

UCL COMPUTER SCIENCE 2017

Undergraduate and Postgraduate

Abstract Proceedings

Presented at the
UCL CS Students Showcase 2017

COMP103, COMP205P, COMPGS02,
COMPGC02, COMP3091/COMPPM091

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Educational Programme developed by the
UCL Industry Exchange Network

Hello, world!

Welcome to UCL Computer Science and to our CS Students Showcase 2017!

Now in its fifth year, the UCL Industry Exchange Network (IXN) is an educational pipeline, matching real world clients and their projects, with UCL Computer Science students ranging from our BSc (Hons) 1st year level through to MSc level. The UCL IXN is made up of many members of staff, within UCL Computer Science and externally, with roles in teaching, lab support, administration, finance operations, technical support, events and public relations, and guest industry mentorship.

The UCL IXN was born out of a motivation to make change through real world problem based learning at all levels of study in Computer Science. We are firm believers that ***there are many problems in the world, big and small, and students should aim to publish and demonstrate their work visibly***. Introducing our students to clients as early as possible in their education is now a core teaching agenda for us in CS; it raises motivation and accelerates learning in addition to the normal acquisition of class grades. Project requirements, in the context of problem based learning, should not be fictional; they should stem from a real problem, be presented by a real client, be investigated with the state of the art in appropriate technologies and developed especially in tandem with the client's knowledge base. The spirit of invention needed to make such change is neither gifted to a student nor taught; it has to be sought after. After five years of our programme, we have seen how inspired and inventive our students become witnessing their growing impact on the world.

Every Computer Science year group is now a part of the UCL IXN on a variety of course modules and they will accumulate a series of these projects throughout their courses. This enriches their CVs with technical know-how and allows them to apply the latest in CS taught theory and research. Furthermore, it also strengthens our students' confidence in facing and managing their clients' expectations, organising their own project management amongst their team members and allows them to experience the nuances of deliverable timelines due. These skills are character building and empower the students in their chosen paths towards becoming successful expert practitioners.

Industry clients who join our programme bring projects that are capable of running strictly to term-times. Each client project has a briefing, authorised use of data and methods, a named technical mentor with the technical materials and supporting infrastructure required to facilitate the project from the client side. The IXN projects are decided by a teaching panel and formally assessed by a UCL supervisor who will lead in the final academic marking of the project. Teaching assistants from among the research student population are also essential in supporting lab experiences.

With a fully approved legal framework designed by UCL that appreciates the student works as prototypical only and with client ownership of IP, we are in the process of joining with several faculties within UCL and externally with other universities who intend to do similar education activities. For the coming year we will especially be promoting projects that are interdisciplinary in engineering with clients from around the world – to engage with our neighbours in a practical and scientific endeavour and to share experiences.

We especially wish all of our graduating students the very best future. To all of our students, continue to be fearless, keep publishing your findings and keep changing the world.

Thank you all for attending and we hope you enjoy the showcase.

Healthcare and Charitable Projects

Block Randomisation, Sequencing Depth Estimator and Design Visualization instrument for RNA-Sequencing

Author(s): Tiberiu Micu;

Year Group: BSc/MEng Final Year Dissertation

Client: King's College London

Technologies: Javascript, HTML5, CSS, Block Randomization, WebStorm, MySQL

Abstract: The objective is the development of a compiled software/web based application for the randomization, replication, blocking, and visualisation of RNA-Seq sequencing study design. The software will effectively distribute technical and biological samples and replicates using a block randomisation calculator to produce an optimal machine loading design. Often samples will have several replicates and missing samples that will need to be balanced according to individual sequencing machines. Additionally, it will have an integrated sequencing depth calculator that computes the minimal read per sample based on flow cell/machine type and sample availability. This will provide users with a cost effective mean of planning their study design, maximising available resources. As part of the study, a user-friendly interface will be designed to produce publication-quality graphs and a universal, cross-platform labelling system.

Developing a body sensing wearable system to support chronic patients in everyday activities

Author(s): Rohan Kopparapu; rohan.kopparapu.13@ucl.ac.uk;

Year Group: BSc/MEng Final Year Dissertation

Client: UCLIC

Technologies: Azure, Azure Machine Learning Studio, Arduino, C++, Android, Java, Python

Abstract: There is substantial research in the fields of rehabilitation technologies and human activity recognition, but not a combination of both. This project aims to develop a human activity sensing algorithm that makes use of wearable sensors to support chronic patients in everyday activities, i.e. transitioning from sitting to standing positions, picking up objects, stretching, etc. The classifier has been built on Azure Machine Learning Studio, sensors using Arduino and C++, and a companion Android application.

Cleft Lip Aesthetics Tool

Author(s): Farbas Miah;

Year Group: BSc/MEng Final Year Dissertation

Technologies: PhoneGap

Abstract: The project is about determining the success of cleft lip and palate surgeries. Using a mobile app, paediatric plastic surgeons should be able to evaluate the aesthetic outcome of the surgery by determining how symmetrical the lips are. The user should be able to draw around the lip region of the target image and then receive a symmetry score, determining the success of the surgery. This would replace the previous, subjective method of having a panel of people determine

success. Having the app be multi-platform would be ideal which meant PhoneGap was used for development.

Anti-Cyberbully Society Memberships Platform (Moonlight Engine)

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Year Group: COMP103P

Client: UNICEF

Technologies: HTML, CSS, PHP, MySQL, Bootstrap, Azure, Github

Abstract: An abstract database solution that allows organisations to create, edit and delete members with ease as well as search for members based on skills and availability. We will extend the capabilities of our database to allow admins to create events at ease (this will incorporate another team's code). This is part of the moonlight engine project which aims to connect people and allow them to form communities.

Hololens in Healthcare

Author(s): Dilan Patel; dilan.t.patel.16@ucl.ac.uk, Conner Lukes; conner.lukes.16@ucl.ac.uk, Mashkoor Ahmed; mashkoor.ahmed.16@ucl.ac.uk;

Year Group: COMP103P

Client: NHS SLAM (South London and Maudsley)

Technologies: Unity

Abstract: The project aims to help people who have low spatial awareness as a result of mental illness. Using the HoloLens, an experience similar to that of the Morris Water Maze Test, will be implemented to help improve the user's spatial awareness. By using a series of scenarios the user will gradually improve their ability to pinpoint locations of objects based on visual cues in the surroundings.

Neuro Response Patient Portal:database

Author(s): Stanley Mwangi, Aleksei Rozhnov, Ryo Mochizuki;

Year Group: COMP103P

Client: UCL, NHS MS Clinics

Technologies: Django, MongoDB, Heroku

Abstract: The task is to create a database for storing information about patients and provide an API access to it. Data that is stored in the database is collected via web interface (by clinician) and mobile app (by patient) which are being developed by other teams. The expected result is a fully-functioning system for MS Clinics that keeps records of the patients, histories of their diseases and stores data provided by the patients via the mobile app about the results and side-effects of the treatment.

Recist

Author(s): Aditya, Ibrahim, Sebastian, Kalingen;

Year Group: COMP103P

Client: Peach (NHS)

Technologies: Azure, React.js, JSON, Node.JS,

Abstract: Making it easy for doctors to input and track lesions in patients for a specific drug trial

Self evidence application

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Year Group: COMP103P

Client: UNICEF

Technologies: Android, firebase

Abstract: The application allows the user to take a picture, video, audio or write a statement. These data are evidence for crimes that the user witnessed. The user can also upload any of the above type of data. The data is then sent to a firebase storage to be reviewed.

Speech Sound Training

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Year Group: COMP103P

Client: UCL Psychology and Language Sciences

Technologies: Android, Azure

Abstract: It is often found that autistic children have speech impairments and more and more research is done in this area. Our application is designed to help conduct a trial on a group of young children with autism, by showing them visual and audio stimuli in order to encourage them to make particular sounds. They will be recorded while doing this, and their attempt along with their parents' feedback will be stored and checked by a specialist. We expect this app to provide vital feedback for the researchers conducting this trial.

Rubin App

Author(s): Anton Bogdan Cristian, Dakov Nikolay, Istrate Vlad Andrei;

Year Group: COMP103P

Client: Medical Physics and Biomedical Engineering UCL

Technologies: Azure, Android Studio, Node.js

Abstract: The purpose of our app is to take a picture of a baby's face, crop out their eye and detect whether or not they have jaundice, as this is a constant issue with new born babies and would facilitate every new parents' life. In the initial stage, we create the functionality to capture an image, crop it and send it to an offline database. Moreover, we display a survey asking, among other things, whether the user agrees for their image to be added to the online database in order to facilitate the better functioning of the detection algorithm. The impact of the app is to make it easier to detect

jaundice in new born babies before seeking medical attention in the challenging days of early parenthood.

Clinical Guidance

Author(s): Christian Liu, Gavin Shek, Stefanos Evripidou; christian.liu.16@ucl.ac.uk, gavin.shek.16@ucl.ac.uk;

Year Group: COMP103P

Client: Guy's and St Thomas' NHS Foundation Trust

Technologies: Android Studio

Abstract: We created a mobile application to provide medical prescription guidance for doctors and nurses. Guidance information may be provided through tables or through decision trees, it depends on the guideline itself. We are developing an Android application which displays this information in a clear format and aids people in the medical profession.

Living kidney donation film

Author(s): Vinesh Ramgi, Kamil Zajac, Catalin Aioanei; vinesh.ramgi.16@ucl.ac.uk ; kamil.zajac.16@ucl.ac.uk; catalin.aioanei.16@ucl.ac.uk;

Year Group: COMP103P

Client: NHS

Technologies: Unity3D, C#, Java

Abstract: The application is to provide an immersive and educative on kidney donation. It is being developed to educate those that are closely linked to someone who may be donating a kidney or is the recipient of a kidney transplant who may not have access to a lot of information and wishes to know more about the perspectives of medics, families and friends of those who are linked in an operation which is centralised into one application.

The application will be can then distributed to anyone who has an Android phone capable of playing 360° and has a VR headset for now; with plans to expand to VR devices such as the Oculus Rift and the HTC Vive.

My FloGuide

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Year Group: COMP103P

Client: NHS sunderland CCG

Technologies: Ionic, node.js

Abstract: This web application comes as an addition to an already existing SMS service, Florence. Using the Ionic framework, we managed to build a cross-platform application containing medical information on 5 major topics: Asthma, Chronic Obstructive Pulmonary Disease (COPD), Hypertension, Cardiovascular Disease and Type 2 Diabetes, with text and multimedia support.

Tagged VR Homeless Film

Author(s): Jasper Alizond, Amartya Vadlamani; jasper.alizond.16@ucl.ac.uk, amartya.vadlamani.16@ucl.ac.uk;

Year Group: COMP103P

Client: NHS

Technologies: Django, SQLite, Bootstrap, Unity

Abstract: Homeless people are some the most vulnerable and socially excluded people in our society. The solution which aims to humanize homeless people exists through immersive VR films (using tagging in VR space) allowing the user to view HTML content such as websites and video. The film will enable viewers to experience the surroundings, fears and hopes of homeless individuals to support anti-violence campaigns, social media campaigns, affordable housing incentives as well as raise awareness of the challenges faced by homeless people.

AR/VR Health Living

Author(s): Marcin Praski, Carlo Camurri, Krystal Phuar, marcin.praski@live.com, carlo.camurri98@gmail.com, zcabkyh@ucl.ac.uk;

Year Group: COMP103P

Client: NHS

Technologies: Unity, Samsung Gear

Abstract: The aim of our project is to promote a healthier lifestyle among children and young people. Lack of physical movement is a known cause of many serious medical conditions such as obesity or heart diseases. Our solution takes the form of a virtual reality dance simulator game, which we are building for the target platform Samsung Gear using Unity development studio. The game will emphasize the importance of everyday exercise by challenging the player to reach milestones and rewarding him appropriately.

Hand Hygiene Audit Tool

Author(s): Zheng Ng, Eric Chamoun, Ana-Maria Belciug; zheng.ng.16@ucl.ac.uk, eric.chamoun.16@ucl.ac.uk, ana-maria.belciug.16@ucl.ac.uk;

Year Group: COMP103P

Client: NHS

Technologies: Ionic

Abstract: The data collection of the Handwashing and Bare Below Elbow (BBE) audits within the organisation are currently a paper based process. It tracks the number of hand washing opportunities taken and checks for BBE compliance, before calculating overall percentages of staff compliance across multiples wards and directorates. A significant drawback to this is that it is very a time consuming audit process. Our solution is an application that allows for capture of such audit information through the user's input of data, as well as displaying the compliance rate using charts, before finally exporting all the information to Excel format. Ultimately, our application aims to provide convenience for the auditors to carry out the audit process accurately.

