



**UWE
Bristol**

University
of the
West of
England

Computer Science & Creative Technologies

**2019
DEGREE
SHOW**

Computer Science

Photo by Paweł Czerwiński

Book by Alan Long
ajalong.com

DEF

ologies

2019
GRFF

The background is a dark, almost black, space filled with swirling, ethereal patterns of deep blue and teal. These patterns resemble liquid smoke or nebulae, creating a sense of movement and depth. The word "COMPUTING" is centered in a bold, white, sans-serif font, standing out sharply against the dark, textured background.

COMPUTING

Computer Science

TOM BUXTON	001
CONOR J. NEWCOMBE	002
SAM GASPER	003
MONIKA PUSZ	004
THOMAS VANLAER-MCCANNA	005

Forensic Computing and Security

TOMMY GILLARD	006
---------------	-----

Information Technology (SHAPE)

CHEUNG KA HEI	007
KWAN CHUN TAT	008
LEUNG CHIU LUNG	009
LEUNG HUNG HO	010
LI KA CHUN	011
PANG PO SUM	012
POON HONG CHI, EDISON	013
SIT YAN NAP, SILAS	014
WEI YU QIANG	015

HEXAPOD DEVELOPMENT USING REAL-TIME OS	016
---	-----

Information Technology Management for Business

ALEX CROZIER	017
ANDREW HUGHES	018
PHILIP LLOYD	019
THOMAS WHITEHEAD	020
MIREN PATEL	020

CLIFTON SUSPENSION BRIDGE TRUST VISITOR CENTRE	021
---	-----

KNOWLEDGE SHARING PLATFORM	022
---------------------------------------	-----

BABBASA CRM	023
--------------------	-----

365 PROPOSALS AND RECOMMENDATIONS	024
--	-----

SIMS HILL SHARED HARVEST	024
---------------------------------	-----

MUSICSPACE WEBSITE	025
---------------------------	-----

ON-LINE SHOP AND STOCK INVENTORY SYSTEM	025
--	-----

WEBSITE RE-DESIGN & SOCIAL MEDIA STRATEGY REVIEW	026
---	-----

UWEPA	026
--------------	-----

THE CIRCLE PROJECT BRISTOL	027
---------------------------------------	-----

CREATIVE TECHNOLOGIES

Digital Media

CRISTIANO ALMEIDA	029
NATASHA BALL	030
DOMINYKAS BARSAUSKAS	031
DANIEL BATE	032
KELLY COPAS	033
MATHEW CARTER	034
KEZIA DAVIES	035
ALANA ELWORTHY	036
MARIA ERAKLEOUS	037
SOFIA FERRARO	039
TEODORA GABRIELA MURESAN	040
NICOLA HARDY	041
HAMSE HUSSEIN	042
JAMES-RAY JEFFERS	044
ISABELLE KELLER	045
HARRY KESSEL	046

CATRINA LIDDELL	047
SINTIJA LINUZA	048
ALAN LONG	049
SAARA RAUTIAINEN	050
JAMES REES	051
JOSH SLATER	052
LUKASZ SMOLINSKI	053
ARRON TAYLOR-PETER	054
BEN WREFORD	055
THENG YEN CHEN	056

Games Technology

NATHAN BARNETT	057
NATHAN BUTT	058
BENJAMIN CAMPBELL	059
PATRICK CHARLESON	060
MATTHEW CHEUNG	061
BRYN FINDLAY-DYKES	062
ADAM FORT	063
THOMAS HARRISON	064
RICARDO HEATH	065
SAMUEL HIBBERT	066
JAMIE HOGG	067
MATTHEW HOLMES	068
CHRISTOPHER HOPKINS	070
OSCAR JOHNSON	071
CONNOR KING	072
ELLIOT MARTIN	073
ISOBEL MCNEANY	074
ARTHUR MUDDIMAN	075
BRYCE NEWELL	076
CALLAN PATAY	077
ANDRES PEREIRA	078
LUKE ROBERTS	079
FILIP SKACANYI	080
ALEX STRÖUD	081
D'ARCY M. S. SULLIVAN	082
THOMAS SYLVESTER	083
HUW TINGLEY	084
JACK WATSON	085
BEN WINDLEY	086

Music Technology

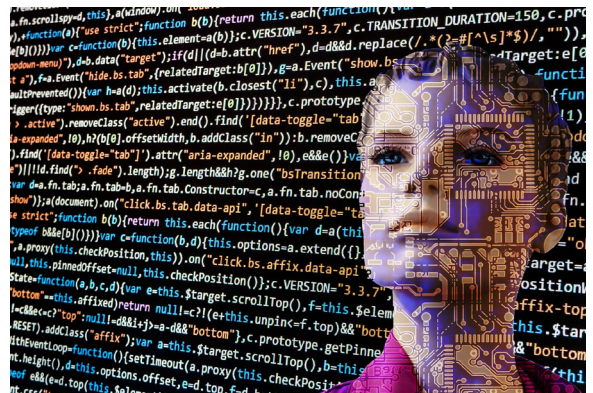
HAYLEY ALLEN	087
LEWIS ASHTON	088
JACK BOLTON	089
LEWIS J BRADLEY-MUIR	090
LUKE CHILD	091
WILLIAM CORK	092
ROSS DUNCAN	093
COREY FORD	094
TRAVIS GLOVER	095
OLIVER GRAY	096
SOMAYA HASSABALLA	097
ALEXANDRE HURR	098
GEORGE MORDEN	099
JOE MURRAY	100
LAURENCE NICKOLLS	101
CAI PARTRIDGE - SMALDON	102
DANIEL PEACH	103
SOPHIE REDMOND	104
JACK ROSE	105
SHEERMAL RAHUL SUNTAH	106
JAMES UZZELL	107
SOPHIE WICKHAM	108

TOM BUXTON

Computer Science

Can a genetic algorithm answer a moral question in alignment with ours?

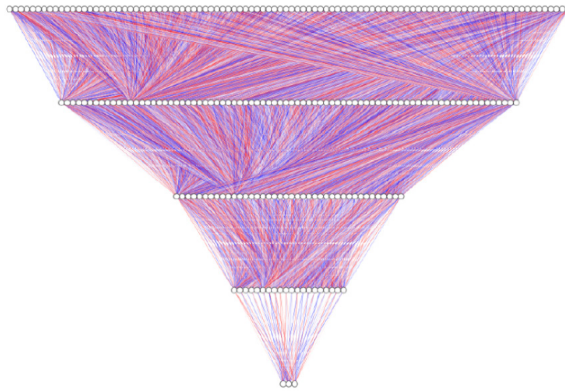
Approaching artificial intelligence from a philosophical starting point, enhanced by the software and knowledge base that computer science has offered, the project asked if there is any circumstance in which one human life matters more than another. Exploring not just if the program can answer the moral question, but if the answer it provided was acceptable to those whom it would or could affect, otherwise known as the goal alignment problem.



CONOR J. NEWCOMBE

Computer Science

I started this project by asking the question, “How can I align this project with my aspiration to benefit the health sector?”. After working within the UK Ministry of Defence for my placement year, I found that public service awards me with a great feeling of purposefulness and satisfaction. By steering towards health, I can amplify this feeling whilst working with cutting edge machine learning methodologies.



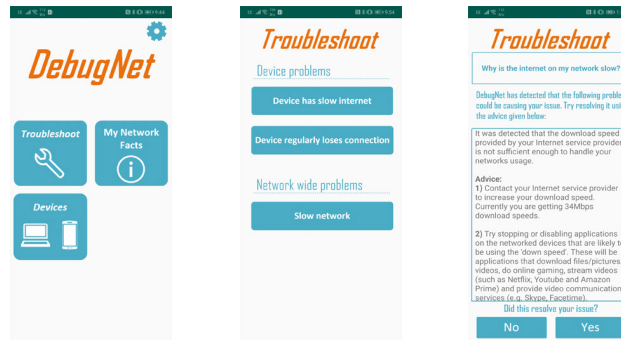
Machine learning optimisation of precise unfractionated heparin dosage

Unfractionated heparin is a medication that works as an anticoagulant. Currently, the initial infusion rate of UFH is based on a patient’s weight alone. I trained machine learning models that adopted the concept of precision medicine. The models learnt from a posteriori features within the data of 4,512 patients in critical care. After which, I developed an algorithm capable of recommending the initial infusion rate of UFH. In addendum, model heuristics were interpreted, rendering valuable biomedical insights.

SAM GASPER

Computer Science

Sam has a great interest in computer networking. This project allowed him to gain a greater understanding about what can cause network performance and stability issues, how they can be detected by software and what can be done to rectify these issues. During this project other skills were learned and enhanced, such as programming in C++ (in a router environment) and Java, following Agile practises and developing REST services.



DebugNet - Analyser and debugger for a home network

The problem statement is how can the average 'home' network user be aided to help fix performance and stability issues with their network using software, without requiring prior networking knowledge. The solution involved developing a user facing Android application, which communicates (via REST) to a range of backend end services hosted on an OpenWRT router. The services measure and analyse the state and performance of the network and offer troubleshooting solutions.

MONIKA PUSZ

Computer Science

From an early age, I've been interested in technology and computing. I created my first website when I was 11 and since then programming became my hobby. Recently, I have developed a strong interest in the fields of artificial intelligence and machine learning. This project allowed me to greatly improve my knowledge and skills in this area. I wish to further expand it, by working in this domain after graduation.



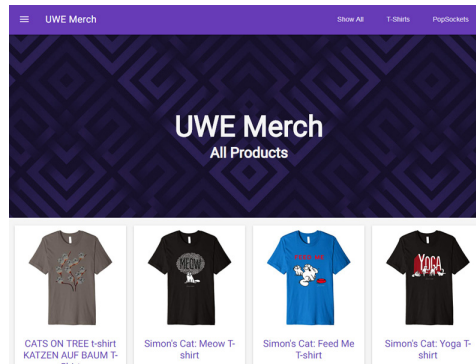
Signly – ASL Interpreter using neural networks and a Leap Motion Controller

Signly is an American Sign Language Interpreter, designed to provide real-time communication support between a hearing-impaired person and the general public. It is a free, platform-independent desktop application, fully written in the Java language. The classification of the input is performed using a trained Signly Neural Network Model. The program captures the gesture using a tracking device (Leap Motion Controller) and outputs the translated letter in text and audio format.

THOMAS VANLAER-MCCANNA

Computer Science

I design merchandise and sell it on the Amazon platform, my project solved an issue stakeholders and I had with promoting products. This project helped me realise full-stack web development; programming is enjoyable but being able to see a visual element to what is being written has been rewarding. After university I would like to go in to programming that has a visual element, web development seems ideal.



A content management system for Amazon sellers

This project aimed to utilise Amazon's API to help Amazon sellers promote their products outside of the Amazon ecosystem.

The project features a public storefront that can easily be customised to fit a company's brand, and an admin panel backend that deals with API logic and product listings.

TOMMY GILLARD

Forensic Computing and
Security

A new embedded device and app
to revolutionise parking

A small device and app that can be used for parking. The device uses sensors to check if the space is available or not, and logs the information, periodically updating a database. The application then collects the information and shows the spots on an interactive map using the Google Maps API. The end-user can then type in the location of which they want to park and find the nearest available device, and pre-book the spot. The app can use PayPal integration.



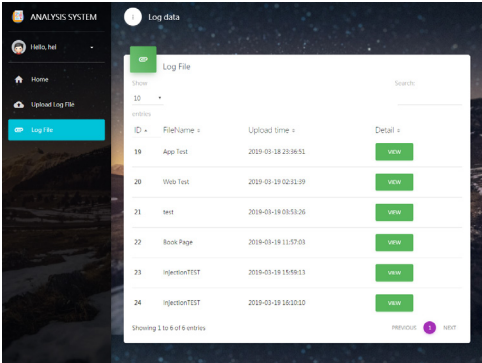
CHEUNG KA HEI

Information Technology (SHAPE)

Attacks on web servers are not uncommon nowadays and it is important for system administrators to ensure that any vulnerabilities in web servers are being detected and rectified. Unfortunately, this is a complex task requiring certain technical competencies.

Automated security evaluation tool for web servers

In this project, a software tool is developed for automating the detection of vulnerabilities on a web server. A web server administrator needs only to run the tool and security alerts and recommendations are produced automatically. The tool is an indispensable tool to provide early alerts for further investigation by system administrators. Besides, anonymous data will be sent to the central server for analysis. This helps to identify vulnerabilities that commonly appear in web server



ANALYSIS SYSTEM

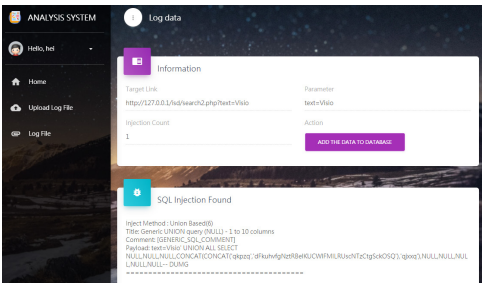
Log data

Log File

ID	Filename	Upload time	Detail
19	App Test	2019-03-18 23:06:51	view
20	Web Test	2019-03-18 23:02:39	view
21	test	2019-03-18 08:51:26	view
22	Book Page	2019-03-18 11:57:03	view
23	InjectionTEST	2019-03-18 15:06:13	view
24	InjectionTEST	2019-03-18 16:20:10	view

Showing 1 to 6 of 6 entries

PREVIOUS NEXT



ANALYSIS SYSTEM

Log data

Information

Target Link: <http://127.0.0.1/test/search2.php?text=VulNo>

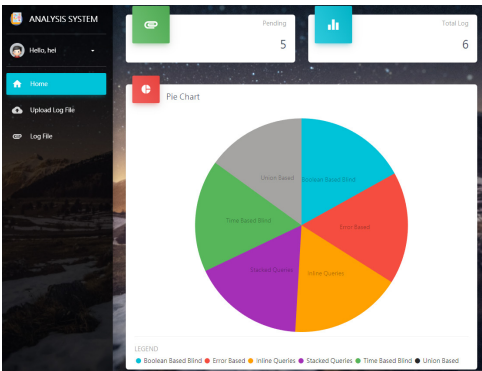
Parameter: text=VulNo

Injection Count: 1

Action: [ADD THE DATA TO DATABASE](#)

SQL Injection Found

Inject Method: Union Based()
Title: Generic UNION query (NULL) - 1 to 10 columns
Comment: (SLEEP(5), CONCAT(
Payload: text=VulNo UNION ALL SELECT NULL,NULL,CONCAT(CONCAT(CHAR(0x41,0x42,0x43,0x44,0x45,0x46,0x47,0x48,0x49,0x4A,0x4B,0x4C,0x4D,0x4E,0x4F,0x50,0x51,0x52,0x53,0x54,0x55,0x56,0x57,0x58,0x59,0x5A,0x5B,0x5C,0x5D,0x5E,0x5F,0x60,0x61,0x62,0x63,0x64,0x65,0x66,0x67,0x68,0x69,0x6A,0x6B,0x6C,0x6D,0x6E,0x6F,0x70,0x71,0x72,0x73,0x74,0x75,0x76,0x77,0x78,0x79,0x7A,0x7B,0x7C,0x7D,0x7E,0x7F,0x80,0x81,0x82,0x83,0x84,0x85,0x86,0x87,0x88,0x89,0x8A,0x8B,0x8C,0x8D,0x8E,0x8F,0x90,0x91,0x92,0x93,0x94,0x95,0x96,0x97,0x98,0x99,0x9A,0x9B,0x9C,0x9D,0x9E,0x9F,0xA0,0xA1,0xA2,0xA3,0xA4,0xA5,0xA6,0xA7,0xA8,0xA9,0xAA,0xAB,0xAC,0xAD,0xAE,0xAF,0xB0,0xB1,0xB2,0xB3,0xB4,0xB5,0xB6,0xB7,0xB8,0xB9,0xBA,0xBB,0xBC,0xBD,0xBE,0xBF,0xC0,0xC1,0xC2,0xC3,0xC4,0xC5,0xC6,0xC7,0xC8,0xC9,0xCA,0xCB,0xCC,0xCD,0xCE,0xCF,0xD0,0xD1,0xD2,0xD3,0xD4,0xD5,0xD6,0xD7,0xD8,0xD9,0xDA,0xDB,0xDC,0xDD,0xDE,0xDF,0xE0,0xE1,0xE2,0xE3,0xE4,0xE5,0xE6,0xE7,0xE8,0xE9,0xEA,0xEB,0xEC,0xED,0xEE,0xEF,0xF0,0xF1,0xF2,0xF3,0xF4,0xF5,0xF6,0xF7,0xF8,0xF9,0xFA,0xFB,0xFC,0xFD,0xFE,0xFF))-- DUMP



KWAN CHUN TAT

Information Technology (SHAPE)

In contrast to usual driving games that aim to elicit excitement, this mobile VR game aims at elevating the awareness of safe driving through a series of training scenarios. A range of driving practices such as parking and U-turn skills are provided. In order to overcome the obstacles and barriers set in the game scenarios, a player must comply to some road safety principles and driving practices.



