



**Appliance of science:** From left, Mr Close, Associate Professor Thomas and Mr Piekarski from the University of South Australia

## Strap-on hallucinations for game players

Patrick Lawnham

IT'S for zapping virtual monsters now but later the portable visual technology being refined by University of South Australia researchers could be used in surveying, construction, disaster relief and defence.

Viewers with a wrap-around visor and backpack can move in and view the physical world while seeing superimposed computer-generated objects.

The ARQuake system is one of the first systems that lets users play "augmented reality" games outdoors, according to the university.

It was developed by computer science PhD student Wayne Piekarski and research associate Ben Close, supervised by "wearable computer" expert Bruce Thomas,

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director of UniSA's wearable computer lab.

Associate Professor Thomas said the system's main purpose was for research into the use of augmented reality computers outdoors using software known as Tinmith-evo5, created by Mr Piekarski.

It's being used for both research into possible future practical models and also a game model for retailers.

Mr Piekarski said ARQuake was an extension of virtual reality desktop-based game Quake, in which a player "moved" in a virtual world to shoot monsters and do tasks.

"This augmented reality process involves overlaying and aligning computer-generated graphics and images on to a real-world view," said Mr Piekarski, a finalist recently in the inaugural Australian Computer Society Eureka Prize for innovation.

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Mr Piekarski, Mr Close and other students based at the school have digitally mapped the university's Mawson Lakes campus, making a Quake environment out of it and adding digitised mon-

sters which jump out at programmed locations.

It's not simple. Players wear a transparent head-mounted visor unit with an internal mirror that combines computer-generated images with the real-world view.

Players need a wearable computer equipped with a modified version of the Quake program, a compass, satellite position tracking and a custom-made plastic gun.

In future professionals could model 3D structures outdoors and see how they look, or rescuers could be guided in the dark. But this is not to downplay the value of getting computer-game players out into the fresh air.

LINKS

[www.tinmith.net](http://www.tinmith.net)  
[wearables.unisa.edu.au/arquake](http://wearables.unisa.edu.au/arquake)