Advanced Wound Care Application

Author(s): Wanyue Zhang, Yudong Rao, Moiz Hassam; wanyue.zhang.16@ucl.ac.uk;

Year Group: COMP103P

Client: Musgrove Park Hospital

Technologies: Ionic, PHP, MySQL

Abstract: The data collection, classification, image storage and monitoring of patient wounds within Musgrove Park Hospital is currently a paper-based system. Our Advanced Wound Care Application presents an innovative digital solution which greatly reduces the administration burdens of the nursing team. Using Ionic 2, PHP and MySQL, we have implemented functionalities such as gathering and storing patient wounds information to the database, analyzing wound dimension from images, generating treatment plans as well as tracking the progress of healing. With an intuitive user interface, our app is able to minimize the hassle of filling in various forms manually and improve the productivity of the nursing team tremendously.

Morris Water Maze Augmented Reality Experiment

Author(s): Toby Best, Daren Alfred, Abhinath Kumar;

Year Group: COMP103P

Client: Mindwave Ventures

Technologies: HoloLens, Unity

Abstract: The project is aiming to adapt and recreate the Morris Water Maze lab experiment in a way that it is compatible for testing the spatial awareness and memory of human test subjects. It is a never-before seen experiment, so we only have the original rat tests to work with for the basis. The aim is to record the time taken for a test subject to find and stand on a hidden virtual platform, after they have been led to the platform's location whilst it is visible and redirected to the start position whilst it is removed. We expect to have a fully-functional experiment complete by the end of April in time for the deadline.

CAMHS - Self Harm Prevention Tool

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Year Group: COMP103P

Client: Royal Bolton Hospital

Technologies: Ionic 2

Abstract: Royal Bolton Hospital has been helping the youth community affected by mental health and behaviour disorders with the CAMHS program for the past years. We have been asked to design an interactive workbook which is going to be used by the clinicians that, during the CAMHS session with young people, are going to use to suggest topics and ways for the patient to cope with his problems. Our solution involves building a cross-platform tablet app that is going to be the companion tool for clinicians to work through the sessions and quickly provide useful contacts, open relevant websites from the app and share some notes taken during the session via mail.

An interactive app for doctors and parents of kids with kidney problems

Author(s): Rija Rizvi, Weihang Huang, Bogdan Nitescu; rija.rizvi.16@ucl.ac.uk;

Year Group: COMP103P

Client: NHS

Technologies: Swift Programming

Abstract: Often parents forget their appointment or are not fully understanding what exactly happened to their child. This app provides information on kidney problems related to kids. It is an interactive platform as parents can register their child on it and get updates on the status quo of their child's condition. Features like arranging appointments, as well as their reminders, are also included in this app. Expected result is a working collaborative technology to bridge the gap between doctors and parents when it comes to a child's medical state.

Metabolic App

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Year Group: COMP103P

Client: NHS England; NHS Digital; Janssen: Pharmaceuticals

Technologies: Ionic, Azure, Django, SQLite, Angular, Bootstrap

Abstract: The Metabolic App is an application designed to empower patients diagnosed with schizophrenia to take ownership of their healthcare. It does this by providing a system through which clinicians can securely send test results to their patients. The patients can then use the application to set reminders for their next test screenings and to view infographics of all their past test results to help them keep on track.

Picture Judgement Task

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Year Group: COMP103P

Client: UCL Division of Psychology and Language Sciences

Technologies: Android, SQLite

Abstract: This mobile (tablet) app to record data for a specific test. Three pictures are displayed, the user can choose between two. The goal is to record the reaction time for the choice of a picture. One of the two pictures (the good answer) is more semantically related to the third one. We developed an Android app that replicates the theme of an existing desktop app. We use the Android Java API Framework, and SQLite in the backend (managing a user database with JSON test results). The UI should be both friendly to children (animations) and to an average user (detailed instructions). Data and statistics are expected, all with an option to send those via email as a Microsoft Excel file.

Paracetamol Overdose

Author(s): Anton Hristov antonhristov0810@gmail.com, Marton Takacs, Irina Popi;

Year Group: COMP103P

Client: NHS

Technologies: Azure, PHP, jQuery

Abstract: A web application that is going to be used by doctors to determine if a patient has experienced a paracetamol overdose and if so, indicate what the right treatment would be. It is going to use the OpenEHR data model which is used in a lot of hospitals around the world.

A Web Application aid doctors in treating cancer

Author(s): Valentin-Sebastian Burlacu; valentin-sebastian.burlacu.16@ucl.ac.uk; Aditya Niraula, Ibrahim Emara, Kalingen Balinsundaram;

Year Group: COMP103P

Client: NHS

Technologies: Azure, node.js, javascript, json, react.js, react bootstrap

Abstract: Our project aims to help doctors to study the lesions of patients and assess whether their disease is in an regressive or progressive state. The web application will have many features, such as using the data inputed by the doctors for each lesion to calculate the changes in lesions using different measures. This will determine whether the disease has regressed or progressed. It will also enable doctors to add, remove, search patients and trials and also our application will include three users with different permissions. Our application will have live graphs with the measurements of the lesions and will show the gradual increase (or decrease) in their dimensions, plus other related data displayed with the graphs.

Pharmacist Intervention

Author(s): Noa luthi, Fazaan hassan, Radu Bors;

Year Group: COMP103P

Client: NHS

Technologies: Ionic

Abstract: We have created a form based app to change prescription details. This is mainly used for the Pharmacist manger to see what common mistakes employees make. By monitoring such mistakes they are able to take further action.

OpenOdonto Consent app

Author(s): Carmen-Livia Ibanescu, Ioan-Daniel Savu; carmen-livia.ibanescu.16@ucl.ac.uk, daniel.savu.16@ucl.ac.uk;

Year Group: COMP103P

Client: NHS

Technologies: Ionic 2 , Firebase, Google Analytics

Abstract: The app version of the consent form 4 for Adults with lack of capacity to consent. The data will be stored in a database (Firebase) and we will analyse the data using Google Analytics.

ISOLATION PRIORITISATION

Author(s): Andrei Margeloiu (andrei.margeloiu.16@ucl.ac.uk), Andrei Barbu (andrei.barbu.16@ucl.ac.uk), Gleb Skryabin (gleb.skryabin.16@ucl.ac.uk);

Year Group: COMP103P

Client: NHS (UCLH)

Technologies: Node.js, Azure, MongoDB, jQuery, Bootstrap

Abstract: A web application to help to assign patients to rooms in the hospital, based on their urgency. Users will enter patients alongside their diseases and the application will provide a score based on the diseases. The app will show the patients in a dashboard, and the user can assign rooms to them.

MyHealthCareMate

Author(s): Rares Dolga, Maria Miscouridou, Osacar King ; rares.dolga.16@ucl.ac.uk ,maria.miscouridou.16@ucl.ac.uk, oscar.king.16@ucl.ac.uk;

Year Group: COMP103P

Client: NHS

Technologies: Ionic, AngularJS, Cordova

Abstract: Our app improves upon a prior version by adding more functions for the user. We have introduced charting and authentication via Facebook Login. Also we display the routes made within an exercise. Data collected from the app will be passed through FireBase for training machine learning patterns.

NeuroResponse: Portal

Author(s): Miquel Rigo Vidal; miquel.rigo.16@ucl.ac.uk, Frederick Bird; freddie.bird.16@ucl.ac.uk, Kaihan Huang; kaihan.huang.16@ucl.ac.uk;

Year Group: COMP103P

Client: NHS

Technologies: Django, Mongo.db, SQLite3

Abstract: NeuroResponse: Portal is a new model for treating and diagnosing people with Multiple Sclerosis. Made for clinicians, it offers them an intuitive, clean and secure web portal that helps them to keep track of their patients' treatment. Since it is a web app, no more headaches, it offers

maximum cross-platform compatibility. NeuroResponse: Portal is made using flexible and scalable technologies like MongoDB and Django.

Dementia Care Planning

Author(s): Anthony Cheng, Jessica James, Zakhar Borok; anthony.cheng.16@ucl.ac.uk;

Year Group: COMP103P

Client: NHS (North West Coast Strategic Clinical Networks)

Technologies: Azure, PHP, JQuery, Javascript, MySQL, HTML, CSS

Abstract: Care planning for Dementia patients is essential to ensure the needs of patients is met. With the reduction in carers, advanced planning is required as time is precious. Our solution is to provide a web tool to provide care information for patients, carers and doctors - more specifically, personalising a plan according to one's needs whilst monitoring their progress and implementing action plans.

Society Events Platform

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Year Group: COMP103P

Client: Unicef

Technologies: PHP, CSS, HTML, Bootstrap, MySQL

Abstract: Our website app (Moonlight engine) serves as a package which anyone (societies) can download and host for themselves. The moonlight engine will provide societies with tools with which they can create a responsive website to manage events. The website will be customizable, process payment of tickets and create database tables which store all the information about events and the society's members. With this tool, it should be very easy for anyone to manage a robust website in which they can create and manage events.

A web application to upload CT scans and other data formats to be converted to holographic formats

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Year Group: COMP103P

Client: NHS

Technologies: Node.js, React.js, three.js, html, css

Abstract: We have created a web application in collaboration with a 2nd year team, that will allow the user to upload CT images to be converted into holographic form for the Hololens. It also allows other file formats such as PDF to be uploaded as notes. The web application has a model viewer and additional pages such as documentation/FAQ pages. The user can create an account and log in to view individual patient cases. For our client, we can apply the 2nd year's hologram convertor to work with lungs instead of kidney, and then use our web application with the same principles.

Neuro Response Patient Portal: mobile app

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Year Group: COMP103P

Client: UCL

Technologies: Android Studio

Abstract: Our app acts to provide data to an NHS database, The data we collect are from patients suffering MS. The patients are the only users of the app and record their symptoms from MS and any side effects from MS. The aim of this app is for the data to provide information so that patterns leading to relapses shown by their symptoms can be identified.

End of Life App

Author(s): Tom Collyer, Rejah Rejah, Cav Black; Thomas.Collyer.16@ucl.ac.uk;

Year Group: COMP103P

Client: NHS

Technologies: Ionic, node.js, HTML, TS

Abstract: NHS Sunderland currently have a booklet which they work through with people who are thinking about death. The booklet has forms and different pieces of information regarding wills and other practicalities needed to be dealt with when someone dies. Our job was to convert this booklet into an app, this app would allow forms to be printed and chapters and sections would be organised into menus. By April 26th we expect to have a fully functioning application which fulfils the requirements

OpenEyes - Data Entry Web application for Eye Doctors

Author(s): Thomas Ayoola, Mohammed Abdullah, Muhamad Syazwandy; tom.ayoola.16@ucl.ac.uk;

Year Group: COMP103P

Client: Across Health, NHS

Technologies: JQueryUI, jQuery, PHP, HTML, CSS

Abstract: Our task was to create a user-friendly drag and drop widget to be integrated in a web application called OpenEyes. OpenEyes is an open-source data entry web application for eye doctors. It enables clinicians to access information they need about their patients in one place. It aims to replace the currently employed paper based system.

LogBook iOS Application for NHS Radiology Trainees

Author(s): Sergio Hernandez Gutierrez, Dhen Padilla, Xiaohan Shen; zceeher@ucl.ac.uk;

Year Group: COMP103P

Client: NHS Foundation Trust

Technologies: Swift/Xcode

Abstract: We have created a solution for Radiology Trainees in the NHS who have to keep a record of their cases for self-learning and to show it as a proof of their work. We have designed a logbook

application which allows the user to record every case they experience, add the basic description quickly, attach images and notes to it, and easily access general information about the specific procedure the case was based on. The user will also be able to access the procedures by searching them later, and will be able to export them by email in a CVS file to be able to have them anywhere and showcase them as required by their job.

NHS Feedback

Author(s): George Alexandru Badea, Charaka Abeywickrama, Jian Huawei Rene;

Year Group: COMP103P

Client: NHS

Technologies: NodeJS, Twilio API, MongoDB

Abstract: Our project focuses on getting feedback from trainees in the the NHS. This involves sending trainees a weekly test message in order to get feedback regarding their training for the week. All the data received can be monitored and viewed through our web application. Hence, we are able to compare the scores of each hospital and send each hospital a weekly report of their performance compared to other hospital. The overall aim of this project is to see if hospitals that receive trainee feedback are likely to improve their training over time as opposed to hospitals that don't get feedback.

Dentist's Revision app for medical emergencies

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Year Group: COMP103P

Technologies: Android, iOS

Abstract: Our application helps dentists remember emergency procedures by providing the information in a compact and reliable way. However, our solution is not limited to it, once implemented, it can be widely distributed and enable people to be ready to provide others with first aid. We highly believe in the wide impact of our project, as quick response to emergency situation is key to save lives.

E-Consent Form

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Year Group: COMP103P

Client: UCLH

Technologies: HTML, CSS, Bootstrap, MySQL, Azure

Abstract: Our team is developing a web application as part of University College Hospital's (UCLH) Platform for Enhanced Analytics and Computational Healthcare (PEACH) initiative. Currently, consent for surgical procedures is obtained through physical consent forms. These forms require large amounts of space to store and are susceptible to damage or loss. Our application will be used to educate patients on their upcoming surgical procedures and subsequently allow them to provide

consent for their procedures within the application. The application will also keep a record of the patients' consent.