Safe Driving Training

The game is targeted to driving school students or those participants in driving attitude improvement courses. Ordinary users will also find this game full of fun in ameliorating their awareness and sense of responsibility to be safe when on the road.

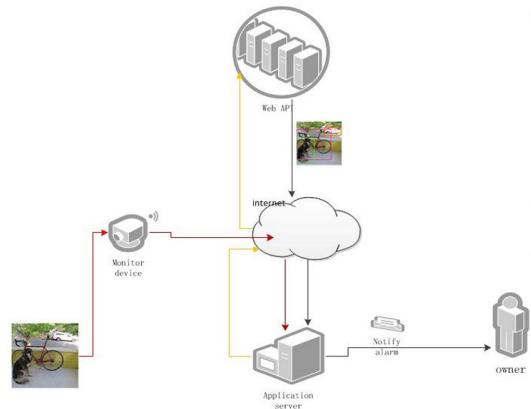


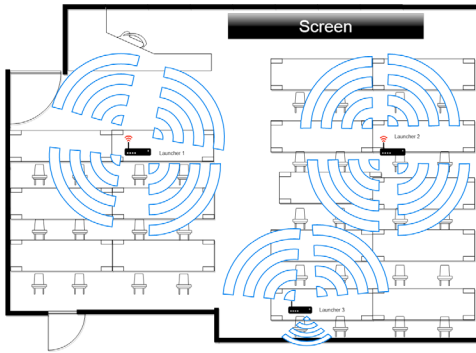
LEUNG CHIU LUNG

Information Technology (SHAPE)

An intelligent intrusion detection system with the Internet of Things and convolutional neural networks

In this project, the possibility of having an intelligent monitoring service based on convolutional neural networks (CNN) that recognise intrusion was studied. A webcam would capture images from a monitored scene and send to a dedicated application server that equips with a CNN-based feature recognition program. The CNN program would then determine if there is a human in the scene and alert a registered user by email if needed.





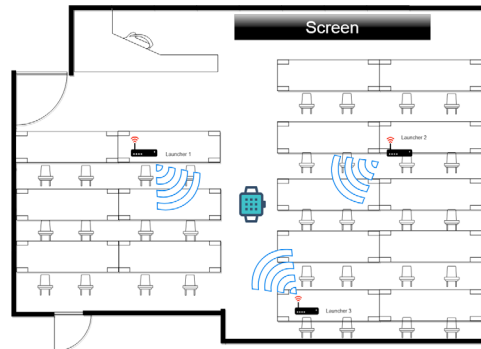
Indoor positioning estimation using iBeacon

This project aims at developing a prototype system with suitable GUI for tracking the position of elderly people, who wear a smart bracelet, for ensuring their safety at home. In order to rectify the discrepancy in distance measurement using RSSI, a calibration algorithm was designed to improve the positioning.

LEUNG HUNG HO

Information Technology (SHAPE)

iBeacon was introduced by Apple Inc. in 2013 and it employs Bluetooth Low Energy (BLE) for ensuring prolonged usage. By measuring the Received Signal Strength Indicator (RSSI), signal strengths from three respective sets of iBeacon devices can be detected. In turn, RSSI can be converted to an estimation of distance between the iBeacon and the signal receiver. By using triangulation and trilateration algorithms, the position of the signal receiver can be detected.

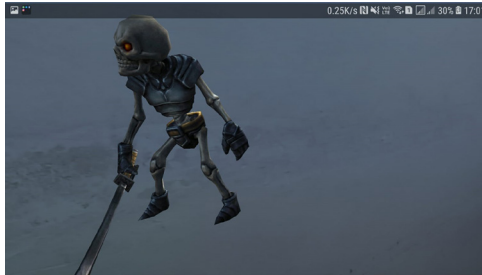


LI KA CHUN

Information Technology (SHAPE)

A platform for making AR-enriched e-books

Augmented reality (AR) has a broad spectrum of potential use cases. In recent years, AR has been used in e-books to attract and hold the attention of readers and making reading more fun. Unfortunately, producing AR effects and incorporating them into e-books is not an easy task. The aim of this project is to develop an easy-to-use platform for generating and visualising e-books enriched thanks to AR. The user needs only to drag and drop a pre-built AR model onto a desired position of an e-book page, the tool will generate a QR code on the page. When a user scans the QR code with the visualisation mobile app, an AR model will be displayed on the mobile device. Alternatively, a user can also open an e-book directly with the mobile app, when a user clicks the QR code, an AR model will be displayed.



PANG PO SUM

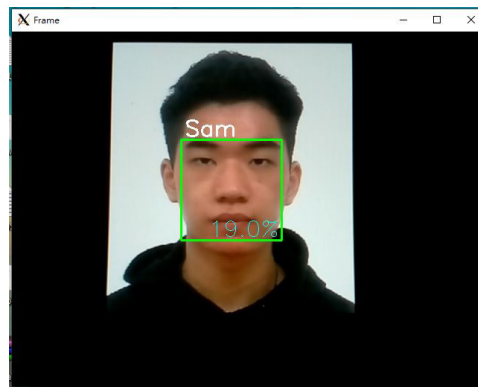
Information Technology (SHAPE)

Most people use a traditional television remote to manually switch to their favourite channels and programmes. This means it is possible that they may miss their favourite programmes. In addition, some smart TVs do not support child locks. This makes it easy for some children to watch programmes with inappropriate content or to watch television for a long time.

Smart TV controller with face recognition

This project aims at developing a TV controller with the following features: (1) Identify the user using facial recognition and switch to his/her favourite channel automatically, (2) Detect children and forbid them from turning to inappropriate channels, and (3) Send active reminders to users to avoid them from

missing their favourite programmes. The application is deployed on a mobile device running Android.

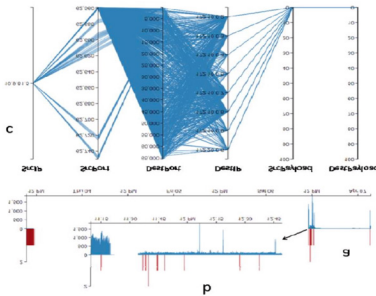


POON HONG CHI, EDISON

Information Technology (SHAPE)

A port scanning detection program by applying supervised learning technique

People connect to a specific port of a server to use its service. However, not all ports are open and a cyber attacker may use a port scanner to detect which port is available to connect. Port scanners are specialised programs used to determine if the TCP ports of a host server have possible connections. In this project, supervised learning for the detection of port scanning attempts was studied.



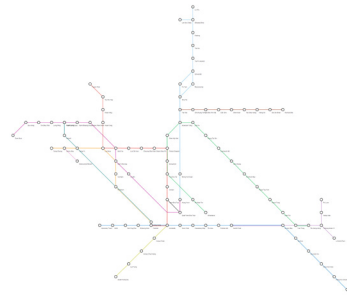
SIT YAN NAP, SILAS

Information Technology (SHAPE)

Web application for automated metro map generation

Metro maps, or railway maps, are geographically presented, appearing like spaghetti, until Harry Back designed the first schematic tube map in 1931. Since then railway systems are drawn in octilinear layouts, where the lines are either horizontal, vertical, or 45-degree diagonal lines. The conversion from geographically correct metro maps to the octilinear layout of metro maps has always been the job of the designers. It is a difficult job especially in complex railway systems like in Japan.

The purpose of this project is to develop a web application that can help to generate the metro map automatically by using the route information and GPS locations of the stations.

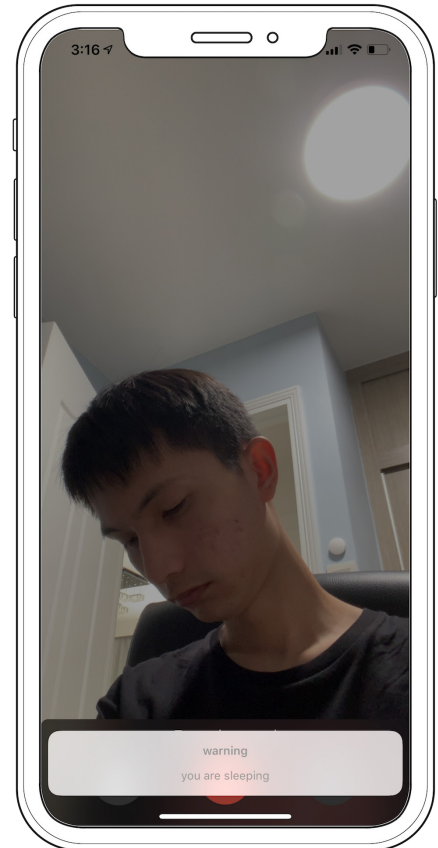


WEI YU QIANG

Information Technology (SHAPE)

Driver tracking and drowse detection with face recognition

Some high-risk jobs (e.g. drivers, security guards and machine operators) require workers to be alert when working. A drowsy worker may cause serious problems or pose a safety hazard. The purpose of this project is to develop an application for detecting a drowsy worker using facial recognition. A warning will be issued to alert a drowsy worker. The server platform will collect data for further analysis to help devise measures to avoid a similar situation. The application can be deployed to any mobile devices running Android or iOS, thus it has the potential for wide spread usage.



Shutterstock - 5186513.com

MAN Sing Long
NG Ho Cheong

The purpose of the project is to conduct color identification and tracking via the mechanical vehicle - Hexapod. Since the project focuses on the software development of the robot, Vincross Hexapod, a programmable and highly maneuverable robot, is adopted. The robot has high hardware completion, further study on underlying hardware and its mechanism is unnecessary. To favor the development of the color identification and tracking system, MIND SDK is utilized. MIND SDK is easily accessible and suitable for new developers. It is a real-time OS and it has necessary libraries and packages to develop applications for HEXA. As a result, multiple interfaces can be connected just by passing several parameters. By adopting a real-time OS to develop the recognition system, it can avoid lengthy processing time of data.

HEXAPOD DEVELOPMENT USING REAL-TIME OS Information Technology (SHAPE)

The hexapod can identify colours via the camera and CPU and autonomously search for target color. Plus, orientation of the robot can be adjusted to fol-

low the target once confirmed. Automatically handling complex commands instead of connecting to the host is a big challenge in the process.



ALEX CROZIER

Information Technology
Management for Business

The threats cybercrime
poses to society with a focus
on cyberterrorism

Cybercrime has rapidly developed over a short period of time and as a result a large portion of society has fallen victim to it in some way. Due to this the importance of educating society around the issue has never been higher. This dissertation will examine a number of different threats within cybercrime to identify the dangers they possess as well as potential legislation to aid in controlling them.

On top of this cyberterrorism has begun to gain traction as a very dangerous threat within cyberspace, however, evidence shows no recorded case of cyberterrorism has taken place to this day. This may not be the case for much longer with evidence growing to suggest a recorded case is just around the corner. This dissertation will explore if the threat of cyberterrorism is in fact real and not fabricated.

ANDREW HUGHES

Information Technology
Management for Business

Exploring technological unemployment and creative destruction in the UK's retail sector.

This dissertation draws upon John Maynard Keynes and Joseph Schumpeter's economic theories of technological unemployment and creative destruction, to explore how technological advancements are changing the nature of jobs in the UK's retail sector.

Both economists believe technology will destroy jobs, with the latter (Schumpeter) believing it will also pave the way for additional new high skilled jobs, unlike Keynes. However, this dissertation has discovered that due to the rapid implementation and continued advancement of technology such as; automated machinery, AI and ecommerce websites, workers in the UK's retail sector are extremely vulnerable to being displaced by technology and the amount of jobs lost is greater than the ones predicted to be created, which supports Keynes' theory.

The retail industry is predominantly made up of low skilled manual jobs, of which technology can perform; more cheaply, more efficiently and to a higher satisfaction to the consumer, hence why businesses are investing in them. Human labour is being displaced across the industry, in warehouses through robotics, service centres through chatbots and in stores by self-scanning and purchasing systems.

Furthermore, this dissertation looks into the skills gap that has emerged as a result of technological unemployment and how it can be addressed. The skills gap relates to a deficit of skill amongst the employed population that results in them not being fully proficient in performing what is expected of them.

This dissertation also explores the future of retail in relation to the technology we can expect to see in the years and decades to come, from staffless and mobile stores that will transform our high streets to directly compete with the online marketplace, to completely automated warehouses and agentless AI operated service centres. This dissertation has been supported by a mix of qualitative and quantitative data throughout.

PHILIP LLOYD

Information Technology
Management for Business

Exploring the privacy issues
surrounding the use of
behavioral targeting in online
advertising

The concept of online advertising has existed for many years. However, recent developments have meant these online ads are continually becoming more personalised to the consumer.

Behavioural targeting is the widely adopted approach used to deliver these highly personalised ads. Its methods in doing so however include the large harvesting of personal data and the creation of online profiles of consumers. The processes for collecting this data are usually covert to the user.

With major websites such as Facebook and Twitter funded by the selling of personal data, vast numbers of consumers enjoy using these services every day, seemingly turning a blind eye to the harvesting of their personal data. While it appears that millions of internet users are blissfully unaware that their personal data is being used to target them, evidence suggests that this is not the case for everyone, and the tide is turning in regard to awareness of the covert methods involved.

This study will investigate how behavioural targeting works, while seeking to identify the effects on consumers and their privacy due to this approach of advertising. It will discuss in depth the convoluted legislation set up to control the collection of personal data, as well as looking at the future developments of this method of advertising.

THOMAS WHITEHEAD

Information Technology
Management for Business

Have ridesharing services revolutionised the taxi industry using disruptive innovation?

