University partners with Sony to find cure for 'lazy eye'

May 8 2013

The University of Nottingham and Nottingham University Hospitals NHS Trust, have been working with Sony Computer Entertainment Europe (SCEE) to develop special 3-D glasses and games to help treat children suffering from Lazy Eye.

Lazy Eye (or amblyopia) affects the vision of around 3% of all children, and the traditional treatment for the condition involves patching the good eye for hundreds of hours.

The original idea for the new treatment was developed several years ago by Stephen Haworth, a consultant eye surgeon, working at the Queen's Medical Centre (QMC). A team was formed by the University and the Nottingham University Hospital Trust to work on the project, known as I-BiT, with funding from the Wellcome Trust.

Software engineers from SCEE are now supporting scientists and medics at the University and the QMC involved in I-BiT in their quest to further develop games as a novel and effective method for treating Lazy Eye.

SCEE has agreed to provide customised games for the I-BiT system, based on popular titles for the PlayStation®3 (PS3™) console. Children play the games wearing 3-D 'shutter glasses' and the technology presents the game background to the good eye and the active content to the 'bad' eye, so both eyes are involved, resulting in a binocular treatment. However, the patient sees only the one, combined, image.

Speaking about the I-BiT system, Mr Alex Foss, Consultant Opthalmic surgeon at the Queen's Medical Centre, Nottingham and the leader of the project, said: "The current technique of patching up the good eye isn't very effective, and children also dislike it, which means they are reluctant to comply, further reducing the levels of success.

"However, in cases that have so far been treated using the I-BiT system, a marked improvement has been seen after only a few half-hour sessions."

Simon Benson, Senior Development Manager at Sony Computer Entertainment Europe, commented:

"Sony Computer Entertainment Europe is proud to be involved with helping to develop the I-BiT product with The University of Nottingham. The new PlayStation® based solution will actually make it enjoyable for children to undergo treatment.

"We are looking forward to continuing our work with the I-BiT Team and helping them make a product which will help to improve the eyesight of hundreds of thousands of young children in Europe."

A clinical trial programme, funded by the Wellcome Trust, has now started. In parallel with these studies, it is intended that a more integrated system for commercial use will be developed, which, after testing will be made available through High Street optical outlets, hospital eye clinics and in the longer term, possibly directly into the home.

Sue Cobb, Associate Professor in Human Factors at The University of Nottingham, led the original research into the IBiT technology. She said: "The development of games and other technologies by Sony will take the I-BiT project to a new level. We are all very excited about the potential impact that this will have in improving the treatment of amblyopia."

Dr Alan Burbidge from The University of Nottingham's Business Engagement and Innovation Services team, who is the University's technology transfer manager for the project, added: "This is a great example of the University and the NHS working collaboratively together to solve an unmet clinical need."

Provided by University of Nottingham

Citation: University partners with Sony to find cure for 'lazy eye' (2013, May 8) retrieved 22 May 2024 from https://medicalxpress.com/news/2013-05-university-partners-sony-lazy-eye.html

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