Native Android application for Sunderland Young Carers Centre

Author(s): Lucy Walsh; l.walsh.16@ucl.ac.uk, Alvin Ling; chaojie.ling.16@ucl.ac.uk;

Year Group: COMP103P

Client: NHS; Sunderland Carers Centre

Technologies: Android Studio

Abstract: Our project is a native android application to support young carers at the Sunderland Carers Centre. A young carer is young person aged 5 - 25 who has caring responsibilities for a family member, friend or neighbour. There is lots of information and support for young carers across the internet, but much of it is spread across many different websites and not in child-friendly language. A group of young people at the carers centre decided that they would like an app that is easily accessible and contains information that can support them through their daily lives as carers. The app contains both emergency information such as contact details and ways to cope as a carer, and also more general information such as relaxing games and easy recipes - all of the content is based directly off what the young carers decided that they would like to see in the app.

PEACH Visual Application (crossplatform version)

Author(s): Sondre Agledahl, Alexandru Bondor, Pierre-Alexandre Gruman;

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Year Group: COMP103P

Client: NHS

Technologies: Xamarin, C#, XAML

Abstract: Porting a Windows-only drawing & notes application for radiologists to other platforms.

Fistula App

Author(s): Bharghavi Damodharan; Bharghavi.damodharan.16@ucl.ac.uk, Sai Wo Chu;

ringo.chu.16@ucl.ac.uk, Affiq Khairuddin; affiq.khairuddin.16@ucl.ac.uk,;

Year Group: COMP103P

Client: NHS Sunderland CCG

Technologies: Ionic, Firebase

Abstract: The app is designed for dialysis patients who use a Fistula which is attached to their arms. Dialysis patients can use this app to capture images of the Fistula and upload it to their records. This can be done regularly along with any observations or concerns, and can be sent across to the doctors for diagnosis and treatment; when they view their patients' records.

Diagnosing The Bladder

Author(s): Phil Demetriou, Haziq Zharfan, Ray Zheng, philonas.demetriou; 16@ucl.ac.uk;

Year Group: COMP103P

Client: UCL

Technologies: Java, Android API, Realm, Bluetooth Low Energy, C, Arduino, MPAndroidChart

Abstract: An Android application and a program used to acquire, process, visualize and export data from medical devices diagnosing the bladder. The data is collected through analog pins on a microcontroller, processed and steamed via Bluetooth Low Energy to an Android device. This device runs an application that receives and parses this data stream and then exposes functionality for analysis both in-device and through external tools.

OpenOdonto FP17 Data Collection Application

Author(s): Kenneth Forbes Lay; zcabkfl@ucl.ac.uk; Adeosun, Othniel; othniel.adeosun.16@ucl.ac.uk; Elvinia Cui; elvinia.cui.16@ucl.ac.uk;

Year Group: COMP103P

Client: OpenOdonto

Technologies: jQuery, BootStrap, Angular, PHP, MySQL

Abstract: The FP17 Form is a form that collects data based on a patient's dental clinical visit on how the patient has been treated and whether he or she has any claims for a free or reduced cost in NHS dental services. Though a majority of NHS dental clinics are already using an electronic system, there is a minority of clinics that are still using paper and mail to send their completed FP17 forms as the cost of these electronic systems are all privatised and costly. In fact, the cost of using softwares from current vendors can cost about £13,000-30,000 annually. Another problem also relates to the long processing time that involves FP17 forms sent by mail and paper due to errors and mail time. As such, the aim of our open source web application, the OpenOdonto FP17 Data Collection application, is to provide these minorities with a system acts as a channel that collect data and sends electronically to the NHSBSA. By doing so, dental clinics would not have to spend exorbitantly on software while simultaneously and efficiently be able to send data to the NHSBSA.

BSL SignBank

Author(s): Sean Lee, Shun Fung;

Year Group: COMP103P

Client: UCL

Technologies: Ionic

Abstract: We are building an app for sign-language learning as it is vital for communicating with deaf people. Our approach to the issue is create a video synchronisation between the demo-video offered by the British Sign Language community and the video recorded by the users. This would allow users to compare their own performance against the official sign-language. We are planning to use OpenCV to detect movement for synchronisation.

An web application to support hospital stores data of patients to database

Author(s): Ronglong ke,Samin Torabi;ronglong.ke.16@ucl.ac.uk,samin.torabi.16@ucl.ac.uk;

Year Group: COMP103P

Client: NHS NORTHUMBRIA HEALTHCARE

Technologies: html, css, javascript , php, mysql

Abstract: The current application that our client is using to collect each patient's information(personal, answer for different questionnaires) is not working as ideal as they want. Our solution is to redevelop a user-friendly front end web application for our client to input the data of patients to the database in a safe environment.Also, the client would have the ability to export every piece of data.

UCLH Peach Reality

Author(s): Timur Kuzhagaliyev, Fraser Savage, Laura Foody; tim.kuzhagaliyev.15@ucl.ac.uk;

Year Group: COMP205P

Client: UCLH

Technologies: Unity, C#, Azure, React, Java, JavaScript

Abstract: At the moment, studying CT scan data in preparation for surgery is challenging because medical specialists have to work with 2D data while planning their actions in 3D space. Additionally, currently there is a lack of reliable ways to integrate Mixed Reality platforms into medical workflow. We're using a Microsoft HoloLens app, an API running on Java and a webapp powered by React to provide a seamless pipeline from CT scans to 3D models. This pipeline will allow users to upload CT scans into our webapp, which will convert them into 3D models and display them on HoloLensm, where users will be able to study and annotate them. As the final product we're planning to deliver a proof of concept implementation of said pipeline, including working prototypes of the Hololens application, the webapp and the API capable of CT conversion using a neural network provided by InnerSight Labs.

NHS & IBM What's The Plan

Author(s): Shivam Shah; shivam.shah.15@ucl.ac.uk, Byoung Hun (Brian) Min;

brian.min.15@ucl.ac.uk, Eduard Ursinschi; eduard.ursinschi.15@ucl.ac.uk;

Year Group: COMP205P

Client: NHS, IBM

Technologies: Ionic, Firebase, EhrScape, openEHR, AngularJS

Abstract: In modern healthcare, patients often deal with paper-based care plans. As a result, the status quo provides many potential problems to the NHS and its patients, such as costs of maintaining this paperwork, disruptions caused by missing paperwork, and poor security and accessibility of these records. Our team will be working with the NHS and Open Care Plan Community to create a mobile healthcare app that helps patients to manage their care plan. The technologies we use include Ionic, Firebase, AngularJS, and the EhrScape API. We use the EhrScape API to integrate openEHR into our app, enabling patient data to be interoperable with other

healthcare systems. By the end, we aim to have produced a Proof of Concept for a healthcare platform that allows patients to easily manage their care plans and other healthcare records.

UCLH Peach & NHS Open : Core Analytics + Generator

Author(s): Sandipan Ganguly, Mengyang Wu, Desislava Koleva; sandipan.ganguly.14@ucl.ac.uk, mengyang.wu.15@ucl.ac.uk, desislava.koleva.15@ucl.ac.uk;

Year Group: COMP205P

Client: UCLH ; NHS

Technologies: Azure, DC/OS, Kafka, NiFi, Spark, Druid

Abstract: Currently, the NHS does not provide a suitable infrastructure where medical professionals can capture, transform, or transfer data across different systems; nor does it provide a suitable tool to help conduct research requiring patient sensitive information. Our primary goal is to create such a secure platform to support research, education and practice progression of NHS Systems; and our secondary goal is to provide a tool for generating random data based on previously anonymized data-sets.

Transpire

Author(s): Marc de Fontenay (marc.fontenay.15@ucl.ac.uk), Mo Afsharmoqaddam (moafshaar@gmail.com), Jaš Šemrl (jas.semrl.15@ucl.ac.uk);

Year Group: COMP205P

Client: Nuffield Health, Microsoft

Technologies: Azure, Node.js, Chart.js, DocumentDB, AzureML, Passport.js (OAuth 2.0), Azure Messaging Queues

Abstract: The health and wellness industry evolves around significant amounts of data, and leveraging the potential of technology would enable service providers to better serve their clients. The initial problem that we are tackling is creating a user friendly and informative virtual coach service, using interactive visualisations of health data for Nuffield Health clients.

Our team is working on dashboards for both corporate and personal users that will display their achievements and goals. It uses machine learning to give accurate performance predictions for reaching goals set by the user, and proactive, motivational coaching.

Peach Frontend UI Libraries

Author(s): Hai Xia, Connor Daly, Daniil Gannota;

Year Group: COMP205P

Client: UCLH

Technologies: React.js

Abstract: The main purpose of this project is to coordinate with other teams working on the Peach project to design and implement a frontend user interface library. In parallel with our primary objective, we also aim to create a design guide for the overall Peach project to set a design standard.

PEACH Form Builder

Author(s): German Mikulski (zcabgmi@ucl.ac.uk), Nancy Amelia (zcabnam@ucl.ac.uk), Pan Yuan (zcabya@ucl.ac.uk);

Year Group: COMP205P

Client: UCLH

Technologies: React.js, Redux

Abstract: Our teams task is to develop a form builder that would ensure that all data at UCLH follow a standard responsive design template. As an input our system takes a template file that determines content of the future form. Parser component creates an array of tokens that are passed to the form generator, which outputs markup based on tokens provided. Then, the form is rendered and presented to a user. They are then able to customise the form layout for approval.

Peach Cancer

Author(s): Julien Nahum; julien@nahum.net; Sim Zi Jian; Ben Hadfield;

Year Group: COMP205P

Client: UCLH

Technologies: Node.js, Electrode.io, React.js, OpenEHR, MySQL

Abstract: Most Cancer Information Systems (CIS) currently rely on proprietary internal data models and clunky user interfaces. This has resulted in poor data capture, user acceptance and interoperability. PEACH Cancer aims to address this problem by leveraging modern frontend technologies together with clinically-driven data model standards (openEHR, SNOMED-CT) to create an intuitive CIS that matches user workflow. The first iteration of this project will produce a proof of concept for workflow and will include the integration of multiple components (eg user authentication, the PEACH Design Guide, an openEHR backend), as well as development of novel components (MDT scheduler, jobs list).

Data Dictionary Editor and System Mapping Web Application

Author(s): Pius Jude, Matt Policane, Pierce Grannell; pius.jude.15@ucl.ac.uk, matthew.policane.15@ucl.ac.uk;

Year Group: COMP205P

Client: OpenEyes Foundation

Technologies: Ruby on Rails, MySQL

Abstract: Our client has a database system which is fairly complicated and not thoroughly documented. Our goal is to provide a web application which allows them to construct documentation for a specific version in the form of a data dictionary. In addition, the web application will then provide mapping between data points from separate versions of the data dictionary, and the data dictionaries of other systems.

Web Tools for the UCLH PEACH Web Platform

Author(s): Ovidiu-Horatiu Ilie; horatiu.ilie.15@ucl.ac.uk, Georgiana Birjovanu; georgiana.birjovanu.15@ucl.ac.uk, Berat Cevik; berat.cevik.14@ucl.ac.uk;

Year Group: COMP205P

Client: UCLH

Technologies: Azure, Azure Active Directory, Keycloak, Etherpad, Rocket.Chat, Node.js, MySQL, MongoDB, Postgres

Abstract: At the moment, the medical staff is facing problems of time management, while trying to keep track of patients or to discuss their diagnostics.

The goal of our project is to provide tools for medical professionals and researchers that can aid them in diagnostic and analytics processes through the use of online platforms. Currently, our team is working on the implementation of three different components - the authentication and role based access control system, an internal messaging system and collaborative document editing.

The Human Five

Author(s): Keshav Aggarwal; keshav.aggarwal.15@ucl.ac.uk, Costin Petrescu; costin.petrescu.15@ucl.ac.uk, Ashley Liu; ashley.liu.15@ucl.ac.uk;

Year Group: COMP205P

Client: NHS

Technologies: Azure, Ionic, node.js, AngularJS

Abstract: The NHS aims to move towards a service that better meets every person's individual health and wellbeing needs by inclining towards technology rather than paper. Thus 'The Human Five' aims to improve the health and mental well-being of the NHS staff by means of a health assistant in the form of a healthcare and data visualisation app. The app helps the user by various means including rating themselves in 5 areas (like 'mind', 'world', 'nutrition'), balancing their stress and performance levels to get maximum efficiency, scale themselves using the WEMWBS to monitor their mental well-being and creating goals to improve themselves over time which can also be shared with groups of people. The app is expected to be used by not only the NHS staff, but also by the NHS patients and potentially to help young criminal offenders.

PEACH UI

Author(s): Connor Daly, Hai Xia, Daniil Gannota;

Year Group: COMP205P

Client: UCLH

Technologies: REACT, node.js, HTML, CSS

Abstract: The PEACH project is made up of many different sub applications and web sites produced for the aim of improving patient care and healthcare analytics at UCLH. At present these sites have disparate designs and UIs, giving a disjointed experience as users navigate across the project. The Design Guide we are creating will provide uniform components and design methodologies to reduce this issue.