This dissertation is a critical investigation into whether ridesharing services, drawing upon case studies such as Uber, have revolutionised the taxi industry using disruptive innovation (DI). This dissertation relies on an extensive amount of secondary research from academic literature and articles. To assess whether the taxi industry has been revolutionised, analysis has been conducted into various aspects of the taxi industry such as the change in the traditional taxi business model, the technologies used to improve the value chain and the scope of innovation applied, whether that be DI or not.

It is important to highlight that this dissertation represents smartphone technology application software as the primary target when referring to DI, analysing how these methods have influenced the taxi industry.

MIREN PATEL

Information Technology
Management for Business

Is personal data safe online and how can we keep it safe?

Personal data online has a big impact on the economy. It is the reason a lot of organisations make so much money. While many people know about the notion of personal data online not many know the extent to how much personal data is actually stored online.

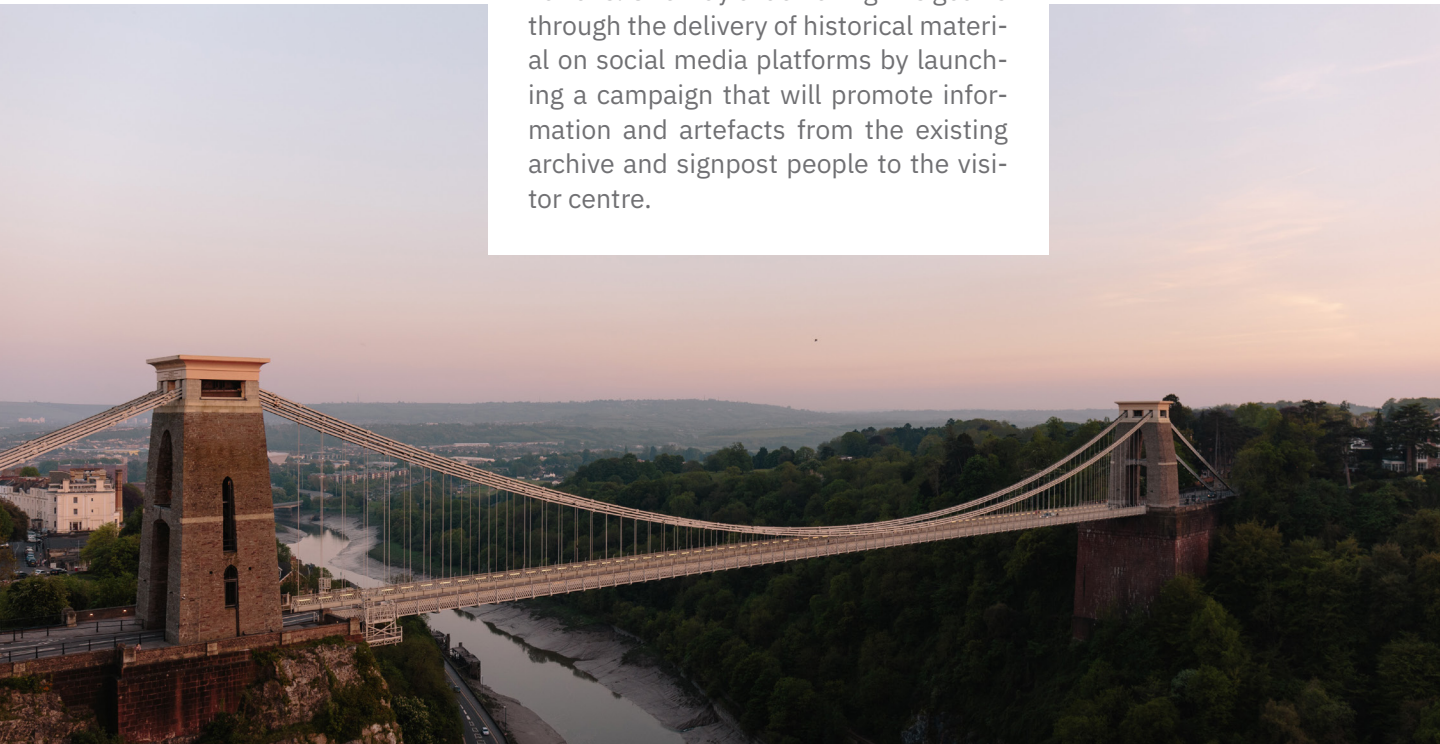
This dissertation is an investigation into personal data online and how it is being collected, stored and controlled. This dissertation will investigate the emerging risks involved with personal data online and the potential ways it can be kept safe.

Jessica Blundell
Pearlicia Braganca
Alex Crozier
Matthew Gander
Mirabdul Muqtadir

CLIFTON SUSPENSION BRIDGE TRUST VISITOR CENTRE

Information Technology
Management for Business

The Clifton Suspension Bridge Trust needs to raise public awareness of the historical significance of the Bridge and increase the number of visitors to the visitor centre, thereby encouraging donations. One way of achieving this goal is through the delivery of historical material on social media platforms by launching a campaign that will promote information and artefacts from the existing archive and signpost people to the visitor centre.



Adedayo Olugbade
Alexander Morrison
Alexandru Stamate
Jason Worlock

KNOWLEDGE SHARING PLATFORM RESEARCH PROJECT

Information Technology
Management for Business

The overall aim of this project is to provide a recommendation to the client as to what knowledge sharing platform they should acquire and then present and demonstrate how the system is to be used by the employees. The client wanted a knowledge sharing platform to efficiently retain and distribute information that is valuable to the organisation.

THE CLIENT
resourcefutures are an independent environmental consultancy specialising in resources & waste, circular economy & behaviour change.



THE PROBLEM
Resource Futures had no platform to retain and share valuable knowledge acquired during their business activities.

THE PROJECT

- 1 Requirements analysis.
- 2 Initial market research.
- 3 In-depth research on top two solutions.
- 4 Demonstration of proposed solution.

THE SOLUTION
The analysis we conducted led to the recommendation of Microsoft's Yammer, a social networking service designed for business use. Yammer met all the crucial requirements we elicited.



86% of Resource Futures staff felt confident in using Yammer after our presentation and demonstration of the platform.

THE IMPACT
Increased knowledge retention.
Efficient sharing of knowledge.
Less costly and timely re-work.
Demonstrations of the platform.
Scalable platform with growth.

THE TEAM
Team D • UWE Information Practitioner 3 Project 2019

Alex Morrison I learned the importance of building a strong rapport early with the client.	Alex Stamate I developed new skills in business analysis and requirement engineering.	Di Olugbade I learned how simple design can greatly benefit the readability of documents.	Jason Worlock I developed my project management skills within a consultancy environment.
--	---	---	--

Jamie Elford
Taz Heath
Jordan Reid
Ioana Stoain
Matthew Sully

BABBASA CRM & PROJECT MANAGEMENT SOLUTION AND IMPLEMENTATION

Information Technology
Management for Business

The project was to research and provide potential solutions for CRM and project management systems. The team provided the client, Babbasa, with a final system and adequate training and supporting documentation to then implement the system into their organisation. Bitrix24 was the chosen system due to it meeting the client's requirements and facilitating for the organisation's future expansion.



Francis Desmond
Sandhyo Fernandes
Artur Mikhailau
Tom Rolt
Morgan Williams

Miren Patel
Mohamed Aadhil
Muin Rahman
Taha Rana
Tyler Besley



365 PROPOSALS AND RECOMMENDATIONS

Information Technology
Management for Business

Bristol Green Capital Partnership needed our guidance and expertise to improve the management of internal and external resources on their SharePoint platform. By creating a 'model environment' we were able to replicate the proposed solution, which was used to make suggestions to their current structure. In doing so, we made a coherent user guide, informing them on several aspects that could be improved using step-by-step instructions.



SIMS HILL SHARED HARVEST WEBSITE RE-DESIGN

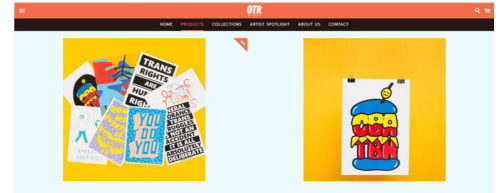
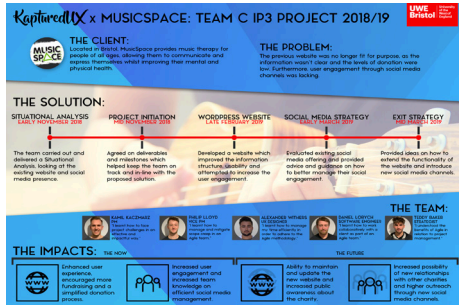
Information Technology
Management for Business

Our client was the organisation, Sims Hill Shared Harvest. The main purpose of this project was to assist them in improving their website, by re-designing its layout, structure and content using their existing website hosting platform, WordPress. Moreover, the project aimed to give an insight into other possible website hosting platforms and packages, and to educate the organisation into how to safely and efficiently back up the content of their website.

testhills.wordpress.com

Ted Baker
Kamil Kaczmarz
Phil Lloyd
Dan Lorych
Alex Withers

Thomas Whitehead
Aaron Bush
Andreas Constantiniou
Filip Zukowski



MUSICSPACE WEBSITE REDESIGN AND SOCIAL MEDIA STRATEGY

Information Technology
Management for Business

MusicSpace, who offer music therapy for people of all ages, were in need of a new website which better matched their needs of being informative as well as leading to donations. The team developed an entirely new website based on these requirements. Furthermore, a social media strategy was put together to be utilised by MusicSpace which supported the objectives of the website.

DEVELOPMENT OF A FULLY-FUNCTIONAL ON-LINE SHOP AND STOCK INVENTORY SYSTEM

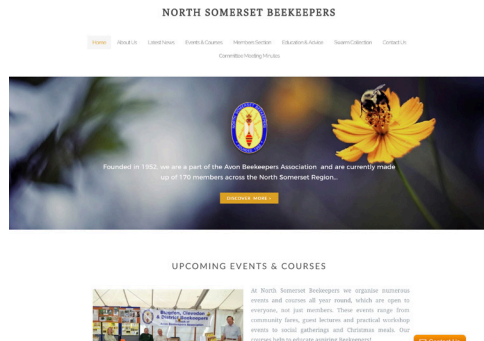
Information Technology
Management for Business

Our job was to provide Off The Record Bristol (a mental health organisation) with a brand new fully functional on-line shop and linked inventory system. This allows them to sell their products via the website we provided for them to generate a sustainable revenue stream. We used Shopify as the platform to host and build the website, which also allows a correlated stock inventory system and enables POS.

new.music1991.webfactional.com

shop.otrbristol.org.uk/

Lei Chen
Matthew Dowson
Andrew Hughes
Sandip Rai
Veeran Sujana



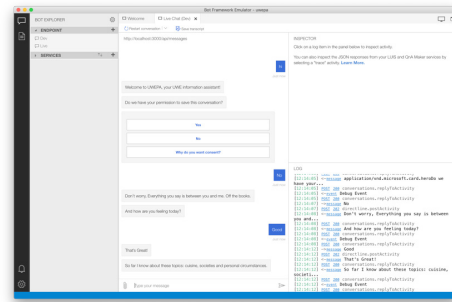
WEBSITE RE-DESIGN & SOCIAL MEDIA STRATEGY REVIEW

Information Technology Management for Business

Our client (NSBK) were operating through an outdated, static and un-user-friendly website. This resulted in numerous challenges within the organisation. Additionally, their lack of use of social media limited their reach and presence to the general public. As a team, we investigated the issues with their current website and discovered solutions to combat them. As a result we created a brand new, modern, user-friendly and technically advanced website.

www.northsomersetbeekeepers.weebly.com

Phillip Lindley
Gideon Twum
Joshua Methuen
Paul Alden



UWEPA

Information Technology Management for Business

We joined an inflight project with codeWest working on a chatbot demonstration for UWE Bristol's InfoPoint team. We worked on requirement gathering, bug testing and improvement of sample data to try and get the bot nearer to a working demonstration/pilot. Due to limited development resource, we produced and ranked a list of bugs alongside presenting a suggested 'roadmap' based on the observations during our consultancy.

uwepa-bot.codewest.io/

Somer Froud
Miroslav Resutik
Lee Smith
Simona Stefanescu

THE CIRCLE PROJECT BRISTOL

Information Technology
Management for Business

The Circle Project Bristol are a Bristol based not-for-profit organisation focused on improving the city and the wider community. Our team came together with a wide variety of backgrounds, ranging from technical to business orientated. We utilised our broad skill sets to support The Circle Project Bristol in developing two deliverables.

We completed two key deliverables. Firstly, a digital media strategy providing a roadmap for future online development including the progression of the second deliverable; an updated website. The digital media strategy will drive the progress of The Circle's online presence whilst the website will communicate the purpose and information behind the project.

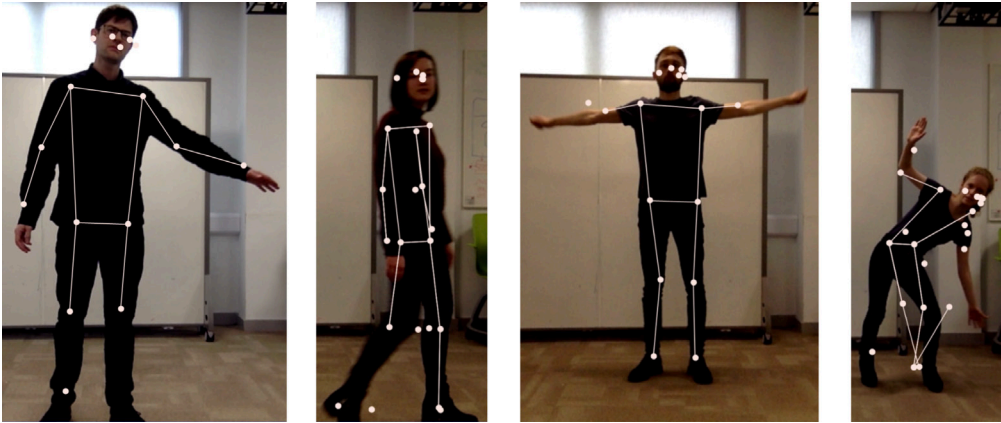




CRISTIANO ALMEIDA

Digital Media

As my work specialises in front-end development for the web, this project attempts to propel learning by exploring applications of web technologies out of my comfort zone and processes that would usually be applied on bespoke web applications. Furthermore, the experimentation with project organisation techniques aids in progressing towards a project management career path.



Mapping sound to body movement using web technologies

This project resulted in the development of an application that maps sounds to human poses, by making use of machine learning and web technologies. The final output is an art installation. Using TensorFlow's version of the PoseNet model, in combination with WebRTC and the Web Audio API, the project focuses on further exploration of web technologies beyond multimedia documents.

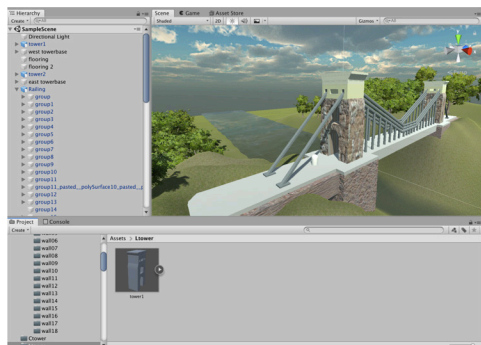
NATASHA BALL

Digital Media

Following the development of this project, I am looking to use my knowledge in user experience to develop projects for certain audiences. This application allows me to share my interest in solving a problem which impacts certain audiences with others. Creating a project that benefits a target audience has made me realise how I enjoy solving problems to benefit others within my work.

