studio team of two student interns from digital media and web worked on the project at the Foundry during 2019.

InvestWest.online is the resulting platform with distinct profiles for investors and start-ups. A start-up company issuer can create a pitch and outline their investment requirements, after which approved investors can browse their pitches and indicate support by “liking” a pitch. Once an offer receives a threshold number of investor likes, it can proceed to the “primary offer” phase where investment is agreed in exchange for equity. In addition to the ability to view and express interest in investment opportunities, the platform includes networking functionality, to allow investors to ask questions about a company’s pitch.

“We were apprehensive as it was quite a significant development over a lengthy period of time but we shouldn’t have been. Not only were UWE staff there to help and guide whenever necessary (and to pull in additional resources if needed), we built a strong rapport with the team as a whole and are delighted that two have even joined Invest West going forward. Having youth on the development side has been refreshing and innovative for the business, definitely would recommend.”

Stuart Harrison, InvestWest Director

“I have had a chance to get industry experience and work a flexible part time contract while studying. I have had the chance to apply what I have been learning at university and expended my industry connections... I have secured employment with Invest West after my graduation.”

Nicholas du Preez, Foundry Intern

InvestWest is now proceeding to launch and a further phase of product development, with a great deal of interest being shown by investors in the SW region and beyond.



Website banner. Credit: <https://investwest.online/>

## AudioWAVE

<https://swctn.org.uk/immersion/prototypes/audiowave/>

AudioWAVE was a sprint R&D project to enhance Squidsoup's light and sound installations by overhauling the acoustic and electronic design of their Bloom technology through modifications to the existing housing and internal components. A studio team of three student interns from audio technology and product design worked on the project at the Foundry during spring/summer 2019 in collaboration with Squidsoup and Net Sensors Ltd.

Squidsoup is a UK-based international group of artists, researchers, technologists and designers working with digital and interactive media experiences. The project was funded by the South West Creative Technology Network, a £6.5 million project to expand the use of creative technologies across the South West of England.

“Working on the Squidsoup project at the Foundry gave me an invaluable introduction into the creative technology industry, leading on to a number of paid projects with various companies and individuals around Bristol. I have been able to apply many of the skills that I have learnt on my course and now as a part of my self-employed sandwich-year my business is growing and keeping me very busy. This is exactly why I chose to study at UWE, and I am very grateful for the opportunity.”

Michael Fergie, Foundry Intern

The project has gone on to tour worldwide venues and locations as “[Curve](#)”, while students from the audio and design internships have continued to work freelance with the artist group and further networks resulting from technology showcases featuring AudioWAVE.



Intern testing AudioWAVE prototype. Credit: [SWCTN YouTube video](#)

## // Technology Events

While studio projects provide excellent impact, high quality outcomes and rich experiences for industry, students and academics, they require a significant amount of preparation, supervision and administration. To enhance the Foundry studios provision to engage greater numbers of students, graduates and industries the studios experimented with up-scaling established Technology Events to encourage learners of any level to collaborate across disciplines. In 2019 this was piloted through the Global Game Jam. This event took an established, familiar and globally organised framework and enhanced its offering with the University and IOC support. This was thought to be the most efficient way to disseminate the message and goals of the institutions and those participants pursuing creative-digital skills.

Across the three technology events the Foundry has engaged and higher overall number of participants than the conventional studio projects, and produced a comparable number of the projects and prototypes.

**58** projects and prototypes created

**413** participants engaged

While the learning outcomes of the technology events are more centred on creative success than student professional working practices, the additional industrial talks and opportunities to meet and discuss with professionals help to enhance these events in line with the Foundry aims. Events which encourage creative success without the pressure of credits, marks or payment enable participants to pursue greater risks and innovative practices without repercussion, with these skills and behaviours forming a cornerstone of intrapreneurial discourse. The high participant to project ratio indicated that collaboration and teamwork was common across the events and these creative relationships will hopefully endure and feed into future industrial working relationships.

The events have succeeded undeniably in engaging a wider audience than the projects alone indicated that pursuing diverse activities is critical in balancing high numbers of engagement with the kind of professional level working practices, innovative prototyping and experimentation requested by industrial partners.

### Global Game Jam 2019 - Pilot Event (25th - 27th January 2019)

The Global Game Jam (GGJ) is an annual hackathon event in which participants rapidly prototype games over 48 hours around a common theme and constraints. The short timescale encourages quick thinking, risk taking and innovative practices to achieve creative success. The GGJ is a world-wide event with a huge public awareness and participation.



*Jam participants at work in the Foundry.*

UWE Bristol has been the largest site in the city for a number of years but with the support of the IOC and newly developed innovative space of the Foundry the goal was set to be one of the largest in the country by investigating how we might augment the event to encourage further participation and from more diverse groups other than the Games Technology degree programmes.