Route sharing app for the Visually Impaired

Author(s): Ti Ern Ryan Tan, Stefan Manole, Nadia Mahgerefteh; ryan.tan.15@ucl.ac.uk, nadia.mahgerefteh.15@ucl.ac.uk, stefan.manole.15@ucl.ac.uk;

Year Group: COMP205P

Client: Microsoft

Technologies: Ionic, Laravel, Azure, Bing Maps, iSpeech

Abstract: Cities Unlocked aims to enrich the environment of the Visually Impaired community in hope that it may alleviate internal anxiety and elevate confidence and independence. We have developed an app that easily allows mobility instructors to create a route and annotate it with information. Routes can be shared among users. The app aims to be user friendly for the visually impaired and serve as an base infrastructure for social network capabilities.

PoC Chatbot system for automation of patient consultations in hospitals

Author(s): Christoph Ulshoefer (christoph.ulshoefer.15@ucl.ac.uk), Faiz Punakkath (faiz@ucl.ac.uk), Emily Mears (emily.mears.15@ucl.ac.uk);

Year Group: COMP205P

Client: UCLH; PEACH;

Technologies: Azure, GitLab CI, Python, Django, Django ORM, Django Rest Framework, React, Redux, JavaScript, SQLite, PostgreSQL

Abstract: Patient consultations take up a large amount of time, and often involve repetitive knowledge extraction from doctors. Methods of anamnesis is taught at medical school, thus not general knowledge. To automate patient consultations, we developed a question-answer model and a proof-of-concept chatbot as part of the PEACH messaging platform. The chatbot is currently deployed to Azure, and may be used by Macmillan nationwide at a later stage.

An online doctor-patient video consultation website

Author(s): Oliver Bennett, Vlad Popa, Bogdan Ionita; oliver.bennett.15@ucl.ac.uk;

Year Group: COMP205P

Client: Meganexus

Technologies: Flask, Bootstrap, OpenTOK

Abstract: Create an online two-way video/audio platform for GP's to initiate consultations with patients in care homes. Expect to finish two websites to demonstrate a working prototype from both ends - the GP site and a Care Home site.

Microsoft and Nuffield Health Bot

Author(s): Matineh Akhlaghinia, Sachchit Prasad, Romain Dumon;

Year Group: COMP205P

Client: Microsoft, Nuffield Health

Technologies: Microsoft LUIS, Microsoft Bot Framework, Amazon Alexa Dev

Abstract: Our team is developing a bot which will be deployed over various platforms such as Facebook Messenger and Skype in order to allow the customers of Nuffield Health to book gym classes and eventually expanding to use other services provided by the company. The project will then continue as we will try to integrate a digital assistant so rather than type, a user will be able to speak to the bot using digital assistant services such as Cortana or Siri. The bot will enable Nuffield to cater for more ways through which customers can book appointments by expanding the online booking service - which increases reach and accessibility

RFH Kidney Stone Clinic App

Author(s): Ayrand Cruz, Ping Ren, Gun-Woo Nam; ayrand.cruz.16@ucl.ac.uk, ping.ren.16@ucl.ac.uk, gun-woo.nam.13@ucl.ac.uk;

Year Group: COMPGC02

Client: NHS Royal Free Hospital

Technologies: AngularJS, Ionic V1, node.js, Firebase

Abstract: Our client asked us to create an app that would improve the way in which the kidney stone clinic could treat its patients and prevent them from contracting more kidney stones. The app would mainly be used to enable patients to give their doctor's a detailed record of their dietary intake over a period of 24 hours and record their stone events as they occurred. We developed an application with a noSQL backend via Firebase that accomplished this task.

Volunteer Management App

Author(s): Guillaume de Labelotterie, Freddie Russo, Mingxuan Mei;

Year Group: COMPGC02

Client: Sutton Community Farm

Technologies: Ionic

Abstract: Sutton Community Farm needs to collect and analyse visitation data so that it can determine the demographic makeup of its volunteer community, and better target specialist funding sources. Our aim is to digitize the existing management process using a central storage database. This app is implemented with Ionic and SQLite. We have installed the app for our client and got some positive feedback from them.

Ascleipus - A Web-Based Patient and Treatment Management System

Author(s): Laurence Tennant, Geraint Ballinger, Lucas Valtl; lucas.valtl.16@ucl.ac.uk;

Year Group: COMPGC02

Client: NHS

Technologies: PostgreSQL, AngularJS, ExpressJS, NodeJS, HTML, CSS

Abstract: Asclepius is a web based patient and treatment management application created for the Royal Free Hospital in London. It was developed by Laurence Tennant, Geraint Ballinger and Lucas Valtl in close cooperation with the client representing the Royal Free Hospital, Dr. Douglas Macdonald. The app is focused on efficiently guiding patients through a Hepatitis C treatment via a web interface. Features included the input and altering of patient data, movement of patients through the treatment process as well as list views of all patients on certain steps of the process. The app aims to improve the lives of many Hepatitis C patients.

DreamBook App

Author(s): Rob Farthing; rob.farthing.16@ucl.ac.uk, Harry Long, Srdjan Miletic;

Year Group: COMPGC02

Client: Dr Aisha Ahmad

Technologies: Ionic, Firebase, AngularJS

Abstract: The project was to design and build an application for recording, sharing and interpreting dreams. A sort of social network for dreamers, DreamBook is based on Ionic and Firebase to enable cross platform use.

MyHealthcareMate

Author(s): Manuel Crepin, Ovidiu Munteanu, Michael Scott; manuel.crepin.16@ucl.c.uk;

Year Group: COMPGC02

Client: University of Lincoln

Technologies: Ionic, FireBase

Abstract: The aim of this project was to develop an app that would aid in healthcare self-management. The idea was to collect user movement data as well as images of their food with tags for inspection. This data would be combined to later provide healthcare recommendations to the users. To achieve this, an app which connected a logged in user to a database where location information and pictures of food taken are saved. The app should be cross-platform to allow for a large user base to use the service, and to detect trends using the given information.

MeditationTime - An Android App to learn about meditation

Author(s): Johannes Landgraf, Marcus Wallbaum, Sujun

Wang;johannes.landgraf.16@ucl.ac.uk,m.wallbaum.16@ucl.ac.uk,Fsujun.wang.16@ucl.ac.uk;

Year Group: COMPGC02

Client: Meditate to Regenerate (NGO)

Technologies: Java, XML

Abstract: Meditate to Regenerate - a non-profit organization promoting meditation by organizing worldwide workshops and guided meditation sessions with a focus on Arabic countries asked us to develop a mobile application to leave interactive material with - mostly young - workshop participants around the world, especially in troubled countries without a reliable internet connection. We developed an Android native application with a strong user experience (UX) focus increasing the 'meditation retention' of former workshop participants as well as providing a guiding platform for meditation newcomers. The app is ready to be uploaded in the Android App store and hopefully helps hundreds of young people from difficult parts in the Arabic world such as refugee camps to create the required moments of mindfulness.

Meditation Time

Author(s): Johannes Landgraf, Marcus Wallbaum, Sujun Wang; m.wallbaum.16@ucl.ac.uk;

Year Group: COMPGC02

Client: Meditate to Regenerate

Technologies: Java, Android Studio, Git

Abstract: Client: Meditate to Regenerate - a non-profit organisation promoting meditation by organising worldwide workshops and guided meditation sessions with a focus on Arabic countries. Problem: Leaving interactive material with, mostly young, workshop participants around the world, especially in Arabic countries without a reliable internet connection. Solution: A mobile application with a strong user experience (UX) focus increasing the 'meditation retention' of former workshop participants as well as providing a guiding platform for meditation newcomers.

Choosing: Empowering Young People to Engage with Evidence About Psychological Therapy

Author(s): Ioanna Kokkini, Enpei Chen, Matthew Clayton; ioanna.kokkini.16@ucl.ac.uk,

enpei.chen.16@ucl.ac.uk, matthew.clayton.16@ucl.ac.uk;

Year Group: COMPGC02

Client: Anna Freud Centre

Technologies: Ionic, HTML5, CSS and AngularJS

Abstract: The Anna Freud foundation wished to create an application that could help empower young people to engage with evidence regarding psychological therapy. For this they already had an existing website "<http://www.choosing.org.uk/>" which we adapted into a cross platform mobile application. The application is aimed at 11 to 18 year olds who face mental difficulties and do not know how to help themselves. The aim is to inform young people on the effectiveness of different therapeutic approaches as far as different types of mental difficulties are concerned. The application presents difficulties and related help to users, allowing them to search for their symptoms to identify what was wrong and provide information on help centers and various treatments.

Blood Pressure Monitoring App

Author(s): Katherine Adham, Mabroor Ahmed, Titaporn Janjumratsang;

Year Group: COMPGC02

Client: UCL Hospital

Technologies: Ionic

Abstract: An inflatable finger cuff that uses oximeter pulse detection at the fingertip was developed to replace the auditory pulse detection to measure the blood pressure. Our app is developed to allow the users to manually input their BP readings and visually compare the new device measurement to conventional BP devices in the order to determine its accuracy. The app was built using an Ionic framework with AngularJS. Medication, blood pressure reading, and other user input are stored in a Firebase database.

Thyroid Test App

Author(s): Brian Ho, Miguel Marin Vermelho, Leo Edwards;

Year Group: COMPGC02

Client: Code4Health

Technologies: Ionic

Abstract: The healthcare system often encounter a problem: the rates of test result retrieval from GPs resulting is quite low. Our app is to provide the information about the test as well as a reminder for the patient to collect the test results. The proposed solution, was achieved by creating a hybrid cross-platform application using the Ionic 2 framework and Firebase.

Research Integrated Network

Author(s): Mabel Chan, Mairi Ng, Issac Walters;

Year Group: COMPGC02

Client: UCL departments of Epidemiology and Public Health

Technologies: HTML, CSS, JavaScript, PHP, MySQL

Abstract: The current method to disseminate the academic events, which are primarily email and word of mouth, is very ineffective. It is difficult for academics to find the event emails due to number of emails received. Academics often receive event emails unrelated to their interests. When academics promote their own events, the notification list dependants on the academic's own network of contacts or the relevant administrator. We propose an online platform to manage academic events to resolve these issues. Our final delivery fulfilled the client's requests and was deployed on the UCL servers.

The Intention Journal

Author(s): Sherri Lee, Yehia El Gendi, Jarrod Joshua;

Year Group: COMPGC02

Client: KCL Dentistry

Technologies: Xamarin

Abstract: The Intention Journal is a cross-platform mobile application to motivate users to improve their well-being and happiness by appreciating the things in their lives. The app allows users to make journal entries associated with particular moods like joy, gratitude, creativity and so on. Users can also attach photographs to these entries, which will be stored in a database and can be viewed or edited at a later date. The app has a progress tracker in the form of a tree, which grows every time a user makes an entry. This tree can be viewed in a tab within the app and will allow users to track their progress and encourage them to keep using the app and working towards their personal goals. By getting users to reflect on the positive things in their lives, the app enables them to seek out more positivity in the world.

Trainee Management System

Author(s): Craig Brown, Ahamed Muhammed Azhar, Anton Morozov;

Year Group: COMPGC02

Client: UCL School of Pharmacy

Technologies: HTML, CSS, JavaScript, PHP, MySQL

Abstract: UCL School of Pharmacy need to keep a record of the training activities. The current training record method is to fill out paper based forms, which is very inefficient. An electronic system is expected to replace the current method to make training management easier. We delivered a web application to provide the required features.

Power up

Author(s): Douglas McMillan, Chuntao Mou, Olufemi Awomosu;

Year Group: COMPGC02

Client: UCL Evidence Based Practice Unit

Technologies: Ionic

Abstract: Anna Freud, a child and adolescent mental healthcare organisation, needs a mobile application to increase the effectiveness of care between and during therapy by enabling better record keeping of sessions and increasing the engagement of patients in their treatment at all times. Desired features of the project include a question and answer recorder, a diary to store entries of users, a decision analyser, and a session tracker. The app was developed using the Ionic frameworks with the aim to deliver a cross-platform project rapidly.

Intention Journal

Author(s): Sherri (Jiayu) Lee, Jarrod Joshua, Yehia El Gendhi; sherri.lee.16@ucl.ac.uk;

Year Group: COMPGC02

Client: Dr Aisha Ahmad

Technologies: Visual Studio, Xamarin

Abstract: The Intention Journal is a well-being application to help users seek out positivity in their daily lives. Users can set intentions and work towards achieving them by filling in a daily journal. They are encouraged to write more entries in order for their tree to grow, a therapeutic process in its own right.

