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## Beat to Midi

Beat to Midi is a drum detection and replacement tool programmed in C++ using the VST SDK. Audio drum data is fed into the plug-in, each hit detection is then output as a midi note. Using dynamic detection via a pattern matching system the plug-in can learn and subsequently detect (and appropriately output) different drum sounds.

Studying at BU has given me the chance to greatly expand my career opportunities and vastly improve and add to my skill set.



**Michael Clarke**  
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## DJV

Created on MAXMSP and Jitter, DJV integrates fundamental aspects of DJing and VJing allowing interactivity through a Lemur Dexter Multi-touch controller. DJV aims to combine emergent digital performance through one simple easy to use package.

Studying at Bournemouth University has heightened my skills in all areas of creative music.



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## Scratch FX

Scratch FX is a live performance/production tool developed in Max/MSP for PC and Mac. Scratch FX will read any audio sample and perform a scratch using that audio. The scratches can either be selected from a preset library or using a custom design created by the user, and effects such as filters and delays can also be applied. Hardware control is available via MIDI, or OSC using TouchOSC (and similar interfaces) available on iOS devices.

Studying at Bournemouth University has made me aware of the challenges that I face to succeed in the industry, and more importantly, how to overcome them.



**Samuel John Dunlop**  
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## Producing an audio-visual with high quality technology has a positive effect on ASD Autistic Spectrum Disorder

A research project into using high quality technology such as an iPad and a carefully designed audio visual to improve an autism sufferer's communication. Experiments were carried out to measure the subjects overall improvement in communication.

Studying at Bournemouth University has given me the necessary skills to achieve my desired career.