What value does modern technology have in learning environments?

What value does modern technology have in learning environments? investigates how secondary schools use technology. It tests whether the newer technology that is being released could enhance the students learning time or hinder the lessons. When researching my old secondary school, I developed an application and a lesson which can be used within a learning context. This could encourage students to explore new technologies or learn about the Bristol suspension bridge.



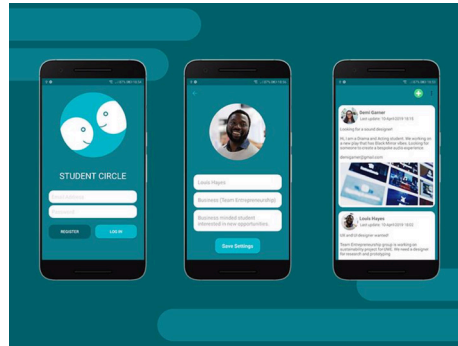
DOMINYKAS BARSAUSKAS

Digital Media

Dominykas Barsauskas is a very enthusiastic and hard-working creative technologist who's eager to try new challenges. Dominykas is passionate about user experience and user interface design and how it can change behaviour and emotions in people. UWE Student Circle provides an opportunity to explore this area further and to put his designing and development skills into practice.

UWE Student Circle

This project involved the development of an android mobile application that aims to accommodate and encourage cross faculty collaboration. The project's main focus is on user research and user experience. A lot was learned regarding technical development methods and how they evolve throughout the project. Finally, the massive potential of the market and project expandability is discovered with clear vision links to the University of the West of England.



DANIEL BATE

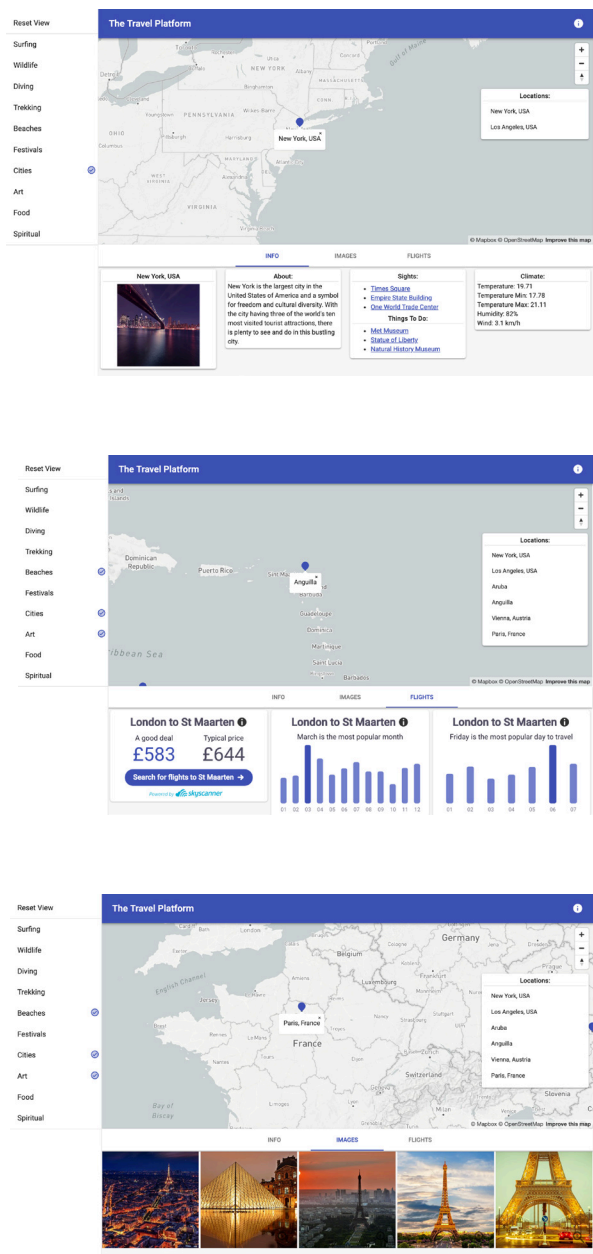
Digital Media

Daniel Bate has a strong interest in front-end web development and the application of innovative web technologies. This project gave him the chance to explore the integration of modern visualisation libraries as well as its incorporation with dynamic interface technologies. Additionally, Daniel was able to utilise user centred design techniques to develop an informed user interface. These are skills he will utilise as he embarks on his career.

The Travel Platform

This project proposes an innovative approach for people to explore prospective travel destinations that are tailored to their personal preferences. A high-fidelity prototype has been achieved using React.js to develop an intuitive and dynamic user interface that dictates a navigable geo-visualisation built using a hybrid of mapping technologies; Mapbox and Deck.GL. Recommended destinations are mapped and can be explored to reveal information about the locality, flights and imagery that is pulled from third-party sources.

danielbate.github.io/Travel-Platform/



KELLY COPAS

Digital Media

After graduation I would like to pursue a career in front-end development and I am particularly interested in improving both my coding and design skills, which is the reason why I chose to build a website for my final year project. This also gave me the opportunity to draw on skills learnt while on placement at Flourish Digital Marketing agency and throughout the course so far. I was interested in exploring how technology and social media is impacting on the travel industry, in particular, the use of VR and user-generated content.



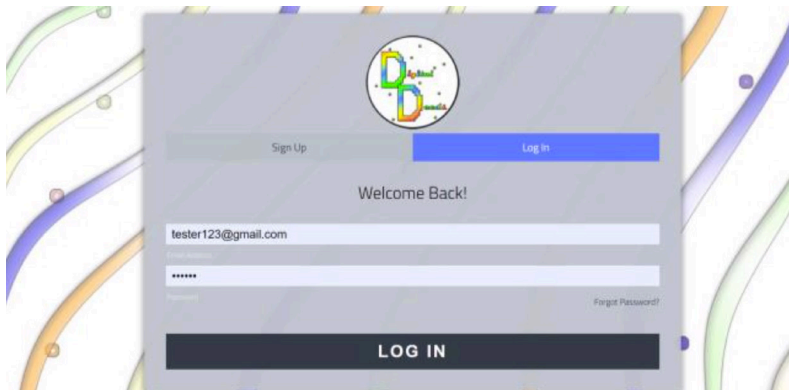
Cityscape 360, a city inspiration website

Cityscape 360 is a city travel inspiration website for teenagers and students. It displays embedded VR content built using A-Frame, a virtual reality framework, as well as an interactive map built using LeafletJS providing navigation to city pages, and embedded Instagram feeds. The website was built using HTML, CSS Grid, CSS Flexbox, and JavaScript, and is a prototype demonstrating one city, Bristol, to illustrate what the rest of the website could look like if further developed in the future.

MATHEW CARTER

Digital Media

I am the designer and developer of the website digital deeds. Digital deeds is an important project to me, as it aims to tackle the problem of amateur designers wanting to get themselves noticed and recognised, but are unable to find a suitable platform for them to push themselves. The finished outcome of digital deeds is a service I have implemented with many of my own needs and desires in mind as I am part of the target audience for the project.



Digital deeds

Digital deeds is a minimalistic website which acts as a portfolio for amateur designers. It features a friendly and easy way to set up an account and start personalising your profile to represent yourself as a designer.

KEZIA DAVIES

Digital Media

I'm a final year student studying Digital Media. I have an interest in design, games and history. My ambitions are to live abroad and work for a games company doing design work.

Emotional design: A VR experience

This is a VR archery game that's made in Unity. The main element to this project is emotional design and emotional responses to games. Also, to see what

triggers an emotional response and compare between two levels that implement emotional design in a different fashion.



ALANA ELWORTHY

Digital Media

I have a keen interest in user experience design, art and interactive installations. Combining these elements with the technical brief of the module meant that I was able to combine my work in the live events and music industry to create an interactive piece which would fit into a festival environment.



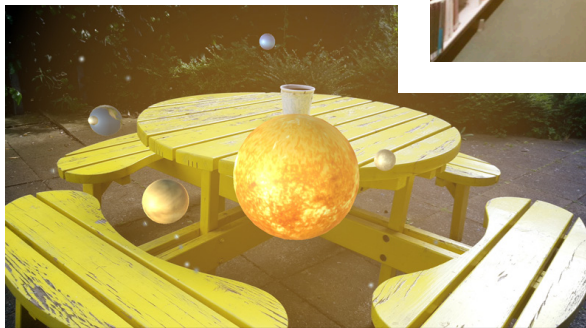
Backpack Soundbooth

This project proposes a novel way for customers at live events to create memories of their time. The user can record anecdotes, stories and songs to be listened back at a later date, and also explore through other user's recordings. Powered by a Raspberry Pi computer, this soundbooth is a portable, ludic piece which would allow the event's organiser or facilitator to capture the sounds of the festival through the mouth of its customers.

MARIA ERAKLEOUS

Digital Media

Being curious and fascinated with augmented and virtual reality, this project allowed me to learn more about what augmented and virtual reality technologies are, how to develop for these technologies, and enabled me to explore users' views on them. This has been a great opportunity for me to expand my skillset and explore new areas that could result in a career in a related field in the future.



The solar system in AR & VR

This project consists of two applications, an augmented reality application and a virtual reality application. Both enable the user to experience the solar system in the way each technology allows to. The aim of the whole project is to eval-

uate users' preference over the two technologies and to find out how a better experience for each one of them could be created.

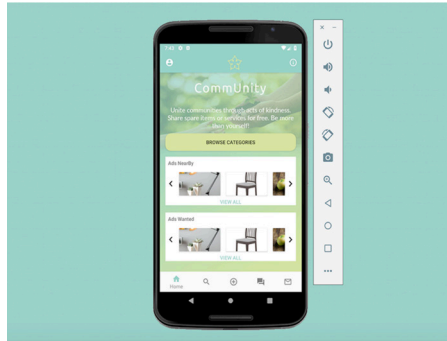




SOFIA FERRARO

Digital Media

Sofia Ferraro's skills primarily lie in user experience; including UX and UI design and research. She has an interest in analysing information for a deeper understanding, solving problems through creative solutions, and in general, helping those in need. This project was a chance for her to utilise these skills and develop them further, to gain confidence and improve prospects in her desired career. Additionally, her interest in sustainability and collaborative consumption inspired the project, as it motivated her to analyse related applications, to build and improve on current sharing solutions.



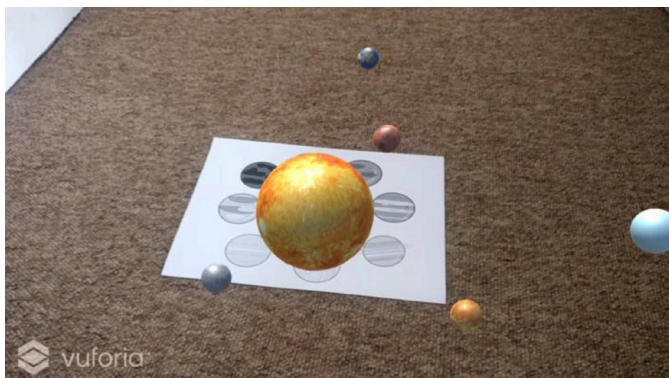
CommUnity, sharing-economy app

The report proposes a unique solution for people to share unwanted household items among each other, for free. At the same time, it provides a platform in which users can request any help or services from the local community. A high-fidelity prototype has been developed, using Android Java, which implements the intended functionalities derived from contemporary technologies, thematic analysis and user research. The app embodies the objectives of the project, and the final outcome is analysed and critiqued to determine future improvements.

TEODORA GABRIELA MURESAN

Digital Media

My motivation for this project comes from my passion of learning about outer space. I have always enjoyed reading about new scientific discoveries about planets. This project has allowed me to look into different educational tools that can be used to make the learning process more enjoyable. Throughout the year I have become more confident in using Unity 3D and C# to create immersive educational experiences.



Augmented reality solar system mobile application

This project's aim is to look into how augmented reality technology can aid education and the media that can aid students in recalling information, in comparison to other forms of learning such as books or academic journals. The project was build using Unity 3D and two rounds of

semi-structured interviews were conducted for user feedback.

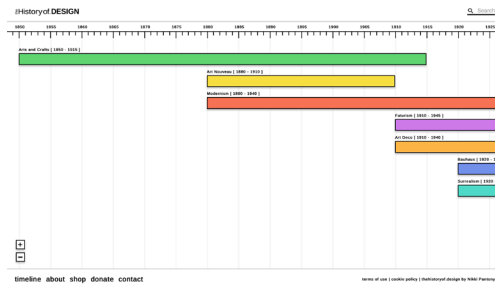
NICOLA HARDY

Digital Media

On graduation I will commence work as a front-end web developer with some design responsibilities also being a part of the role. In undertaking this project, I have further built upon my front-end development and design skills, gaining valuable experience within my chosen career field. I have especially gained confidence in applying a design thinking approach to problem solving and from a more technical perspective developed a hands-on understanding of working in jQuery, CSS-Grid and Flexbox.

The History of Design: An interactive, dynamic timeline

This project has undergone the research, design and development of an interactive timeline communicating 150 years of design history. The five stages of design thinking have been applied to form the process of the design stage and a further iterative development phase has followed. The final outcome has been the delivery of a semi-functional prototype working towards serving as an effective and accessible learning resource for students learning design history.



HAMSE HUSSEIN

Digital Media

After graduating I am planning to pursue a career in content creation, creative product marketing, motion graphics or film production. I also have an entrepreneurial spirit and may pursue that career path. 360 media is a new digital medium and is still in its early days. I am someone who is naturally interested in new tech. If a good use for it can be found, then I gravitate towards it. For this project I learned how to use Angular, UI design, MySQL, NodeJS and creating a new platform for 360 content.

360 property viewer

This project's goal was to create an application where the user could see and view a property online in an enhanced viewing experience. The project makes it easier for the user to understand what the property would look like in real life, creating a bridge between reality and expectation. This project was created using the Angular JavaScript framework. I'm also using NodeJS and the Angular CLI to work with commands. I will be using equirectangular images to fully submerge the user around a virtual world. A 360 camera will also be used to generate these images for this project.





JAMES-RAY JEFFERS

Digital Media

In this report I will be discussing the re-search, design and development of my final project. My project is an interactive web page that showcases Bristol graffiti and street-art through the use of SVG maps, created in Adobe Illustrator, then imported into a code editor to apply animations with the GSAP.js library.



An insight into Bristol's graffiti and street art through an interactive web page

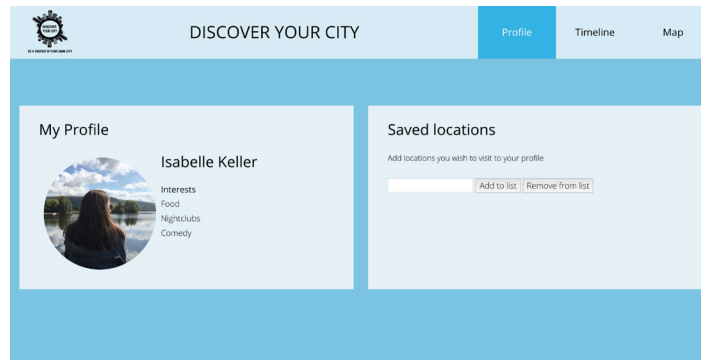
The user can explore different locations in the city of Bristol by viewing its extraordinary and ever-growing popularity of graffiti and street art culture. The web page allows you to view a short video on the home screen to understand the purpose of the web page and to also view images in certain locations with the use of JavaScript functions and SVG map design. The main problem that

needed to be overcome, was helping the user digitally explore graffiti and street-art around Bristol at ease using my web page. Therefore, I ensured the web page was designed to be simple, understandable and easily navigable.