Current View

Author(s): Hoi Sien Wan, Tom Vaupel, Jaimin Chouhan;

Year Group: COMPGC02

Client: Anna Freud

Technologies: Java, XML, SQLite

Abstract: The “Anna Freud National Centre for Children and Families” is a leading charitable organisation focusing on child mental health research, training and treatment. Clinicians Anna Freud use “Current View” questionnaire with 50 questions to diagnosing and understanding patient's problems and their respective situation. Our task is to transform the original tool from paper-based into an app, allowing clinicians to use the tool on Android Tablets. We have developed an Android app to meet the requirements of the client by using Java and SQLite database.

Blood Pressure Monitoring App

Author(s): Mabroor Ahmed, Titaporn Janjumratsang, Katherine Adham;

Year Group: COMPGC02

Client: UCLH

Technologies: Ionic, AngularJS, Firebase

Abstract: Dr. Patrick Riley from the University College London Hospital is developing an inflatable finger cuff device that uses oximeter pulse detection at the fingertip instead of auditory pulse detection widely used in measuring the blood pressure. He wanted to develop an app that would send readings from the device directly to a smartphone in order to help patients monitor their blood pressure. Because the device is still in prototype phase, the team developed a cross-platform app that allows users to manually input their blood pressure readings and visually compare these readings based on the monitoring device as well as the medications they are taking.

Current View App For Anna Freud National Centre for Children and Families

Author(s): Wan Hoi Sien(hoi.wan.16@ucl.ac.uk), Tom Vaupel (tom.vaupel.12@ucl.ac.uk), Jai Chouhan(j.chouhan.16@ucl.ac.uk);

Year Group: COMPGC02

Client: Anna Freud National Centre for Children and Families

Abstract: The “Anna Freud National Centre for Children and Families” currently uses a diagnosis tool in the form of paper questionnaire, known as the “Current View” tool, clinician would rate a number of presenting problems, complexity and contextual problems, as well as, school, work or training difficulties according to clinicians’ understanding of presence/ impact upon the patients at that time. However, the idea of using pen and paper is now tedious and inefficient, especially when storing and retrieving data. That is why the organization would like to move the functionality of these tests to an application. The problem is to convert this paper-based cognitive test to a more efficient and intelligent way on tablets. The application we will be building is an attempt to automate and re-create the process of the Current View tool in the form of Android App.

Thyroid test app

Author(s): Brian Ho; brian.ho.16@ucl.ac.uk, Miguel Marin Vermelho; miguel.vermelho.13@ucl.ac.uk, Leo Edwards; leo.edwards.16@ucl.ac.uk;

Year Group: COMPGC02

Client: Code4Health; NHS; Isle of Wight council

Technologies: Ionic, Angular.js, Cordova, JavaScript, HTML5, CSS

Abstract: For new patients who are anxious about blood tests, the application provides informative pages and reassuring GP videos about the tests to ease their concerns. For current patients, we provide the ability to track previous tests and notify patients when it is time to collect their results. This application provides a quick, and organised system to collecting your own blood results, and hints at a potential direction for NHS result delivery. Inputting data from referral slips could be replaced with optical character recognition. Or, with ethical considerations explored, the application could directly deliver results from the phlebotomist or GP.

PEACH Core Database

Author(s): Shruti Sinha, Dídac Magriñá, Anish Patel, Kinnari Ajmera, Evanthia Tingiri, Zekun Zhou; shruti.sinha.16@ucl.ac.uk, didac.magrina.16@ucl.ac.uk, anish.patel.16@ucl.ac.uk, kinnari.ajmera.16@ucl.ac.uk, evanthia.tingiri.16@ucl.ac.uk, zekun.zhou@ucl.ac.uk;

Year Group: COMPGS02/M022

Client:

Technologies: Azure, Docker, Microsoft Team service

Abstract: PEACH is a medical project in collaboration with UCLH and the CS Dept at UCL, investigating the overlap of traditional healthcare, IT and data science. It aims to simplify the process of storing clinical data with patient details to improve and gain meaningful insights for better diagnosis. Our team is working on the core database that stores these medical records. We have designed a middleware that links patients with their clinical records, ensuring data persists. The deployment process has been automated, with scaling and load balancing to serve a large audience based on traffic. The functionality and performance of the system was tested to determine its feasibility for the real world.

Education Projects

A Supervised Learning Approach to Extractive Summarisation of Scientific Papers

Author(s): Ed Collins; edward.collins.13@ucl.ac.uk;

Year Group: BSc/MEng Final Year Dissertation

Client: UCL, Elsevier

Technologies: TensorFlow, SKLearn, Python

Abstract: When doing any kind of research, one of the most tedious tasks is to read through hundreds of papers to do a literature review.

By harnessing the power of machine learning, the aim of this work is to build a system capable of automatically summarising scientific papers to supplement the abstract of a paper so that if readers require a deeper understanding than the abstract can provide, they do not have to trawl through the main, dense text.

Scientific article summarisation presents a particularly hard problem for summarisation in that the text to summarise is long; far longer than is traditionally handled by automatic summarisers.

By using a plethora of machine learning and information retrieval techniques ranging from basic counting to deep learning, a system able to generate short summaries, or “highlights” of papers has been developed which produces good results using the research standard metric for summarisation tools.

Using augmented reality to enhance visitors' experiences at a museum

Author(s): ;

Year Group: BSc/MEng Final Year Dissertation

Client:

Technologies: Vuforia, unity

Abstract: Museums are increasingly interested in using digital technology as a way to improve interpretation. One way to achieve this is to use augmented reality to provide enhanced interactive experiences. This project explores and builds an app for showing virtual artefacts in their original state by overlaying on top of the real world artefact.

Studying the Impact of Obfuscation on Source Code Plagiarism Detection

Author(s): Abraham Olaoye; abraham.olaoye.13@ucl.ac.uk;

Year Group: BSc/MEng Final Year Dissertation

Client: University College London

Technologies: srcml, Python language, Eclipse

Abstract: Plagiarised code is a serious threat to intellectual property, as shown by a recent conflict between Google and Oracle. The primary aim of this project is to assess the effect of source-code obfuscation on the ability of plagiarism detectors to detect plagiarised code that has been obfuscated to disguise its origins. To assess the techniques involved, I have created an obfuscation tool in Python that applies several obfuscation techniques to Java files. Results are not in yet but

initial tests suggest that techniques which modify code structure more extensively than, say, identifier renaming, have a sizeable impact on plagiarism detection.

Designing Junk Robot and Robot Simulator for High Schoolers using BBC micro:bit

Author(s): Ng Zhi Wei Chevy; zhi.ng.14@ucl.ac.uk;

Year Group: BSc/MEng Final Year Dissertation

Client: University College London

Technologies: BBC micro:bit, Microsoft MakeCode, Node.js

Abstract: A BBC micro:bit is given out to every Year 7 or equivalent students in the UK, however there are little teaching materials available to teach them how to make good use of their micro:bit. This project explores the different designs to build a junk robot using the BBC micro:bit where students can learn to build from scratch. Different programming interfaces are also investigated to find which interface would best let students of varying skill levels to program and control their handmade junk robot.

The project has created a junk robot design for students to learn and build, together with cutting templates, assembling instructions, and a junk robot package for use with the Microsoft MakeCode editor. It also consists of a robot simulator web application, allowing students to test their code and visualise their robot's movements.

Dynamical Graph Systems

Author(s): Api Hasthanasombat; A.Hasthanasombat@cs.ucl.ac.uk;

Year Group: BSc/MEng Final Year Dissertation

Client:

Technologies: D3.js, Python, Javascript

Abstract: A simple model of diffusion is investigated from a theoretical computer science perspective. An possible error in an existing proof is fixed and some new results are shown. Some visualisations are used to help study the behaviour of the model.

Studentship Database

Author(s): Allen Wang, Stylianos Rousoglou; allen.wang.16@ucl.ac.uk, stylianos.rousoglou.16@ucl.ac.uk;

Year Group: COMP103P

Client: UCL

Technologies: node.js, JS, express, MySQL

Abstract: A proof-of-concept solution to address our client's information management system of graduate and doctoral student research grants. A web application that transfers the information currently stored in hundreds of excel sheets into a database to improve their work efficiency.

SOAS Language Exchange Application

Author(s): Federico Vignati, Adris Khan, Wojciech Golaszewski; federico.vignati.16@ucl.ac.uk ,
adris.khan.16@ucl.ac.uk , wojciech.golaszewski.16@ucl.ac.uk;

Year Group: COMP103P

Client: SOAS, University of London

Technologies: Ionic, Firebase

Abstract: SOAS University would like to encourage multi-language interaction between students. We have been tasked to provide an application which allows communication between mutually interested users. For example, if user A is proficient in Spanish, user B wants to learn Spanish then user B can start communication with user A alongside other users whose criteria are a successful match. In this manner, SOAS students are given an opportunity to practice speaking the languages they desire.

SOAS EPrints Mobile

Author(s): Danchen Lou, Mohsin Ahmed, Carlo Winkelhake; danchen.lou.16@ucl.ac.uk,
mohsin.ahmed.16@ucl.ac.uk, carlo.winkelhake.16@ucl.ac.uk;

Year Group: COMP103P

Client: SOAS

Technologies: React Native, node.js

Abstract: This project is a mobile application with the goal of providing a portable interface to the SOAS EPrints research publications repository. It is a cross platform React-Native application.

A Conference Tracker

Author(s): Chirag Hegde; chirag.hegde.16@ucl.ac.uk, Darius Pop; darius.pop.16@ucl.ac.uk;

Year Group: COMP103P

Client: IoA History of Archaeology Network

Technologies: Azure, MySQL, HTML, CSS, PHP, Javascript

Abstract: In conferences it is difficult to properly inform all attendees of all the events that may be taking place. Furthermore, disseminating the information regarding any changes to scheduling is incredibly difficult. As such our project is designed to accurately disseminate this type of information with a combination of a web page, push notifications and e-mail systems. On the web page it displays an up-to-date list of events and will send out e-mail notifications if any of those events are changes. Should someone sign up for notifications, they will be reminded of the event several hours prior.

Device Loan App

Author(s): Nadim Edde, Justin Targovet, Louis André;

Year Group: COMP103P

Client: UCL

Technologies: node.js, MySQL

Abstract: We have further developed a website project from where it was left off by the precedent team. The goal of the project is to create a device loan app for UCL students.

In the end, students will be able to easily request devices for loan and the loans can be approved by members of staff.

Industry Exchange Network Search Engine

Author(s): Jacob Moss; Jacob.moss.16@ucl.ac.uk, Suhayb Hirsi, Ying Lin;

Year Group: COMP103P

Client: Microsoft; UCL

Technologies: php, node.js

Abstract: We are creating a framework whereby students can display their client projects on a web app in a technologically agnostic method. Students will use the Markdown format and use various Github techniques to display their projects on a website.

We also are building a mechanism to automatically extract data from previous project posters.

Language Landscape App

Author(s): Georgia Preda, Dragos Andrei Popa, Zhijun Yin; georgia.preda.16@ucl.ac.uk, dragos.popa.16@ucl.ac.uk, frankyin1719zjky@gmail.com;

Year Group: COMP103P

Client: SOAS

Technologies: Android Studio, node.js, SQLite, MySQL

Abstract: The Language Landscape app is designed to raise awareness of language diversity. Over the 7,000 languages spoken around the world, half of them are expected to disappear before the end of this century. Language Landscape was initially created as a web app, but now is available on Android too, in order to encourage people to share their culture all over the world. Users can upload audio files and tag them with information about the language, the person and the location.

Therefore, the map reflects the cultural diversity of the world we live in, making us understand that minority languages and nonstandard dialects are a valuable asset to our society.

SIMS Chart Engine Backend

Author(s): Lambros Zannettos, Nathan Liu, Junwen He; zcablza@ucl.ac.uk;

Year Group: COMP205P

Client: Capita; Microsoft

Technologies: Azure, C#, .NET,

Abstract: Our goal is to research, test and prototype the best way to perform "set operations" on very big sets of data, in as close to real-time as possible. This will serve to deliver the required data to a frontend which will then visualize it.

Academic Networking and Information Visualisation Platform

Author(s): Pauline Conde, Benedict Loh, Dragos Fiera; pauline.conde.15@ucl.ac.uk, ben.loh.15@ucl.ac.uk, dragos.fiera.15@ucl.ac.uk;

Year Group: COMP205P

Client: UCL, Microsoft

Technologies: HTML, CSS, JavaScript, Python, PHP, Microsoft Academic Search API, D3.js, Canvas, scikit-learn

Abstract: The UCL Department of Computer Science is a global leader in experimental computer science research. Currently, however, it is difficult to get an overview of the status and trends in the research.

Our system forms a visual taxonomy of research with different models of visualisations: search for impact papers, see which authors worked well together, see the lifetime of research keywords as research agendas evolve, see how grants built up over time, and even historical gaps in research topics as academics move onto other research.

