

GradEX2011



Dear Visitor,

We are once again delighted to welcome visitors, old and new, to our annual exhibition of work undertaken by students in the Faculty of Computing, Engineering and Technology at Staffordshire University. GradEX has been running for more than 10 years and is a well established diary fixture showcasing work undertaken by final year students as part of their project. The purpose of the exhibition is to enable students to show their work to their colleagues, to staff, to prospective employers and to members of the public.

The opportunity to explain their work to others plays an important part in the formation of our graduates. Also it is an opportunity for employers to speak to graduates on a more personal basis, and frequently leads to offers of jobs being made to our students.

As previously, GradEX 2011 is sponsored by a range of employers and professional organisations. We are very grateful for the support that we receive and for the added esteem that this brings to the exhibition.

The sponsorship also serves as a mark of the recognition that employers have for the work of students.

This year we have decided to combine GradEX with our InnovateFest event in which we exhibit the research work carried out by staff and research students, often in collaboration with an employer or partner. Visitors to the faculty will therefore be able to benefit from seeing both exhibitions on the same day.

GradeX and InnovateFest enable us to celebrate the achievements of our students and of our researchers and we hope that you will enjoy the day with us and share in that celebration.

Best Wishes

Professor Michael Goodwin
Dean of Faculty of Computing, Engineering and Technology


Main Event Sponsors



North Staffordshire Branch



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This is a multicultural and global business that believes as strongly in the latest thinking as it does the latest technology. As part of our team, you could enjoy the best of both worlds while leaving your legacy.

ABB is one of the world's most exciting companies. It is full of opportunity, innovation and interest. We are right at the heart of some of today's most important issues – sustainability, alternative energy, energy efficiency, productivity and continuous improvement.

Whatever your particular skills, at ABB you can contribute to world-class projects that truly shape the world. And all the while you will be adding to your own expertise and creativity. Our graduate programs offer you the opportunity to work in

different countries and to experience diverse work cultures and job assignments.

ABB's commitment to engineering extends to its close links with the industry itself, including notable industry bodies. As an example it was a founder member of the Institution of Engineering and Technology (IET) Power Academy that involves leading companies from the power sector together with top universities, consultants and other bodies. The academy exists to encourage talented students to get involved in engineering and technology.

We recognize that the recruitment and retention of graduates is a key element in the ongoing success of our business. The aim of our recruitment process is to ensure we understand your career goals, aspirations and experience, and you have the opportunity to decide if ABB is the right place for you.

So why not come and see us at GradEx? Or for more information email us at recruitment@gb.abb.com or call **01785 285854** or visit our website www.abb.co.uk



Alstom is a global leader in the world of power generation, power transmission and rail infrastructure and sets the benchmark for innovative and environmentally friendly technologies. Alstom builds the fastest train and the highest capacity automated metro in the world, provides turnkey integrated power plant solutions and associated services for a wide variety of energy sources, including hydro, nuclear, gas, coal and wind, and it offers a wide range of solutions for power transmission, with a focus on smart grids. The Group employs 96,500 people in more than 70 countries, and had sales of over 23 billion * in 2009/10.

*Proforma figures

Alstom Grid, the newest sector of Alstom, has over 100 years of expertise in electrical grids. Whether for utilities or electro-intensive industries or the trading of energy, Alstom Grid brings power to customers' projects and ranks among the top 3 in the electrical transmission sector with a sales turnover of approximately 3.5 billion in 2009.

It has 20,000 employees and over 90 manufacturing and engineering sites worldwide. Its four main business areas are Products, Systems, Automation and Service. At the heart of the development of Smart Grid, Alstom Grid offers products, services and integrated energy management solutions across the full energy value chain - from power generation, through transmission and distribution grids and to the large end user. Alstom Grid employs over 1400 people in Stafford and is part of Alstom UK employing over 6,500 people across 30 locations in its three business sectors of Grid, Power and Transport.



North Staffordshire Branch

Our mission as BCS, The Chartered Institute for IT, is to enable the information society. We promote wider social and economic progress through the advancement of information technology science and practice. We bring together industry, academics, practitioners and government to share knowledge, promote new thinking, inform the design of new curricula, shape public policy and inform the public.

Our vision is to be a world-class organisation for IT. Our 70,000 strong membership includes practitioners, businesses, academics and students in the UK and internationally.

Joining BCS is a great idea...

As a Student member of BCS, The Chartered Institute for IT, you'll enjoy a huge range of benefits to aid your studies including:

Networking opportunities

- Access to top people and latest thinking in IT
- Dedicated Young Professionals Group (YPG)
- Online Member network
- 40 UK branches and 15 international sections
- 50 specialist groups

Free online library

- Books 24/7 – 250 IT and business related e-books
- Up to 3 Forrester Research reports a month available to download
- EBSCO databases – over 9000 journals and magazines on IT and science

Online services

- Weekly and monthly e-newsletters
- Latest IT industry news
- Upcoming events, seminars and job opportunities

Professional development

- First step towards Professional membership (MBCS)
- Recognition from leading IT organisations
- Defined route to Chartered IT Professional (CITP) status

Career development tools

- Map out your career path and discover the skills you need
- Plan the training and development you'll need to get there
- Get advice on writing CVs and letters and interview techniques
- Access the latest jobs via www.bcsrecruit.com



CHI Premier helps successful business owners to use IT to improve their businesses. From SMEs to blue chip brands, CHI Premier clients are relieved of their IT headaches and therefore are able to free up more time and focus on their core businesses, confident in the knowledge that their IT is expertly managed by CHI Premier's experienced consultants.

Key services from CHI Premier include:

- Cloud Computing
- IT Communications
- IT Support Services
- Disaster Recovery
- Business Continuity Services
- Software Development

CHI Premier Ltd is a subsidiary of CHI Informatics PLC. Since their launch in 1995, the CHI Group has always been associated with technical excellence and innovation. CHI's expert IT knowledge and track record of practical experience have helped 100's of customers across the country shape their IT Strategy, successfully deliver complex projects and programmes, and protect their organisations from the risks of disaster.

CHI Informatics

CHI Informatics PLC focuses on the specialist field of IT for the medical sector. Their flagship product, RenalPlus, can be found at the heart of dialysis facilities across the UK from Inverness to Truro.

As well as products, CHI Informatics provides consultancy services in the following areas:

- IT Strategy
- IT Programme and Project Management
- IT Related Change Management
- Risk Management
- Business Continuity
- Lean Six Sigma

CHI Informatics' clients are major names including NHS Trusts, Strategic Health Authorities, the Department of Health, Cap Gemini, EDF Energy, BT Health, SITA and Orange Business Services.

CHI Premier is a natural choice to sponsor GradEx and is proud to be associated with this event.



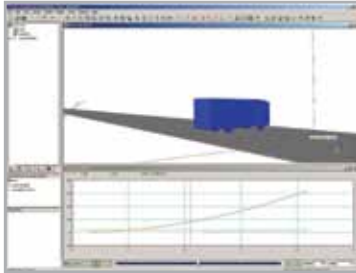
Stephen Clews

BSc(Hons) Motorsport Technology

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New Design of Front Wing for a Formula Renault 3.5

In this project a CFD analysis and FEA analysis will be conducted on 5 new front wings designed for the Formula Renault 3.5 competing in the Renault World Series. A rapid prototyped scale model of the best overall front wing which provides the best aerodynamic performance and structural integrity will then be produced.



Rob Cox

BEng(Hons) Forensic Engineering

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The Effects of Cross-Wind upon High Sided Automotive Vehicles

High sided vehicles are highly susceptible to crosswinds this often leads to the vehicle toppling. My project is concerned with modelling the effects of crosswind upon such vehicles. The model could be used to accurately predict the reaction of a vehicle under the effects of a crosswind in different conditions.



Gordon Fisher

BSc(Hons) Motorsport Technology

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Camber Adjustable Suspension Mount for Macpherson Strut Suspension System

An investigation into the effects of camber angle change on a track day road car in order to design an adjustable camber mount to allow for easy adjustment between road and track biased angles.



John Henderson

BSc(Hons) Motorsport Technology

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Design of a Lightweight Motorcycle Frame for a Road and Race Application

The intention of this project is to design a light and stiff chassis that could be used on road going motorcycles and also homologated for racing purposes. To achieve this, designs that are currently in use will be analysed and a final design will be modelled in Pro Engineer and a material and process selection will be performed with CES.



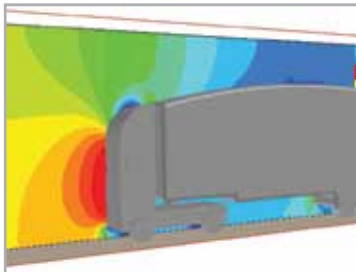
Ryan Hextall

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Motorsport Wheel Retention Device

This project focuses around fast pit-stops being the key to success in Motorsport events. This is the area where races can be won and lost. The design of a new wheel retention device could make or break a team's race season. The project will cover design, safety and performance.

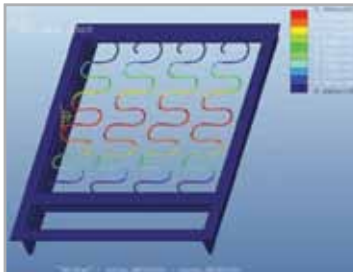


Mark Hoggarth

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CFD Analyst of the Aerodynamics of HGV's
Lorries and trucks are the backbone of the modern world. Nearly every company rely on HGV's to transport and deliver goods all around the globe. This project looks into the aerodynamics of the modern HGV and analyses the different aerodynamic features available to reduce the drag coefficient thus saving money on fuel costs.



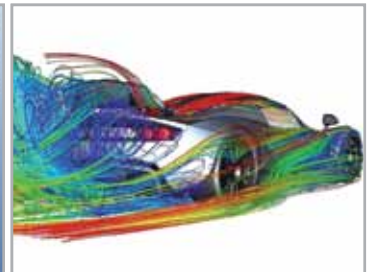
Karl Johnson

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An Environmentally Friendly Car Seat Design

The aim of the final year project is to establish whether a design of a more environmentally friendly car seat can be produced. This will be assessed by researching into current seats being utilised by vehicle manufacturers and current materials and design techniques available.



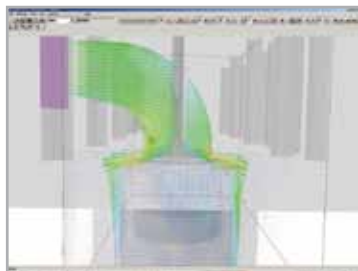
James Kong

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Comparison of Phoenix and Ansys CFD software

The aim of my project is to compare two industry standard software packages and to determine which one is better and why. During the course of my project, simulations will be run on both packages and a comparison of the results will be made.



Matthew Large

BSc(Hons) Automotive Technology

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Analysis of a Siamese Port Engine

This project looks at the problems faced with Siamese port engines with regards to performance, efficiency and emissions emitted. Using industry standard software packages an alternative design has been developed with a comparison of the two carried out highlighting the improvements gained.

Greenpower
INSPIRING ENGINEERS

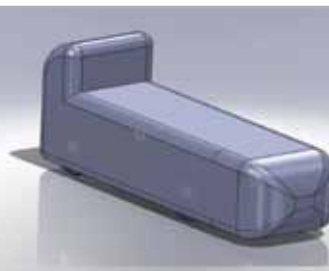
Tanya Little

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The Chassis Build of a Formula 24+ Greenpower championship

The project looks into the types of chassis and the design of a chassis for a formula 24+ vehicle which will compete in the greenpower championship. The project will look into the best type of chassis to use and will perform a stress analysis to make sure that the vehicle is safe if the vehicle is crashed.



Hannah Sykes

BSc(Hons) Motorsport Technology

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Aerodynamic Analysis of a Body Shell for the Greenpower F24+

The project is to research and design aerodynamic shells for the Greenpower 24+ competition. The project looks at aerodynamics and uses computer software to design and analyse the ideas I produce. The analysis will provide information to decide the best aerodynamic shell for the project.



Vincenzo Tagliarino

BSc(Hons) Automotive Technology

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The Detrimental Effects of Slipstreaming in Motorsport

A CFD investigation into the issue of the "slipstream effect" in top class motorsport. The primary focus being on the lack of overtaking and competitive racing within winged class motorsport and how these issues can be overcome with a possible change of regulations.



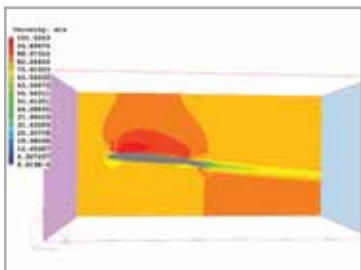
Adam Tanner

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To Analyse and Model a Honda CR250

An investigation is undertaken to increase the engine performance of a Honda CR 250 single cylinder two stroke engine for kart racing applications. This is achieved by using engine simulation software and Computational Fluid Dynamics (CFD) packages for the inlet system of the engine.



Jack Trusler

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Study into Wing in Ground Effect Vehicles

Wing In Ground-effect (WIG) craft are an untapped mode of transport capable of transporting huge loads at high speeds. Using a variety of methods I designed, produced and analysed my own WIG craft in order to evaluate the viability of ground effect craft for both civil and commercial use.



Steven R Wade

BSc(Hons) Automotive Technology

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Engine Con Rod redesign and FEA Project

This project looks at the possibility of reducing the mass of a connecting rod inside an internal combustion engine. This will be achieved by looking at using voids, or different cross section geometry. The model will then be run in a FEA software package to check that it will meet the limits calculated for the forces within the engine.



Oliver Ware

BEng (Hons) Automotive Engineering

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Make a Wishbone

I have been asked to design and develop an adjustable suspension system for a Ford Fiesta that is to be used on both race-circuits and the drag-strip. My design allows control over the tyre contact patch by offering easy adjustment of the camber and castor angles of the front wheels.



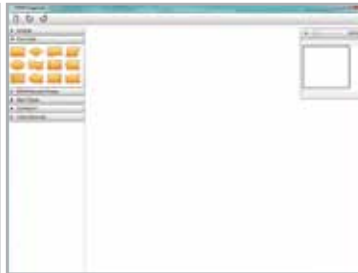
Natasha Allsopp

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Android Mobile Application for Small Hotel Management Automation

Android-based mobile application designed for hotel owners. The focus is to enable room reservations to be taken while on the move. Other functions include meal booking, parking reservation, customer invoicing and income/expense reporting. Built with a local SQLite database, the application synchronises its data with a networked database.