Central to this activity was the offer of additional guests as key-note speakers for the launch event. Mike Wadelin (senior systems designer), Soraya Javin (production associate) and Ben Lyons (senior programmer) from Rockstar North (studio responsible for the Red Dead and GTA series) spoke with participants about careers in the games industry alongside tips for completing degrees and a Q&A from the audience. Later that evening the guests met with the jam participants to discuss their ideas, ambitions and jam games 1-to-1.





*Mike Wadelin, Soraya Javin and Ben Lyons from Rockstar North give a keynote speech on industry careers.*



*Ben Lyons talks with Jam participants in the Foundry.*

The 2019 marketing strategy looked to enhance the student and public awareness of the Foundry through a co-ordinated distribution of its branding through social media, online video content, branded clothing and merchandise.

Games development brings together multiple disciplines from programming to art and design, physics simulations to musical composition - all facilitated by digital skills and systems. Through this we are able to bring together disparate subjects and teams across the university, local creative community and industry to share and collaborate around a single digital skills technology event.



*#BristolGGJ Brunel social media campaign graphic.*

As a result of our enhanced event the Foundry and UWE Bristol engaged 175 registered participants and was the largest site in the UK at the time of the theme release (7pm Friday) resulting in [21 games](#) completed. Participants came from across the university with high engagement from the creative industries and technology faculties with notable contributions from aerospace, animation, graphic design, audio and games.

In addition to the current student participants a number of industry & returning graduates attended, including a local visual FX studio, an independent digital studio, and freelancers from creative industries and major post-production facilities. These participants cited the scale, guest talks and enhanced offering of the event as some of the reasons for joining the UWE Foundry GGJ site. Some of the external participants had a connection to the courses offered by UWE (either as alumni, guests and partners) but were made aware of the event via our marketing, clear branding and outward facing approach. Some of the industry participants were contacted after the event and invited back to the University to give talks and workshops in games and audio as well as exploring potential opportunities for collaborative projects with Foundry studios.

A positive outcome of the event was the emergence of a community of practice surrounding games which brought together artists, developers and engineers. This is evidenced by the collaborative work between student cohorts for assignment and portfolio work both inside and outside the curriculum with little or no direction by the teaching staff.

For future events we intended to work on reaching outside the University further and continuing to bring together diverse student groups and others to similar Technology Events. In addition, we would gather demographic data on the participants in line with IoC criteria which was not set at this stage of the project.



## 2020 Technology Events with BBC Academy and Digital Cities Bristol Week

During the planning phase for the 2020 Technology Events, we were able to sit on the steering group of the BBC Academy in Bristol who organise and deliver a range of courses and events for digital skills in the creative industries, in particular targeting young audiences of 16-25 years old. BBC Digital Cities Week is a touring event around the UK and delivers a week of events aimed to engage new learners for careers in the creative and digital industries. These events range from workshops and courses to talks and meet the industry Q&A sessions.

In these discussions it emerged that Bristol Digital Cities Week could be moved from October/November to late January. Pursuing this date allowed us to amplify our marketing and develop new events with other partners on the steering group through the BBC Academy to reach a wider and more diverse audience.

During the 2020 BBC Digital Cities Week Bristol the Foundry delivered the Global Game Jam (GGJ) and the Bristol Wellbeing Data Jam (BWDJ). A beta version of the Foundry sign-up system was trialled at both events to collect demographic data of the event in line with IoC criteria. At the GGJ, an early release of the Foundry App (for iOS and Android) was trialled, which informed participants of activities taking place (such as food deliveries, deadlines, prompts for rest etc.). Both of these apps and systems were developed by students within the studios.

See more at: <https://www.bbc.co.uk/academy/en/collections/digital-cities-bristol>



BBC Academy - Digital Cities Bristol graphic incl. key stakeholders logos Credit: [BBC Academy](https://www.bbc.co.uk/academy/en/collections/digital-cities-bristol)

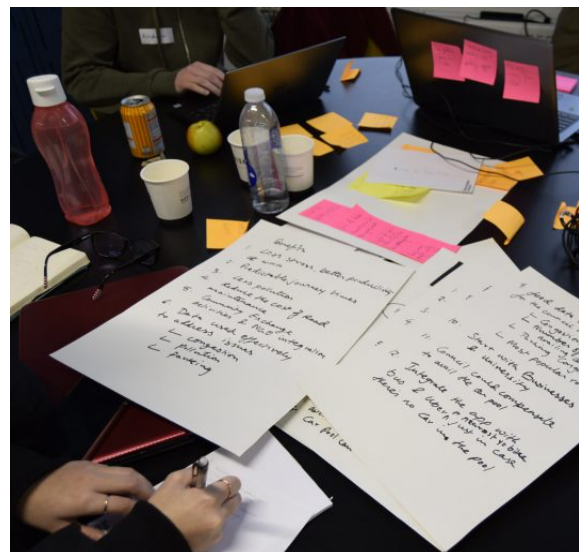
## Bristol Wellbeing Data Jam / Hackathon (25th - 26th January 2020)

In partnership with the Bristol Open Data Platform (<https://opendata.bristol.gov.uk/>) this event was a 2-day hackathon creating projects that bring together great ideas, awesome digital and creative skills with open data from the city, with the goal of supporting and improving the wellbeing of residents and guests in Bristol and surrounding areas. The event used the Processing platform and was an evolution of the Processing Community Day activities running throughout the year.

