Science UK: 3D movie tool – text

Would you like to be able to make really amazing films at home? You may soon be able to. Read this article to find out about some interesting developments in home movie making.

Games researchers are looking at adapting a domestic technology which will make spectacular movies possible without spending great amounts of money.

Integrated viewing

Avatar, the movie which has made more money than any other, inspired many people to explore the possibilities of 3D storytelling. The problem is the cost, but research at the University of Abertay Dundee may lead to cheaper versions of the kind of technology used in making Avatar. Matt Bett, a lecturer in Games Engineering at Abertay, began looking at new games motion-controllers. The research was inspired, says Bett, by wanting to see if the equipment could 'do anything that gives the user a tool for something beyond your movement into the computer game. It started from that and from seeing Avatar, getting an understanding of some techniques they used to make the film. Then exploring how we could do something similar.' For Avatar, James Cameron and his team developed a system called Simul-cam which made it possible for the director to see the actors (in their motion-capture suits) instantly in the virtual scene, without having to spend days making computer-generated images integrating it all.

Camera in virtual space

The motion-controller can give a very good picture of its position and orientation in a virtual space. 'What we are doing,' explains Bett, 'is using that information in order to position a virtual camera in virtual space using a real controller in real space, so the controller in your hand turns into a hand-held camcorder.' The team has adapted the technology to do something similar to the Avatar team. 'Imagine yourself standing there in the gaming world,' says Bett, 'as you turn right round, and what you see on the screen would be what you see on the viewfinder of a hand-held camcorder. You get a tool, which is similar to these multimillion-dollar technologies used for big production films that are in the cinemas right now.'

Film

Currently it would be possible to use this tool to edit the replays of a game, zoom into the space and to create a movie of a player's game moves. But Bett wants to take the research further. 'We've got some other logical ways this can go, related to film-making, rather than it being just a game-playing tool. With films there is a lot more we can do, some pretty exciting stuff that people wouldn't believe was possible to do at home.'

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