Adam Baker

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Business Process Modelling Software

Business process engineering or re-engineering is an area of business computing that can provide massive benefits to a company. This project aims to produce a prototype business process modelling tool that, through the use of graphical elements, allows users to see the benefits of the re-engineered process.



Andrew Bennett

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Server-side Application Manager

An application manager for server-side applications that combines automated application deployment as a web service with application monitoring and resource control. It aims to maximise the value of server-side solutions by exposing them with minimal configuration via a web service. Ensures applications perform as intended by configuring permissible system resources.



Amy Catterick

BSc(Hons) International Information Systems

A Prototype Asset Management System for an NHS Hospital

The economic recession has had a distinct impact upon the NHS as a whole. For it to continue to offer high quality services, the facilities provided need to make greater innovative developments to increase productivity, remain up to date, as well as better demonstrate value for money within asset management.



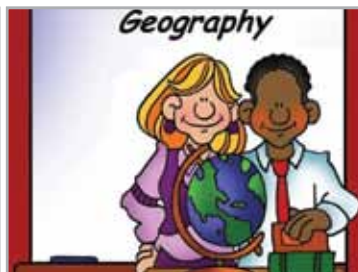
Bradley Cornwell

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An Interactive Online Football Information System

This project provides an online interactive information system to all football fans, giving them easily accessible interactive information about their favourite teams; not only providing up to date stats and results but also providing analysis and opinion and a platform to debate.



Sarah Cottis

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Personalised Interactive Learning Application for Key Stage 2 Geography Pupils

The project is a learning application for Year 5 (Key Stage 2) students studying Geography. The learning application takes into account the learning style of the student when presenting the information. The two learning styles which will be focused on are visual and auditory.



William Edwards

BSc(Hons) Applied Computing

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A Mole for the 21st Century

Design and application of a "Mole", or "foot mouse", interface software and input output controllers to assist disabled, or able-bodied users with PC use, appliance control and eating requirements, exploring various alternative methods by modifying currently available technology.



Dan Goodall

BSc(Hons) Applied Information Technology

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Prototype for a Help System for Windows

This help system is designed aid new users of Windows to gain help with, and solutions to, problems more efficiently than existing sources of help. The system is initially intended for a specific client but could be introduced to a wider audience with future development.



James Hackett

BSc(Hons) Mathematics with Applied Statistics

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Analysis of the Suitability of Musical Instruments to Children

I am investigating whether there is a statistical link between a child's attributes and their suitability to playing a certain musical instrument. I shall analyse the collected data in a statistical software package and try to fit a regression model that will then be used to make a prediction.



Kirsty Hort

BSc(Hons) Technology for Teaching and Learning

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The Diet Assistant

A computer based diet application that provides support and information to help dieters stay on track, aiding weight loss and motivating users as they track their diet using calorie counters and BMI calculators. Downloads will be available to update the application which could also be a mobile phone application.



Owen Jones

BSc(Hons) Computer Science

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Prototype Tracking System for GPS-enabled Devices using the Android Platform

This project aims to design and develop a prototype tracking system that will monitor and report the position of mobile devices. Making use of the Android platform and GPS technology, this project is intended to demonstrate how location based services on the latest generation of mobile devices can benefit an organisation.



Ali Xavier Rashed Mirza

BSc(Hons) Business Computing

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Online Band Profiling and Gig Manager

A website to aid musicians and bands in promoting their music online. An easy platform for musicians to use to spread their music and create a fan base. Every musician will have their own profile and space where they can list their gig dates and when they would be available to perform.



Thomas Molloy

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LBS Service for Students for Administration

A location based service prototype application to further aid students in navigation around a campus environment while providing them with updateable information from an Internet based service. It provides room usage information and student attendance registration services.



Holly Parr

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Developing a Predictive Student Number Model for Staffordshire University

This project aims to find an enrolment number model for Staffordshire University and then create a worksheet that will allow the University to predict enrolment numbers for the following September. It will look at which factors in the application process best predict whether a student will enrol on that course.



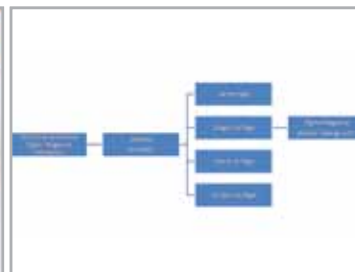
Sabina Rashid

BSc(Hons) Applied Multimedia Systems

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Online Virtual Tour for an Interior Designer 'Unique Designs'

This project is based upon a Virtual Tour for an Interior Designer, which will allow the client to view their portfolio without them being there in person. Also, this system will allow the client to be able to change the colour of the walls or the texture of the tiling.



Thomas D Riddle

BSc(Hons) Applied Information Technology

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An Online Interactive Digital Magazine Application

The online interactive digital magazine application is a comprehensive aid for Stoke City supporters' on the move. The application projects the history of the football club and enables users to interact with types of rich media. The application demonstrates the use of the internet, through the application's accompanying online website.



Gary Robbins

BSc(Hons) Computing Science

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A Holiday Management System

Despite the abundance of technological systems throughout organisations, many still use textual based or limited electronic procedures to record and manage organisational holidays. This project has developed a modern alternative to these antiquated procedures with the development of a comprehensive system that allows employees and managers alike to request and manage their organisational holidays.



Robert Smith

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Aquarium Management System

Aquariums are complex eco systems that can support a wide variety of aquatic life, making maintaining a healthy aquarium a huge challenge. This project aims to develop an aquarium monitoring and management system for use in large scale, commercial aquarium exhibits by communicating with a wide range of remote devices.



Kerry Stubbs

BSc(Hons) Business Information Technology

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Project Proposal for a Home Sensor Device

This is a business proposal for a device that will be linked through sensors to different appliances throughout the home. The device will indicate to the user which appliances (that are connected) are switched on/off. An alarm panel and a temperature control will be included within the device as separate functions.



Katherine Tran

BSc(Hons) Digital Applications for Creative Technology: Interactive Multimedia

Schoolbook VLE

I have created a VLE website, which allows teachers, students and parents to keep in close contact with each other. This site also allows students and teachers to download and upload files such as homework and/or classwork.



Paul Wood

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Educational Learning Environment Server Application

Extensive research in a mobile phone information server application has shown vital elements, with a growing niche in today's technological market, helping to deliver knowledge & information across an Automated Learning Environment Information System, in a more cost effective and productive manner through the growing need for outsourcing.



Michael Yeomans

BSc(Hons) Applied Information Technology

A Website for Staffordshire University's 5-a-side League

The 5-a-side league is one of 80 clubs and societies at the University with 21 teams and over 170 members, making it one of the most popular clubs. My project was to create a website which facilitates the needs of the existing members and help attract new members.



Peter Young

BSc(Hons) Business Information Technology

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Recruitment Management Application to Support Experian QAS

Analysis of the current system at Experian QAS to produce a better Recruitment Management Application process. Aims to improve communication between departmental managers and Human Resources, reduce response time to applicants, provide a structured method to record feedback and generate template response emails.



Craig Perry

BSc(Hons) Digital Applications for Creative Technology: Interactive Multimedia

Interactive Car Manual for iPhone/Android Phones

The application will act as a point of reference for people who might not know where to look for important information about the vehicle they are in.



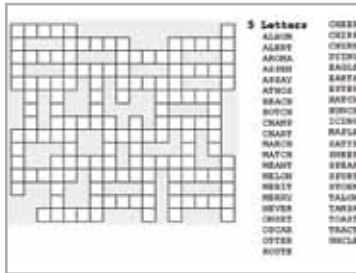
Simon Alexander

BSc(Hons) International Computer Science: Graphics

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Generating Fractal Images and Music

This project uses chaos theory and iterative algorithms to programmatically generate images and audio files. The aim was to use a variety of methods to make music and art that is enjoyable, as well as embodying the Greek idea that Mathematics is an art form.



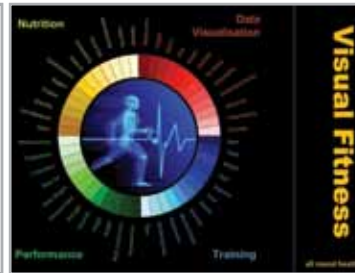
Thomas Barlow

BSc(Hons) International Computer Science

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Investigation of AI Techniques in Solving Kriss-Kross

An investigation into Computer Science and AI techniques that are used to solve logic puzzles. The aim in particular is to compare a variety of methods and their respective complexities in order to produce a suitable solver artefact.



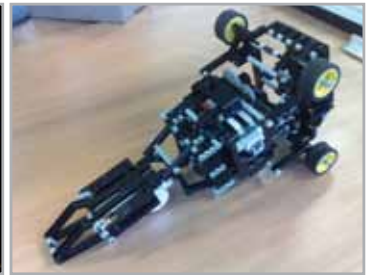
Nicholas Booth

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Health and Fitness Data Visualisation

The project investigates combining data using advanced data visualisation techniques to produce new insights into the relationships between nutrition, training and performance. 'Visual Fitness', a tool to enable an individual to interpret and understand, quickly and efficiently, the meaning of data through the use of interactive multidimensional data visualisation has been developed.



Martin Clarke

BSc(Hons) Software Engineering

Robot Crane Chess

This project is a LEGO game programme that allows people to play chess using a robotic crane system to move pieces and also play against a basic artificial intelligence. This system could be adapted on a larger scale to move heavy objects or hazardous materials with great precision.



Carola Daxlberger

BSc(Hons) Computing Science

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Signal Gathering and Communication for the ESA Interstellar Solar Sail Probe

Space Exploration goes deeper than ever with the ESA Interstellar Solar Sail Probe, which is going to escape the solar system and so communication and signal gathering for this long distance flight is also more important and more interesting than ever. The project will attempt a prototype of a way of communicating with the spacecraft.



Nicholas Fisher

BSc(Hons) Computing Science

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Relationship between JavaEE Server-side Applications and Android Operating System

This project revolves around the creation and deployment of a Java server-side blogging application that enables users to post 'blogs' online available for viewing in a browser environment. The second part of this project is a mobile 'app' for the Android OS enabling users to blog from their mobile.



KM Kanishka SB Herath

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A Tree Identifier using Image Processing and Pattern Recognition

This software is able to identify tree leaves using image processing. The user can give an image of a tree leaf which he wants to find the name of the tree it belongs to. The software is able to identify the leaf and is capable of finding the tree and showing the name of the tree to the user.



Stefan Huber

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Database-Agnostic, Event-Driven Object-Relational Mapper

The aim of this project is the creation of a library providing an object-oriented way to access different databases. The library should support various relational databases using a uniform interface and natively support relationships and will be implemented using JavaScript.



Rebecca Milgate

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Software Project Management Suite

A project management suite designed to support Project Managers and their team during the Software Development Life Cycle (SDLC). The main aims are to reduce wasted effort on repetitive tasks and support evolutionary software development.



Matthew Thomas

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Computational Grid Framework

A framework for developing and running applications over a network (Grid) of computers. The purpose of the framework is to decrease execution time of the applications by splitting work over multiple machines in the Grid.



Sai Sam To

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RFID Enabled Automated Lighting System

Using technology that is typically in industrial logistics and identification within a home environment for the creation of a tracking system that will enable an automated lighting system.



Christopher James Webb

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Medical Media Management for Mobile Devices

Medical Media Management System for submitting medical examination details on a mobile device to be formatted into personal document format. Supports customisation of examination questions and answers as well as easy modification of document output using CFML.



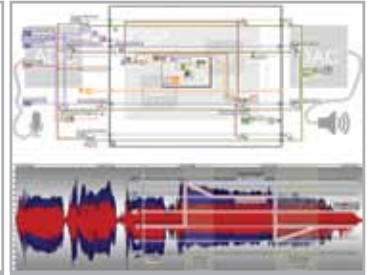
Chris Webb

BSc(Hons) Computer Science

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Scanning Application to Detect 'Flag' Words in Documents

This project researches document scanning and associated techniques, pulling together these aspects to implement an application which will have the ability to scan documents, detect words that may be of interest to crime and forensic bodies and produce intelligent reports based upon findings.



Adam Willden

BSc(Hons) Computer Systems

e: adam.j.willden@gmail.com

Real-Time Digital Audio Processor

The aim of the project is to develop a dynamic range audio compressor and investigate the hard real-time complexities faced in doing so. The system must handle the audio processing with minimal latency and high fidelity as is a common requirement in digital signal processing applications.



Rudy Albert

BSc(Hons) Product Design Technology

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The THREELEY - Workplace Goods Transport!

Worried about being injured at work or missing accessories during delivery? This wheeled device for transporting goods in the workplace, named THREELEY, is an innovative and ergonomic sack truck which can be used as a trolley or as a sack truck. It also gathers different useful features for delivery personnel.



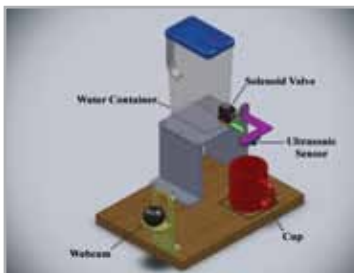
Anas Amjad

BEng(Hons) Electronic Engineering

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Implementation of a Multiple Face Detection System

Human activity is a major concern in numerous applications such as human computer interaction, video surveillance and face recognition etc. The most crucial step of these applications is to detect faces. Therefore, a face detection system is implemented to detect multiple faces in variable lighting conditions.



Lean Huat Chin

BEng(Hons) Mechatronics

e: nicholas_clh@hotmail.com

Smart Automatic Water Dispenser

The project aim is to build an automatic water dispenser. A webcam is used for cup height detection through image processing. While the water level will be controlled by a microcontroller which uses an ultrasonic sensor to measure the water level in real time.



Nadia Fatol

BEng(Hons) Mechatronics

e: nfatol@gmail.com

Quadriplegic Aids for Sailing

I needed to create software and hardware that allowed a quadriplegic person to sail using a sip/puff switch system. I worked on how to control motors, i.e. allow them to go forward, reverse or stop, even change their speed while giving feedback i.e. display the current and the voltage which run through the motors.