Processing is a free and open-source software platform for learning how to code within the context of the visual arts and is used by a worldwide community of artists, coders, educators, and students. Processing Day is a global initiative to introduce and encourage new learners and users to the platform, coding and digital skills. More Foundry Events around Processing Community Day are scheduled to happen from the 5th-7th June in collaboration with other artists and partners across the city.

See more at: <https://processingfoundation.org/advocacy/processing-community-day-2020>

The event received 55 participant sign-ups on eventbrite with 30 responses to the demographic data questions. The theme of well-being making use of the Bristol Open Data platform was interpreted creatively, with nine projects produced that ranged from a system to redistribute patients across Bristol hospitals according to how busy each hospital was; to a comparison of the number of self harm patients on different wards in different hospitals and of different genders; and tools to encourage and monitor well being and personal mental health.



Bristol Wellbeing Data Jam planning out ideas. Credit: [Marius Jennings / ConnectingBristol.org](https://www.connectingbristol.org/)

## Global Game Jam 2020 (31st January - 2 February 2020)

The GGJ2020 continued with many of the same strategies as in the previous year by having a concentrated marketing scheme internally in the University to draw students across faculties and across BBC Academy and Global Game Jam channels, as well as providing keynote talks from local games developers Foggy Box, game-based performance artist Alistair Aitcheson, and Build Box (was of the major sponsors of the global event). Initial concerns that the lack of a big AAA studio like Rockstar North may impact the appeal of the event proved unfounded with the official GGJ participant numbers exceeding the previous year and continuing the upward trend and significant leap in numbers afforded by the additional resources from IoC involvement since 2017/18.

Despite participant numbers increasing slightly since the 2019 event, the productivity of the 2020 Jam is noticeable with 183 registered participants ([second largest site in the UK](#)) and [28 games](#) completed and uploaded to the GGJ site. A number of students from across the university faculties returned after positive experiences in 2019, as well as, a number of graduated alumni returning to form teams from Foundry project and previous Jams. Through the BBC Digital Cities Week, we received less general public participants as before with the exception of a small collection of college students from local FE institutions. In the future we aim to concentrate on this audience as a good feeder for higher numbers of event participants with the potential to impact positively on programme recruitment as well.

The early release Foundry App functioned well to provide push notifications and announcements to participants, which was particularly useful as the jam was spread across multiple locations and buildings of the university. Some minor bugs and issues were noted concerning UI, layout and proofing of the announcement text, which are being revised by the studio development team.

The demographic data collected does not reflect the complete population of participants of the event as the online capture website and server was not configured correctly. This issue is being investigated by the student development team and is thought to result from the high simultaneous site traffic not being taken into account (a flaw not encountered during the earlier Bristol Wellbeing Data Jam). 51 responses for demographic data were captured and provided a usable and insightful random sample of the event.



*GGJ 2020 participants and organisers gather for the keynotes and theme launch.*

## 5. Outcomes and Future Opportunities

### **// Impact of the Project**

Through the support of the IoC, the Foundry Studios have enjoyed a period of growth and development that would not have been possible otherwise. This has resulted in a significant number of projects, experiences and opportunities for university learners, support and innovative knowledge exchange methods with industry partners, professional development for university staff members involved in the studio operations, and new frameworks and methods for the institution to engage all of the above.

The combined impact of studio projects and technology events demonstrates that this methodology is a catalyst for creative success, through which learners and stakeholders can come together to experiment, learn and develop their skills in the creative, digital and technology domains. Through the two-year window of this project and the ongoing activities still taking place, the IoC support has enabled...

...more than **121** projects, prototypes and artefacts.

Through the creation and delivery of these projects we have engaged large numbers of learners from within the university, from local industry partners, and the wider public. As a result of this, the IoC support has enabled...

...over **678** opportunities and participants to be engaged.

Of these participants engaged, the vast majority represent University learners and their interactions with the studios are believed to have contributed to positive student experiences. Students and graduates comment on the studio projects and events as useful, insightful and meaningful learning experiences that have helped them to realise their professional identities and nurture their industrially relevant, intrapreneurial skills and behaviours. The courses that are involved with the studios have historically enjoyed good and excellent National Student Survey (NSS) satisfaction scores. As the studio model matures and develops further into greater curriculum integration we anticipate this trend to continue and improve.