ISABELLE KELLER

Digital Media

This project reflects my interests and the skills I have developed within the area of user experience. As I am looking to go into this field after graduating, I thought that developing a project like this would allow me to showcase the skills I have learnt throughout my time in university. Following the concept of design thinking and human-centered design processes, discussed by Don Norman, I have developed a project that incorporates both digital and physical aspects of people's lives.



Discover Your City

Discover Your City is a web application that allows its users to explore places to visit or activities to do within the city of Bristol. An interactive map allows users to add markers to show where they have visited and see which areas of the city they are yet to venture to. Aiming to encourage its users to make the most of and explore the city in which they live. The web application was created using HTML and JavaScript.

HARRY KESSEL

Digital Media

As someone with a great interest in the way that users interact with physical and digital interfaces, this project really underlines my interest in design principals and the psychology behind the way that people associate digital interfaces with their own actions. This is also known as persuasive design. This project would direct me further into the user experience and the psychological routes of front-end design.



Productivity Re:imagined

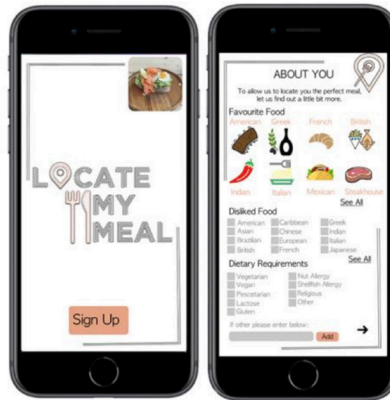
This project is based around the concept of time management, using a digital platform

to encourage making more of your free time to promote a better mental state, more enjoyment during the work hours and lower stress levels. Using psychological theories, design principles and simple front-end languages like HTML, CSS and JavaScript the project achieves a high-fidelity prototype visualising the user's week ahead.

CATRINA LIDDELL

Digital Media

I have a keen interest in UX design, marketing and advertising. I believe that this project has allowed me to demonstrate various skills held in these fields, from research and data collection, wireframing and prototyping to graphic design and branding. Throughout this process, I have worked closely with participants, in order to gain knowledge of different opinions and expectations, which I thoroughly enjoy. I have also had first-hand experience working with Invision Studio, which is software used within the creative industry.



Locate My Meal

Locate My Meal is a user experience focused, high fidelity mobile application prototype, created using Invision Studio. This project is designed to, inform and guide users aged 20-40 in discovering independent and specialised local restaurants to dine at, whilst in the city of Cardiff, whether it be their hometown, or for a visit. The idea is to uncover “hidden gem” type restaurants as opposed to chains. Locate My Meal is individually personalised to each user, specifically targeting those with special dietary requirements, who

find it difficult to eat out. As well as this, it allows promotion for local and autonomous businesses, both fine and casual dining.

SINITJA LINUZA

Digital Media

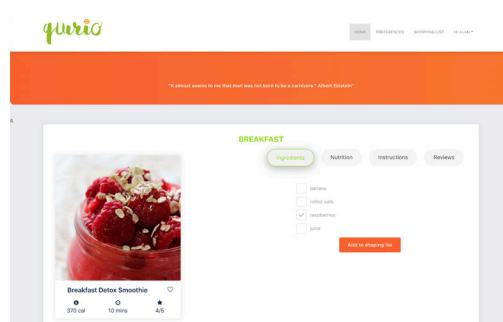
Quirio vegan meal planner highly relates to my own experience and interests in vegan food. It provided the opportunity to use user research methods to tackle the questions around ways to help users adapt to a new diet. From the modules in Digital Media, I particularly enjoyed the User Experience module taught by tutors in the second year. They inspired me to continue developing my skills further in this field in order to have the opportunity of working as a UX researcher or designer in the future. During the placement year at Mach Acoustics, I applied the concepts learned from the user experience module into my designs, which helped to enhance the usability and overall experience for the developed systems.

Quirio vegan meal planner

Quirio vegan meal planner is developed as a beta version web application primarily using React JS, Firebase and Yummly API as the easier solution and affordable means to adapt to plant-based meals for users with an interest in a vegan diet. The integrated functionality of providing a personalised experience towards cus-

tomising one-day-a-week meal plan and inspirational quotes by famous vegans around the world was derived from qualitative and quantitative research methods throughout the project to help answer a question of

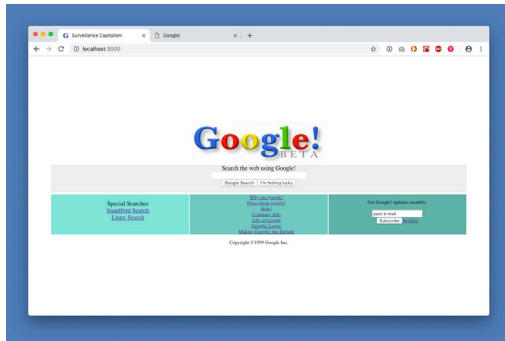
how to create a seamless way to introduce veganism.



ALAN LONG

Digital Media

Alan Long's primary interest is in UX design, but he has worked as a freelance web developer in the past. Having built his first website five years ago, he was familiar with basic web technologies like HTML, CSS and some JavaScript. He has built WordPress themes with PHP, that incorporate these aforementioned technologies. This project marks the first time he has used more advanced web technologies, in this case React.



Surveillance capitalism: Systems of control

This project discusses surveillance capitalism, an emerging technological market form that now funds much of the industry associated with digital media. The delivered artefact takes the form of a website that documents the extensive research undertaken to grasp the scale of surveillance capitalism and the perils it poses. It aims to entice those unfamiliar with surveillance capitalism, to engage with the topic beyond the media this project presents.

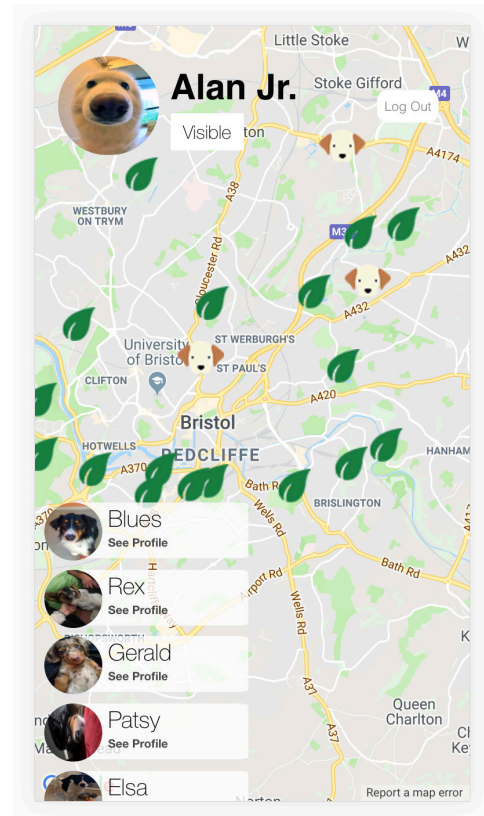
SAARA RAUTIAINEN

Digital Media

Saara Rautiainen's background was mostly in visual design and photography. At UWE Bristol she grew interested in UI design and coding, but has concentrated mainly on user experience design due to her exchange year in Copenhagen. To enhance her programming skills to fit the requirements of web developer jobs, Saara has chosen React.js as her language of choice for this project.

PuppyMap, the social media for dogs

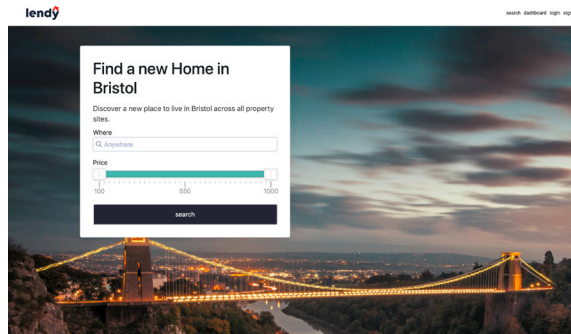
This creative technologies project is a web-based application targeted at dog owners in the Helsinki area. PuppyMap is a niche social networking application designed to bring neighbourhood dogs together while simultaneously strengthening the sense of community amongst the users. The ideology behind the concept is to dismiss the isolating and intrusive features of most social networks, such as aimless scrolling and social comparison, by relying on the positive effect that domesticated dogs have on human wellbeing.



JAMES REES

Digital Media

The author of this paper has a great interest in web development and a number of modern web technologies such as Python or Angular and how these can be used to create full stack applications. The idea behind the project is to further develop his skills around the area. This desire to learn more has led to him working as a Junior Web Developer at Bunk, bringing knowledge from this project into the work place.



Lendy comparison site

Lendy is a comparison application built to allow users to search for different properties to rent in and around Bristol as well as visual representations of potential savings, preserving both time and money, with data collected from a series of different listings sites. The project

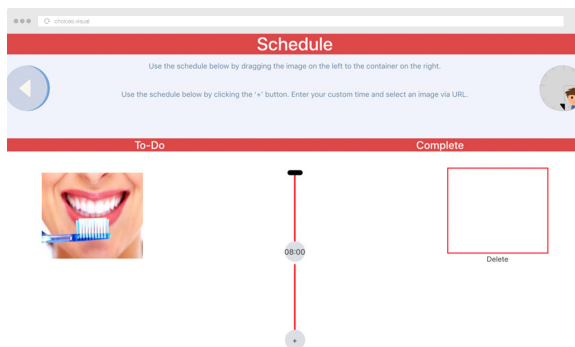
consists of two main parts a front-end application built in Angular 6 and a series of scrapers built in Python for collecting the information.

lendycompare.firebaseio.com/

JOSH SLATER

Digital Media

I am interested in both UI, UX and coding – making this project the perfect demonstration of where my skills currently are and how to further their development leading to an industry level standard. This project is personal towards me as I have a first-hand experience of life with an autistic person, allowing me to use my knowledge and understanding.



Choices: An interactive visual schedule for parents and carers

This project aims to provide an alternative way for parents and carers of those with autism to structure out a day plan

using simplistic imagery on an interactive timeline. Using React.js, a functioning prototype has been developed using both user research and thematic analysis to demonstrate how

users can communicate with the application successfully, but also providing a mark point for future improvement and development.

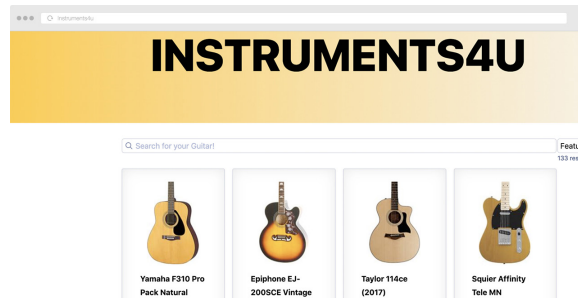
LUKASZ SMOLINSKI

Digital Media

I am a BSc Digital Media student soon to graduate. With the development of Instruments4u I was able to expand my knowledge of real-life development process similar to start-ups, as well as sharpen critical decision making and self-directed project management. Building web applications is my passion, and I am planning to start my career as a junior developer in a company to grow and learn everyday about web application development.

Instruments4u: Web application with a web scraper

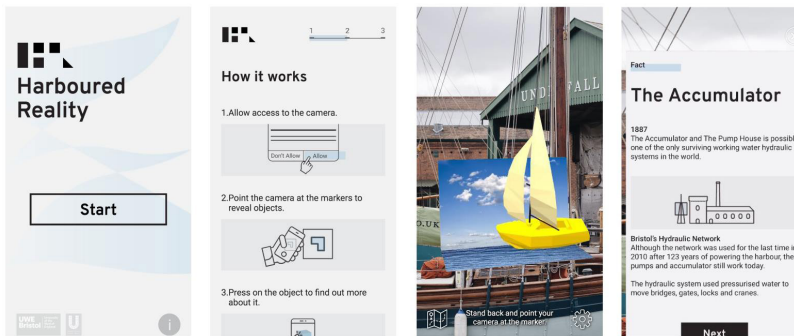
Instruments4u is a React-JS web application which allows users to find their musical instrument at the most appealing price from several companies' websites. Instruments4u scrapes multiple musical instrument providers in-order to find the newest and tailored dataset for users. With the use of Algolia, the users are able to index the database with extremely fast, live sync response time, thus displaying results in milliseconds.



ARRON TAYLOR-PETER

Digital Media

Arron has a keen interest in exploring creative and innovative areas of the digital world, merging skills such as creative coding, communication design, user centred research and rich-media production. This project provided an opportunity to delve into these interests and discover the emerging world of augmented reality and WebAR. Through this endeavour, Arron has not only learnt new skills, but also learnt about Bristol's maritime heritage which he hopes will encourage others to actively engage with their local places and communities.



Harboured Reality

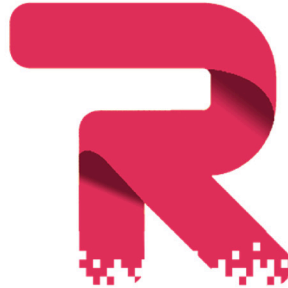
This project uses Web Augmented Reality (WebAR) as a means to explore space in an interesting way, without the need to download a native-app. The aim is to reveal something new to the user through a specifically designed website that augments 3D objects, curated content and mixed media. AR.js and A-frame have been used and combined with digital media practices to deliver the experience.

www.harboured-reality.co.uk

BEN WREFORD

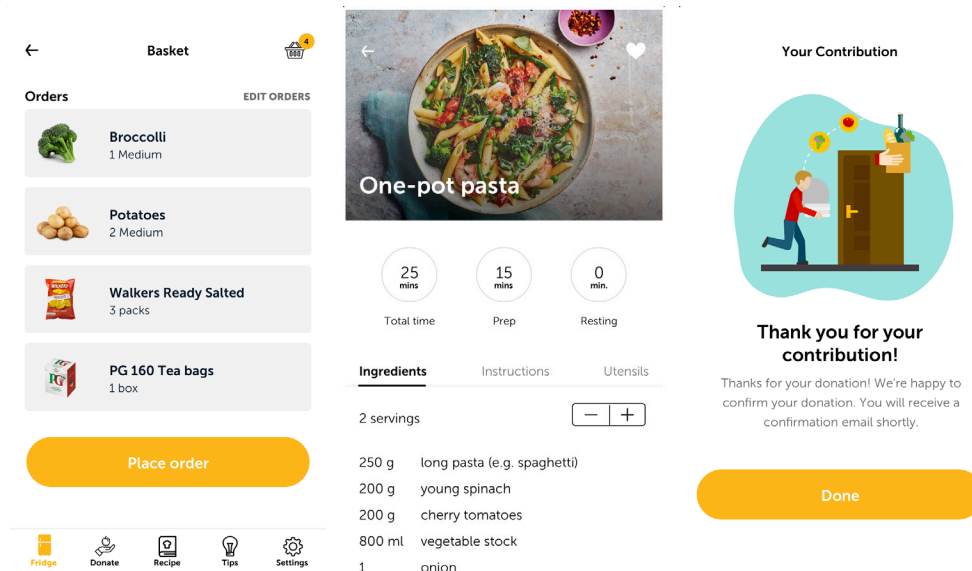
Digital Media

Currently studying BSc Digital Media at the University of the West of England, I have always maintained an interest in the creation and design of digital work. Having the freedom to create a technological project as my final year work, I was able to develop an idea I had several years ago. This project allowed me to dive deep into the complex development of mobile applications. Using the knowledge attained should give me the opportunity to develop this and other applications in the future, with the ambition of creating an application with over 1 million users.