Rodolphe Franconville

BSc(Hons) Product Design Technology

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Coffee Machine for Quality Coffee

How would you have your coffee? The focus of this project is to find some innovative way to have a coffee. Through a new design of a groundbreaking coffee machine, create a new manner of drinking coffee.



Joseph Hall

BSc(Hons) Product Design Technology

e: JoeHall_1990@talktalk.net

Modernised Walking Aid

This product is designed to reduce the stigma surrounding walking aids. It is aimed at people in rehabilitation that are regaining the ability to use their legs. The product is a modernised aid that tracks and returns collected information to the individual allowing them to set their own goals and enhance their rehabilitation.



Daniel Hallam

BSc(Hons) Product Design with Management

e: daniel.hallam@darodesign.com

Contractors Combination Workstation

The product aims to assist and improve efficiency of electrical contractors working onsite. Onsite working encounters many issues, such as transportation of tools and communication issues, minimal electrical supply and need for a workstation. The product solves the issues and is all incorporated into a transportable modular system.



Jing Yang Lam

BEng(Hons) Mechatronics

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Vision System on Low Cost Robot Arm

Low cost robot arm operates with manually provided signal by the user to achieve movements to the specific location. The main idea of implementing a vision system onto the low cost robot arm is to make the robot arm autonomous where robot can make its own decision to move.



Siang Yew Lee

BEng(Hons) Mechatronics

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3D Plotter

Controller for a Cartesian robot enabling it to move its cutting tool in three dimensions. Similar to CNC (Computed Numerically Controlled) machine. Includes software to control the cutting path so user can input a simple 2D drawing into the computer and the robot arm will cut the designed shape in the metal.



Warren Leese

BEng(Hons) Mechatronics

e: warren_leese@hotmail.com

A Low Cost Vacuum-Bagging System for Composite Panel Manufacture

Carbon fibre panels and mouldings represent the future for many manufacturers such as the automotive industry. However, for low volumes, the cost of manufacturing equipment needed to produce these panels is prohibitive. I am investigating and looking to prototype a more cost effective solution that can be used intermittently within the workplace.



Kai Longshaw

BEng(Hons) Robotic Engineering

e: kailongshaw@live.com

Tele-Operated Robotic Arm(s) System

This project enables an operator to tele-operate a pair of robot arms through the use of a sensor suit using novel flex and accelerometer sensors to detect the position of an operator, which will control the arms positions. The system has been named TORA meaning Tele-Operated Robotic Arms.



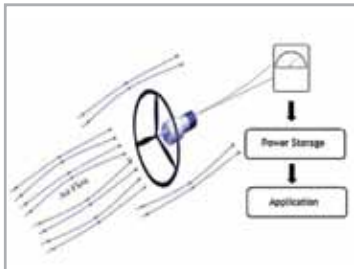
Frances Mapley

BEng(Hons) Mechatronics

e: crash19@hotmail.co.uk

Adapting a Canal Boat to Remote Control

My aim is to control a canal boat by remote control. By doing this I am helping people who travel by themselves on the waterways to go through locks and swing bridges. This will save the lock doors from getting damaged and allow people to continue travelling when they lose a partner.



Syazwan Mohd Sabi

BEng(Hons) Electronic Engineering

e: syazms@yahoo.com

Air Flow Energy Harvesting

Air flow energy harvesting technology can be implemented to numerous types of application such as small devices for parachute jumping, moving vehicle, battery charging and others. It is new and can be improved for electronic devices used daily, industrial, automotive applications and more.



Chou Zhien Ong

BEng(Hons) Mechatronics

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Sailing Control System for a Quadriplegic Sailor

A control system to help quadriplegics sail solo. This system is designed to control 4 motors with different speeds and direction at the same time and also to stop either all of the motors at the same time or only a single motor by using "Sip and Puff" inputs.



Maria Pérez Valero

BEng(Hons) Mechatronics

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Smart Materials Applied to Fencing

Quantum tunnelling composite is a flexible polymer that exhibits extraordinary electrical properties. In its normal state it is a perfect insulator, but when compressed it becomes a perfect conductor, which could be used in fencing sport with the intention to register touches during training. No long retracting wires are required as the person would be wearing a small lightweight electronic box.



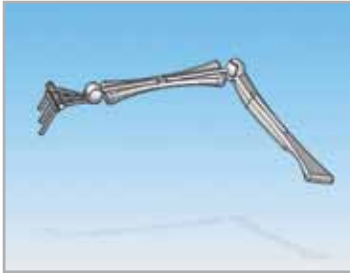
David Presas

BEng(Hons) Mechatronics

e: dpresasm@gmail.com

A Rams Based Standard Method Engineering Management Plan for SMEs

This project is to provide a Table of Cross Reference of Documents in MSeExcel® format with all of the phases of the Project Life Cycle, all technical documents listed and with the 5W's being Who, What, Where When and Why plus specific document describing all technical documentation shown in the Matrix.



**Alfonso Trabadela
Ramírez**

BEng(Hons) Mechatronics

e: dienekestr@hotmail.com

The A.H-A (artificial arm-hand)

My final project: The A.H-A (artificial arm-hand) is a wearable exoskeleton of the upper limbs, useful to avoid the involuntary movements and tremor in the hands and arms of Parkinson sufferers, improving their daily life. The A.H-A acts like an aid using dampers and a pure mechanical system.



Robert C Smith

BSc(Hons) Product Design Technology

e: robert.smith@darodesign.co.uk

Improving the Productivity of Teleworkers in a Home Environment

The project is an investigation into the efficiency of current Teleworking methods and a subsequent solution to improve the productivity for a particular chosen market segment. The study addresses the most common issues affecting home working performance, and provides a realistic and viable solution to these problems.



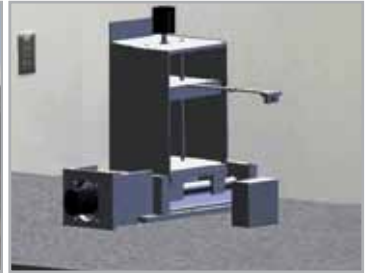
Phillip J Smith

BEng(Hons) Mechatronics

e: phill-smith@live.co.uk

HGV Crane Overload Protection System

Designing a system to output a signal that can be used to restrict the available power a crane is able to use and review current load sensing. New legislation restricting a crane's lifting capacity in accordance with the extension of the legs will affect industry including my employer, Manifold Commercials.



Hooi Ling Teh

BEng(Hons) Mechatronic

e: hltehice@yahoo.com

Surface Quality Check Using Ultrasonic Detector and Computer System

This is a surface quality check system using ultrasonic sensors to detect the flatness of the plane and spherical surface. A PIC microcontroller is used as controller and MATLAB calculates the pulse signal that the PIC18F4550 receives from the ultrasonic sensor and the data is displayed on a Graphical User Interface (GUI).



Choong Sean Teo

BEng(Hons) Mechatronic

e: sean_teo89@live.com

Inverted Pendulum

Demonstrating how the inverted pendulum works using a closed loop feedback control system. The inverted pendulum is a classical model with non-linear movement. It consists of a mass that hangs on a pivot point on a movable cart and closed loop feedback control system.



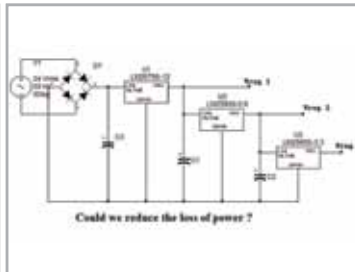
Jason Whittaker

BSc(Hons) Robotic Technology

e: webswitcher@hotmail.com

Kinematic Modelling and Tilt Correction using a Spider Robot

This project is based on a mobile spider robot with the focus on the kinematic modelling and tilt correction. The robot base has eight legs with three joints on each leg which can be controlled independently allowing it to walk as well as adapting to varying degrees of tilt.

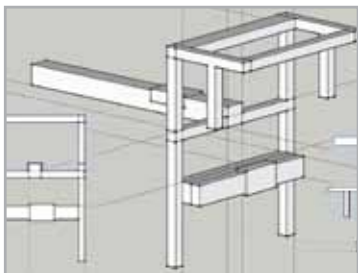


Boon Peng Tee

BEng(Hons) Electronic Engineering

AC to DC Conversion. How much is lost?

This project is about an investigation of power efficiency between single output power converter ranging 3.3V, 5V and 12V and a multiple output power converter in cascaded three voltage regulator. The conversion efficiency of each three single output power will be compared to the multiple output converter for further analysis.



Karl Barnes-Dallas

BSc(Hons) Film Production Technology

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Stereoscopic 3D with the use of Digital SLRs

An investigation into stereoscopic 3D with the use of Digital SLRs. This project aims to research the technologies and techniques of both 3D and Digital SLR in order to build and create a custom affordable 3D rig and a final product of 3D video demonstrating different types of stereoscopic 3D.



Philip Beech

BSc(Hons) Film Production Technology with Management

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Camera Techniques used in Time Lapse & High Speed Photography

How techniques are used in modern film with regards Time Lapse and High Speed Photography and is it possible to combine both of the contrasting areas to produce a technically remarkable film? New areas are explored, as footage ranging from 25-2000 fps are combined.



Stacey Brennan

BSc(Hons) Film Production with Music Technology

e: stacey.brennan@live.co.uk

The Relationship between Audio and Visuals

This project explores and outlines the importance of the relationship between audio and visuals. The study looks at both sides of audio and visuals; how well they work individually and together. The outcome of this will prove just how important this relationship is and how it is often taken for granted.



Tom Butcher

BSc(Hons) Film Production Technology with Management

e: tom_butcher1990@live.co.uk

Music Video

This project explores how to create a professional, exciting music video and how to market it in the current economic climate. The study investigates first hand the whole process from story boarding to editing to marketing.



Francesco Calvano

BSc(Hons) Film Production Technology with Management

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The OB Crowd Ltd – Outside Broadcast Systems & Solutions

Introducing Telegothika @ The OB Crowd: Freelance Lighting Cameraman & Outside Broadcast Designer + Director. Francesco Calvano - aka "Telegothika" has designed & is building an O.B production-control scanner as part of his FYP research. On display are the schematics & diagrams, the obligatory show-reel & images of the unit.



Vic Casambros

BSc(Hons) Film Production Technology

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The Past, Present & Future of Mobile Recording

An investigation into the advancement of mobile recording technology, looking back at old school tech, and how cameras were huge stationary monsters, and how through technology convergence have now evolved into tiny gadgets we have today.



Phil Cramp

BSc(Hons) Film Production Technology

e: phil133@fsmail.net

The Lesbian, Gay, Bisexual and Transgender Community Examined

An investigation into the technological aspects and requirements of creating a documentary film, exploring different visual and narrative techniques. The result is "The Same 4 Letters" – an insight into the LGBT community in the UK, their battle for civil rights and how they are perceived by today's society.



Ben Dawson

BSc(Hons) Digital Film and Post-Production Technology

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The Effects of Editing and Colour Grading on Film

Looking into different styles of genres to see what defines them by focusing and analysing the psychological side of colour grading and the different pacing of the edit sequence, focusing on different genres such as drama, horror and action.

HUMANOID PRODUCTIONS LTD

Martyn Lomax, Tom Down, Chris Gandy, Ant Thane

BSc(Hons) Film Production Technology

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Humanoid Productions Ltd

Humanoid Productions Ltd incorporated in 2009 as an industrial placement by four Film Production students. After a year's successful trading with a wide range of industries, Humanoid focused their final year's study into advanced camera mechanics, compositing and sound design, enhancing the company portfolio and standing poised to take on the industry.



Edward Fairweather

BSc(Hons) Film Production Technology

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The Progression of Digital Cinematography Technology

It's an investigation into where digital technology has progressed from and where it is progressing to and how it has benefitted cinematographers whether they are in the industry or independent or amateur.



Emma Farrugia

BSc(Hons) Film Production Technology

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Colour Representation in Filmmaking

How does colour affect the audience within filmmaking? Why do different cultures associate colours with certain emotions and how can technology within filmmaking create emotions for the audience? With the use of particular programmes and techniques this project aims to answer these questions.



Andrew Finch

BSc(Hons) Film Production Technology

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Post Production Techniques for Genre

A war has wiped out the world. Few people survive. How do you create this on film? Focusing on the Post-Apocalyptic genre this project looks at using post-production techniques to create a realistic world within film. Techniques such as editing; grading and basic compositing will all be on show.



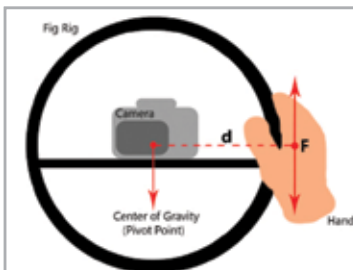
Leocadia Foya

BSc(Hons) Film Production Technology

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Evaluating the Psychology, Art and Techniques behind Colour Correction

This project examines the psychology, art and techniques behind colour correction for video. The concept of "Colour" has been explored in numerous disciplines and different areas within the industry. This project focuses on the influence that colour corrected motion images have on the modern day audience.



Luke Fraser

BSc(Hons) Film Production Technology

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Grip on a Micro-Budget

With continuing advances in cameras and technology, Grip equipment is also adapting. This project looks at the implementations of low film budgets with regards to camera equipment. Both professional and DIY equipment is compared to observe if a specifically designed rig can out-perform an already existing piece of equipment.



Hannah Gardiner

BSc(Hons) Film Production Technology

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Self-shooting within the Factual Documentary Genre

The aim of my investigation is to demonstrate a thorough understanding of the techniques used by director/producer self shooters within the documentary genre. The investigation concentrates on factual documentary film making for television. The knowledge and skills acquired have been applied in the production of a twenty-minute self-shot documentary.



Ashley Grant

BSc(Hons) Film Production Technology

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Investigation into Digital SLRs as Cinema Cameras

DSLR cameras have in recent years included video performance capabilities. This convergence of video recording function with DSLRs is relatively new and forms the foundation which this investigation is based upon. This investigation is designed to ascertain what DSLRs offer in terms of technology, image quality and functionality.



Stuart Hackshaw

BSc(Hons) Film Production Technology

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The Power of Visual Storytelling

'Show, don't tell' this is one of the cardinal rules of filmmaking. This project aims to show how with a solid understanding of visual storytelling you can create something truly cinematic. The project involves the examination of visual storytelling techniques, with their application in the short film 'The Yellow Wallpaper'.