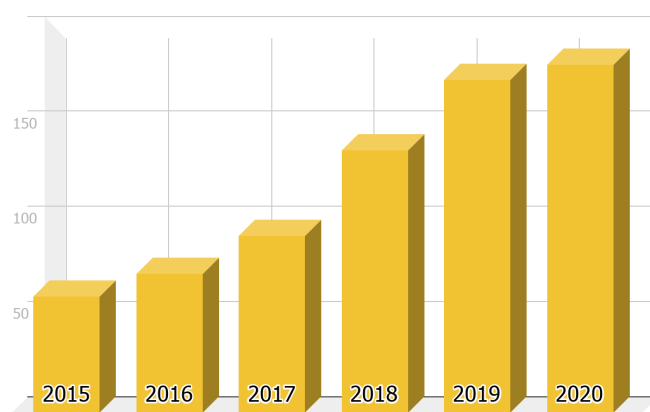
Graduates leaving these degree programmes often rely on their studio experiences as central elements of their portfolio and job applications when moving from HE into careers. The studio



activities and opportunities whether short or long-term have enhanced the student experience and filled in the gap where industry has not had enough industrial placements to fulfil the student numbers requesting them. In the future, we anticipate that these activities will have a positive impact on our graduates' destinations as captured by the outgoing Destinations of Leavers of Higher Education survey and the new Graduate Outcomes Survey. Furthermore, we indeed the Foundry and studios to form a part of the institution's submission to the newly announced Knowledge Exchange Framework.

Throughout the course of the IoC activities we have gained some interesting insights upon reflection into the behaviours and beliefs of university learners in these industrial contexts. At the heart of this is the importance of authenticity of experience. Students are acutely aware of the often contrived nature of university assessment, particularly in simulated experience where the pedagogical method looks to emulate specifications of tasks but measure them through standardised, sometimes convoluted grading criteria.

The pressure of the authentic client relationship, deadlines and potential to be kicked off the project or "fired" is a welcomed antidote to the "customer service" culture emerging from the heavy marketisation of Higher Education. It enables the student-lecturer relationship to be elevated to a junior-mentor relationship in which work is negotiated, revised and iterated to meet real-world pressures with real-world implication for success and failure. Furthermore, as these projects happen outside of the subject curriculum and within the Foundry as an affinity space, students, supervisor and industry are co-located and work across subject divides. These kinds of multidisciplinary activities in the student experience are traditionally difficult within curriculum, in part due to the limited time within the academic calendar, the need for administrative deadlines and the lottery nature of team assignments in student cohorts. These kinds of deep, authentic, learning experiences become a meritocracy, in which capable and driven students are rewarded through engagement with the projects. This mirrors the real-world pressure of acquiring work, bringing it into the HE context to be discussed, supported and explained. A student can engage or not, it has no immediate bearing on their grades but does provide an edge which must be earned.



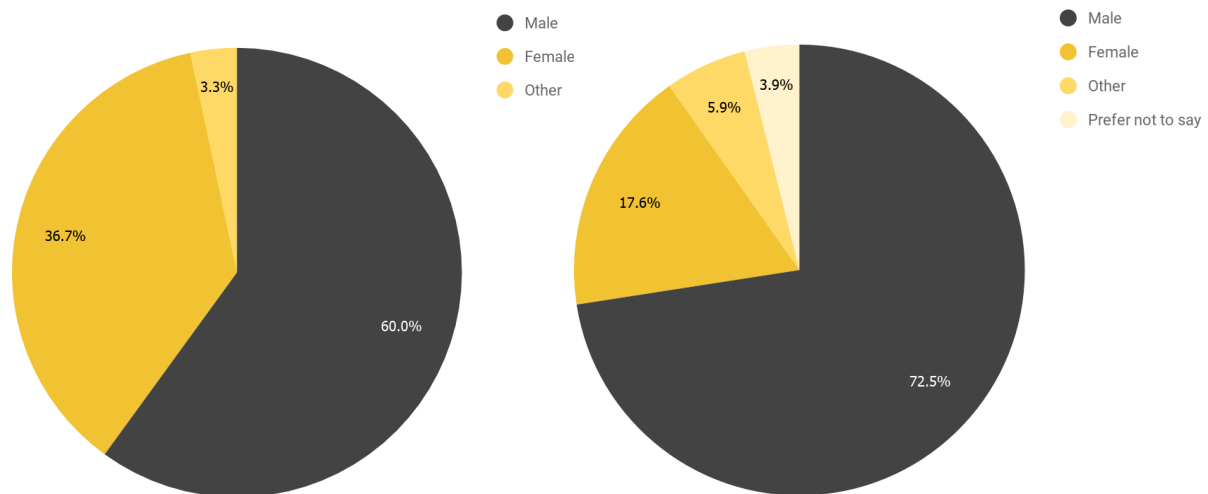
*Number of participants at UWE Bristol Global Game Jam site (2015-2020)*

Beyond these project experiences we can cater to larger groups through technology events, facilitating risk-taking, time management, multi-disciplinary teams with no real-world risk attached. It appears that these types of events are more desirable to many students. When considering the participant numbers of the GGI since UWE Bristol began hosting a site in 2015, the numbers have doubled and maintained since IoC support began in 2018/2019.

