Maths to turn people's media into national news

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Technology will put the power to make news into the hands of ordinary people and revolutionise the way the vast reservoir of the public's digital content is handled thanks to new research, funded by the Engineering and Physical Sciences Research Council (EPSRC).

Automatically amalgamated, time sequenced packages of digital images and audio from individuals at major news events, such as the 7/7 bombings or the Olympic Games, could soon be transforming the content of news broadcasts.

'Multisource audio-visual production from user-generated content' is led by Professor Andrea Cavallaro who is based at the School of Electronic Engineering & Computer Science, Queen Mary University of London and starts in October 2012.

It will investigate ways of taking digital content from multiple sources, such as people's mobile phones or cameras. It will aim to automatically filter and mix it to provide packages for editors to include in news broadcasts from breaking events such as; protests, disaster scenes, sports events and music concerts.

The research's focus is on being able to use artificial intelligence and complex mathematical calculations to combine crowd-generated footage of an event and generate professional standard reportage from it. These algorithms will be used to identify edits and links between events, such as timings and viewpoints. This will also be relevant to security, as a

means of wading through a vast quantity of CCTV footage.

Professor Cavallaro said: "The large amount of data increasingly available and their varying quality makes the selection and editing of appropriate multimedia items quickly very difficult. This limits the opportunity to gather this data for security, cultural and entertainment applications. We will devise new ways to handle content from multiple sources to improve audiovisual production and to enable synchronisation and processing. This will, in turn, allow generation of novel and higher quality audio-visual rendering of captured events."

This research will go beyond the work that is currently taking place elsewhere that allows people to stitch together footage at for example, a concert or school play, where the music can be used as a handy click-track to synchronise the video.

David Delpy, Chief Executive of the Engineering and Physical Sciences Research Council (EPSRC) said: "This research is an exciting use of maths and ICT through our Digital Economy theme and will undoubtedly have implications for both how information is exchanged and news is reported. It will be revolutionary in opening up who contributes content to news broadcasts and support the development of video-based citizen journalism. It is also a good example of how developments in the sciences and engineering have a wider societal impact."

Provided by Engineering and Physical Sciences Research Council