Amy Hill

BSc(Hons) Film Production Technology

e: amyhill24@hotmail.co.uk

The use of Motion Graphics in Music Videos

Exploring how motion graphics have come to be so popular in mainstream music videos and the advances in technology that have aided the growing industry. A 1960's style music video for an up-and-coming band will be produced using a combination of real life footage and modern methods of creating motion graphics.



Jemma Hodkinson

BSc(Hons) Film Production Technology

e: jemmahodkinson@googlemail.com

Triphazard "24 Hours" Music Video

An in depth investigation researching into the cinematography techniques used within music videos and music genres, enabling a specific and desired visual style to be created. Producing a promotional music video that enhances the viewing of a music track, altering the audience's perception of the track in a positive away.



Theo Hogben

BSc(Hons) Film Production Technology with Music

Eyes of a God

My project is to create a film using light outside the visible spectrum and bring it into the visible spectrum. UV lights are used to illuminate the subject, while a digital camera creates a pseudo colour to produce an image.



Michael Holiday

BSc(Hons) Film Production Technology

e: lucidproductions@hotmail.co.uk

Representing the Dream State on Video

For my final year project I have attempted to create an accurate representation of dreams using digital video. This was done by making a short surreal film called "Fragments" as well as a dissertation on the project. The film follows a man's confusing journey through his dreams.



Andrew Howath & James W Sieradzki

BSc(Hons) Film Production Technology

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andrewmakeshift@gmail.com
w: <http://www.facebook.com/lacesfilm>

Laces

'Laces' is a feature film by Director James W Sieradzki and Assistant Director Andrew Joseph Howarth. The pair also wrote, produced and contributed to every other aspect of the film. A project considered too huge for third year students but not big enough to stop the pair's ambition.



Tim Knight

BSc(Hons) Film Production Technology

e: timknight6@hotmail.co.uk

The Power of Colour in Film

Creating emotions within a film is important for engaging the film audience. This project looks at the role of colour in this process and the real power it has in creating meaning and changing perceptions. The portfolio piece will be a short film that demonstrates this power.



Zoe Lawson

BSc(Hons) Film Production Technology

e: cat17@hotmail.co.uk

Using Animation to Create a Music Video

This investigation will look into techniques to create a stop motion animation video. The Author will design, research, test, create, film and edit the piece. A music video will then be produced using a combination of live action, claymation and green screen to help promote a local punk-rock band.



Matt Longman

BSc(Hons) Film Production Technology

e: mattlongman@me.com

An Investigation into Render Farms & Network Rendering Technologies

The aim of my project is to gain an in-depth understanding into the past, present and future of render farms and networking rendering technologies, and to make this information more accessible to those in the TV and Film industries.



Alex Mead

BSc(Hons) Film Production Technology

e: mead.alex@gmail.com

Experimental Music Video Production

Taking an insight into the world of experimental music videos, researching into experimental film, artistic and technological ideas for the portfolio pieces – a set of original experimental music videos. This project is about pushing the boundaries of modern video and its coupling with audio.



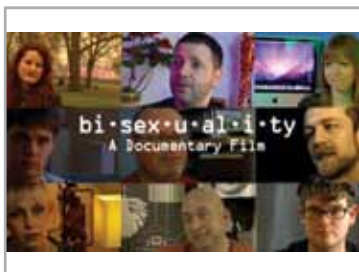
Ryan Moore

BSc(Hons) Film Production Technology

e: ryan.jd.moore@gmail.com

Investigation into the Production of a Short

The aim of this project is to create insight into the elements involved in a production and ultimately the audience reception to the finalised actions on-screen. How production design technically manipulates the final product; by working with two artists directing themes on-screen through dialogue, and character improvisation.



Alex Morris

BSc(Hons) Film Production Technology

e: alexmorrisfilms@hotmail.co.uk

Investigation into Documentary Technology

This project is an investigation into documentary technology, including – lighting, cameras and editing. Research has been completed on these elements and such aspects as Documentary Storytelling. This research has then been applied to a documentary film about Bisexuality, a rather under-explored subject in the Documentary Genre.



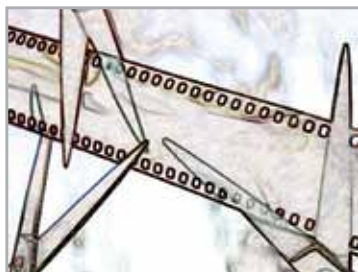
Stephen Neeson

BSc(Hons) Film Production Technology

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w: snbinaural.wordpress.com

Binaural Soundtracks for Mobile Multimedia

An investigation into the use of binaural recording techniques in soundtracks for mobile multimedia. Binaural creates the perception of a fully 3D sonic field around a listener; putting them at the centre of the environment. The effect is unique and dramatic. Binaural soundtrack could give mobile media devices a unique user experience.



Ben North

BSc(Hons) Film Production Technology

e: ben.north1@hotmail.co.uk

Advanced Editing Techniques with Film Production

The main objective is to experiment with different editing techniques using such software packages as Final Cut Pro, Apple Color, Soundtrack Pro and Adobe After Effects. Using these various platforms to help achieve a unique and complex edit.



Joshua Orr

BSc(Hons) Film Production Technology

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w: www.joshuajorr.com

**"University Challenged"
– Camera Operation and Technology for British TV**

This project investigated the camera technology normally used in the production of British television, which normally require quick turnaround times and relatively low budgets, through the production of a new sitcom, "University Challenged".



John Oughtred

BSc(Hons) Film Production Technology

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Exploring Image Communication in Different Semiotic Environments

Investigation into whether the audience can read the same image communication about a character in different semiotic environments.



James D Pearson

BSc(Hons) Film Production Technology

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w: www.jamesdpearson.com

Stereoscopic 3-D Imaging and Technologies

Investigating Stereoscopic 3-D technologies, stemming from the recent resurgence of 3D in cinemas and in other forms such as TV, this study attempts to answer the question of whether 3-D is 'here to stay' or whether it is a craze that is likely to pass as it did in the mid 20th Century.



Sam Renton

BSc(Hons) Film Production and Music Technology

e: samrenton@tentaclemedia.co.uk
w: www.tentaclemedia.co.uk/Zero-g

Zero G

Zero-G is a vibrant, exciting, fantastical stop motion animation about one man's ambitions of flight. When one of his many attempts goes wrong he discovers the earth he inhabits is not all that it seems. The animation uses challenging stop motion techniques to create a unique effect.



Jacob Andrew Rexstraw

BSc(Hons) Film Production Technology with Multimedia Computing

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Stereoscopic 3D for Multiplatform Distribution

The process of creating a Stereoscopic 3D production entailing learning the pre production process, i.e. Scripting and Storyboarding, as well as the production process, i.e. Filming using a Stereoscopic 3D rig with a twin camera system, and the post production process, i.e. Editing 3D, Grading 3D, and Exporting 3D content for professional multiplatform distribution.



Sarah Roberts

BSc(Hons) Film Production Technology

e: sarahroberts1989@hotmail.com

British Crime Drama - Traces

This project investigates British Television Drama and how a camera operator's role has changed over recent years within the industry. This also involved producing a fifteen minute drama pilot episode as part of a Television Series.



Samantha Roper

BSc(Hons) Film Production Technology

e: samanthajroper@yahoo.co.uk

Post Production Techniques and Digital Colour Grading

This project is based around colour within modern film and the development of editing over time. The practical piece shows the knowledge gained through research and is produced in the style of a promotional trailer for a potential television series.



Jonathan Ryan

BSc(Hons) Film Production Technology

e: jonryan2006@gmail.com

Investigation into Interactive Media

My final major project titled An Investigation into Interactive Media is a look at the progression and future prospects of interactive media. Through research and testing it will focus on 360 degree cinema. This could be projected onto a curved screen or the user can control the axis of the camera on a normal screen.



Patrick Shelton

BSc(Hons) Film Production Technology

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Storyboarding for Film

My final year project is an investigation into the different methods of pre-production visualisation and their use in modern-day filmmaking. The investigation focuses specifically on storyboarding, including the different media storyboards are created with and whether an "industry standard" exists when it comes to storyboarding for film.



Dominic Stephenson

BSc(Hons) Film Production Technology

e: dmstephenson21@gmail.com

Compositing for Stereoscopic 3D

Compositing has become somewhat of an essential component in films in recent decades. With the introduction of 3D cinema, film is evolving and compositing along with it. Due to 3D, the process and workload for a compositor has technically doubled and it is intriguing to investigate how this is implemented.



Tom Sykes

BSc(Hons) Film Production Technology

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w: www.tomfsykes.com

How is Digital Technology Shaping the Future of Cinematography?

This project aims to investigate Digital Technology and how it is affecting how Cinematographers approach and execute their work, with specific regard to the relationship between the Director and the Director of Photography, the practicality of using digital cameras for professional productions and what the future holds for Digital Cinematography.



Stephen Taylor

BSc(Hons) Film Production Technology

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Investigation into Experimental Camera Techniques

This investigation sets out to explore and research the latest in technology and techniques to create effects and video manipulation. This involves demonstrating advances in camera techniques such as HDR (High Dynamic Range), tilt-shift and the use of rigs indicating what these types of equipment can add to video.



Jake Warren

BSc(Hons) Film Production Technology

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jakewarren88@gmail.com

Cinematic Storytelling

Moving camera has long been part of cinema, from its use in CinémaVérité to Garrett Brown's Steadicam and beyond; it's a vital and powerful story-telling technique. For that reason, it's important to know what equipment best lends itself to use with moving grips when trying to cheat the celluloid 'look' digitally on a low budget.



Steven Waterfall

BSc(Hons) Film Production Technology

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w: http://stevenwaterfall.com

Stereoscopic Experimentation

An investigation into stereoscopic imaging that includes aspects from the development of stereoscopy and how it provides the illusion of depth; to modern filmmaking techniques. Along with experimentation on how the art form can be manipulated to enhance the storytelling experience beyond the extra dimension.



James Wilkinson

BSc(Hons) Film Production Technology

e: jameswilkinson@tentaclemedia.co.uk
w: www.tentaclemedia.co.uk/Zero-g

Zero-G

Zero-G is a vibrant, exciting, fantastical stop motion animation about one man's ambitions of flight. When one of his many attempts goes wrong he discovers the earth he inhabits is not all that it seems. The animation uses challenging stop motion techniques to create a unique effect.



Matthew Wilson

BSc(Hons) Film Production Technology

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w: http://vimeo.com/user4966533

An Investigation into DSLR Cameras for Film Production

The project aims to use DSLR cameras to their full video capability. Digital SLR's have become very popular for film production and is even referred to as 'digital film'. Discovering the advantages and disadvantages of using these cameras and discussing what accessories are necessary for a user to make a video of exceptional quality.



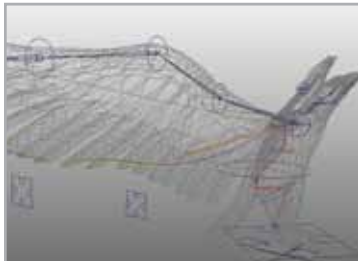
Matt Barton

BSc(Hons) Games Concepts Design

e: mattbartondesigns@yahoo.co.uk

Matte Painting, its Creation and Use in Modern Cinema

The aim of this project is to investigate and create feature film quality matte paintings. It will explore the artistic and technical skills required to create exciting worlds for film. The project will also explore the past, present and future of an art form as old as film itself.



Jonathan Craven

BSc(Hons) Digital Film Animation and 3D Technology

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Rigging a Digital Bird for Realistic Animation

With animated characters and props being used more and more in film and television, the need for rigging is becoming more important. Creating a fully rigged bird model, with custom controllers is my objective. The rig will be setup for realistic movement and skinned to allow for this movement.



Colin Greatrex

BSc(Hons) Digital Film and 3D Animation Technology

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Interactive Road Safety Tool (E-Learning)

Highway workers often work unsociable hours many miles from head office. Safety training tends to be piece meal, disjointed and 'hands on'. My project is to produce an 'E-learning' tool to be used on site, in the classroom or for self-study.



Daniel Lennon

BSc(Hons) Digital Film and Post Production Technology

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w: <http://www.vimeo.com/dtlfilms>

The Production of a Motion Graphics Showreel

Motion graphics are used everywhere, from television adverts to film title sequences. The objective of this project is to research, define and implement motion graphic techniques into the creation of a short motion graphic showreel.



Andrew Mairs

BSc(Hons) Film Production Technology

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An Investigation into Visual Effects

The project investigates the use of visual effects within film, specifically the sci-fi genre whilst also looking at how both the creation and implementation of effects has changed over the last 50 years and how this evolution in ideas and technology affects audiences and their experiences whilst watching a visual effects driven film.



Helen McAvoy

BSc(Hons) CGI and Animatronics

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2D to 3D Character Transferral

This project investigates the techniques implemented for the effective transferral of well established and loved 2D characters into a 3D medium. These methods will be implemented in the development of a high quality cinematic character which could be incorporated into a VFX production pipeline.



Calum McKay

BSc(Hons) Computer Games Design

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Recreating Real World Lighting

The project entails the recreation of real world film visual styles within CG without post process. The final imagery should be an accurate representation of the chosen visual styles by just using the CG lighting solutions.



Rowan Moss

BSc(Hons) Computer Games Design

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Accurate and Photo-Realistic Architectural Visualisation

To create an accurate and photo-realistic architectural visualisation of a grand residential home in a 3D application. To identify the most efficient pipeline tailored to my strengths. Different techniques and renderers will be researched and discussed.



Kirsty Oldbury

BSc(Hons) CGI and Animatronics

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An Investigation into 3D Texturing

This project entails the creation of realistic looking textures for 3D models. Incorporating the study of a texture artists within a 3D pipeline, discussing workflows and examining the crucial role of good textures in coloration to lighting, all with the aim of making attractive and convincing images.



Paul Ormerod

BSc(Hons) Digital Film and 3D Animation Technology

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Rigging a Fictional Quadruped

Investigation into what is needed to successfully rig a fictional quadruped geared towards the film industry as well as documenting the process taken to set up the rig. The project will look at how certain movements can be replicated and how different animal characteristics can be implemented together.



