



NUI MAYNOOTH
CENTRE FOR TEACHING
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INTERCEPT – Interdisciplinary New Technologies for Entrants to Reinforce Creativity, Enthusiasm, and Practical Thinking

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This project will be carried out collaboratively across the departments of Computer Science, Music and Media studies. It will be initially aimed at first years on the Music Technology and Media Studies degree programs, and if it is successful it will be accessible for all. The motivation is that many of the first year students of our interdisciplinary programs have an interest in both arts and technology. However, most students enter their programs possessing more artistic than technical skills. This is because such skills are more difficult to develop independently, due to a limited access to resources and a lack of mentoring. Recently, a number of non-PC based technical platform and interface innovations that inspire new ways of creating artistic works, both musical and multimedia, are available. These platforms include new tablet and mobile devices, the ipad for example, gestural controllers such as Kinect, and open-source hardware devices like the arduino or Raspberry Pi. Furthermore, commercial software

development environments such as Adobe Flash with action script offer great benefits to a novice programmer as they have many convenient built-in libraries for building complex applications that simplify low level device communication issues. By providing a learning environment through which first year students can access these easily technologies and the expertise to use them, it will stimulate their creativity early on in the program, enhancing their learning experience, and enthuse them to develop their technical skills to provide a facility by which their can realize their artistic vision. Furthermore, an excellent by-product of developing their practical abilities is that they have a broader portfolio when they seek employment, and therefore, extend the choice of industries for which they will be suitable. To date, one of the member so this project team has also been involved in the Maker's club that has been run at the Department of Electronic Engineering over the last three years.

This has been a very valuable experience. A similar model would be applied here where a lab space, with the necessary equipment and tutoring, being made available to the students on a weekly basis where they could meet and work on their ideas. The tutoring would be carried out by a combination of academic staff, technical staff and postgraduate demonstrators. Thus, the funding would be

put towards the cost of the demonstrator and equipment. To provide an end-goal, at the close of the second semester there would be an exhibition, managed by the Digital Arts Greenhouse, a new initiative from Media studies/Computer Science and the Music Department for developing the practice and profile of digital arts on campus.

This project should fit well with the aims of CTL as it would encourage the first year students to see the university as place of opportunity where (1) an individual can exercise creative thought, (2) take responsibility for their own learning and development, and (3) to take what they are studying and to consider how to realise it in the physical world.



Joe Timoney studied Electronic Engineering at TCD. In September 1999, he joined the Dept. of Computer Science at NUI Maynooth. He is closely involved in the undergraduate programmes in Computer Science, Music Technology, and Multimedia. His research interests are based in the area of signal processing, with a focus on musical sound synthesis.



Dr Victor Lazzarini is a Senior Lecturer in Music at NUI Maynooth. He teaches subjects relating to the intersection of contemporary music and technology, including computer music languages, electronic composition and musical signal processing. His research is also situated in this area, and amongst his recent publications is *The Audio Programming Book* (with R. Boulanger, MIT Press, 2010), a major reference work in the area of Computer Music.



Jeneen Naji is a Digital Media Lecturer in the Centre for Media Studies, where she coordinates and teaches on the BA Digital Media in conjunction with the Department of Computer Science. Jeneen's research is in the area of digital culture specifically exploring the impact of the digital apparatus on poetic expression. She is also a founding member of the NUIM Digital Arts Research Cluster along with faculty from the department of Music and Computer Science.