## // Demographic Insights

When comparing the demographic data between the two technology events delivered in 2020, some key differences emerge. Both events were advertised internally to students across the institution and publically via the BBC Academy and partner social media channels but engaged quite different groups.

Both events engaged more men than women or people who identify otherwise. While the BWDJ achieved a more gender balanced sample (although still male dominated), the GGJ achieved a better gender balance than that which is observed on undergraduate Games Technology BSc programmes alone (estimated around 85-90% male).



*Gender balance of technology events 2020  
Bristol Wellbeing Data Jam (left) vs Global Game Jam (right)*

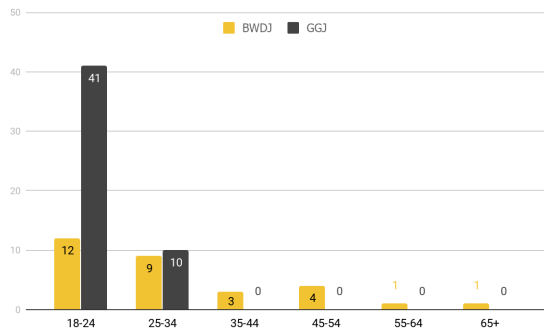
As a general trend the BWDJ attracted more diverse groups than the GGJ with respect to their ethnicity, religion and age. It also attracted highly educated participants (with masters and Doctoral level degree) who are already in employment.

In contrast the GGJ attracted a significant number of 18-24 year-old students, most of whom are white, British/European, but with diverse disabilities and sexual orientations.

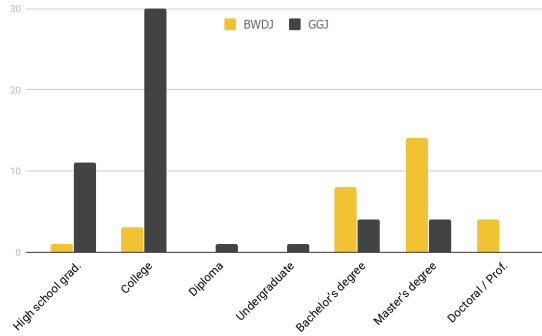
This indicates that context plays a considerable role in the communities an event engages and that a range of different events and industrial contexts may be critical in reaching wider audiences. These observations do require further investigation but these results are encouraging and indicate that multidisciplinary, open-to-all, technology events are a viable method for engaging more diversity in digital skills events.

A table detailing all of the demographic data captured can be found in Appendix Two of this document.