Scaffolding Exercise Assignment Tool (SEAT)

Author(s): Janos Potecki; janos.potecki.15@ucl.ac.uk, Marti Serra; marti.serra.15@ucl.ac.uk, Marco Conchetto Rudilosso; marcoc.r@outlook.com;

Year Group: COMP205P

Client: Microsoft, UCL

Technologies: Azure, F#, Node.js, Haskell, Typescript, ReactJS, MongoDB, Redux, Docker, Git, GoLang

Abstract: The standard way of teaching students a new programming language mainly consists of two parts: Lectures covering the theoretical concepts and Programming assignments where students put their learnings to practise. A problem arises from the correctness verification of these practical assignments, as professors need to a) create unit-tests covering all edge-cases or b) rely on TAs manually reviewing and testing the code.

SEAT helps professors and students with lab assignments by providing an infrastructure using randomized property based testing to verify the correctness of code written by students against a model answer. Furthermore, it collects the progress of students accessible via a website allowing professors to monitor the performance of their students and thus enabling them to adjust their lectures accordingly.

Meeting Scheduler for Microsoft Team Services

Author(s): Mujavid Bukhari; mujavid.bukhari.13@ucl.ac.uk, Alasdair Hall; al.hall.15@ucl.ac.uk, Kelvin Chan ;kelvin.chan.15@ucl.ac.uk;

Year Group: COMP205P

Client: Microsoft

Technologies: Azure, DocumentDB, NoSQL, JavaScript, ES6, Node, Express, React, FullCalendar, Moment, AXIOS, HashID

Abstract: Meetings are an unavoidable part of project work, be that in education or industry, and trying to arrange them around everyone's busy schedules can be a challenge. We are creating a VSTS extension to handle meetings, that includes: scheduling, taking minutes and tracking past meetings. We know that we as a team would benefit a lot from this extension and we hope to simplify meetings for other teams online. We will have analytics integrated into the extension, so that we can see which features are most helpful to users. This will supplement a feedback process within the extension.

"Recreating Capita SIMS' data visualisation application, Discover, for the web."

Author(s): Bethany Graves, Carlota Ortega Vega, Fasbeer Eskander; bethany.graves.14@ucl.ac.uk;

Year Group: COMP205P

Client: Capita

Technologies: javascript, bootstrap, d3.js,

Abstract: Capita is planning to make their SIMS software, a database management system for schools, into a Software as a Service on the cloud. Our project consists of creating a web version of their SIMS Discover app, a data visualisation tool for SIMS. Using a variety of web-based languages and data visualisation libraries, such as D3.js, we hope to recreate SIMS Discover so it can be used by teachers and education authorities to discover correlations between different factors that may affect education, and pupil performance.

A Visual Studio extension that generates portfolios of code

Author(s): Sam Pham;zcabsph@ucl.ac.uk,Javier Pascual Mesa;zcabpas@ucl.ac.uk;

Year Group: COMP205P

Client: Microsoft

Technologies: C#, JSON, HTML, PHP, CSS, ACE, XAML

Abstract: Currently if programmers want to create a portfolio of their code to present to someone such as an employer, they probably have to set aside some time to create it. We aim to have the portfolio automatically generated and all you have is add the code via a UI or tags while programming which will then be uploaded to a web server.

We have created an extension for Visual Studio that does exactly this and works with many languages which VS supports. On the website, you can add more than just code but also files such as images and PDFs. Our hope is that this extension would be a tool that many programmers will use to demonstrate they code and project to the world without having to invest a lot of time or money into developing a portfolio. Also it is easy to make the changes to the existing template to the liking of the programmer without needing to spend too much time.

Flightplanning for Drones

Author(s): Asutosh Savani, Brian Gunawan;

Year Group: COMP205P

Client: UCL Archaeology

Technologies: Android, DJI, Google Maps

Abstract: Archeologists need a quick way to survey a site with minimum man power and the best way to do that is with drones, however flying drones commercially require special licenses that require a lot of time and effort to obtain. We plan to create an open-Source, User-friendly mobile application that eliminates the skill needed to fly surveying drone. This will allow archeologists around the world to be able to map and survey sites that may be situated in unstable areas and might not be safe with minimum effort, man power and resources.

SOAS Insights - Exhibition Engagement App with Web Admin

Author(s): james.holliss.16@ucl.ac.uk, cheuk.wong.16@ucl.ac.uk, marisa.enhuber.16@ucl.ac.uk;

Year Group: COMPGC02

Client: SOAS University

Technologies: Azure, Ionic, WordPress, Angular, Cordova,

Abstract: The School of Oriental and African Studies (SOAS) has many curators running exhibitions worldwide and want all visitors to get the most out of an exhibition visit. Our cross-platform mobile app allows a visitor to gain information about an artwork beyond what is hanging on the wall. They can engage by learning about the artwork's background, listening to interpretative audio excerpts, taking a quiz or by accessing external links related to exhibit.

The web-based admin system allows SOAS curators easy access and control over all content via a globally accessible WordPress dashboard.

StuScanner

Author(s): Esther Leah Morrison; e.morrison.16@ucl.ac.uk, Haiwei Zuo; haiwei.zuo.16@ucl.ac.uk, William Edmondson; william.edmondson.16@ucl.ac.uk;

Year Group: COMPGC02

Client: UCL

Technologies: Chart.js, queXF, LimeSurvey

Abstract: Currently, at the end of each term at UCL, an email is sent to all students asking them to fill out feedback forms. However, the student uptake is not very high and all the data that is collected needs to be collated manually and put into an easily readable format.

This project is a web app that allows a lecturer to hand out paper feedback forms at the end of term to all the students. These feedback forms are then scanned and the pdf uploaded onto the app. The app reads the results using optical mark recognition and asks the user to verify any ambiguous results. The data from the feedback forms is then used to automatically generate graphs and charts, producing easily readable results for everyone.

SOAS Careers App

Author(s): Michael O'Keeffe; michael.o'keeffe.16@ucl.ac.uk, Charles Varley; charles.varley.16@ucl.ac.uk, Elizabeth Lawrence; elizabeth.lawrence.11@ucl.ac.uk;

Year Group: COMPGC02

Client: SOAS Careers Office

Technologies: node.js, react-native

Abstract: SOAS careers office wanted to improve student engagement with the department, increase awareness and attendance of their events and advertise jobs through a mobile application. We produced a simple and aesthetically pleasing cross-platform application which permits searching and filtering of events, vacancies and resources by type. We expect to have significant impact on student engagement once launched.

Spanish Learning Application

Author(s): Peter Barrett Bryan, Jorge Botto, Arinze Igwilo;

Year Group: COMPGC02

Client:

Technologies: Azure, text to speech, cross platform, Xamarin

Abstract: For our project, we endeavored to produce a Spanish learning application: a cross-platform Xamarin app to help a Spanish lecturer encourage his students to study outside of the classroom. In addition to a local store of questions, questions could be remotely loaded from an Azure database. On completing a question, the correct pronunciation was offered via text-to-speech technology. In the coming weeks, we plan to release for public download!

SOAS Language Exchange App

Author(s): Gal Moore, Louis Fillo, John Hill;

Year Group: COMPGC02

Client: SOAS

Technologies:

Abstract: The SOAS Language Exchange App is designed to facilitate language exchange among SOAS students. Language exchange involves meeting up to practise languages in informal settings, with an emphasis on conversation, rather than a classroom-based approach. The app is based heavily on Tinder – a popular mobile-first matching platform. We implemented the solution in Microsoft Xamarin Forms, with a Microsoft Azure backend. The app is cross-platform and provides real-time matching and chatting for SOAS students to find language exchange partners.

TSG Device Management System

Author(s): Peter Meltzer, Lizhi Lu, Zhenning Lou;

Year Group: COMPGC02

Client: UCL CS

Technologies: Node.js

Abstract:

UCL CS Technical Support Group (TSG) track and manage the loan of devices to students. The current system record the loan of devices manually in a book which often results in items not being recorded properly. We developed a responsive web application to enable students and staff to view the available device list and make loan requests. Device manager can approve or deny requests, track current loans and notify device borrower automatically via emails. The web application works well for different internet browsers and can also accessed by mobile phones.

Industry Exchange Network Web Application

Author(s): Nidhi Goel, Rachel Slater, Jason Li;

Year Group: COMPGC02

Client: UCL CS

Technologies: HTML, CSS, Angular JS, PHP, MySQL

Abstract:

The Industry Exchange Network (IXN) is an educational programme within University College London (UCL) with the objective of enabling students to engage in real-world problem based learning through term-time based client projects. The principle objective of the project is to showcase the brilliant work carried out by UCL CS students. The secondary aim of the project is to serve as a research base for UCL staff and students wanting to learn more about the programme. Our team has successfully managed to implement all of the required features in the projects specifications.

Academic Networking System

Author(s): Mabel Chan, Mairi Ng, Zak Walters;

Year Group: COMPGC02

Client: UCL Epidemiology and Public Health

Technologies: HTML, CSS, JS, JQuery, PHP, MySQL

Abstract: Researchers find it difficult to connect with other academics working in the same areas. RIN (Research Integrated Network) was intended to solve this problem by allowing academics to search for academic events, and to upload their own; and thus provide them with the opportunity to network with other academics at such events. Our project was intended as a proof of concept, and it was approved for further development based on our work.

Trainee Management System (Data Extraction App)

Author(s): Anton Morozov (Anton.Morozov.16@ucl.ac.uk);

Year Group: COMPGC02

Client: UCL

Technologies: SQL, php, css, JS, Bootstrap, Azure

Abstract: The client had a problem with keeping training activities in a paper form and wanted to move to a digital/online version; The UCL School of Pharmacy need to keep a record of the training activities that their trainees complete. They currently do this by filling out paper based forms, but they would like to move to an electronic system. They need a system which can add new training records for a particular trainee, view records which had been previously input, and make these tasks as easy to carry out as possible. Our project was to design this system and implement it as a database and website interface.

We started by designing the website interface. We sketched designs with a pen and paper, and eventually turned this into an interactive prototype which we built in PowerPoint. We also designed the database schema using pen and paper. For the implementation of the actual product, we used a combination of HTML, PHP, CSS and JavaScript. We also used Bootstrap - a framework built on these technologies - to make coding the site a lot easier. We hosted a MySQL database for development and testing purposes on Microsoft Azure.

We had very good feedback from the client on our prototype, as they felt it looked a lot better than they expected. We finished the website and managed to implement all the features that we agreed would be included

Decision Support for Release Planning under Uncertainty

Author(s): Nikolaos Alexandros Kaloumenos, Abdulmusawwir Sanni, Wenyan Dong, Shiqi Hui, Hayford Iduoriyekemwen, Yuxi Huan, Bingquan Wang ; nikolaos.kaloumenos.16@ucl.ac.uk, abdulmusawwir.sanni.16@ucl.ac.uk, wenyan.dong.16@ucl.ac.uk, shiqi.hui.16@ucl.ac.uk, Hayford.i;

Year Group: COMPGS02/M022

Client: Microsoft

Technologies: Azure, Python, DEAP framework, JavaScript, Flask

Abstract: In the development of successful software projects, it is highly imperative to assign software features into consecutive releases. This is typically fraught with inconsistencies as it heavily relies on human judgement and past experience. Release planning as an area of software engineering attempts to apply a scientific approach to this process and has recorded varying levels of success. This project provides a decision support system as part of the set of functionalities within VSTS in order to provide product owners with suggestions on how to assign features into releases so as to optimise the available team resources for the early development of features that provide high value. Overall, the project aims to facilitate rapid release planning while minimising the associated human effort and possibility of error.

Capita Sims Experimental Forecaster

Author(s): Christos Kitsos, Julian Mukaj, Nan Ma, Ming Zhang, Siyu Ma, Xiaotong Pu, christos.kitsos.16@ucl.ac.uk;

Year Group: COMPGS02/M022

Client: Capita

Technologies: Azure, R

Abstract: The Capita Sims Experimental Forecaster project has as a goal to explore and analyse data gathered from the capita Sims software in English Schools. Through this research it is hoped to discover what might affect student performance including things like free school means or teacher absences. Using that data if a correlation can be found it is hoped to develop a predictive machine learning model that will be able to predict a students future performance given data gathered from internal but also external sources.

InnoFlow

Year Group: COMPGS02/M022

Client: Microsoft

Technologies: Azure, Laravel, PHP, Visual Studio Code, node.js

Abstract: Innovative skills in computing and software engineering are becoming increasingly valuable. As our shared dependence on software and technology continues to grow, it asks much of practitioners in industry, but also of those in education. Universities and training providers are faced with the challenge of overseeing many, often highly technical, projects at a time. This task poses a problem for project management and assessment, where human resources are limited while pressure to achieve is comparatively high. To help address this disparity, we propose an architecture where projects are made largely transparent to supervisors and where feedback and assessment are made top priorities. Moreover, we describe a prototype implementation that incorporates the key project innovation level criteria identified during our research, allowing projects to be grouped under classes and then analysed to produce quantifiable metrics as a means of assessment and self-improvement.