Mark Phillips

BSc(Hons) Film Production Technology

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Adobe After Effects in Post Production

An experimental short film composited in Adobe After Effects to highlight how the film industry has been driven by technology and how special effect films cost less to produce in the modern age because of the software available for the filmmaker.



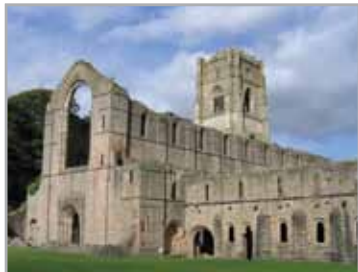
Anthony Richardson

BSc(Hons) Film Production and Music Technology with Entrepreneurship

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The Knight

The purpose of this project is to test the ease of using live action Chroma key footage not only as aspects of a film mixed with animated materials but also to use it as a reference for the animated segments of the film.



Matt Shaw

BSc(Hons) Digital Film and 3D Animation Technology

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3D Camera Matching and Digital Compositing

This project utilises the process of matchmoving and compositing to perform a set extension on a piece of digital filmed footage. It integrates CG assets that have been modelled, textured and lit to seamlessly blend with the original footage, producing a believable and effective matchmove solution.



Darryl Slack

BSc(Hons) Digital Film and 3D Animation Technology

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Designing and Creating an Animated Children's Show

This project looks into the workflow and methods that are used in the making of a modern 3D animated children's show. The portfolio will be to create a colour picture book with characters based on the research, which will be modelled in 3DS Max and rendered to print quality.



Susan Sparling

BSc(Hons) Film Production Technology

e: crazedsue@live.co.uk

How Effective are Photorealistic Special Effects and 3D Sets

The aim of the project is to investigate the different techniques used to create special effects and evaluate their effectiveness through an interview with a test audience.



William Spencer

BSc(Hons) Digital Film and 3D Animation Technology

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Merging Film with CG Seamlessly

A series of small shots combining CG and film using matchmoving, lighting and compositing to create a seamless blend between them both. Believable CG objects will merge into the film footage so well it will be hard to tell what's real and what's not.



Oliver Truswell

**BSc(Hons) Digital Film
and Post Production
Technology**

e: Truswell@hotmail.co.uk

The Impact of Visual Effects on a Short Film

A detailed analysis of the way in which visual effects impacts a short film's production, with specific regard to the workflow associated with the Canon 5D Mark II.



Alison L Wood

**BSc(Hons) Film Production
Technology**

Development of an Efficient Workflow for Environmental Modelling in CG

My project is based on researching and understanding efficient workflows in the 3D modelling industry and utilizing them to create a 3D environment which is suitable for a film. Following this, the environment will be adjusted so that it could realistically be taken into a game engine.

Games Design, Production and Programming



Jennifer Black

BSc(Hons) Computer Games Programming

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Evolving Interactive Game Environments

My project aim is to create an environment which users not only can see growing and changing around them but can interact with and impact. Allowing players to change the world and environment around them for dynamic game play.



Paul Boocock

BSc(Hons) Computer Games Programming

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Path Finding Techniques in Dynamic Game Environments

An Artificial Intelligence engine designed to handle the advanced path finding techniques required in dynamic world environments as found in many modern games. The engine has been implemented without having a noticeable affect on the frame rate. This project aims to offer realistic, autonomous agent behaviour within a dynamic world.



Chayne Brown

BSc(Hons) Computer Games Programming

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Personal Terrain Generator

This project allows users to create terrain for use in any game projects they may have. The idea is for the application to be versatile enough to support many differing game types. Users will be able to generate differing types of terrain that best suits the needs of their game.



Luke Burrell

BSc(Hons) Computer Games Programming and Graphics

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Strategic and Tactical Game AI in C++

Modern day real-time strategy games have become deficient in challenge. Battles are not based around superior tactics but simply producing lots of troops quickly to erode the enemy. This game utilises modern military tactics, creating a more challenging AI for the user who will have to use terrain and ambushes to outflank the opponent.



Liam Clarke

BSc(Hons) Multiplayer Online Games Design

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Real Time Strategy MMO Games

The purpose of this research dissertation is to look into the histories of RTSs and MMOs to see how they have evolved and ascertain what features and gameplay mechanics would make a successful MMORTS. After which a design document for an MMORTS will be created for the artefact of this project.



Andrew Clarke

BEng(Hons) Computer Games Design

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Character Customization and its Effects on Player Choices and Gameplay

An investigation into how the inclusion of a character creation system within a game can affect both the way a player progresses through the game and the choices they make within gameplay. The project compares the player choices made in a custom quest line both with and without character creation.



Adam Davis

BSc(Hons) Computer Games Programming

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w: <http://adamdavis.co.uk>

Real Time Multiplayer Game Framework

I intend to build a multiplayer framework that demonstrates the various technical difficulties associated with building real time multiplayer games. Such as testing, network lag and scaling. The project will make use of a custom developed automated test harness to show how automated tests vastly improve development speed.



Benjamin Dennett

MEng(Hons) Computer Games Design

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Designing an Educational Game

Defining and Designing an educational computer game that both entertains and informs. The project looks at game design elements relevant to placing a game in the classroom environment and discusses the benefits of interactive learning's potential.

Games Design, Production and Programming



Michael Duller

BSc(Hons) International Computer Games Programming

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Networking Techniques Employed in Modern Computer Games

A video game environment in which different networking techniques, methodologies and optimisations are demonstrable in order to compare their efficiency in areas such as latency, networking prediction and hardware demands. Statistical data and visual feedback are both available for full analysis and methodological comparison.



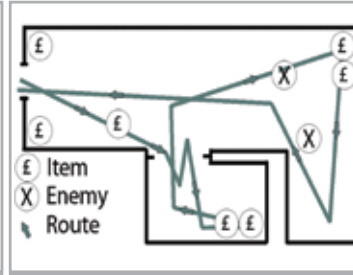
Nicholas Edwards

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Application of Real World Military Strategy & Tactics in Games

War and video games have had a long and prominent link, playing a part in games both past and present. My study has investigated how the principles, strategy and tactics of warfare can be applied to the creation of commercial military games and what abstractions can be made.



Damian Ellis

BSc(Hons) Computer Games Design

e: Damirune@btinternet.com

Leading a Player Through a Single Player Environment

Analysing player movement in a single player environment, in order to lead the player. In order to understand how to lead the player, a research document followed by testing has been created alongside a full scale level/ environment that implements varied combinations of techniques to demonstrate techniques and devices learnt.



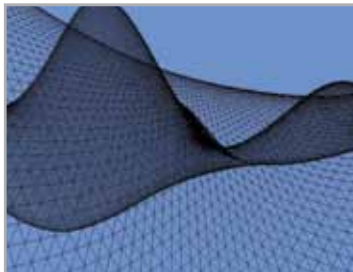
Christopher Fitzpatrick

MEng(Hons) Computer Games Programming

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Play with Clay without Getting your Hands Dirty

To create a 3D object that simulates having substance by emulating clay which can be deformed through an input device. The clay should appear to react realistically to external force and MUST preserve its mass.



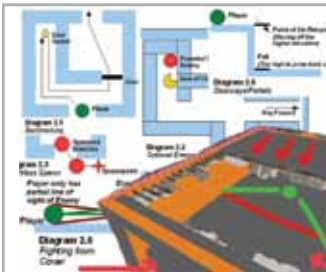
John Fricker

BSc(Hons) Computer Games Programming

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An Investigation into Outdoor Rendering

This project is an investigation into the rendering of outdoor environments. The aim is to investigate the methods applied to efficiently display large environments within the computational constraints of modern hardware through the use of Level of Detail (LOD) techniques with an emphasis on LOD in terrain systems.



Robert Michael Gibson

BEng(Hons) Computer Games Design

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Space and Enemy Placement in First-Person Shooters

An investigation into how different uses of Space/ Geometry and Enemy Placement within First-Person Shooter games can be used to influence a player's actions and generate interest in continued play.



Vicki Grant

BSc(Hons) Computer Games Programming

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Simulating Realistic Group Behaviour

This project focuses on artificial intelligence, in particular simulating realistic group behaviour. A number of different AI algorithms have been researched and then implemented in a computer game. The game has been developed using XNA.



Ian Griffiths

BSc(Hons) Multiplayer Online Games Design

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Non-Linear Quest Structure Creation in MMO Gameplay and Narrative

The next stage in MMO Narrative evolution is that of interactive narrative, with Quests being dynamic and allowing for player freedom. The current market of multiplayer games shows us static Quest systems that hint onto events happening within the game. Showing and letting players influence them should be how they evolve.

Games Design, Production and Programming



Scott Gulliver

BSc(Hons) Computer Games Programming

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Reducing the Effects of Latency in Mobile Multiplayer Games

As mobile gaming becomes more mainstream this project looks into various techniques and algorithms that aim to reduce the effects of latency which may be present over mobile connections. These methods all work towards a better overall user-experience through the reduced effects of potential latency.



Tegan Harris

MEng(Hons) Computer Games Design

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The Psychology of Character Creation

How much does a player's personality affect the character creation choices they make? Combining psychology and game theory to investigate the possible effects of the subconscious on a player's choices and actions, with a focus on the MMORPG genre.



Mark W Hillecke

BSc(Hons) Computer Games Programming

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Cloud Gaming

Cloud gaming is a new approach to computer games by which processing workload is shifted from a local gaming device to "The Cloud". Implications of that promising technology are set to be unveiled by engineering both a framework for cloud games and a sample game to harness cloud gaming specific features.



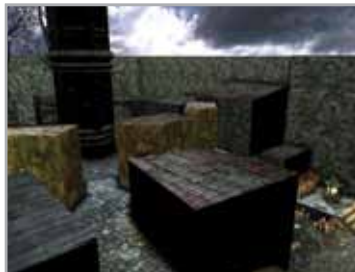
Christopher Hodgson

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Pervasive Video Game Development

An investigation into pervasive video game development sought to analyse the successful elements of pervasive gaming and cross-media gaming and understand how these elements could be utilized to develop a video game. The project focuses mainly upon the three expansion types: Spatial expansion, Temporal Expansion and Social Expansion.



Liam Howe

BEng(Hons) Computer Games Design

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Research into the Teachings of Francis D.K. Ching for a Game Environment

An exploration into how the architectural teachings of "Architecture: Form, Space and Order" by Francis D.K. Ching can be implemented into a video game environment so as to help maximise level flow and aid in asset placement.



Christopher Howell

BSc(Hons) Computer Games Programming

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RPG Designed to Implement Logical Thinking and Problem Solving Techniques

This role-playing game aims to assist the education of various techniques to solve problems which require logical thinking. Players will traverse the various villages of Archville, interacting with non-playing characters to obtain and solve logical puzzles. The aim is to learn the techniques required to solve all the puzzles.



Bradley S. James

BSc(Hons) Computer Games Design

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Video Game Mechanics which Generate Positive Emotions through Reward

Many people try to research and understand how games can affect players and the people around them, few look at how games invoke positive feelings in players. The project examines what areas of games generate positive feelings, how players feel rewarded and what players see as a "reward" in game.



Matthew Jury

BSc(Hons) Computer Games Programming

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Investigating Audio Input in Games

Games typically use some form of input to be played, be that analogue or digital. Therefore, I have created a game that will read different notes on a musical instrument, outputting different frequencies to alter the terrain in a game world.

Games Design, Production and Programming



Sarah Lake

MEng(Hons) Computer Games Design

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Generic Design Document Structure for Multi- or Cross-genre Games

This dissertation aims to address the problem of the lack of a generic game design document that can be used for multiple genre games by researching current and previous document structures and devising a single design structure that could potentially fulfil this problem.



Chung Man Leung

BSc(Hons) Computer Games Programming

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Random World Generation in a 3D Environment

The aim of the project is to use Procedural Content Generation based on pseudo inputs to dynamically generate a 3D environment, which can be used for map/level design in games or animation.



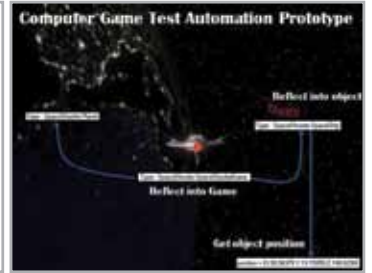
Ciaran Leyland

BSc(Hons) Computer Games Programming

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Further Developments into Real Time Rendering Techniques

This was an investigation that I undertook into rendering techniques to see if there were some possibilities for some of these to help advance the graphical aspect of games. With games demanding more and more in graphics this is a display of my results.



Robert Mayo

BSc(Hons) Computing Science

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Computer Game Test Automation Prototype

The test automation prototype interacts with a computer game autonomously and feeds back internal variables, arrays and invoked methods to assist a developer in identifying the cause of any bugs found. Test automation is achieved through the combination of a custom test harness, simulated keyboard messages and advanced .net reflection techniques.



Damiano Pietroni

BSc(Hons) Multiplayer Online Games Design

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Classic Literature in Narrative Games

The project tackles the issues which arise when attempting to convert the narrative structures of classic works into interactive games. The approach taken is to analyse problematic areas, research effective solutions and subsequently test them utilizing an online text based narrative game.



Nick Rance

BSc(Hons) Computer Games Design and Programming

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An Investigation into Mythology in Games

The aim of this project is to find out what effect mythology has had on the games being developed, and also a look at how characters have been updated from their original depictions. Focussing on original tabletop games to modern computer games such as the 'God of War' series or 'Bayonetta'.



Alan C Ridgewell

MEng(Hons) Computer Games Programming

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Browser Based Game Delivery

Investigating and developing a solution for allowing PC games installed on a powerful, remote machine to be broadcast to a web browser on a less powerful, local machine, allowing a user to play a game without their experience being affected.



Nathan Rigby

BSc(Hons) Computer Games Design

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Third Person Perspective and Emotional Response

We view our lives from the first person perspective and are now comfortable viewing computer games (in some cases) from a third person perspective. If a user becomes too immersed in a game can it have negative or even positive outcomes when they transfer their experiences to reality?

Games Design, Production and Programming



Dean Rutter

**BSc(Hons) Multiplayer
Online Games Design**

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**Prototyping in Games
Design**

A study into the issues involved with prototyping in the games industry and how practical it is when implemented. The display features a prototype created in UDK with a heavy emphasis on UScript and a developer diary to accompany it.