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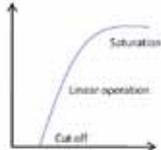
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// Version 2.4      $Date: 28/04/2011 $
//
// Category       : Final Year Project
// Filename       : LaneCub10.cpp
// Created by    : Anthony Evans
// Description    : Laney Cub 10 Amplifier simulation (Mono->Mono)
//
// © 2011, Anthony Evans, All Rights Reserved
//-----
```



Plate Current



Grid Voltage



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## A digital simulation of a Laney Cub 10 Valve Guitar amplifier

The model is a VST plug-in real time guitar amplifier simulator built using various nonlinear waveshaping techniques and peaking filters. The simulator models both pre and power amplifier valve stages and the tonestack, all of which is based upon the Laney Cub 10 guitar amplifier.

Bournemouth University has given me the expertise to pursue a career as an audio technologist.

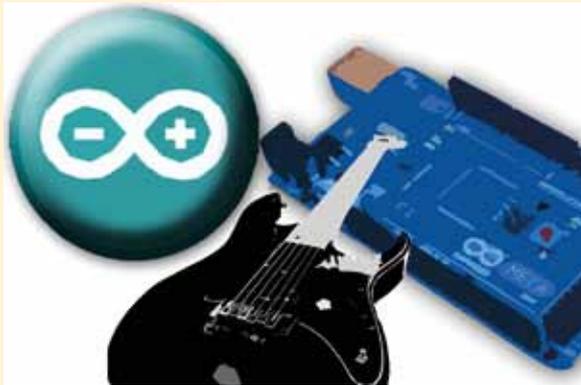


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## An investigation into headphone styles, to determine which is the safest for consumer hearing

We are the 'iPod Generation', but do we know what this is doing to our hearing? By means of intensive testing, my final year project will enable me to establish which styling/brand of headphone is most and least dangerous when operated at full iPod volume.



**Dan Graves**  
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## TouchFX

An interface for manipulation of Guitar FX and MIDI data using a variety of sensors. The device uses accelerometers and force sensitive resistors to control variables in a software environment. The interface is based on the micro controller “Arduino Mega 2560”, this platform is open source. The interaction is realised through a software package called “Max msp”. The interface is designed to attach to the body of the guitar, and mimic the contour and shape.



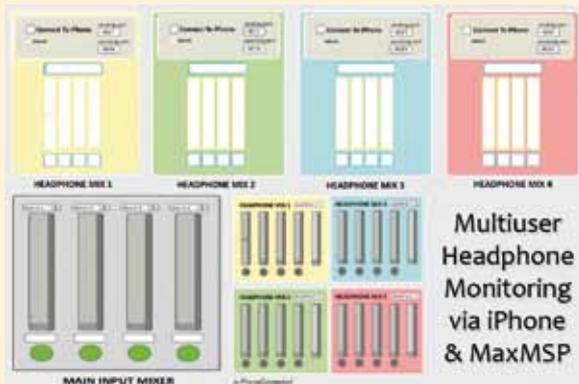
**Sam Harman**  
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## iPhone Impulse Response Application

An iPhone application written in Objective-C and C++, designed to make capturing accurate impulse response files easy on a mobile device. The application records both impulse source and sine sweep recordings, and then performs deconvolution on the sine sweep recording to produce a final impulse response file, which can be used within an external convolution reverb plug-in to simulate the environment in which the user captured the recording.

Studying at BU has encouraged me to test my limits, and has provided me with the skills necessary to work in the field of audio technology.



**Multiuser  
Headphone  
Monitoring  
via iPhone  
& MaxMSP**

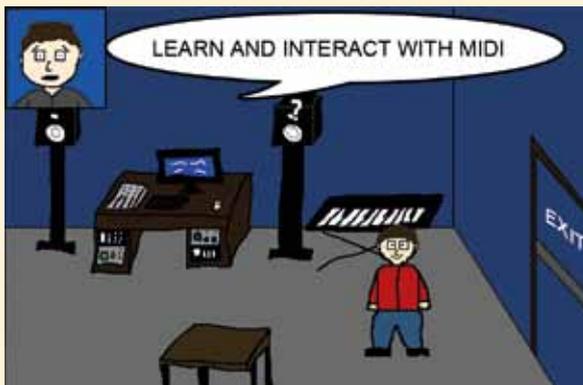
**Craig Hope**  
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## iPhone Controller For Studio Headphone Monitoring

To enable the user to have complete control over their headphone mix I've created a mixer patch in Max/MSP, which is fully controlled by the Touch OSC iPhone app. Audio is routed directly from your DAW into Max, with the user defined audio level then being sent to their headphone mix. It also works for multiple users simultaneously.

Attending BU has opened my eyes to emerging music technologies.



**Sam Lillie**  
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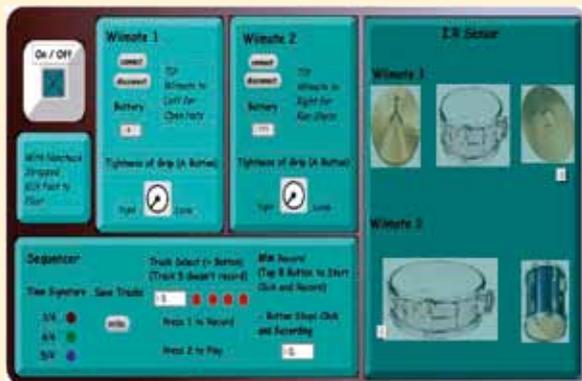
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## Learn and Interact with MIDI

Learn and Interact with MIDI is an educational point and click adventure and puzzle game teaching students and players core MIDI concepts and uses in an easy to digest manner.

The game is set in a studio environment with you taking on the role of a student who needs to revise for an upcoming exam by taking you through the studio, investigating various pieces of equipment and objects to gather the information needed to revise whilst quizzing you throughout.