VSTS Scaffolding

Author(s): Yuan Wei, Zhaofeng Jin, James Edge, Di Francesco Hu,;

Year Group: COMPGS02/M022

Client: Microsoft; UCL

Technologies: Azure, Flask, Node.js, couchDB, Silex, Travis CI

Abstract: This project focuses on building a scaffolding extension to Microsoft's VS Code. Scaffolding in education refers the process and techniques used to help students learn from basic principles through exercises and direct teaching. This interactive extension can be used for labs and assignments, providing hints and examples to students when needed. Meanwhile, the project provides a dashboard to visualize the study process from the whole class for the teachers.

VSTS Discovery

Year Group: COMPGS02/M022

Client: Microsoft

Technologies: Azure, Django, HTML, CSS, Bootstrap, Postgresql, Visual Studio Team Services, Travis CI, JavaScript, Chart.js

Abstract: UCL follows the Scaffolding, Discovery and Innovation methodology (Mohamedally, Roberts), where students on a three year undergraduate program take part in the Scaffolding phase in the first year, second year students take part in the discovery phase and third year students take part in the innovation phase. Students who take part in the Discovery phase work together in a team to deliver a complex piece of software. While the effort of a team can be assessed via the quality of their software, the effort of individuals may not be so easy to monitor, particularly when a student's effort on their task is not reflected in their output. Creating an extension of Visual Studio Team Services, which is a tool that enables team collaboration, to monitor the effort of individuals in the Discovery stage is beneficial to both teachers and students.

OptRel

Author(s): Binghao Chai, Cem Ozgur, Suwichak Funprasertkul, Tingting Gao, Yijia Bei, Ytalo Elias Borja Mori, Yunan Wang, ucabyeb@ucl.ac.uk;

Year Group: COMPGS02/M022

Client: Microsoft

Technologies: Amazon Web Service, React, TypeScript, Node.js, JQuery, Phantom JS, Inversify JS, Office Fabric, Karma, Jasmine, Webpack, Gulp, Istanbul, Selenium, NSGA-II, IFM, Monte Carlo Simulation, Jenkins, Tomcat

Abstract: A project with release plan is going to be more time-efficient and cost-effective. It is a disadvantage for VSTS not to have release planning tool for the projects. Our solution is to develop a plug-in, that extends the information on project features and add a hub to allow the user to generate alternatives optimal release plans considering uncertainty, risk, cost and income. This functionality will be appealing to other companies, resulting them in hiring this rich ecosystem of services.

Industry Projects

Mixed Reality Interfaces for Building Information Modelling

Author(s): Gulliver Johnson; gulliverjohnson@gmail.com;

Year Group: BSc/MEng Final Year Dissertation

Client:

Technologies: Microsoft Hololens, Unity, Autodesk Revit, AWS

Abstract: Building Information Modelling (BIM) is an increasingly critical component of modern construction, enabling innovative methods in achieving highly sustainable buildings. The benefits of BIM, however, rapidly diminish once the building becomes operationally occupied; end-users typically lack the tools, knowledge, and motivation to make use of their building's data. This project seeks to set a precedent for mixed reality (MR) interfaces as a solution, enabling occupants to engage with and derive value from BIM. Through using an MR device such as the Microsoft Hololens, users can view, interact with, and modify their building's data as they roam through the real-world space. This offers the potential for revolutionary building operations management through IoT integration, along with innovative architectural discoveries drawn from the rich life-cycle data.

TravelBaku Travel Guide Application for tourists of Baku

Author(s): Laman Mammadova; laman.mammadova.14@ucl.ac.uk;

Year Group: BSc/MEng Final Year Dissertation

Client:

Technologies: Ionic, Angular JS, Apache Cordova, MySQL database

Abstract: This project involves building a cross-platform travel-guide mobile application. The goal of the project is developing an application that would help visitors of my hometown Baku during their visits here by providing essential tourism information and advice. There already exists numerous travel guide applications and websites, but almost none have all relevant data and guidance that would help the tourists to get most of their trips. This app is exclusively built for Baku, capital city of Azerbaijan and aims to fulfil the lacking features of previously mentioned mediums.

The application was built implementing iterative development technique by using Cordova and Ionic cross platform development tools. Supporting multiple platforms and being reachable to as many people as possible were main objective and challenge of the project.

The final application contains all necessary up-to-date data for visitors and achieves its objectives. It allows tourists to find the places they are looking for, provides them with the updated detailed information about the city, and at the same time it enables visitors to share their thoughts, experience with others, and natives to add new places.

Network Service Management Platform

Author(s): Elliot Wise, elliott.wise.13@ucl.ac.uk;

Year Group: BSc/MEng Final Year Dissertation

Client: Cisco

Technologies: Django, NSO

Abstract: Within large networks, services and configurations are deployed and NSO allows for configurational compliance and the deployment of services across the whole network, made up of different devices. However the tool, requires management itself and needs to be kept in sync with the network, as well users require a more functional way to interact with the product. The solution is the NSMP, the tool allows easier access, as well as built-in NSO management. With a large number of network engineers without programming experience, this tool is going to help bridge the gap and allow network engineers to dive in much easier to using NSO without needing to full understand the code behind it.

Spot Markets - Tourism App

Author(s): Christopher Hammond; Reemma Muthal Puredath; Honghui Yu;

Year Group: COMP205P

Client: Kent County Council; Microsoft

Technologies: Azure, Xamarin, Django

Abstract: The Spot Markets project is a case study with Kent Council to investigate whether the high street can be improved by offering users timely, location-aware notifications about products they may want based on their interests. We are expanding that by building a tourism app that will recommend people interesting points of interest in a new area that they may wish to visit.

Smart Operations (sOps)

Author(s): Kazuma Hochin, Wentao Wei, Mihai Ionescu; zcabkho@ucl.ac.uk, wentao.wei.15@ucl.ac.uk, mihai.ionescu.15@ucl.ac.uk;

Year Group: COMP205P

Client: NTT DATA UK

Technologies: Vuzix M100 (Android based smart glasses)

Abstract: Our project aim is to create an application which uses smart glasses to support and increase the productivity of on-site workers working in the industrial sector on remote locations. Our solution is to provide a complete package to support the remote workers: starting with finding the next task location (navigating the user), detecting the task target object (QR detection), displaying the manuals (in the form of video, PDF) and finally to use voice recognition (Vuzix native API) to enable users to control through the app hands-free. This allows the user to operate and accomplish their tasks hands-free and fully utilising the smart glasses. We are expecting to implement the functionalities listed above by April 26th.

NET-A-PORTER Augmented Reality Wardrobe

Author(s): Vania Setiono, Yll Kelani, Haran Anand; vania.setiono.15@ucl.ac.uk, haran.anand.15@ucl.ac.uk, yll.kelani.15@ucl.ac.uk;

Year Group: COMP205P

Client: NET-A-PORTER

Technologies: Unity, Visual Studio, Vuforia

Abstract: NET-A-PORTER wants to bring the extremely important person (EIP) experience to everyone where they can try on clothes before purchasing them. Our app aims to create a virtual wardrobe through augmented reality. Users will be able to interact with the garments as if they are browsing through the catalogue in real life.

Spot Market Chat-Bot

Author(s): Maya Afshar, Raymond Tan, Alex

Hale; maya.afshar.15@ucl.ac.uk, raymond.tan.15@ucl.ac.uk, alex.hale.15@ucl.ac.uk;

Year Group: COMP205P

Client: Microsoft

Technologies: Node.js, Microsoft Bot Framework, Microsoft LUIS, Azure

Abstract: The problem we are facing is lack of a way to allow high Street consumers to get a personalised recommendation based on their location and profile, in a simple way. We are focusing on development of a chat-bot which allows the users to get recommendations on the high street based on their own personality and profile, and where they can find the item or place. We have used Microsoft Bot framework to deploy our chat-bot on multiple platforms and channels, so any user can have easy access to things they might be interested in on the high street. We have also made use of Microsoft LUIS to create an easier interaction using natural language processing with the chat-bot. We are going to change the experience of the users in shopping, and allow people to get personalised recommendations without making any effort themselves.

LeChefu

Author(s): Jaromir Latal, Raja Upadhyay, Shanice Ong; jaro@ucl.ac.uk, raja.upadhyay.15@ucl.ac.uk, shanice.ong.15@ucl.ac.uk;

Year Group: COMP205P

Client: NTT Data

Technologies: Java, OpenCV, Clarifai, Microsoft Bing, Google Cloud, Spoonacular,

Abstract: Imagine sitting hungry at home and wanting to cook yourself a meal at home. 80% of people would think it is a good idea, yet only 20% of those can actually cook. LeChefu is an intelligent cooking assistant tackling this problem. Let LeChefu motivate you to learn new recipes and help you get things done more quickly and efficiently in the kitchen. With LeChefu, users can spend less time in the kitchen and more time on important tasks, while keeping their kitchen organised and getting the comfort home cooked food.

RDF Explorer

Author(s): Anirudh Pillai, Aksel Cakmak, Xiaofeng Fu; anirudh.pillai.15@ucl.ac.uk;

Year Group: COMP205P

Client: BOSCH

Technologies: RDF, React, D3.js

Abstract: Our project aims to create a first of its kind, easy to use GUI for exploring RDF graph databases without needing to know querying languages like SPARQL.

Our GUI provides useful data visualisations, filtering mechanisms and statistics about connected nodes and instances. We do all this within a unique navigation system which makes it easy for the user to know where they are in the graph.

We aim to make it easy for engineers to understand and gain insights from graph databases and our GUI hopefully fills the gap there currently is in terms of tooling for graph databases.

Proximity Automation Framework

Author(s): Asim Ali, Megan Lucas, Farooq Dean; zcablix@ucl.ac.uk, zcabmvl@ucl.ac.uk, zcabdea@ucl.ac.uk;

Year Group: COMP205P

Client: NTT Data

Technologies: Ionic, AngularJS, iBeacon

Abstract: Our project relates to iBeacon usage in tandem with a proximity framework created by NTT Data. We must demonstrate the framework's adaptability for future business use. Our solution is a mobile application for detecting nearby study spaces on campus. The goal is to provide a context-aware user experience using proximity beacon technology.

NS&I mobile app & website extension

Author(s): Varun Mathur, Artem Skulimovskiy, Sidharth

Sikka;zcabvkm@ucl.ac.uk;artem.skulimovskiy.15@ucl.ac.uk;zcabsik@ucl.ac.uk;

Year Group: COMP205P

Client: ATOS, NS&I

Technologies: Xamarin, Heroku, Django, RestAPI

Abstract: National Savings and Investments is under patronised by young people with a old user base. They have asked us to develop a digital solution to this problem. Our solution is to extend the premium bond project to allow for group ownership. Develop a web app in Django to provide an interface for this new product. Implement a full feature, NS&I cross-platform mobile app in Xamarin. We expect to have a published app in the google and apple store that will have a friendly user interface built carefully with the help of focus groups.

Internet of Things Integration Framework

Author(s): William Lam, Cristian Chirita, Stars Momodu; zcabwhy@ucl.ac.uk;

Year Group: COMP205P

Client: NTT Data

Technologies: HTML, CSS, Bootstrap, AngularJS, Swift

Abstract: The Internet of Things Integration Framework allows to the user to use different Internet of Things devices to connect to the cloud via a phone and the data collected can then be displayed on a website. Our problem is to allow the user to monitor their body conditions such heart rate and step count. The solution that we propose is that the user wears an Apple Watch that collects data such as heart rate and step count and then sends this data to an iPhone which then sends the data to the cloud. This data is then displayed as a graph on a website to allow users to see trends in their body conditions. The result of our project is that users can monitor different body conditions and this data can be analysed and used by the user and doctors.

Virtual Reality Product Recommendation Engine

Author(s): Cesar Ferradas Vega; Thomas Espach; Diana Ionescu;

Year Group: COMP205P

Client: NET-A-PORTER

Technologies: HoloLens, C#, Unity, Visual Studio

Abstract: Our project aims to enhance the shopping experience using Virtual / Augmented Reality. The idea is to be able to browse through any product from the Net-a-porter website and visualise them in an enhanced way i.e. 3D, in real space. This includes a recommendation engine that tells you which products you might like based on previous "likes".

A customer service chatbot that provides an engaging and interactive online shopping experience.

Author(s): Wayne Tsui, Aouss Sbai, Jason In; Wayne.tsui.15@ucl.ac.uk, Aouss.sbai.15@ucl.ac.uk, Jie.in.15@ucl.ac.uk;

Year Group: COMP205P

Client: NET-A-PORTER

Technologies: Amazon Web Services (API Gateway and Lambda), IBM Watson Conversation, IBM Watson Rank and Retrieve, HTML, CSS, AJAX, Node.JS

Abstract: Answering customer's queries in a timely and efficient manner is important in providing the best online shopping experience. A chatbot will be the perfect application to tackle this problem. We built the customer service chatbot using IBM Watson Conversation and Rank and Retrieve service with NET-A-PORTER APIs. It is intended to serve NET-A-PORTER customers and act as a filter between them and the company's on-site fashion advisors. Users can ask for product recommendations based on categories, brands, prices, sizes, etc and also frequently asked questions about the company.