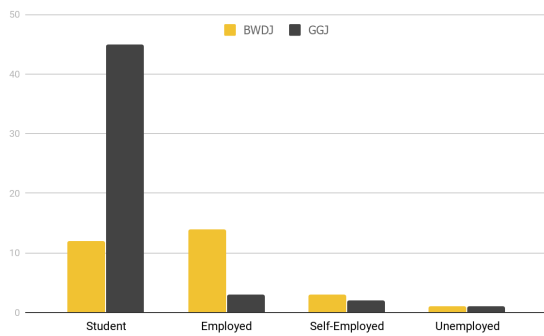




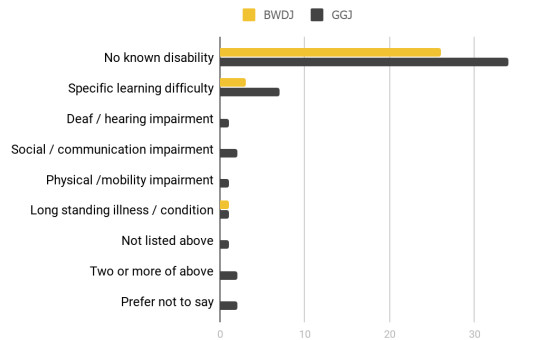
Age



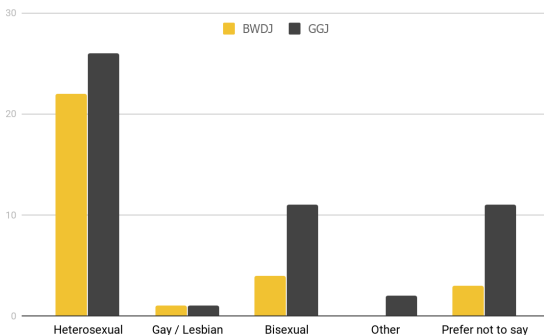
Highest Qualification Attained



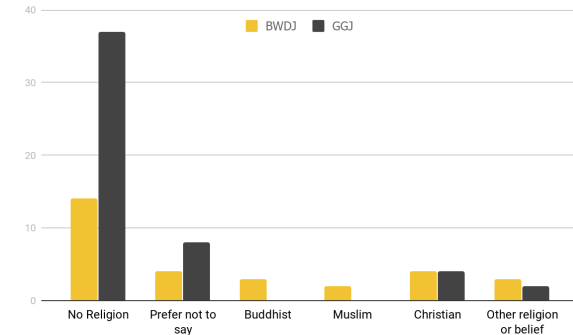
Employment Status



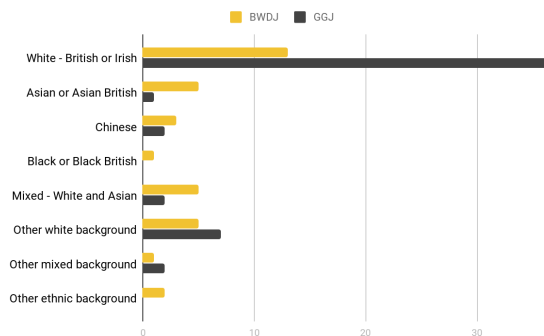
Known Disability



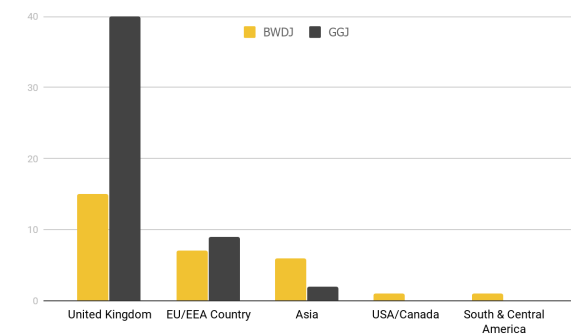
Sexual Orientation



Religious Belief



Ethnicity



Nationality by Region

## **// Critical Needs and the Future**

Looking to the future, the Foundry and its studios will continue to operate with the aim of growing the awareness of the brand and its pedagogic strategies for intrapreneurship and professional skills in Higher Education. We believe that the Foundry and UWE Bristol are at the forefront of this area of practice within HE and the support and resource that the IoC has afforded the institution has been critical in this success.

Throughout this period, we have successfully developed a framework for project delivery within an HEI that is agile, safe and meets the needs of industry partners. However, this requires a range of needs to be met. During our most productive period the studios were afforded trust and freedom through the allocation of workload and budget to invest and speculate as they see fit. Such resources of time and capital could be allocated in a similar way to research is managed and with the development of the KEF this may be a reality soon.

More importantly, there is a need to provide dedicated, technically proficient support and administrative staff to expand the Foundry Support Officer role into a team that can keep operations moving and enhance both the student and staff experience in this new form of industry engagement. This will help to make academic time more streamlined for project supervision and acquisition enhancing their capacity for more projects.

Finally, the creation of a strong, local and national network of partners to collaborate, amplify and develop with is critical. Through the studio projects and events, we have engaged with multiple new partners and forged strong working relationships. In many cases this has led to graduates joining the partner ensuring legacy and connection. As we expand to increase project capacity and encourage more studios across the institution the network will need to diversify to new industries, subjects and partners.

In the meantime, the activities of the studios will likely continue to be part-funded by the allocation of HEIF awards and partner funding, however for the studio framework to grow across the institution further and into other HEIs further external funding will be necessary. To structure this bid, currently known as Foundry100 we will look to amplify the model such that we can eventually maintain over 100 active projects across the faculties of the institution within an academic year. This bold goal will be our line in the sand, that states that HEIs can be at agile on scale, can effectively support SMEs, and that students, staff and industry can collaborate and innovative, to meet the technological, professional and societal needs of tomorrow.

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# Appendix 1 - Foundry Project Process

October 2019

This is a guide on how to run a project where students are paid to complete work. This aims to make the process as clear and easy as possible. It has been written by the current Foundry Support Officer - Jenna Sheutzle.

Please note **Right to Work (RTW)** checks must be completed before any work is offered or started by a student – this is a legal requirement.

## Section 1: Project Set Up

### Project Funding Pathways

Here is a basic guide to funding pathways, if it is external funding/consultancy please speak with the RBI.