Thomas Skuse

**BEng(Hons) Computer
Games Design**

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**Transitioning Games from
Digital to Analogue and
Vice Versa**

This project examines games which have transitioned between digital and analogue, as well as the differences between the two mediums. The findings are used to create a framework for transitioning other games. This framework is then tested by converting a digital game into an analogue game.



Lewis Alan Smith

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Design and Programming**

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**Wii Remote Driver for
Generic use with PC Games**

A user-friendly driver application to enable use of a Nintendo Wii remote with a Windows PC, particularly with games. To fully demonstrate the motion sensing of the remote, a weapon game mechanic has been created. The game mechanic also attempts to make inventory management more practical and realistic.



**Kathryn-Rose
Southgate**

**BSc(Hons) Computer Games
Design**

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**Investigation into the
Unobtainable Content in
Computer Games**

Why are players unable to experience all the content within computer games - is this due to the narrative structure? Analysing the research an example of interactive game narrative with all content made available will be designed and created whilst trying to keep the game as "thrilling and enjoyable" as possible.



Kenneth Stott

**BSc(Hons) International
Computer Games
Programming**

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**Haunted House Style Audio-
only Game**

The project investigates the suitability of audio-only games in the industry through the development of a playable demo. This demo, dubbed "Revenant Manor" shows how 3D sound can be implemented so that the player can sense their surroundings and interact accordingly without the use of a graphical interface.



Rebecca Sutcliffe

**MEng(Hons) Computer
Games Design**

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**Creating Immersive
Experiences and Emotional
Games Using Symbolism**

How does being in a game environment make a player feel? What stimuli is the player subject to while engaging in that game world? And how is a deep narrative structure achieved by utilizing symbolic stimuli in both the game narrative and the world in which it is set?



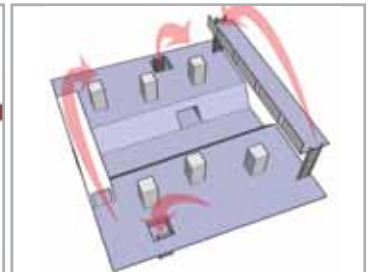
Kyle Thompson

**BSc(Hons) Computer Games
Programming**

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**Machine Learning in
Computer Games Trucking
Simulation**

The project is an investigation into the use of Subsumption Architecture. The architecture will be used to develop a video computer game Artificial Intelligence (AI) engine capable of exhibiting Human-level (AI) behaviour. Application of the engine will be deployed in a 3D logistical truck simulation.



Ian David Towers

**BSc(Hons) Computer Games
Design**

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**Eliminating Player Error in
Level Design**

A study hoping to find the most effective means of eliminating player error from certain level design situations, using abstract research into human psychology and retail store planning, and a history of situations already encountered by game developers. The effectiveness of these strategies will be tested using example situations.

Games Design, Production and Programming



Jamie Trinder

BSc(Hons) Multiplayer Online Games Design

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Ways to Influence a Player's Movement Through a Level

This project aims to investigate the relationships between various games design techniques, and their effect on a player's movement through a single player level. These range from basic lighting techniques, to a walls form and other subconscious factors, such as the subtle movement of clouds to simulate directional movement.



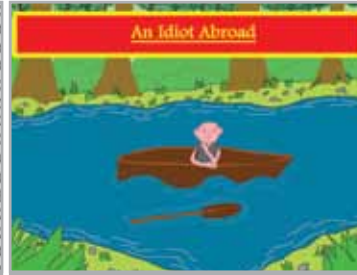
Christopher Walden

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Branching Narratives and Decision Making in Games

A frequently voiced concern with video games is that there only seems to be one 'true' ending in games with multiple narrative branches, with multiple endings alienating players from the 'true' story. I aim to discover the effects of this in existing media and create guidelines to use when creating branching narratives.



Christopher James Wheeler

BSc(Hons) Computing Science Top-up

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An Adventure Game Engine

This project is an adventure game engine. Its focus is on the physics, AI, puzzle and story components. Graphics and input components are added which means it can create any adventure game. The capabilities of this game engine are shown by game examples. These are created using the game engine.



Oliver Witney

BSc(Hons) Computer Games Programming

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Developing and Optimising a Networked Game Using Android

The project is aiming to solve problems when dealing with network games on mobile devices, where processor, memory and hardware are likely to be significantly less than on a computer. The project will research networking problems, techniques to counter these networking problems and implement them in a networked mobile game.



Thomas Woodhead

BSc(Hons) Computer Games Programming

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Custom Game Tool Engine Integration

This project aims to provide a solution to the problem of how custom game environments and assets are created and subsequently entered into an existing game engine. By creating a generic tool set which can be used to create highly customisable environments and export them to custom file-formats.



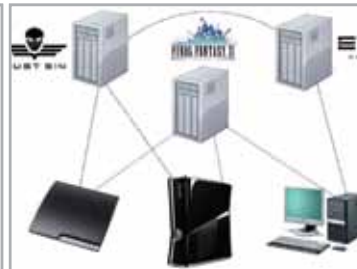
Christopher Wright

BEng(Hons) Computer Games Programming

e: Christopher.Wright.1986@gmail.com

A Nintendo DS Game

A Nintendo DS game designed and built to run on the hardware itself, utilizing the core features of the handheld device and developing a framework that supports the creation of the game for the Nintendo DS platform.



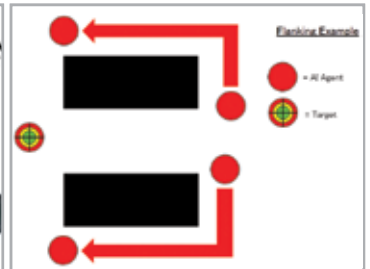
Ashley Yetman

BSc(Hons) Multiplayer Online Games Design

e: chainspell@hotmail.co.uk

Cross-Platform MMO Balancing Techniques

This project aims to look into the viability of sharing persistent virtual worlds across multiple platforms and suggesting balancing techniques which can be employed to improve the overall quality of a cross-platform multiplayer online game.



Danny Young

BSc(Hons) Computer Games Programming

e: solarchon@hotmail.co.uk

Team AI in Games

This project is to create a game AI engine and a game prototype implementing it. The AI engine will enable AI agents in the game to communicate with each other and work together to achieve objectives.

Games Modelling and Animation



Luke Adwick

BSc(Hons) Computer Games Design

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w: <http://www.lukeadwick.co.uk>

Turning a Concept into a 3D Environment

Investigation into the workflows used for creating an immersive awe-inspiring environment / game level within today's standards of the games industry. Gameplay considerations will be considered in the workflow as well as what is needed to make it visually pleasing, as every asset will be self constructed for Environment.



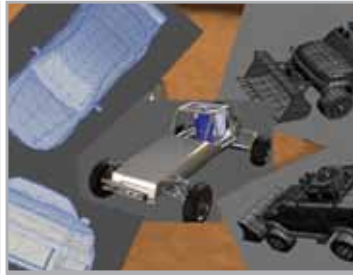
Josh Ainsworth

BSc(Hons) Computer Games Design

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Investigating Locomotion and Gait in Unusual Characters

Exploring both the anatomy of characters and the theory behind creating realistic animations, ultimately leading to the creation of a series of animations on an 'unusual' character. (One with very little real world comparison.)



Mathew Bedworth

BSc(Hons) Computer Games Design

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w: www.mathewbedworth.co.uk

Rigging a 3D Car Model for Drifting

This project is about getting a 3D model and rigging it for the purpose of drifting to see how that can be done. The car will then be animated to show that the rig works. For this I am modelling my own car and moving parts.



Ryan Brant

BSc(Hons) CGI and Animatronics

e: rmdbrant@btconnect.com

Investigation into Facial Motion Capture

The aim was to develop a 3D facial animation using motion capture cameras to capture the subject. A number of facial expressions were captured to create a 3D representation of the subject. The Staffordshire R.A.R.E Motion Capture Studio was used, which contains eight Vicon Cameras that were re-arranged to capture facial expressions.



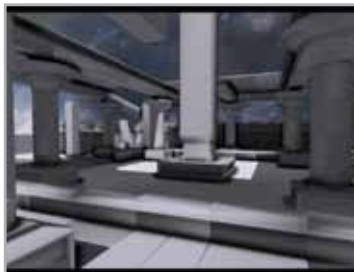
Christopher Broomhall

BSc(Hons) Computer Games Programming

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The Design and Production Pipelines of Multiplatform Characters

This piece of research focuses on the workflows and pipelines that industry professionals use when creating character models for the video game systems of the current generation. The research will be applied to a practical outcome - the design and creation of 3 character models, each for a specific system.



James Butcher

BSc(Hons) Computer Games Design

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Appling Destructible Technology to Realistic Urban Environments

The application of destructible technology in a current generation games engine. Investigating the constraints and considerations for the application of destructible technology on the game environment and its realism. Unreal Engine 3 will be used to demonstrate the practical application of destructible technology.



Stanislav Buynovskiy

BSc(Hons) Computer Games Design and Multimedia Computing

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Creating a Realistic 3D Model and Animation with a Multimedia Application

The workflows and techniques involved in creating a realistic 3D model by using multiple programmes (Zbrush, Unreal Engine etc) to produce a high quality animation sequence which could be used as a interactive user interface for the games and 3D model which can be used in the game or film industry.



Andrew Cheetham

BSc(Hons) Computer Game Design Top-up

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How to Portray Historical Figures in Character Concept Art?

Creating artwork for four historical figures; Joan of Arc, Alexander the Great, Nobunaga Oda and Genghis Khan which are to be used within a personal project, including areas such as facial shape, weapons, armour, final designs and orthographic. To see if information and personalities can be portrayed into character designs.

Games Modelling and Animation



Glen Collings

BSc(Hons) Computer Game Design Top-up

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The Portrayal of Emotion Using Body Language in Inanimate Objects

What influences you? This project investigates how to create an animation that explores character animation techniques to evoke an emotional connection with the viewer using inanimate objects.



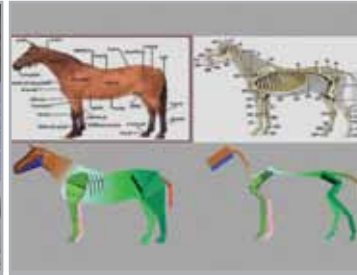
Johnson Junior Dada

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7th Generation Games Character Workflow

An investigation into character development workflows that are used in the games industry, explaining things that are important in developing a character. The selected workflow will then be used to create a character which can be used in comparison with a professionally made one.



Paul Flippance

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An Animation Study of Animal Movements

The project looks into the processes and technique to create 3D animal movements. To create an accurate rig using studies of bone structures and anatomies of different animals. Using the CAT rig system to create realistic animation cycles.



Dmitrij Gajosinskas

BSc(Hons) Digital Film Animation and 3D Technology

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The Implementation of Motion Capture within Modern Games

This project aims to examine the workflows and techniques involved in creating a cinematic sequence using Motion Capture technology. The end result of this project is a scene in UDK game engine, which could be used as a cinematic sequence or a backdrop for one of the game levels.



Lee Gibbons

MEng Computer Games Design

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Negative Body Images in Today's Video Games

Popular media bombards us with pictures of 'beautiful' slender women and muscular males on a daily basis, through many forms of media including videogames. This project looks at the effect this is having on today's society with relation to body image, concentrating mainly on males, with the aim of creating an appealing yet realistic male character.



Peter Hale

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The Impacts of Game Play on Environment Design

This project investigates the impact of game play on environment design. The aim of this project is to produce a working multiplayer level. A level that has been made based on the information gathered by looking at the workflows of different companies in the industry.



Matthew Hall

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The Design and Creation of Visually Appealing Characters

This project will look into different attributes of a character such as visual personality, anatomy, art style and colour themes that add depth to a character. It will then look at design and creation workflows and techniques and finally produce a character which incorporates the research done.



Sam Hayes

BSc(Hons) Computer Games Design

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Dynamic Weather System

The aim of this project was to devise an effective method for creating a dynamic weather system within a games engine, by researching into and then utilising advanced real-time shader techniques. The system controls snow accumulation, procedurally generates clouds, modifies sky gradient colour, and applies post-processing, among many other features.

Games Modelling and Animation



Anne Marie Hipperson

BSc(Hons) Computer Games Design

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Modular Character Management and Design for the Nintendo DS

A study into designing and producing customisable characters for the Nintendo DS. Work involves concept art, modelling and texturing of a female character for an RPG in the style of Final Fantasy- Echoes of Time.



Matthew Jackson

BSc(Hons) Computer Games Design

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Can Two Creatures be Combined to Create an Effective Game Monster?

This project aims to deliver an industry-standard game character using current pipeline procedures. The character in question should combine elements of two different creatures in an effective manner.



Scott Jones

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Benefits of a Modular Level Design within Computer Games

By looking at modular asset creation and level design the project aims to determine the benefits a modular design has on modern computer games. The two main areas that will be explored are performance and workflow benefits of a modular level.



Kieran Jones

BSc(Hons) Computer Games Design

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Digital and Physical Sculpting within Games Technology

The project goal is to look into the uses of 3D scanning in the games industry and then investigate how this technology can be used as a pipeline for creating characters. The practical side of the project is to try and recreate a model using digital means which was created via the use of a 3D scanning technology.



Tom Kemp

BSc(Hons) Computer Games Design

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The Impact of Physiological Differences on the Modelling Process

The aim of this project is to compare the differences between 3D modelling different body shapes on characters and effectively finding the most effective way of modelling obese and malnourished characters. Each character will have an aim and several objectives and the different types of character background will be researched.



Thomas Laird

BSc(Hons) Computer Games Design

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Modelling Processes Involved in the Weapon Design Pipeline

The aim of the project is to use Procedural Content Generation based on pseudo inputs to dynamically generate a 3D environment, which can be used for map/level design in games or animation.



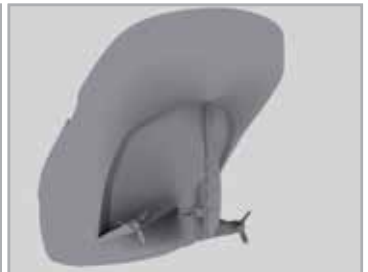
Ben Leech

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The Design and Implementation of Futuristic Tanks in Games

Tanks are tracked armoured vehicles that have been with us for nearly a century now. This project goes into depth about how tanks are designed and implemented to fit into modern video game situations. The Unreal Engine 3 is used to demonstrate two very different concepts. Realism vs. Fantasy.