Reevela

This project investigates the combination of online dating and the gamification of applications to create a new dating experience for a potential user base. The application developed showcases a high-fidelity prototype which demonstrates both the dating and gaming components of the application. Although the application is not fully developed and available for download, it still demonstrates the main functionalities. The application was built using Android Studio and Google's Firebase.



THENG YEN CHEN

Digital Media

Through my experience in the field of design, my skills have always been leaning more towards user interface design. People say UI and UX go hand-in-hand, but the fact is I haven't really able to fully focus on creating a UX-based project. With this opportunity, I have chosen a UX focused project. This will hopefully prepare me for more UX-driven projects.

Still Good Food

Still Good Food app is a digital platform for students to give away and to receive surplus food in UWE Bristol. The app serves as an education piece where students can find inspiration on recipes using surplus food as well as tips on how to save food. This project aims to discuss and reflect on the design and conceptual decisions made.

NATHAN BARNETT

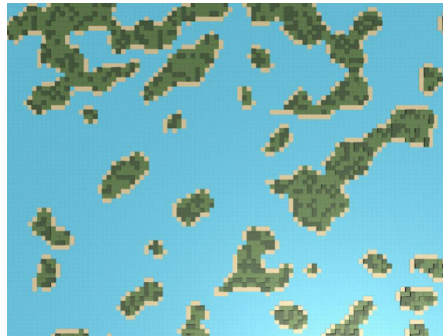
Games Technology

Cellular Automata systems are something that have been an area of interest to me since discovering them online, seeing videos of them through YouTube.

I also have a keen interest in creating worlds in games and wanted to see if I could use these two interests to create a system that would generate worlds using a Cellular Automata system.

Creating a procedurally generated world using Cellular Automata

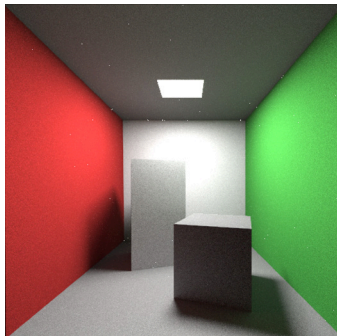
This report outlines the investigation into implementing a procedural world generation system using a Cellular Automata system. The final product of this system allows a user to use their own rules to generate a landform that can be used in a computer game.



NATHAN BUTT

Games Technology

I am a games technology student with a particular interest in rendering systems and advanced rendering techniques. Considering the direction of travel regarding said technologies, it is important to gain an understanding of how they work. Therefore, I intend on using this project in order to gain a wider knowledge of advanced rendering pipelines as well as gain a baseline understanding of contemporary rendering methods.



A bi-directional path tracing system for rendering high quality computer images and scenes

This project is a rendering system which is capable of rendering an arbitrary 3D scene using one of three ray-tracing based methods, these being path-tracing, light tracing and bi-directional path tracing. Input is taken in the form of a JSON file along with supervising assets such as 3D models and textures. Once loaded the program then continuously renders the image, progressively taking more samples of the scene until the image is in an acceptable state. These images can be saved out to either a TGA or FPM (floating point format) file.

BENJAMIN CAMPBELL

Games Technology

My ambition in this project is to help show that video games can be more than just entertainment, by helping people in other aspects of life. Inspiration came from the game called “Re-mission”, which helps young children with cancer to understand what medicines were doing in their body. Working with a client to create this game, allows directed learning to take place and supports the development of professional skills.



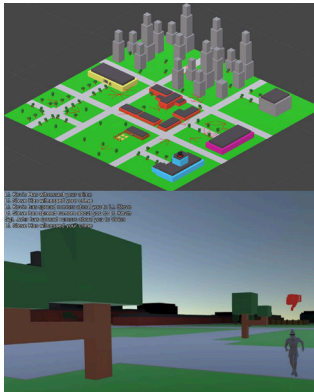
Using vision science through games to help detect visual impairments

This project involved working with an external client to see how games can help opticians detect vision impairments. This application capitalised from both the engaging properties of games and advanced technologies used in modern devices. The application is packaged as an endless runner game, where the user finds themselves dodging on-coming craters and collecting eyes, whilst testing the user's eyesight for vision impairments.

PATRICK CHARLESON

Games Technology

The aim of this project is to apply a psychological approach to Non-Player Character (NPC) behaviour, as many games these days have a limited emotional table for their NPCs. My personal interest in this project was to seek to expand that emotional table and to answer how close we can get to making NPCs “human”. This project assists me further in my desire to become a games programmer.



Rational and emotional models for believable NPCs

This report investigates if it's possible to apply psychology to NPCs to assist in simulating realistic behaviours between the player and NPCs. The developed project shows this through a change in patrol behaviour depending on how

the player changes the NPC's emotional variables by interacting with objects around the game world. Most patrol behaviours also include a link to psychological reference to give it some form of weight.

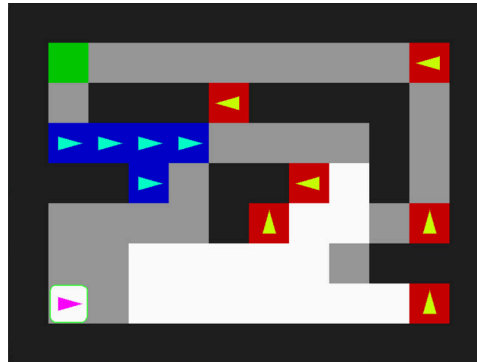
MATTHEW CHEUNG

Games Technology

The project is an investigation into procedural generation and automated game design. Although I do have an aspiration to be a game engine programmer, I also have an interest in procedural generation.

Procedural generation of rules and mechanics for games

The aim of this project is to research and implement a rule generator for video games using various methods. The techniques used in this project are influenced by previous projects of the same subject.



BRYN FINDLAY-DYKES

Games Technology

Prior to studying games development, I have had an interest in level design and a general fascination with procedural elements in games in general. Following studying games development, this interest has only grown. Following gaining the skills to implement some of these concepts, I recognised that this project would allow for an opportunity to explore these two concepts and attempt to create a system that may be applicable to general game creation.



Procedural level generation and design

This report discusses a method, and an application of it, for generating 2D platformer levels using transition matrices to generate level tiles stochastically, testing the level using an artificially intelligent agent and using accuracy of its output to determine the level fitness, and evolving the transition matrix generationally. This method shows the abil-

ity to generate levels to varying qualities based on the parameters selected by the designer such as agent output mapping and a desired output.

ADAM FORT

Games Technology



Dynamic terrain simulation on a GPU

This project is a dynamic terrain simulation implemented on a GPU. The movement of the terrain is created using Navier-Stokes equations combined with a tessellation for the terrain deformation. It has support for multiple interactions at the same time. The whole system is modular and provides tools for easy modifications of the terrain as well as for the actors that interact with the terrain. As simulations like this are resource-intensive, multiple optimisation methods were implemented in the making of this project. Those considerably improved the performance and made it possible to simulate multiple high-quality terrains in one scene.

THOMAS HARRISON

Games Technology

As an aspiring games developer my interests lie around the region of narrative and the connection a player can feel between themselves and the main character. Forging a connection with a character can source from many things but what I believe to be the most effective is the observation of interactions that character has with local Non-Player Characters (NPCs).



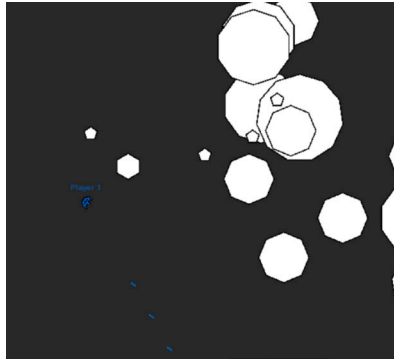
Procedural generation of narratives for games

This project intends on answering the question of whether it was possible to construct feasible narratives for a game environment using a combination of PDDL and Unity (C#). Using these systems, a semi-random world with a small group of NPCs each with their own objectives was created.

RICARDO HEATH

Games Technology

Some of my favourite games are those I can play with friends so the topic of networking in games has always been an interest of mine. Creating EnkiNet has allowed networking frameworks and given me a deeper understanding of what is involved in creating a networked game. C++ is my preferred language and the requirements I imposed on designing EnkiNet have allowed me to both learn and show my understanding of modern C++ and template metaprogramming.



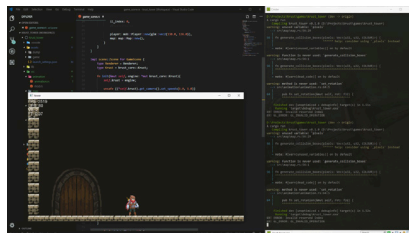
EnkiNet: High level networking architecture for game engines

EnkiNet is a C++17 networking library that provides compile-time type-safe remote procedure functions and a scene graph with networked entity functionality for easily creating networked games. This report outlines EnkiNet's design and functionality, describing how it was achieved using modern template metaprogramming and without the use of code generation or macros.

SAMUEL HIBBERT

Games Technology

Software and gaming have been a long-standing interest of mine and I began to study coding whilst in college, using Java. I went on to study my Games Technology undergraduate degree at the University of the West of England where I built upon my knowledge and learned new skills, such as the development of games and C++ programming. During the summer of my second year of study, I obtained my first programming job at an independent software company which made API connectors in PHP. This sparked my passion for developing and designing system architecture which led me to design and create my own game engine.



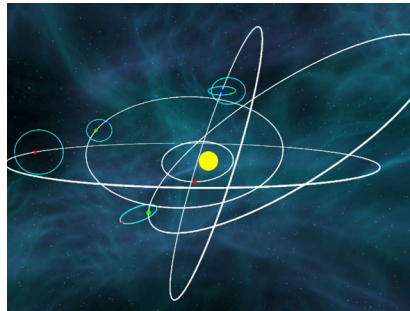
Krust: 2D game engine

Krust is a 2D game engine that uses OpenGL Rendering and is built in the Rust programming language. The engine is designed to be modular and lightweight meaning that the different components of the engine can be swapped and used interchangeably. The philosophy behind the engine is that it is easy to setup and use (for prototyping and basic development), whilst allowing for control over the underlying systems such as the renderer and shader programs as well as allowing for unique custom systems to be implemented into the engine.

JAMIE HOGG

Games Technology

This project has helped me develop a deeper understanding of the mechanics behind how gravity works as a whole and also the limitations and possibilities of what is capable within a game engine. It will help in the future as the project shows my capability to understand complex problems and that I possess a deep understanding of coding, maths and the Unity engine.



Gravity and its effects within a game engine

A system for the Unity game engine which allows the user to use an alternative gravity system to the one provided by default. It gives the user access to a wider scope of possibilities of what they can achieve within the game engine and to allow more games to be created which don't use the conventional gravity system.

MATTHEW HOLMES

Games Technology

I was drawn to the idea of a design-based project due to my fascination in the area. I have always found the use of design mechanics and systems to elicit particular planned emotional and physical responses from players to be mesmeric, with specific attention to the application of these techniques to the real world through gamification is this fascination with design tools along with my rudimentary studies of mental health, that drove my own personal investigation in to the concept of using game design methods in conjunction with mental health treatment to support people suffering from mental health disorders.

Gamification of a mental health application to support university students

The aim of this project was to explore how flow theory and game design techniques could be used to support mental health management. The project is based upon flow theory as well as mindfulness treatment techniques. the use of music, interface and feedback loops are all considered in the final application. The outcome of this project is an effective crisis management app that the sufferers of anxiety and depression could possibly use in times of crisis for emotional regulation and mindfulness treatment.



CHRISTOPHER HOPKINS

Games Technology

This project was an excellent opportunity to improve my design skills in programming, gameplay and creating user interfaces. I am particularly interested in gameplay programming. This project has also improved my interpersonal skills and allowed the development of managerial skills when working on an interactive experience with a client without knowledge in the field of computer science.



A 'serious game' vertical slice, tracking player game-play decisions and dynamically adapting game states through a real-time evolutionary algorithm.

This project looks into the techniques and applications of 'Serious Games' with the goal of creating a vertical slice game driven experience whilst working within a client specification. The Royal Air Force (RAF) wanted to investigate procedural content generation using an evolutionary algorithm at run-time. The application is for training and assessment purposes, storing user inputs and data for external assessment. The project is potentially a precursor to an ongoing relationship between the University of the West of England and the RAF.

OSCAR JOHNSON

Games Technology

I have always been interested in artificial intelligence and wanted to use this project as a way learn more about the current practices used in the industry and how other methods could be applied to better effect. I chose neural networks as they employ machine learning, a skill I have always been infatuated with and one that many employers are seeking as they believe it is at the forefront of current technology.



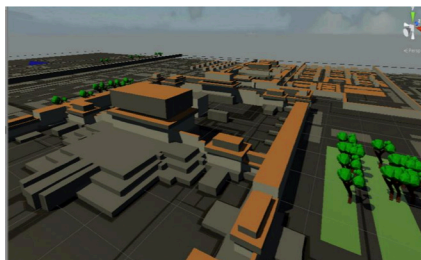
Organic non-playable characters using neural networks

This project uses neural networks to drive an Non-Player Character (NPC) agent that behaves realistically in an RPG setting. Using three neural networks, one for idle behaviour, one for combat behaviour and one final emotionally driven network, this project simulates a realistic bar brawl setting where NPCs can act on and react to in game events. This project includes a small framework for developing behaviours through neural networks and training these networks to behave as expected.

CONNOR KING

Games Technology

Connor King was born in 1997 and lives in Bristol, United Kingdom. He is currently a student at the University of West England studying a BSc in Games Technology. He has always been a passionate gamer and loves to be outdoors and has always wanted to bring the two closer together. This project is a direct result of that ambition, as it will allow developers to create more location-based games where the players will need to explore outside in the real world to play the game.



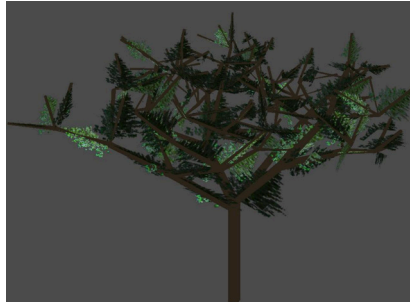
Using real world data to generate a 3D environment within Unity

This project investigates creating a 3D game environment using real world map data. It gathers multiple data types including weather data, building data, road data and local time. It builds a playable 3D environment in real time using the gathered data to dynamically change the environment. The project is lightweight enough to be run on a mobile device but powerful enough to be customised to suit the needs of a complex 3D application.

ELLIOT MARTIN

Games Technology

The aim of this project is to procedurally generate the models and LODs of foliage and vegetation within a DirectX program based on user preferences as well as use generative adversarial networks to procedurally generate textures used by the models. The final models can then be exported and used in other three-dimensional environments or game engines.