Type	Department/Faculty Funding	FET HEIF Funding	External/Consultancy Funding
<b>Initial Step</b>	Discuss potential allocation if funding with the relevant individual in your department.	Complete relevant application form available from the Director of Enterprise and Partnerships.	When in discussion with an external client please fill in the lite project proposal form. This will help in completing the PASS and FEC processes your project will need to be completed.
<b>Result</b>	Agree allocation of funding and obtain budget code.	The Faculty Director of Enterprise and Partnerships will contact to discuss your application	When you have made a casual agreement with an external client, contact FET RBI and Finance teams to help.
<b>Next Step</b>	Inform the Foundry Support Officer of the project by completing the project form. This will provide all the initial information required	The Foundry Support Officer will work with you to set up student's etc. Some of this information is laid out in this document.	Complete Project Approval System (PAS) entry and wait for faculty executive sign-off before commencing project (usually 24hr response time)

## **Starting a Project**

When a project is being agreed from the funding streams above please email the Foundry Support Officer with the following details about the potential project:

1. Description of the project?
2. Durations of project (estimated start and end dates)
3. Budget Code? If applicable at this stage
4. Budget for the project
5. Number of students you envisage on the project.

This information and alerting of a potential project will allow for support to be given with individual project setups where needed.

## **Section 2: Student Set Up**

When thinking about recruiting students for a potential new project you need to email the Foundry Support Officer with the name of the project and the name(s) and email addresses of the students you are intend to 'employ' so that the relevant checks can be made (please see below)

### **Right to Work Check (RTW)**

It is a legal requirement that any student which you are looking to offer paid work to has their right to work status checked before any work is offered or started.

The student will be provided with the following instructions to complete. The project lead will then be notified when this check has taken place and they can proceed with employing the student or there is an issue with the RTW check. (This is usual when Tier 4 Visa students are involved and extra paperwork needs to be completed.

You need to provide suitable right to work documentation. (Please note this is usually a passport and visa documentation (if non UK/EU citizen) – if you are unsure of the documentation to provide please contact the Foundry Support Officer.

Steps:

1. Take your proof of RTW documentation to the HR department at Northavon House on Frenchay Campus and ask for a right to work checks to be completed and a receipt to be issued.
2. Inform that this has been completed by emailing a copy of this receipt to the Foundry Support Officer

## Types of Employment

Once RTW checks have been completed a decision needs to be made about what type of employment is suitable for the student and the work they are completing. Please see below the different types of employment and the criteria that has to be met for each one. We advise that you speak with the Foundry Support Officer in order to ascertain the most suitable route.

In all cases, PAYE payroll will be used on intern contracts. Suppliers and external contractors can be used but will need to clear the [IR35](#) criteria to be paid via invoice. Contact the Faculty Finance Team for more information on using external suppliers.

Technical Payment	Casual Worker	TSU	Fixed Term
<p>This setup type is suitable for ad hoc working where there is a defined block of work to be completed.</p> <p>No mutuality of obligation – no expectation for UWE to offer work or for the student to expect.</p> <p>Can use this method multiple times to claim payment – must be distinctly different blocks of work.</p> <p>Must ensure that the set fee will not compromise breaching minimum wage.            e.g. <b>£1500 = 12 hours a week for 3 months</b></p>	<p>Ad Hoc hours (up to 37 hours a week providing this doesn't breach any RTW restrictions so check they are not a tier 4 in term time)</p> <p>There must be no pattern of work – ideally not for projects that will be over 8 weeks.</p> <p>No mutuality of obligation – no expectation for UWE to offer work or for the student to expect.</p>	<p>For projects where there is an anticipated regular pattern of work for more than 8 weeks.</p> <p>£2 per hour additional processing fee for each hour the person works.</p>	<p>Regular set pattern of work over a period of at least a few months.</p> <p>Paid salary</p> <p>Larger set of overheads</p>

## Suggestion for Bigger Projects

Technical Payment Milestone is our suggestion is to create a package of work / milestone payment for the intern (example: 12hrs per week over 3 months =£1500)

This allows interns to work in their own way, learn new skills etc. They may be very efficient and complete the work before the project deadline and the typical number of hours or put a lot of learning hours until they feel confident. At the end of this time you can assess the work ethic, quality of outcome and their interaction within the team to make the choice whether:

- A. To join the project team and cp timesheets
- B. Another tech payment (quality is high but ethic not great)
- C. Not up to standard – provide no more work on this project.

### Set Up Paperwork Process for Each Type of Employment

Once a type of employment has been agreed. The paperwork that needs to be completed by the student., Is detailed in the table below.

Set up must be completed by the 25<sup>th</sup> of the month for the next month’s payroll.

	Technical Payment	Casual Worker	Temporary Staff Unit (TSU)	Fixed Term
<b>RTW Check</b>	✓	✓	✓	✓
<b>Paperwork</b>	<p><b>No other HR paperwork</b></p> <p>Project agreement with student</p>	<p>Casual Worker Agreement</p> <p>Casual Worker Registration Form</p> <p>P45/Starter Checklist</p> <p>Project Agreement with student</p>	<p>Nominated Application Form</p> <p>Temp Requisition Form</p> <p>Job Description</p>	<b>Speak to HR</b>
<b>Where to send the information</b>	None to send	<p>Casual worker registration form + P45/starter checklist to be uploaded the enterprise SharePoint – the Foundry Support Officer to do this</p>	<p>Nominated Application Form + Job Description to be emailed to casualadmin@uwe.ac.uk</p> <p>Temp Requisition Form to be completed on Manager Self-Service</p> <p>Speak with the Foundry Support Officer before pursuing this route.</p>	

### Project Agreements

In all situations we suggest you make a written agreement with your intern for what work is expected to be completed. An up to date contract can be sourced by the Foundry Support Officer.