Studying at BU has made me work towards something I want to continue doing for years to come.



**Shaun Mills**  
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## Invisible Drumkit

This project has been designed to explore the viability of motion controllers for the performance and composition of music, specifically for drums.

By using a combination of wii remotes and max/msp the user will be able to emulate playing a full drumkit with the ability to record and play back their compositions.

Studying at Bournemouth University has made me more aware of modern technologies and there uses in the creative industries.

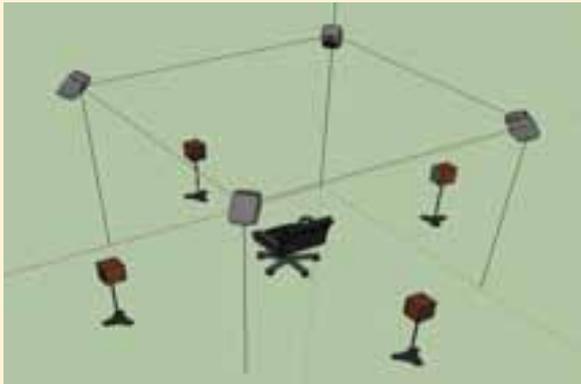


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## Soundscape; Perceived Sound

A research-based project investigating the effects of sound on a listener within the context of storyspace, specifically targeting emotions of test participants and incorporating aspects of semantic listening. Background research considers relevant articles related to audio technology, cognitive science, sound design and application development. Testing environments developed to prove the hypothesis subject participants to audio/visual environments with and without control of sequences. Participants have been able to place out-of-context sounds within a five-channel surround field using the unique five-channel pan application developed in MaxMSP.



**Dean Ormsby**  
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## Research Project - 5.1 vs Ambisonics Creating a 3D Soundfield

Human perception of the surround sound field is tested through surround mixed audio with the aim of understanding whether there is difference enough between the systems as such that would allow for a potential commercial market for Ambisonics, as well as being tested for alteration in perspective of the sound field with the introduction of two dimensional video.

Studying at Bournemouth University has introduced me to a plethora of new technologies and techniques that have improved my audio knowledge tenfold and with it my skills as an engineer.



**Chris Ottridge**  
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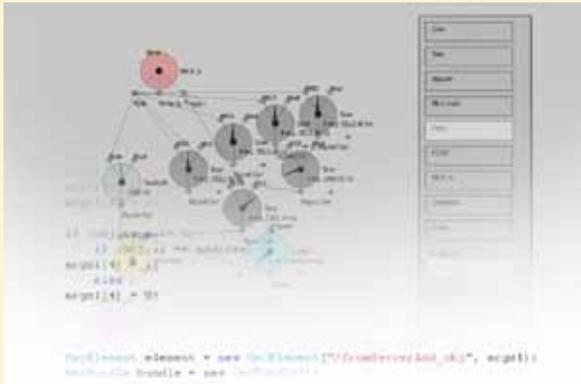
## The Loudness Wars: An Investigation Into Popular Music's Increasing Reliance On Loudness Over Dynamics

My project is an investigation into the general public's response to increasingly loud recorded music. I have recorded my own pieces and tested them on a cross-section of the public to find out if they find loud, un-dynamic music as unappealing as many engineers and audio professionals do.

BU has helped me develop my music production skills, and gain a better understanding of the music technology industry.

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## Sympathy Networked Modular Synthesizer

Sympathy is a freeform modular synthesizer VST plugin programmed in C++. The plugin allows users to build and play their synthesizers together over the internet, using several DSP objects such as oscillators, filters and effects, and also synchronizes all played notes and interactions, creating a seamless shared experience with minimal bandwidth requirements.

Bournemouth University has taught me that with hard work and dedication some dreams can be made reality.



**Rob Ward**  
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## Binaural Recording

Binaural Recording: is it compatible enough with video for it to be commercially viable in mainstream film and media and is it feasible to create a Kunstkopf Dummy Head with a built-in camera?

Binaural recording (true 3D sound) is created using microphones placed into the ears of a dummy head. It differs from surround sound as it takes into account the height and depth of the sound source but must be listened to using headphones. My project looks into whether it could ever become popular in mainstream media and also whether installing a camera into the head affects the quality of the audio, or whether people's opinions of the audio changes.