Microsoft Hololens Gaming

Author(s): Tilman Schmidt, Miron Zelina, Mehul Modha;

Year Group: COMP205P

Client: UCL, Microsoft

Technologies: Hololens, Unity

Abstract: We aim to showcase the features of the HoloLens in a game-related context. Our final project is a puzzle-type game that uses marker tracking and spatial understanding to create an interactive environment for the player - where they must place various objects with different physical properties (black hole, bouncy walls, etc.) to get a ball to the goal. We expect to have a working prototype by April 26th with a few levels showcasing the different possibilities of the Hololens.

Microsoft Spot Market 2

Author(s): Cosmin-Nicolae Bresug, Tudor Nica, Phoom Yenbamroong;

Year Group: COMP205P

Client: Microsoft

Technologies: Xamarin

Abstract: It's always been a problem for shoppers to look for that item in the store. Our goal is then to design an indoor positioning system that will enhance the shopping experience, by helping a user locate his/her item of interest within a store. To do this, bluetooth devices "beacons" send out signals to the user's device in order to locate his/her position. By the end of the project, we expect a fully functional application that will be cable of locating any user given that there are beacons up and running in the environment.

Mobile Festival Scheduling App

Author(s): Florian Obst, Li Xie, Daniel Kremerov; florian.obst.16@ucl.ac.uk, li.xie.11@ucl.ac.uk, daniel.kremerov.16@ucl.ac.uk;

Year Group: COMPGC02

Client: Fesitval Kidz

Technologies: CSS, HTML, JavaScript, AngularJS, Ionic, Just in Mind (Design)

Abstract: Despite an ever-increasing technology trend, medium-sized festivals lack resources to offer mobile Apps to their visitors, imposing large organizational difficulties. In cooperation with UCL and our industry client - a London-based festival blogger - it was our aim to develop a Festival Scheduling App. Believing in the power of personalization, FestUp lets users build an own festival agenda. A key goal was to develop a generic App that can be offered at a number of medium-sized festivals rather than at one specific event.

Spot Market Retailers Portal**Author(s):** ;**Year Group:** COMPGS02/M022**Client:** Microsoft**Technologies:** ASP.NET, Python, MongoDB, Azure

Abstract: The past few years has seen a significant rise in e-commerce. This has made it difficult for local shops on the high street to compete and many shops are expected to close. This project aims to tempt consumers back on to the high street by providing them with personalised recommendations from local shops on their mobile phones.

Innovation Projects

One-shot training platform for conversational agents

Author(s): Bandi Enkh-Amgalan; bandi.enkh-amgalan.14@ucl.ac.uk;

Year Group: BSc/MEng Final Year Dissertation

Client: Satalia

Technologies: Angular2, Flask, scikit-learn, spacy

Abstract: I am developing a user-friendly system for training an NLP model for performing the intent classification and entity recognition for deployment in conversational agents/chatbots. My main priority for the system is that it will be able to perform one-shot learning from a small set of training cases added using the training interface, and can then be deployed inside a pipeline which trains a more powerful language model that could be enabled in the future as more training data becomes available.

The use of memory in evolving strategies for games

Author(s): Mateo Inchaurrendieta; mateo.inchaurrendieta@gmail.com;

Year Group: BSc/MEng Final Year Dissertation

Client: N/A

Technologies: Java

Abstract: Traditionally, genetic programs have no memory or state. Investigating the use of indexed memory in evolving genetic programs. Created a GP engine and two games; evolved with and without memory. Successful results: memory makes GP solutions smaller and more powerful.

Localising indoor drone

Year Group: BSc/MEng Final Year Dissertation

Technologies: opencv

Abstract: Using cheap raspberry pi cameras to localise an indoor drone. Controlling the drone using an Engduino and NRF24L01. Uses Python/OpenCV.

Engineering for Sustainability: a Community Carbon Calculator

Author(s): ;

Year Group: BSc/MEng Final Year Dissertation

Client:

Technologies: node.js, angular.js, Java

Abstract: Organisations now have to develop and implement strategies in order to reach government target. Software systems exist to assist these organisations in monitoring their sustainability, but are focused on collecting data and on reporting. We develop a web tool using a modelling language and decision making analysis tool, to support the organisations in designing sustainability models, making informed decisions, and encourage sustainability as a core principle.

Notebooks - An Application for Cloud-Based Data Gathering and Inspection

Author(s): Diana-Maria Costea; diana-maria.costea.14@ucl.ac.uk;

Year Group: BSc/MEng Final Year Dissertation

Client: UCL

Technologies: Azure, ReactJS, Apache Tomcat, DocumentDB, Selenium

Abstract: Nowadays, there exist multiple options of storing data online, to gain easy access from multiple devices, as well as a safe back-up solution. Sometimes, however, it is difficult for users to find the perfect application for the specific structure of the data they wish to input.

This project aims to deliver the design specifications of a customizable efficient data storage solution which allows the user to choose the format of the information they wish to input. This application will allow users to reuse document templates, without conducting a configuration process for each time they wish to create a document with the same structure.

In accomplishing its objectives, the application will offer a faster, more efficient experience of data gathering for users.

Which Haptic Device Provides Consumers with the Best Experience?

Author(s): James Edge; james.edge.13@ucl.ac.uk;

Year Group: BSc/MEng Final Year Dissertation

Client:

Technologies: Visual Studio, C++, VIVE, Haption, MOOG, OpenGL, OpenVR

Abstract: Virtual Reality is now a consumer device and in people's homes and the next step of total immersion is haptic feedback. Haptic feedback allows the end user to feel the virtual environment they are stepping into and to achieve this, a number of devices each provide a different solution, and this paper intends to ascertain which, if any, is the best for a home consumer by testing them against each other in the same virtual task. I expect the HTC Vive controllers to be most preferred as they have a much greater degree of freedom, despite only producing a vibrational feedback.

Identify reused code between mobile application

Author(s): Kwok Lun LAW; kwok.law.13@ucl.ac.uk;

Year Group: BSc/MEng Final Year Dissertation

Client: University College London

Technologies: Self-made Clone Detection Program

Abstract: Nowadays, many mobile applications contain code clones, which are separate fragments of code that are very similar. The use of clones could bring good or bad impact to an application. The project goal is to study the clones pattern between a set of Android applications. The approach is to create a clone detection tool and analyse the clones detected by the tool. The result could be used to identify the good/bad use of clones, as well as resolve some threats caused by the bad use of clones.

Android wear audio recorder

Author(s): ali.aliyev.14@ucl.ac.uk;

Year Group: BSc/MEng Final Year Dissertation

Client:

Technologies: Android Studio

Abstract: This project involves developing an android user application that can record audio. The aim of the project is not only building an application for users, but rather contributing to trend of integrating Android Wear into mainstream android app development. Android Wear is a version of Google's Android operating system designed for smartwatches and other wearables. The main challenge of the project was making the application to be compatible with wearable devices.

Modelling and Evaluating Ripple Consensus Protocol

Author(s): Vardan Tandon ; vardan.tandon.13@ucl.ac.uk;

Year Group: BSc/MEng Final Year Dissertation

Client:

Technologies: Python, Networkx, PySPG

Abstract: The project involved investigating the key building blocks and performance measures of a popular Distributed Ledger Protocol, Ripple and gather valuable insights on certain assumptions which the protocol takes through the concept of Agent based Modelling.

Mentor Match

Author(s): Min Yi Lau, Matthew Bell, Chen Hao; zcabmyl@ucl.ac.uk, matthew.bell.15@ucl.ac.uk, h.chen.15@ucl.ac.uk;

Year Group: COMP205P

Client: ATOS

Technologies: Django REST Framework, Ionic, AngularJS, PostgreSQL

Abstract: Our project is a web application to allow employees in the ATOS workplace to be paired as mentors and mentees to improve each others' skillset. Currently the this matching is done manually by Human Resources, our application would have to do this automatically while also facilitating different mentorship programs specified by the admins. Our solution is a mobile application built using Ionic and AngularJS for the front-end and Django REST Framework with PostgreSQL for the back-end. We expect to produce an application that satisfies the key requirements given by our client.

Ethereum Smart Contracts for the Construction Industry

Author(s): Pranav Nashikkar, Matthew Dao, Prateek Dahal; zcabpna@ucl.ac.uk, prateek.dahal.14@ucl.ac.uk, matthew.dao.13@ucl.ac.uk;

Year Group: COMP205P

Client: ATOS

Technologies: node.js, express.js, mongodb, angular.js, web3, Ethereum, solc

Abstract: In large scale construction contracts, it is hard to keep track of work done by a large number of sub-contractors. Important paper contracts can be lost or destroyed, and must be physically moved around, thus slowing down the process. Our Ethereum based management solution alleviates these problems by making the process electronic, while ensuring that security is still robust. By the end of the project, we will have a working design of customisable contracts, with payment functionalities implemented through the blockchain, and tools for managing multiple projects and contracts.

ATOS Time Machine: Overtime request web application.

Author(s): Ryan Collins, Giorgio Arena, Jay Jeyaruban; ryan.collins.15@ucl.ac.uk;

Year Group: COMP205P

Client: ATOS

Technologies: Azure, node.js, jQuery, Materializecss, Apache

Abstract: Time Machine is the web application that ATOS employees currently make use of to create and manage overtime requests. In its current state it is too administrative and could use more features to ease the process and integration with other ATOS software. Our solution for this is to completely remake the application into a separate front-end and back-end. The front-end will have all the same features as the previous version and more to accommodate the additions, and an upgraded UI. The separate back-end will have an API to enable all the features of the front end and allow use with other ATOS software.

BitKariero – a decentralised record of professional credentials

Author(s): George Pîrlea, Alexis Enston, Danish Alvi; george.pirlea.15@ucl.ac.uk;

Year Group: COMP205P

Client: Atos

Technologies: Ethereum, IPFS, ReactJS, EmbarkJS

Abstract: Our team looked at how we can use blockchains to bring trust to the job market – without a central authority. It is commonplace for job-seekers to exaggerate or fabricate their professional credentials. Using BitKariero, individuals can ask organisations to provide references, membership details and other information. They can then use these records to create a verifiable CV associated with their identity.

Ammoenio

Author(s): Andreas Zinonos, Gabriel Vanca, Charles Albert Desbaux; zcabazi@ucl.ac.uk , zcabgva@ucl.ac.uk , charles.desbaux.15@ucl.ac.uk;

Year Group: COMP205P

Client: ATOS

Technologies: Ethereum Blockchain, AngularJS, NodeJS, ExpressJS , Firebase

Abstract: Ammoenio (which translates as “invest” from Latin) is an online platform used for share-trading based crowdfunding and built with Blockchain technology. It helps individuals get into the share-trading business whilst it allows start-ups and small businesses fund their projects by selling part of their shares in the business to individuals willing to invest into it.

The app offers three main components: starting projects and issuing shares, investing into companies (buying shares), trading of shares between individuals. Using Smart Contract functionality, the full investor related process is automated including the issuing and processing of dividend payments, AGM voting and future rights issues.

Combining so many features, Ammoenio is the ultimate tool for disrupting conventional business models and the share-trading markets whilst also bringing innovation like never seen before into the way companies are being run.

Blockchain web app to notarise documents

Author(s): Sadir Abdul Hadi, Kristelle Feghali, Alexandru Chiriac; sadir.hadi.15@ucl.ac.uk;

Year Group: COMP205P

Client: ATOS

Technologies: Ethereum, Meteor.js

Abstract: Notarising and legalising documents can be tedious, long and expensive. Shortening the long chain of signatures that are needed to authenticate documents can hence be quite useful.

Blockdocs is a web app which uses the Blockchain technology to allow this.

Exogame

Author(s): Vu Luong, Khurana Arjun, Hyojong Kim; Zac.luong.15@ucl.ac.uk, arjun.khurana.15@ucl.ac.uk, justin.kim.15@ucl.ac.uk;

Year Group: COMP205P

Client: ATOS

Technologies: Vuforia, Unity, Augmented Reality

Abstract: Augmented Reality project for more interactive advertisement with personalized reward system.

Pano - The social network taking a wider perspective

Author(s): Johannes Landgraf, Florian Obst, Liko Xie, Lucas Valtl; johannes.landgraf.16@ucl.ac.uk, florian.obst.16@ucl.ac.uk, li.xie.11@ucl.ac.uk, lucas.valtl.16@ucl.ac.uk;

Year Group: COMPGC02

Client:

Technologies: Hosted on Azure - developed with html, php, javascript, angular.js and SQL

Abstract: Pano - The Social Network Taking a Wider Perspective

www.panoapp.co.uk

Together with a maturing utility infrastructure for panorama pictures there is a need for a simple, well designed social network focusing on uploading, sharing and interacting on high-quality panorama pictures. We think that Panoramas are the first step for developing a social network made for the world of AR and VR disrupting the way people think about communication. That is what drives us and the creation of Pano. Help us to spread the word!

Made with <3

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