## Section 3: Running a Project

### Paying Students

Please see ways students are paid depending on their type of 'employment' for any paperwork needing to be completed. The deadline is different each month and can be found on the intranet. I will expect timesheets and payment forms on the last working day of the month, to be able to process in time for the next months payday.

	Technical Payment	Casual Worker	TSU	Fixed Term
Payment	Technical Payment form when work is completed.	Timesheet on last working day of each month	Ad Hoc Timesheet OR Standard Salary	Salary

### Expenses

- Staff Expenses – These can be done on Agresso against the project budget code.
- Student Expenses – There is an excel spreadsheet to fill in via Finance. Please send to students to complete, print and sign and return to the project lead or the Foundry Support Officer with the receipts.

**Pebble Pad** - This is a requirement for getting paid work from the faculty.

Please ensure that your students sign up to the Faculty enterprise PebblePad when they start a project and keep this up to date with their learning, tasks, portfolios and reflections etc. Training sessions will be provided to show you how to use pebble pad.

## Section 4: Project Wrap Up

It is important that when a project is complete you make sure all the loose ends are tied up.

1. All payments for students are complete
2. Students have completed their reflection portfolio on PebblePad
3. Any expenses or other outgoing costs are sorted and complete

When a project has come to an end we require some information from you which will form part of the promotional material for UWE Bristol, the Foundry and any end of year reports. Please complete the attached form and send it to the Foundry Support Officer.

## Appendix 2 - Demographic Data from Technology Events 2020

The following tables present the demographic data captured through the Foundry online registration service from the Technology Events in January 2020.

Gender	Bristol Wellbeing Data Jam (BWDJ) <i>n=30</i>	Global Game Jam (GGJ) <i>n=51</i>
Male	18	37
Female	11	9
Other	1	3
Prefer not to say	0	2

Age	BWDJ	GGJ
18-24	12	41
25-34	9	10
35-44	3	0
45-54	4	0
55-64	1	0
65+	1	0

Employment Status	BWDJ	GGJ
Student	12	45
Employed	14	3
Self-Employed	3	2
Unemployed	1	1

Highest Qualification	BWDJ	GGJ
High school graduate	1	11
College	3	30
Diploma	0	1
Undergraduate	0	1
Bachelor's degree	8	4
Master's degree	14	4
Doctoral or Professional degree	4	0

Disability	BWDJ	GGJ
No known disability	26	34
A specific learning difficulty such as dyslexia, dyspraxia or AD(H)D	3	7
Deaf or a serious hearing impairment	0	1
A social/communication impairment such as Asperger's syndrome/other autistic spectrum disorder	0	2
A physical impairment or mobility issues, such as difficulty using arms or using a wheelchair or crutches	0	1
A long standing illness or health condition such as cancer, HIV, diabetes, chronic heart disease, or epilepsy	1	1
A disability, impairment or medical condition that is not listed above	0	1
Two or more impairments and/or disabling medical conditions	0	2
Prefer not to say	0	2

Sexual Orientation	BWDJ	GGJ
Heterosexual	22	26
Gay / Lesbian	1	1
Bisexual	4	11
Other	0	2
Prefer not to say	3	11

<b>Religion</b>	<b>BWDJ</b>	<b>GGJ</b>
No Religion	14	37
Prefer not to say	4	8
Buddhist	3	0
Muslim	2	0
Christian	4	4
Any other religion or belief	3	2

<b>Ethnicity</b>	<b>BWDJ</b>	<b>GGJ</b>
White -English, Welsh, Scottish, Irish, British	13	37
Asian or Asian British	5	1
Chinese	3	2
Black or Black British	1	0
Mixed - White and Asian	5	2
Other white background	5	7
Other mixed background	1	2
Other ethnic background	2	0

<b>Nationality / Region</b>	<b>BWDJ</b>	<b>GGJ</b>
United Kingdom	15	40
EU/EEA Country	7	9
Asia	6	2
USA/Canada	1	0
South & Central America	1	0

The Foundry Studios and Project would not have been possible without the hard work, trust and support of many groups and individuals.

We would like to thank all of our colleagues across the Faculty of Environment and Technology and UWE Bristol who have contributed to the enterprise culture and the studios.

Most importantly, we want to thank the hundreds of student interns, event participants and external partners who we have worked with throughout.