Adam Lowndes

BSc(Hons) Computer Games Design

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3D Construction of the Titanic within the Historical Accuracy Constraints

A study into the methods used for the construction of one of the worlds best known cruise liners, the RMS Titanic. Using these historical techniques and matching them to their relevant 3D modelling techniques, I have constructed a 3D visual use only replica.

Games Modelling and Animation



Jonathan L Marquette

BSc(Hons) Computer Games Design

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Design and Build Considerations for Game Characters

The project focuses entirely on the creation process of next generation game characters. This project will investigate the current workflow standards of creating characters and then utilise these same methods to create a next gen character from concept.



Dale Martin

BSc(Hons) Games Concepts Design

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The Creation of Character Concept Art for Entertainment Industries

This project will look at how today's entertainment industries create illustrative concepts for characters. My aim was to design unique factions, based on 3 possible evolutionary futures of humanity. Presentation of these characters is also being investigated along with animating 2D characters in a scene.



Liam Mogford

BSc(Hons) Computer Games Design

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Live Action Comedy To 3D Animation

This project is about seeing whether a live action comedy can be made funnier using the 12 principles of animation. A scene from Liar Liar was used as the test and biped were taken and animated to the audio from that scene to see if it had improved the comedic value.



Jack Perkin

BEng(Hons) Computer Games Design

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Applying the Principles of Animation into a Cinematic Sequence

The aim of the project is to create an In-game character animation based cutscene applying research collected on the principles of animation. The project will involve all aspect of animation from rigging, skinning, animating, voice synchronising, special effects and importing into Unreal Tournament 3.



Frederick Robert Pickering

BSc(Hons) Computer Games Design

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Weapons in the Game Modelling Pipeline

Weapon modelling for games engines. Various methods are looked at and compared as well as the 3D art they produce, with the focus on accurate results. The "physical" end product of this project is a 3D model of a weapon, in a games engine, with advanced texturing, animation and sound.



Thomas Price

BSc(Hons) Computer Games Design

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The Creation of Next-Gen Video Game Environments within an Engine

The industry standard pipeline of "Next Gen" video game environment creation- focusing upon high and low poly modelling, UVW unwrapping, normal map generation, texturing, importing assets into engine, game engine lighting / post process effects to match a specific concept, all within an appropriate game engine, the Unreal Development Kit (UDK).



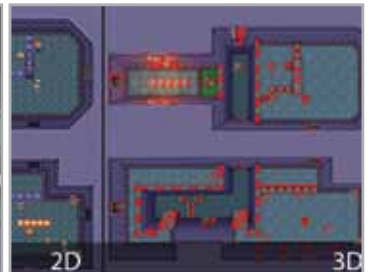
Michael Sillitoe

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Pervasive Video Game Development

The project aims to extract key artistic characteristics from the backgrounds of mid-nineties adventure titles and attempt to adapt and recreate them in modern games engines, utilizing a wide range of modern software and experimenting with different ways of implementing a specific style.



Liam Tart

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Adapting an Existing 2D Game into a 3D Game Environment

An in-depth investigation into the techniques required to re-create an entire dungeon from Zelda: A Link to the Past (Super Nintendo) in 3D, placing an emphasis on modularity and adapting the 2D tileset as closely as possible into 3D.

Games Modelling and Animation



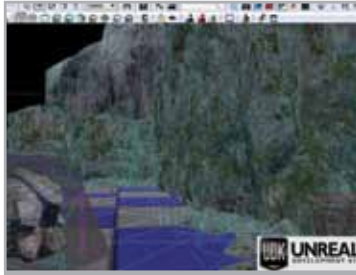
Ricardo A Teixeira

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Realism & Interactivity in Games Design

This project intends to look at industry techniques for environment and character modelling within a game engine. Making use of the Unreal Development Kit (UDK), this project demonstrates how characters and environments can become highly realistic, achieving near visual effects used in films, while maintaining game interactivity.



Aleksandra Topczynska

BEng(Hons) Computer Games Design

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Use of Destructible Environment in Level Design

Use of destructible environment is a way of improving believability of a game world. This project is analysing how it can be created and effectively implemented. Findings of the research will lead to creation of a game level that will demonstrate its usage in practice.



Morgan Wellden

BSc(Hons) Computer Games Design

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Designing a New World Derived from Analogue Aesthetics

An investigation into what areas need to be considered when designing a fictional world, and the processes behind creating such a world setting in an analogue game format.



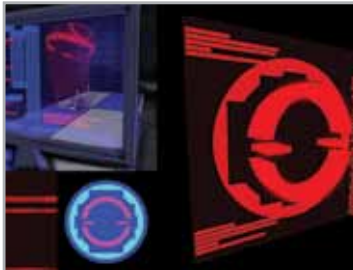
Ben Wilson

BSc(Hons) Computer Games Design (top-up)

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Optimizing Environment Art in the Unreal Engine

Focusing on environment art within the Unreal 3 Engine, this project proposes techniques and concepts that an artist can use to create efficient art, without compromising quality. Presented in a friendly fashion, a technical abstract is given as a basis for each idea, to provide context and reasoning to the discussion.



Scott Wilson

BEng(Hons) Computer Games Design

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Creation of a Holographic Shader for UDK

This project investigates how real time shaders are created using the Unreal 3 engine, by using a variety of built in tools from the editor. It focuses on texturing techniques right up to FX production. The end product will be customisable, in a user friendly interface and will also be presented in a playable environment.



Emma Woollard

BSc(Hons) Computer Games Concepts Design

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Creating Characters for Games

This project looks at the full character creation process used within the games industry. The research covers all areas of 2D concepting and 3D modelling. This includes an exploration of art theory, presentation techniques and existing modelling and sculpting pipelines.



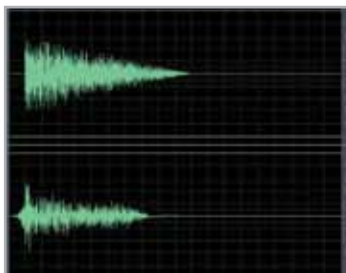
Matt York

BSc(Hons) Computer Games Design

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How Lighting and Environmental Effects Drastically Change Look and Feel

An overview of the importance of lighting and environmental effects within a level. Using a base level, a number of lighting techniques and environmental effects will be used to create different variations of the level to fit specific genres and themes.



Ian Bourn

BSc(Hons) Music Technology

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Psychoacoustic Effects

An investigation into the use of psychoacoustic effects with regards to digital audio data compression, specifically with regards to those used to produce MP3, Windows Media Audio and Advanced Audio Coding formats.



Christopher S Brown

BSc(Hons) Music Technology with Management

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Music Production Techniques within Modern Television Advertising

The merits of contrasting sampling and synthesis techniques used within advertising. Two comparable scores, targeting distinctly different but equally valuable purchasing groups, use these sound creation tools plus composition and post production techniques that reflect the professional standard in music produced for modern advertising.



Michael Butler

BSc(Hons) Music Technology

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Exploring the Avant-Garde: The Relationship Between Technology and Experimental Music

Using technology within experimental music, an instrument installation has been created harnessing interesting, innovative techniques in technology and composition focusing on the re-purposing of discarded technology and objects to create new sounds demonstrating audio in its raw form.



Holly Clarke

BSc(Hons) Music Technology

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Analysis and Design of Installed Sound Systems

Research has been carried out into the design of sound systems, including visiting venues to analyse their current system. Using this research a sound system has been designed, showing understanding of the components and calculations involved. A guide has also been created, aimed at venue owners with no specialist knowledge.



Emma Crompton

BSc(Hons) Music Technology

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Classical Recordings in a 5.1 Surround Sound Format

A piece of classical music, recorded live and then placed in the 5.1 surround format during the mixing process. This piece of music has then been re-recorded using a Holophone microphone in a large room. These two pieces are then compared with each other to see if there is an obvious difference.



Ben Davies

BSc(Hons) Music Technology

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Binaural Beat

This project looks into the area of audio therapy and asks whether Binaural Beat technology can be implemented within a surround sound environment. By using synthesis and its integral elements, audio has been created from scratch to produce an audio therapy piece that integrates binaural beat technology.



Charles Edwards

BSc(Hons) Creative Music Technology

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Recording and Production Techniques in Order to Realise an Original Composition

This project specifically incorporates research and analysis into various aspects of sound recording and recording technology. Other areas have been included to utilise knowledge and further research into the fields of music theory and music design. Acoustic evaluations will also be carried out in order to compare suitable recording environments.



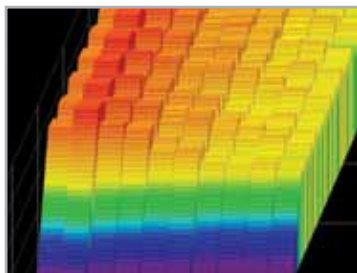
Gemma Flaherty

BSc(Hons) Music Technology with Film Production

e: Gemma_Flaherty@hotmail.co.uk

An Investigation into the Documentary Process for Radio Broadcast

The outcome of this project is to create a documentary whilst adopting the role of producer, sound recordist and sound designer. The radio documentary will focus on the subject area of modern Buddhism that is now practiced worldwide by 'Soka Gakkai International' and is known as 'Nichiren Buddhism'.



Jack Harris

BSc(Hons) Music Technology

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What is Required of a Modern Electronic Dance Music Composition?

What is required of an electronic dance music song in terms of signal processing and composition to meet current industry standards? This project aims to investigate common practices within multiple dance music genres to establish common trends, allowing original compositions in 7 genres to be created to industry standards.



Jack Harwood

BSc(Hons) Music Technology with Film Production

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Music Content Production for Multi-Format Delivery

The production of a live music programme using HD cameras & studio microphones, that is then formatted for HD broadcast, web streaming, mobile viewing & 5.1 DVD. Acting as head of sound, director & production manager, the show was recorded in the TV studio & mixed using the new SSL console.



James Key

BSc(Hons) Music Technology

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Digital and Analogue Audio Processing

The centrepiece of a professional recording studio has always been an analogue mixing console. However is mixing "in the box" with a digital audio workstation and software plug-ins a viable, cost effective way to achieve the same sound? Examining the differences between analogue and digital audio processing using technical and subjective comparison methods.



Nicholas M McCartney

BSc(Hons) Music Technology

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Voigt Pipe Speaker Design and Construction

The project investigates the various designs and construction techniques employed to create a Voigt Pipe speaker enclosure. It also combines research into the introduction of an adjustable element within the design but the main focus and outcome is the design and production of a working prototype enclosure.



William Edward McGettigan

BSc(Hons) Creative Music Technology

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Algorithmic Composition and Performance

A compositional system has been designed to create a new method of composing and performing music in real time. A variety of human interface devices are used to control this system which can alter a wide range of musical functions, from the key signature of the piece to the timbre of specific instruments.



Bradley Moogan

BSc(Hons) Music Technology with Film Production

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The Changing of a Film Scene to Invoke Different Emotions

An investigation into the use of current technology to change certain aspects of a film scene, in an attempt to change the overall genre of the film and the audience's perception of the given scene.



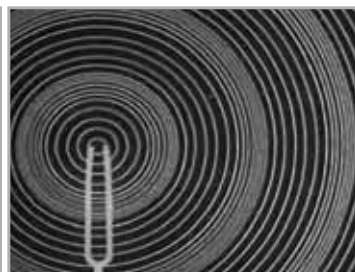
Alex C Moore

BSc(Hons) Music Technology

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Foley Sound Effects and Original Soundtrack Score for the Media Industry

A Full Motion Video presentation showing the implementation of Foley sound effects and soundtrack creation for the entertainment and media industry in comparison to the original commercial release. While the video is focused towards the games industry all techniques employed are implemented across the media industry.

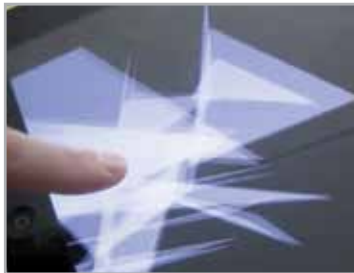


Joseph Morley

BSc(Hons) Music Technology

An Investigation into Electroacoustic Composition and Performance Practice

This project's aim is to investigate how the many advancements in technology during the 20th century and beyond have affected the composition and performance practices associated with electroacoustic music. The finished piece will consist of an original electroacoustic composition which is then sequenced in real-time based on the listener's movements.



Sarah Orange

BSc(Hons) Music Technology

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The Application of Multi-touch Technology within the Live Sound Environment

This project covers both the creative and technical use of popular hand held multi-touch devices and their current application within live sound. The final outcome will be the creation of a control surface for the iPad within Max/msp to control both max and Ableton Live.



Panagiotis Pagonis

BSc(Hons) Creative Music Technology

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Research and Proactive on Sound Design

The purpose of this project is the exploration, study and practice on the art of sound design, research its background as well as its origins and the various uses of sound design in music, video, and other forms of media.



Andrew Plant

BSc(Hons) Music Technology with Management

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Multi-Media Streaming of Live Events

Investigating the events management industry by organising a series of events at the Students Union, taking into consideration the latest legislation and legalities involved with events management and focussing on multi-media streaming and the technologies involved with broadcasting live events with the purpose of future promotion.



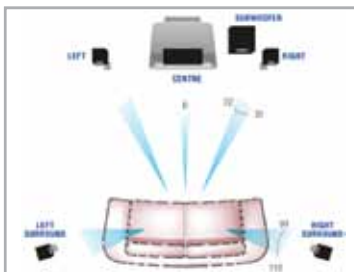
Tom Rawlinson

BSc(Hons) Music Technology

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Stereo Microphone Techniques and their Applications

An investigation into recording a small orchestral group in stereo, using a number of different techniques to identify the most relevant, useful and pleasing methods of creating a stereo recording.



Amberle Rose

BSc(Hons) Music Technology

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Surround Sound Found

An investigation into improving the installation of home cinema systems. Using Acoustic analysis, absorption coefficients, and other research to produce a system for setting up the surround sound systems to professional standard by the use of a computer programme.



Robert Stagg

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Foley Recording Studio Design and Business Plan

The project explores aspects of the postproduction audio industry, specifically that of Foley sound effects. A Foley recording room and control room has been designed, with focus on each of the rooms "ideal" acoustical properties. The designs are then evaluated from a business standpoint and a business plan produced.



