Medical Xpress

Researchers develop virtual training tool to help doctors improve their communication skills

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University of Huddersfield researcher Yeshwanth Pulijala is dedicated to bringing about big improvements in medical training by harnessing the power of virtual reality and 3D technology. Now, he is part of a team that has developed the prototype for an innovative tool that will enable doctors to develop their communication skills – including the breaking of bad news – by conducting a simulated interview with a virtual patient.

The Immersive Medical Training System (IMTS) – as it has been named – has already scooped awards at the International Medical Education Conference, where it was developed. A demonstration of the first version of the package can be seen online in a film in which a trainee doctor discusses a serious diagnosis with a young female 'patient', adjusting his responses to her reaction.

"That is our proof of concept," said Yesh. "Now we want to do something much more advanced and create a virtual environment where a medical student can come into a room and practise difficult communication skills."

Already the team behind the system has held meetings with leading medical publisher Elsevier, and a professor of medical education had signalled her interest in the project. But IMTS was devised in just two days by a multi-disciplinary team assembled to participate in a "Medical Hackathon" – a 48-hour event where software developers, designers and

medical professionals work together to create innovative products – that took place at Glasgow to coincide with a large-scale conference of the Association for Medical Education in Europe (AMEE).

Yesh was joined by a medical student, Uzair, and two computer scientists, Benedict and Leslie, plus Edward Miller, co-founder of the company Medical Realities, with whom Yesh had already been working as part of his University of Huddersfield PhD project. Yesh-Edward's collaboration aims to adapt the new Oculus Rift headset to surgical training so that it can provide accurate graphical visualisations of human anatomy and surgical procedures. Now the IMTS project adds another strand to their partnership and to Yesh's research portfolio.

They say the goal of IMTS is to combine a [virtual environment](link) with artificial intelligence so that a trainee medical practitioner could hold ultra-realistic consultations with an on-screen avatar and practice his communication skills in a risk-free environment.

IMTS team won a bunch of awards at the AMEE Hackathon including the best e-learning product, best presentation, best medic award and the AMEE conference award. This was in recognition of the huge importance of communication skills in the medical field and the need for better training methods.

There are also potential economic benefits, says the IMTS team, because simulated interviews as part of training currently require patient-actors to be hired at a significant daily rate, and not all students are able to attend the sessions. This method is also not standardised.

Yesh says that the IMTS project integrates well with his PhD research, which is supervised at the University of Huddersfield by Professor Minhua Ma, a pioneer in the application of serious games technology for health care.