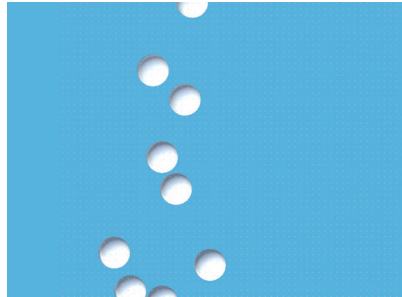
Procedural foliage generation in DirectX11

The main difficulties of the project were determining early on which methods to use for both procedurally generating the model's structure and then generating its texture data. Different methods were researched during the exploration phase, however the methods needed to fit certain criteria before they could be chosen for the final project.

ISOBEL MCNEANY

Games Technology

This project has inspired me as I like to see how different elements can be combined together so the combination within this project of multiple elements can be combined to produce a simulation, which can show off an understanding of complex theories used within the project.



Wind simulation

This project demonstrates the use of fluid dynamics within the context of a

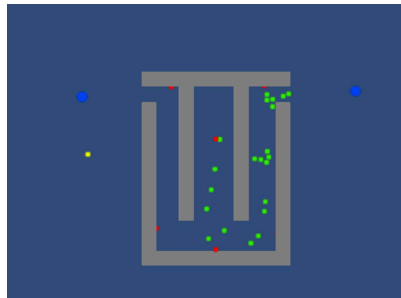
wind simulation. The project is demonstrating the effect that wind has on a rigidbody. The research done on simulating objects moving in wind is limited although some investigating has been done on objects in water and this can be used to help create realistic simulations within fluid,

which can then be used to produce special effects within the context of films or games. Most of the research projects have been looking at replicating wind, within wind tunnels and virtual environments. The project has been scaled back slightly from the huge force of wind in wind tunnels to a smaller breeze which is more realistic to the reality of wind in the open air. However, it could be scaled up to produce the effects of a strong wind.

ARTHUR MUDDIMAN

Games Technology

Arthur Muddiman is a passionate and driven game dev programmer. Having noticed an issue when it comes to the simulation of dynamic and interactive crowds in many video games, he researched a new and original method of simulating crowds in the hopes that this method could be used in future projects. Upon completion of this project, he has learnt a lot about various methods of crowd simulation and has a greater understanding of the difficulties involved with such a simulation in games.



Achieving complex crowd simulation through simple particle based methods

For a long time, video games have struggled to render large crowds that are dynamic and interactable. Through researching different methods, this project hopes to find a new method of crowd simulation based on rules of particle systems combined with light-weight AI techniques.

BRYCE NEWELL

Games Technology

This project focuses on C# programming using the Unity Engine API. This is a widely used standard within the games industry with over twenty-four billion experiences made with the engine and installed on over three billion devices worldwide in the past twelve months. The focus on VR is prevalent as it is currently considered to be entering the “slope of enlightenment” as outlined by Gartner’s Hype Cycle in which much progress is made regarding innovative systems and design principals.



Creation of a physics simulation crafting system for use in virtual reality games

This project aims to create a physics-based simulation crafting system for use within a wider virtual reality (VR) game. Current methods of crafting in VR video games have pre-defined objects which can be created by the user. While these processes have been proven to work, they are not intuitive or engaging for users who, with a greater level of control and immersion, may be able to create more unique items for use in their video game experiences. For this reason, the project focuses on suggesting and implementing a new method for more interactive crafting using more simulation-style methods.

CALLAN PATAY

Games Technology

This project allowed for me to explore graphics programming which had been largely untouched throughout my studies. Having no prior experience with graphics programming, the nature of this project provided extensive learning opportunities through a strong focus on HLSL which will further my opportunities in the industry.



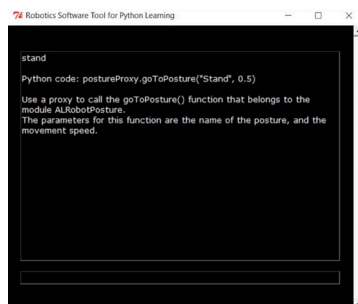
Investigating use of volumetric light transport in clouds at run-time

This report outlines the creation and simulation of physically based light transport in clouds in a game engine. Key aspects of this project are the use of Monte Carlo rendering and woodcock tracking distance sampling, allowing for realistic simulation of light through a cloud volume built in the Unity Engine using C# and HLSL

ANDRES PEREIRA

Games Technology

Throughout my academic career I have had an interest in many different STEM subjects, and this project proved to be the perfect opportunity for me to explore yet another one in the form of Robotics. Being a passionate game developer, I made efforts to include elements of both fields into this project by attempting to create a gamified learning application



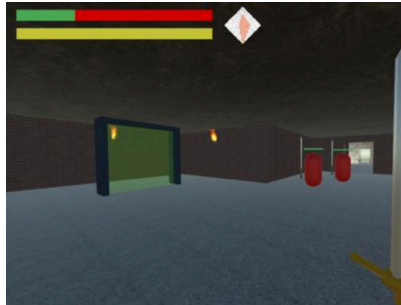
Blockly for NAO: The baseline for a learning tool

This project presents a visual programming language built using the JavaScript library Blockly with the goal of creating behaviours for the NAO robot. The Blockly editor communicates with the robot's operating system and framework NAOqi, enabling users to reference NAOqi methods and therefore building functionalities the robot can execute. Over the course of the development, the goals and objectives of the project were changed in order to adopt a more technical direction, however, throughout the allocated development time, the areas of robotics and children-robot interactions were widely explored through research.

LUKE ROBERTS

Games Technology

With experience in object-oriented programming, C++ and C# predominantly, combined with an eye for design, I aspire to make my way to the top of the food chain in creative design and development. Pairing this educational career with a background in data management, I find learning new ways to develop and design game mechanics to truly be one of life's pleasures.



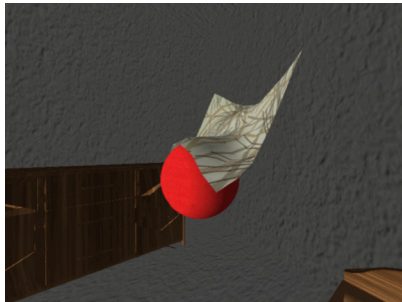
Player weighted procedural generation

In this project we explore how we most commonly define the ways people play games, how accurate these commonly defined archetypes are and whether these definitions hold up when tested. We develop a test that could be used to correlate game mechanics and player behavioural differences between types of gamers as well as discuss how this work can be designed into a toolset or package for industry use.

FILIP SKACANYI

Games Technology

Alongside my university studies, I have always been interested in physics simulations and it definitely was a topic I wanted to contribute to by building a physics engine. This project was an opportunity to improve my skills regarding building a game engine as a set of tools and to deepen my understanding of low-level programming environments such as DirectX11.



Cloth physics simulation

This project implemented a framework in DirectX 11 for cloth simulation. The implementation included a simple engine that handled 3D rendering, texturing and lighting. The simulation has been done using the mass spring model. The core systems are collision detection and response of cloth with other objects as well as with itself. The simulation has been optimised using a uniform spatial grid.

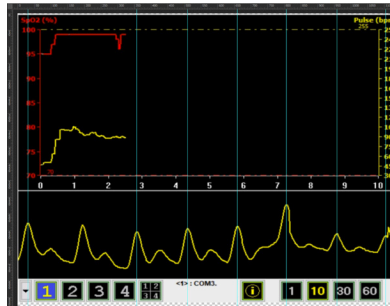
ALEX STROUD

Games Technology

During my time developing game projects at university, when working on tasks that involve the designing of a level, something that I always think about is the player's connection to what is being designed. I believe this project will help me to better understand the concepts of a player's emotional investment in what I'm developing. This will therefore in turn help to influence my future work and portfolio.

How peripheral events can affect a player's emotional responses

This study explores the use of select game design techniques and their effect on a player's emotions inside a simple environment. It involved a series of participant tests with initial results suggesting that some common techniques were generally effective on the users of the system. Although these tests resulted in useful feedback, a larger study of participants is required for more effective conclusions



D'ARCY M. S. SULLIVAN

Games Technology

My interest lies within creating unique gameplay experiences that are replayable. Through this project I wanted to explore game systems that I enjoy, and I wanted to further understand how they work and, more importantly, why they work. I also enjoy the creation and development of game levels that are ways to express flow through indirect manners.



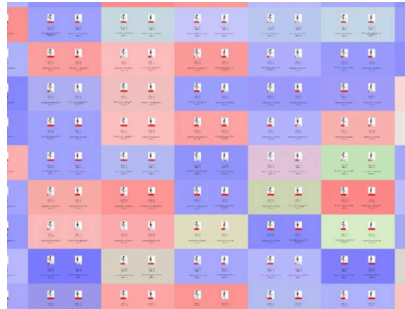
Dynamic game difficulty through player interaction

This project looks to create an AI directorial system that controls the difficulty of gameplay through an analysis of player skill via various interactions during runtime. Using Elo and a variation of TrueSkill, the player's skill will be calculated at set intervals and gameplay elements such as combat, and level design will be altered to create an engaging experience. Based on the state of flow, the hidden system will pace itself within game events to create a natural ebb and flow to the gameplay. The AI will also handle communication with other game management systems such as audio, to relay the relevant gameplay changes to the player.

THOMAS SYLVESTER

Games Technology

As an aspiring indie games developer with an interest in multiplayer games, I selected this project with the intention of reducing the time and expense of gameplay testing whilst maintaining the game's quality in the low budget projects I hope to be involved with in the future.



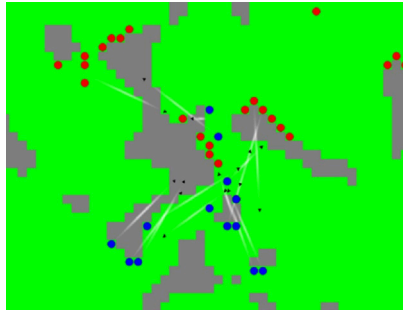
The application of AI to facilitate game balancing

The project investigates the viability of using AI systems to make a well-balanced game, in which no player has a distinct advantage over another beyond the player's skill and reduce the need for human-driven testing. The AI plays the game, learning the best strategies through generations of play, then reduces or increases the value of attacks depending on how powerful they were found to be in respect to other attacks.

HUW TINGLEY

Games Technology

I've always been particularly passionate about strategy games, some of the earliest games I played pitted me against AI opponents and as such, I've always been interested in AI. I wanted to build a project to see if AI would be a field that I'd want to pursue in the industry. I also felt creating a project in C++ would refresh and strengthen my programming ability.



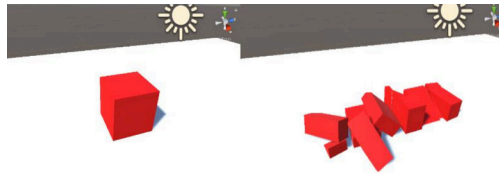
Grid based combat AI

The project details the creation of a gameplay AI for a 2D real-time strategy game. The AI navigates a generated terrain using A* Pathfinding to try and capture the enemies' flag. The aim of the project was to produce a large unit count that is modularly controlled using manager AIs and able to slot into a wider game/system.

JACK WATSON

Games Technology

Being invested in games and their development made me want to look further into how destruction is done. A lot of interesting effects can be yielded through good destruction and if done efficiently many games would be able to use this tool of immersion and destruction. There are many destruction tools available on Unity and they all charge money for a basic shatter, making my own personal mini destruction tool will allow me to casually break objects and save them without the need of another program.



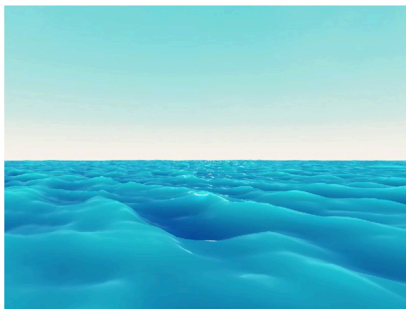
Destructive environments

This project can take basic meshes and cut them into different shapes by moving and placing blades in the scene to a desired shape, then pressing “Destroy”. There is also a runtime version of the code that allows the destruction to be tested, whereas the editor version cannot be reverted once an object is destroyed.

BEN WINDLEY

Games Technology

Prior to the Games Technology programme I studied Mathematics, which applies greatly to game development and allowed for easier understanding of translating theory and equations into code. Since the first year, shaders have been a major interest in my studies, in the second year I made a grass shader that utilised the geometry shader in the shader pipeline. My experience was made use of multiple times in the creation of post-processing shaders in the third year and predominantly in this project which focused on the use of compute, geometry, and fragment shaders to simulate water in Unity on the GPU.



Creating customisable realistic water in a 3D space

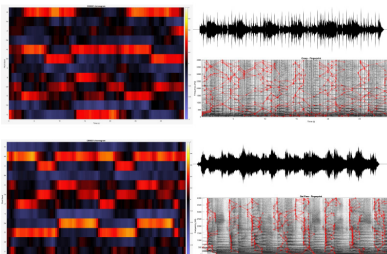
This project accurately simulates the dynamics of open water in Unity (2018.2.2f1) and additionally provides customisation of the visual aspects such

as colour, amplitude, refraction, specular intensity, and mesh size, which allows for water that suits different environments and artistic choices. The project can be broken down into 3 main components that form the final project: 1) Mesh Generation (Radial Mesh). 2) Displacement Map Generation (Wave Spectra and Inverse Fast Fourier Transform). 3) Shader Effects (Raymarching, Specular, Reflection, and Flat Colour).

LEWIS ASHTON

Music Technology

Do these pieces look similar? Copyright is a very grey area within music and with many opportunities and methods for obtaining inspirations for composition, when does a song begin to infringe copyright? With the CDPA 1998 unlikely to change clarifying this area and there being some very high-profile plagiarism cases recently, are music analysis techniques able to be automated to accurately identify similarities and dissimilarities on a relative scale?



Audio analysis and copyright infringement

This is a project that has been on my mind for two years ahead of starting it and this is only a very small portion of the full project I derived. Although my background is heavily rooted in radio, I endeavour to progress with this technology in copyright law project through further study, while looking to complete within the next 4/5 years.

JACK BOLTON

Music Technology

I have a background in performance and studio recording and was interested in creating realism through audio recordings. The project came about after considering whether accurately recording from a human perspective was possible. Considering the rising popularity of audio consumption via headphone reproduction I believe that the content of my project will become increasingly relevant.



Stereo and binaural audio recording research

The project investigated binaural and stereo recording techniques, often associated with the creation of realistic audio imaging. Three recording techniques were compared, these were: dummy head and Jecklin disk (binaural) and ORTF (stereo pair). A literature review was undertaken to form some background knowledge of the subject area and to design primary experiments where the three microphone arrays could be compared.

LEWIS J BRADLEY-MUIR

Music Technology

Coming from a background in electronic music production, this project allowed me to explore new concepts, theories and applications of the visual domain. Because of this I have cemented a thorough interest in this area of audio-visual artistry and it will be something I stay active in. Future projects will further my exploration and exhibiting of the synthesis in sound and image, as well as carrying on with producing and releasing my own sonic endeavours.

Stimulant or sedative

The purpose of this project was to create a generative audio-visual installation, influenced by artists and composers who are deemed to be significant in areas of the arts, both sonically and visually. Aimed at stimulating particular perceptual phenomena through the creation of a bi-modal experience that unifies the two domains into one perceptual whole. Which was to be concluded with the showcasing of the artefact as a legitimate piece of perceptual artistry.