Gary Stewart

BSc(Hons) Music Technology

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An Investigation into Surround Sound Techniques used in Film within Pro Tools

Surround sound production has been a very big interest of mine ever since I heard my first film soundtrack. This project looks into the process of creating a film soundtrack in 5.1 surround from looking at correctly setting up the studio through to post production techniques applied to each audio element.



Dejan Tomic

BSc(Hons) Music Technology

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Investigation into Using a Native DAW for Live Sound Reinforcement

Computers have long since replaced tape machines and digital standalone recorders in most recording studios, how long until they revolutionize live sound as well? This project examines reliability and other considerations such as performance capabilities, sonic concerns, and cost effectiveness to find out if the time is now.



Richard Vaughan

**BSc(Hons) Music
Technology**

e: richardvaughan1@sky.com

Electro-acoustic Drums on a Budget

There are existing ways to incorporate electronic drums into an acoustic drum set up. This system however can be easily placed on and removed from a drum kit, giving great user flexibility, and is compatible with existing Digital Audio Workstations (e.g. Cubase); removing the need for an expensive drum module.



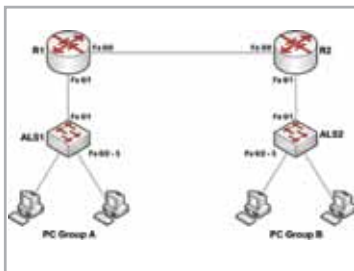
James Bennett

BSc(Hons) Music Technology

e: jbenettmusic@live.co.uk

**Exploration of Musical
Aspects Used to Create
Emotion**

The relationship between music and emotion has troubled philosophers, scientists and musicologists alike for centuries. 'Can music induce emotion or only express it?', 'Can it represent emotion at all?', 'How does the human brain react to these musical messages?' This dissertation aims to gain further understanding into this fascinating subject.



Ian Baxter

BSc(Hons) Computer Networks and Security

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Comparison of IPv4 and IPv6 using Multiple Types and Sizes of Data Packet
As the world is beginning to run out of unique Internet addresses a changeover to a newer protocol is beginning to take place. This project will compare the two versions to assess the impact on performance created by the longer addresses extra features.



David Birch

BEng(Hons) Computer Networks and Security

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Deft

For professional penetration testers who write their own black box tests for web applications, Deft is a software framework that makes security test development simpler. Unlike writing each test independently the Deft Framework uses a quality assured foundation for reliable, repeatable testing and intuitive language to make newly written test code legible.

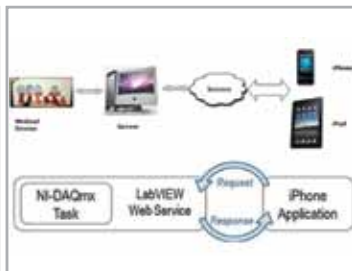


Nathaniel Freeman

BSc(Hons) Forensic Computing

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Generic and Robust Grey Market Phone Data Extraction and Reporting Tool
The market share of replica mobile handsets is growing daily with new versions released almost days after their commercial counterparts with little, if any, forensic support. This project provides a generic, robust and efficient data extraction and analysis tool, for use by forensic investigators allowing cost effective and efficient reporting.



Ahmed Hersi

BSc(Hons) Software and Network Engineering

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The Use of Smartphone Applications to Aid in Health Related Issues
This project carried out in order to design and implement a Smartphone application, which will help patients suffering from chronic illnesses to monitor their illness level. Developing such application will help the NHS, as the patients will be able to monitor themselves everywhere they go, as mobile phones are handheld devices.



Simon Lang

BSc(Hons) Forensic Computing

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The Perfect Crime - Using Digital Evidence to Contrive an Alibi

In modern legal cases emphasis is placed on digital evidence. Through Cell-Site Analysis or forensic examinations of PCs, handsets & Satellite-navigation devices. This can be used in the prosecution of a suspect, and also from a defence perspective. What if this digital evidence could be contrived and altered to provide a false digital alibi?



Tom Lawrence

BSc(Hons) Computer Networks and Security

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The Viability of using Open Source Firewall in the SMB Environment

This project looks at the viability of an open source firewall solution on an atom-based machine compared to high-end high-cost solutions. With the aim of suggesting that SME's can use a similar solution to reduce costs in their IT budget.



Matthew Livingstone

BSc(Hons) Computer Networks and Security

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The Challenges of Implementing Wireless within a Commercial Environment

An investigation into the challenges faced by medium/large businesses implementing wireless Local Area Networks (LAN's). Providing recommendations on wireless hardware required for installation in hazardous and challenging environments. In addition comparing various 802.11 and security standards.



Toby Lucas

BEng(Hons) Computer Networks and Security

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Securing IP Telephony and Network Video Technologies

Security is a critical element to all business networks that is too regularly overlooked. Recently many companies have migrated to digital telephone and networked video surveillance systems that by default have weak or no security. This project aims to achieve the strongest level of practicable security for these network technologies.



Michael McKenzie

BSc(Hons) Computer Networks and Security

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Investigating how IP CCTV Affects Networks Performance

This investigation aims to analyse to what extent the deployment of an IP CCTV surveillance system has on network performance. Through research and testing, the investigation will in essence attempt to answer the question of what circumstances are necessary in order for an IP CCTV system to be safely implemented.



Ryan Neal

BEng(Hons) Forensic Computing

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w: <http://ryanneal.wordpress.com>

Analysis and Decoding Tool for Geotags Present in Smartphone Devices

A software tool which is capable of extracting data from iPhone devices, and analyse its contents, with the result being the geolocation data found on the device. This tool can be used as a means of discovering where, geographically on a map, the device has been, and so track its user's previous whereabouts.



Thomas Partsch

BSc(Hons) Computer Science

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Biometric Attendance Check

The project prototypes a biometric system for attendance checks at Universities. It utilises a portable biometric device, which accelerates the attendance checks and makes it difficult for students to manipulate their attendance. The system synchronises the data between the mobile unit and a remote administration database.



David Roots

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Software to Recover and Format Facebook Messages

Social networking has grown enormously in recent years and with this growth has come people willing to exploit it. My piece of software aims to make recovering and formatting Facebook messages quick and easy to allow the forensic investigator to view the evidence in a clear way.



Satbir Saraon

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Live Forensic Methods and Routines

This project will discuss the techniques and implications of current techniques used when performing a forensic investigation on a live system. I will be testing currently available tools then create my own variation of these tools within a toolkit. Analysis of my own tool will show the footprint it leaves on a target system.



Ben Sargeant

BSc(Hons) Forensic Computing

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Audio Fingerprinting System using Segmented Waveform Analysis

An Audio Fingerprinting System that uses frequency data embedded within digital audio signals to create a unique fingerprint. The system gives users the ability to search through files on a system to identify any files of matching audio data.



Daniel Wheatley

BSc(Hons) Network Computing

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A Prototype Web/Intranet Based Network Monitoring Solution

A solution to monitor site uptime and connectivity and inform the user or IT department of any problems.



Iain Williams

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The Security Applications of Biometric Systems with Touch Screen Technology

In recent years mobile devices with touch screens have become popular, however these devices come with some security concerns. This project's aim was to see if these security concerns could be addressed with an integrated biometric system.

Web and Multimedia



James Butherway

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Streaming Multimedia to an Android Phone over a Network

The project seeks to develop a mobile multimedia system that provides access to personal music files and digital videos stored at home from an Android smart phone. The system will enable the portability of a user's multimedia collection through the use of wireless technology and the internet.



Ian Cassidy

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A Dynamic Multimedia Driven Recipe and Nutritional Information Web Site

The project focuses on tackling the obesity epidemic by providing a platform in which users can learn about nutritional information and how to prepare quick, healthy, balanced meals. The goal is to cut consumers reliance on 'time saving ready-meals' and 'take aways'.



Alex Culshaw

BSc(Hons) Multimedia Computing Top-up

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Interactive Learning Application for iOS

An iPhone application built in Adobe Flash CS5 aimed at helping Key Stage 1 school pupils learn basic Maths in a more fun, interactive way than traditional paper-based methods. The app plays to the strengths of the iOS platform and takes advantage of touch screen and accelerometer technologies.



Luke Franklin

BSc(Hons) Computing Science Web Development

Online Help Desk and IT Support

My project is based around companies providing out-sourced IT support. It features a completely online help desk and knowledge base to make it easier for customers to report problems and for support technicians to fix them.



Ashley Hryczyn

BSc(Hons) Computer Science

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A RFID System with a Bank End Website

The project is based on an RFID System which will allow guests to gain access to on-site facilities throughout a holiday resort. The system will also display the number of guests to the user of the system. The website will be used to advertise the holiday resort.



Matthew Middlebrook

BSc(Hons) Computing Science

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Web Service for Exposing Multiple Clients on an Asset Management Server

The ability to store assets and access these assets from anywhere in the world is beneficial for any team working on a project requiring asset storage. The aim of this project is to create a cloud based asset management system that can be accessed from any computer with an internet connection using a web service.



Alex Nagy

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Rich Media to Create an Online Music Store

A rich media based online music website that is developed for the ultimate music experience. Visitors can register for an online account and share media with other users through forums and receive news feeds regarding their favourite artists/bands. An iPhone application will also be developed to allow all of the sites' media content to be accessible.



Thomas Preissler

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Cloud Computing for Java Web Applications

The aim of the project is to develop a system to execute java web applications at an in-house cloud. Various applications are automatically redistributed in the cloud depending on the current load of a particular application and the corresponding server. By using the system a company gets a very flexible environment for their java web applications.



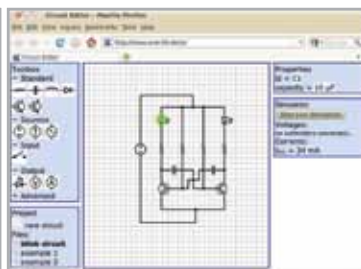
David Redfern

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Interactive Assessment of Students' Learning – A Web Application for Education

An interactive web application allowing teachers to interact and share questions to build assessments which can be submitted to groups of students with real time statistics for classes and individuals over any period of time.



Sven Schoenberg

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Web Based Circuit Diagram Editor and Simulator

A simple drag and drop circuit diagram editor that enables users to create electronic circuit diagrams on a web page. It is possible to share the circuits with other users and collaboratively work on them. It is also possible to simulate the electronic behaviour of the circuits.



Alex Shackleton

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A Fitness Tracking Web Based Application Suitable for Mobile Devices

To investigate and research suitable web-based and design methodologies for the application itself whilst creating a base for rich multimedia suitable for mobile devices. Finally to produce a completed report documenting the analysis, design and the implementation of the application closely followed by testing and evaluation.



Rory Standley

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Facebook e-Commerce and Marketing Application

An e-commerce Facebook application that allows a company to not only sell products through Facebook, but to allow the company to interact with the users of the application by means of marketing products to users with specific criteria set in the application through the use of Facebook Social Graph.



Rachel Stanley

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Web-based Revision Application Using CMS with Automated Marking & Statistical Analysis

Revision can be a strenuous time for any student, especially if the resources are difficult to come by. This project aims to give students a structured learning environment by incorporating reliable resources, online tests, result feedback and the chance to go back and better their results.



Robert Tromans

BSc(Hons) Computing Science

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eLEARN: Electronic Learning Resource Network

eLEARN (electronic Learning Environment And Resource Network) for primary schools. A Virtual Learning Environment for primary schools that allows pupils to learn and share online material. Using the latest research into electronic learning for children, eLEARN plans to become an alternative to current overly expensive learning platforms.



Jez Williams

BSc(Hons) Computer Science: Web Development

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Pixelcase - Social Online Media Portfolio

Pixelcase, a social online portfolio system for creative people to 'showcase their pixels'. By leveraging external web services, Pixelcase, is able to offer a free portfolio system for a range of media. From video to images, media files can be added in the users dashboard then are displayed and shared in their public gallery.



Jack Worrallo

BEng(Hons) Computing Science

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A Learning Application for 1st Year Networking Students

A learning application for 1st year university networking students, with the ability to control live networking equipment, allowing the students to practise what they learn from the app, live. It will be written in ActionScript 3.0 and Java, utilising the Telnet protocols.



Phil Wylie

**BSc(Hons) Computing
Science: Web Development**

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**Web Application to Track
Student Attendance**

Web based student attendance tracking with a mobile register interface utilising jQuery Mobile. A traditional web interface allows staff to manage students, employees and modules, download PDF reports and subscribe to automated email reports. The web application is powered by the Codeigniter PHP framework and a MySQL database for storage.

HND and Foundation Degree

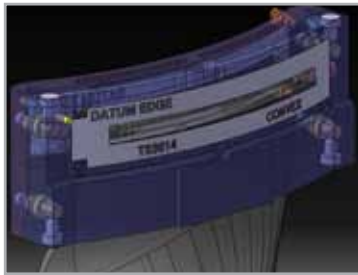


Luke Blakeway

FD Electrical and Electronic Technology

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LJ Electronics Petra System
Renovation of a PLC controlled parts sorter (LJ Electronics Petra system) as used for an educational aid.



Apilom Lunla

FD Manufacturing Technology

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Masking Tools for Thermal Coating Plasma Spray

Design and develop tooling to accommodate the root of the fan blade with copper nickel indium thermal coating thickness between 0.12 - 0.18mm. The tool must be robust enough to accommodate high volume part (approx. 2000 blades per month) and minimise the cost of consumable parts. The design of this tool must meet the acceptance criteria from Thermal Coating engineer and customer.



Michael Maguire

FD Electrical and Electronic Technology

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Robotino Project
Programming of the Robotino to replicate a working scenario within a created workspace.

MSc Student Posters

Umesh Kumar	Bohra	MSc Mechanical Engineering
Kokulan	Eswaranathan	MSc Mobile Computer Systems
Shehzad	Dar	MSc Computer Science
Jalander Reddy	Katipelly	MSc Computing for Business
Keerthana	Santhi Pethappan	MSc Electronic Engineering
Rani	Soudagar	MSc Electronic Engineering
Kartik.	Rachakonda	MSc Computing for Business
Praveen Kumar	Gutta	MSc Telecommunication Engineering
Ravi Teja	Atmakuri	MSc Electronic Engineering

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