

Press Release from ECS – Electronics and Computer Science, University of Southampton

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Build Music With Blocks: Audio d-touch

Researchers at the University of Southampton have developed a new way to generate music and control computers.

"Grab a block and add a base beat, turn a block to speed up the high hat and we have a new way to generate music through controlling the computer," said Dr Enrico Costanza at the University's ECS - Electronics and Computer Science, who is launching Audio d-touch on Thursday (25 August).

Audio d-touch, which is based on Dr Costanza's research into tangible user interfaces, or TUIs, gives physical control in the immaterial world of computers. It uses a standard computer and a web cam. Through using simple computer vision techniques, physical blocks are tracked on a printed board. The position of the blocks then determines how the computer samples and reproduces sound.

"As more of our world moves into the electronic; records to mp3s, books to eBooks, we lose the satisfying richness of touching physical objects like paper and drumsticks," said Dr Costanza.

"Our Audio d-touch system allows people to set up and use tangible interfaces in their own home, office or recording studio, or wherever else they like," said Dr Costanza. This is the first time that anyone has developed a free application like this."

A video of the system and the software is available at: <http://d-touch.org/>

Audio d-touch is more than just for play: TUIs are an alternative to virtual worlds. Human-Computer Interaction researchers are investigating ways move away from the online purely digital world and rediscover the richness of our sense of touch.

Dr Costanza has developed Audio d-touch over several years. "Our aim is to advance the field by gaining insight into how tangible interfaces can be used in the real world. We are keen to have more people download audio d-touch and give us feedback so that we can improve it."

All that is needed is a regular computer equipped with a web-cam and a printer. The user creates physical interactive objects and attaches printed visual markers recognized by Audio d-touch. The software platform is open and can be extended for applications beyond music synthesis.

ENDS

Notes to Editors

1.For further information about Dr Costanza and his work, please visit:
<http://users.ecs.soton.ac.uk/ec/>

2.With around 500 researchers, and 900 undergraduate students, ECS - Electronics and Computer Science at Southampton is one of the world's largest and most successful integrated research groupings, covering Computer Science, Software Engineering, Electronics, Electrical Engineering, and IT in Organisations. ECS has unrivalled depth and breadth of expertise in world-leading research, new developments and their applications.

2.The University of Southampton is a leading UK teaching and research institution with a global reputation for research and scholarship across a wide range of subjects in engineering, science, social sciences, health, arts and humanities.

With over 22,000 students, around 5000 staff, and an annual turnover well in excess of £400 million, the University of Southampton is one of the country's top institutions for engineering, computer science and medicine. We combine academic excellence with an innovative and entrepreneurial approach to research, supporting a culture that engages and challenges students and staff in their pursuit of learning.

The University is also home to a number of world-leading research centres, including the Institute of Sound and Vibration Research, the Optoelectronics Research Centre, the Centre for the Developmental Origins of Health and Disease, the Southampton Statistical Sciences Research Institute and is a partner of the National Oceanography Centre at the Southampton waterfront campus.

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