LUKE CHILD

Music Technology

I am a musician and audio designer interested in progressing audio systems in modern video games. I also perform in the band 'Scrub' with both UWE Bristol and other students. My intention is to carry on my studies at postgraduate level. I will focus on designing interactive and intelligent audio systems whilst furthering my games programming to allow me develop virtual environments to showcase my creations.

Exploring adaptive reverberation systems in video games

This project explores ways in which game development workflows can be improved by incorporating adaptivity into video game systems. In particular, adaptivity in reverb systems serves as the focus of this project. The created system (now known as AdVerb) utilises raycasting and shader properties from environment objects to inform a reverb filter in real time. Key concepts explored in this report are Agile/SCRUM development in video games, cross-discipline collaboration in design, and audio in video game engines.

WILLIAM CORK

Music Technology

I am a versatile musician, playing the flute, guitar, bass, drums and piano whilst also being a vocalist. I have played in various ensembles, performing in Colston Hall and other famous venues. I also record music for YouTube in my spare time. My passion for music and post production as a career path inspired me to complete a project involving music and sound for advertising, leading me to explore the creative application of music composition and sound effects to enhance visuals.



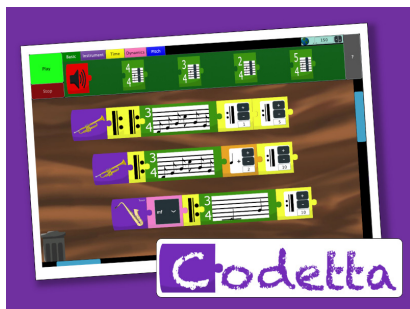
Sound design/effects and music in advertising

This project explores sound effects/design techniques as well as musical composition for commercial productions, such as TV adverts and film trailers. The project focuses on the audio post-production stage involving tracklaying, mixing and mastering. Artefacts were produced in the project, including two TV advert versions (one with just music and the other with just sound effects) for comparison, and a remake of sound and music composition for the film trailer 'Star Wars: The Force Awakens'.

COREY FORD

Music Technology

During three years at university, I was able to focus my skills in music technology as a practising audio software developer. Building upon my experience using the JUCE framework and C++, my dissertation provided the opportunity to tackle a complex, large scale software project. This also branched into human-computer interaction, leading to the rapid implementation of UX improvements through an “agile-esque” iterative approach, and collaborations with novice end-users.



Codetta: Supporting child educators confidence in teaching music

Codetta is a novel music notation system, placing Scratch’s block-based programming paradigm within the context of music creation. Aiming to support educator’s confidence in teaching music, its design was refined iteratively, based on the discourse analysis of think-aloud sessions with in-training student teachers. Subsequently, an evaluative study (with foundation-level students and practising child educators) found Codetta

was intuitive for participants with strong computational literacy, however, it was hypothesised that teachers were hide-bound by their traditional music knowledge.

TRAVIS GLOVER

Music Technology

Travis' main musical interests lie in the world of experimental jazz fusion, film soundtracks and modern classical composers like John Cage and Leoš Janáček. The project includes his interests in ambient music, experimental synthesis and unusual instrumentation like electric/amplified pianos and field recording. His recent opportunities are to work alongside Vanilla Bear Films in Bristol and to hopefully study composition at RWCMD.



Travis' research into the true story of the 1925 Serum Run, The History of Film Soundtrack and Programme Music lead to his project album 'Endurance. Fidelity. Intelligence'. The album tells the story of a 600 mile journey across Alaska in the freezing winter to save the stricken town of Nome from an outbreak of Diphtheria. The album includes influences from Hans Zimmer, James Horner, Saint-Saëns and Brian Eno.

OLIVER GRAY

Music Technology

Oliver Gray is a composer who plays a variety of instruments. Alongside composing, he enjoys arranging and producing music and is always eager to explore new ways of integrating technology. As an aspiring dubbing mixer, his interests are in film and TV along-side music composition. Additionally, he has industry experienced in live sound engineering and audio recording.

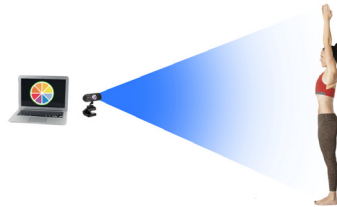
How different music creation environments affect the compositional process

This project explores how the music creation environment affects the compositional process. It studies the composer's compositional processes and how each environment has affected this. Through the study of renowned composers, their individual processes are trialled in a variety of environments before more substantial pieces are written. The scope of this project also extends to how music theory needs to be paramount in primary teachings and reflects on how (with stronger theory knowledge) the process of composition would differ. As a project, it highlights the development in technologies and how they impact the way composition is approached, but it also discusses where it might go and how these environments can start working together, rather than instead of.

SOMAYA HASSABALLA

Music Technology

All my life I've had an interest in music. I would play music alongside my daily activities. I began practicing yoga due to scoliosis and back pain. Every time I would play music during my practice however, I would get distracted because the music never really suited the flow of my practice. This is when I got the idea to have music play based on my yoga practice.



Improving yoga using generative sound

While practicing yoga, listening to music that does not match the flow of the practice may be distracting. However, having music play based on the pose the user is holding may lead to a more immersive practice. Using a real-time motion tracking program and a camera, it is possible to recognise the pose the user is in. Once recognised, its composition will begin to play for as long as the pose is held.

ALEXANDRE HURR

Music Technology

Alexandre Hurr is a recording and mix engineer and co-owner of Axe and Trap Studios. Having grown up in Somerset, he has developed his skills in the production and recording of music in the area. Most notably that of traditional and roots music of England. Additionally, Hurr works with spatial audio and VR film production.



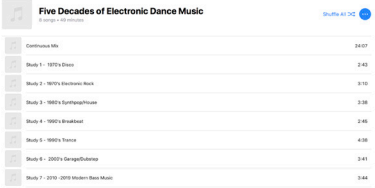
An ethnomusicological study of the contemporary English folk scene in the south-west

English folk music has been a staple of the south-west music scene and the greater music scene in the United Kingdom for centuries. The importance and influence of this music is still prevalent today. However, the definitions of English folk music in the south-west have become blurred and somewhat avoided by musicians as a way to define their own music, with the uses of hyphenated or ambiguous definitions such as neo-folk and alt-folk. This project not only aims to explore and evaluate a new definition for the contemporary English folk genre in the south-west, but also employ a research method that utilises both the validity of ethnology, and the rigour of grounded theory.

GEORGE MORDEN

Music Technology

Having been introduced to digital audio workstations at age 11, producing dance music has been a hobby of mine since. This project has helped me gain a thorough understanding and appreciation of the roots of Electronic Dance Music (EDM) whilst refining my production skills. The album aims to provide a diverse portfolio in order to help me start up as a freelance composer/producer, whilst demonstrating knowledge and techniques informed by the pioneers of EDM.



The screenshot shows a music player interface for the album "Five Decades of Electronic Dance Music". The album is listed as "5 Decades of EDM" with a duration of "39:07". The tracklist includes:

Track	Duration
Continuum Mix	3:07
Study 1 - 1970's Disco	2:43
Study 2 - 1970's Electronic Rock	3:10
Study 3 - 1980's Synthwave/Italo	3:38
Study 4 - 1990's Breakbeat	3:45
Study 5 - 1990's Trance	4:58
Study 6 - 2000's Garage/House	3:41
Study 7 - 2010 - 2019 Modern Bass Music	3:44

Composer/producer: The origins and developments of electronic dance music

This project investigates the roots of Electronic Dance Music (EDM) ranging from 1970 to the present day (2019).

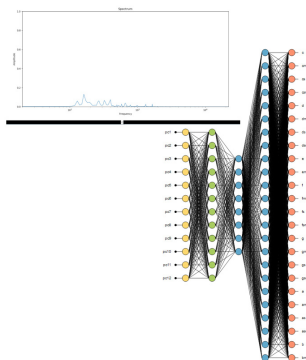
Extensive research was undertaken, identifying the pioneering artists and genres that have aided the fundamental developments of EDM. The creative outcome of the project is a continuous album titled "Five Decades of Electronic Dance Music". Seven tracks were composed/produced, each one aiming to represent a specific genre/

decade.

JOE MURRAY

Music Technology

I've always had an interest in music since I learned my first guitar chords when I was nine, however, when I began sixth form I discovered my love for anything based around modern computer technology. This is where the idea for my final project came, it was created as a combination of both of these obsessions.



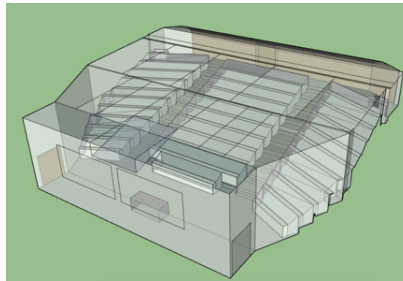
Beat Buddy

The Beat Buddy is, at its core, an exploration into artificial neural networks in audio technology for chord recognition and identification. It also acts as a proposal for a piece of software of the same name that in the future is hoped to act as a musician's assistant to help with writers block by listening to a work in progress, and outputting suggested melodies and chord progressions.

LAURENCE NICKOLLS

Music Technology

This course has helped to develop a passion for acoustics with two research projects on lecture theatres within the university and their acoustical issues as well as the Architectural Acoustics module. The skills learnt in this process, alongside relevant industry work experience assisted in working on my first project which was modelling, simulating, designing and installing the acoustic treatment of the audio room within the Foundry.

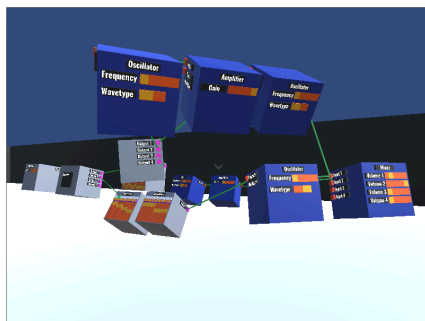


The project covered a case study of the acoustical issues within lecture theatre 2X112 at UWE Bristol providing three proposed improvements which deal with all the issues within the room to give an optimised acoustic environment. The methods used included performing experiments using FuzzMeasure in an unoccupied room to gather data which will then be used to validate the results simulated within ODEON Room Acoustic Software.

CAI PARTRIDGE- SMALDON

Music Technology

I have always been too poor to afford an actual modular synthesiser so I thought I would make myself a game so I can pretend I have one. Doing so seemed like a great way to develop my coding skills, and alongside that - this project has given me a newfound appreciation for design.



3D interactive environments as
a tool for audio synthesis

Why is every successful audio interface 2D? Well it turns out there are some pretty good reasons for that. But one of those reasons is definitely not that they're more fun. Taking influence from aspects of motivational and interaction design, a 3D interactive environment called Sinecraft was designed to keep the user's attention as they learn and explore some audio synthesis and processing concepts.

DANIEL PEACH

Music Technology

I have a keen interest in sound design and post-production for games, film and TV. Having these interests already established, pushed me to research and work on a project which unified my existing knowledge and skills, whilst moving forward and applying them to new technologies such as VR. Working with spatial audio has broadened my skill set and opened my eyes to the new sound design possibilities of the future.



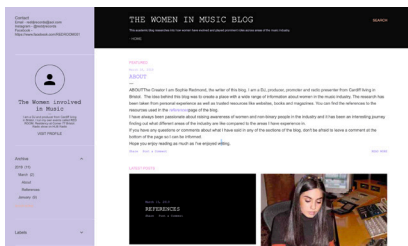
The illusion of 3D audio & VR

A deep insight into 3D spatial audio and cinematic VR, discovering the new technologies and theoretical knowledge necessary to design and implement spatial audio for 360-degree VR videos. Three 360-degree cinematic VR videos were chosen to design and implement original spatial audio. Third-order ambisonic mixes were created for each of these using the Facebook 360 Spatial Workstation. The end result is three successful spatial audio experiences, which heighten and elevate the visual content beyond the immersion and envelopment possible using standard audio reproduction formats.

SOPHIE REDMOND

Music Technology

I have always been interested in music, whether that means playing bass guitar or piano from a young age or DJ'ing in the last few years. One thing that I've enjoyed the most in university is definitely diving into radio and TV post production.



Are women emerging in a male dominated industry?

The project explores a number of top-
ics surrounding whether there is gender
discrimination in the music in-
dustry parallel to where wom-
en have come from and where
we are now. I have always
been interested in moving
forward and pushing equality
into all arts industries. Being
the only girl on my course ac-
tually helped me to do this. To
help write the dissertation I
created an academic blog focussing on
areas of the music industry.

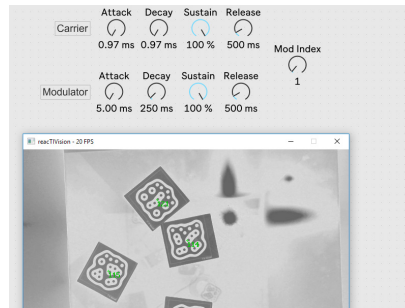
JACK ROSE

Music Technology

I am a musician, programmer and engineer with a strong interest in simplifying complex audio processes and teaching alternative composition methods. Having worked for a leading audio technology company, I understand the need for educating music producers in more technical areas. I want others to share in the passion and excitement that I feel when gaining understanding of new disciplines and audio phenomena.

Tangible interfacing: Refining audio synthesis control

This project offers a unique approach to controlling an FM synthesiser. Using a tangible control method, the user can control and reorder the operations of an FM synthesiser by moving physical objects on a surface. This allows a depth of control and understanding not possible with standard control methods. The synthesiser developed in this project can serve as both a learning tool and a performance instrument.



SHEERMAL RAHUL SUNTAH

Music Technology

My name is Rahul Sunta, I'm a 21-year-old freelance musician, composer, producer, pianist and YouTuber and I have been involved in composition, sound design, editing and production since my early teenage years. I'm passionate about music composition and production especially in the Pop, R&B and EDM genres as well as composing soundtracks for films. I'm a classically trained pianist and I've been playing for 13 years. I also make YouTube covers in my free time. I wish to work as a composer and producer in the highlighted genres in the future.

An investigation at the origins, instrumental composition and production of modern popular music

This project will discuss the origins, characteristics and evolution of modern popular music. This includes briefly running through a timeline of generations, genres and styles highlighting the relationships and similarities between them in terms of compositional structure, instrumentation, orchestration, sound design and how it shaped modern popular music. The composition and production of three styles of popular music pieces: Pop, R&B and House will be made using this analysis pointing out the methods used, and the successful and unsuccessful results obtained.

JAMES UZZELL

Music Technology

An investigation into the combinatorial effects of sound healing and music therapy with meditation

A look into the history of music therapy, and sound healing, and their relationship with meditation, following their current practice uses and effects, finalising with looking for a relationship that could be salubrious between them. I'd like to take what I've learned in this project out into the ever changing and adapting world where the immiscible mixture of mysticism and materialism break down each others barriers and create something that truly enhances the way we see something we once thought we 'knew'.

SOPHIE WICKHAM

Music Technology

I am very interested in post-production and would love to be able to work in that area. For this reason, I chose a project where I could enhance my skills and learn more about post-production and how the audience interacts with sound and visual content.



The threshold of disbelief when creating sound effects

The project considers how sound effects can be used to enhance visual content in natural history documentaries. Four visual clips were chosen and multiple audio files were created for each under varying time limits. This allowed for different techniques to be adopted throughout the creation stage. The participants of the experiment were required to analyse each visual clip with the different accompanying audio files and provide a rating of how believable the sound effects were.

