Mixed Reality Lab (MxR)
Mixed Reality Research and Development

Mixed Reality Lab

The Mixed Reality Lab (MxR) at the USC Institute for Creative Technologies explores techniques and technologies to improve the fluency of human-computer interactions and create visceral synthetic experiences.

Project BlueShark
This project utilizes virtual and augmented reality, virtual humans, artificial intelligence, human-computer interfaces and other research and prototypes to create a vision for how we’ll work together in the future. There are two physical spaces – the main demo lab at the Office of Naval Research, which funds the project, and the development space at ICT’s Mixed Reality Lab. These are testbeds to explore near-term and longer-term tech capabilities, and more importantly, how humans will use them to interact, learn and make decisions.

Sharing Space
MxR develops immersive displays to transport virtual characters into the real world and make virtual humans seem like real people who occupy real physical space. This approach leads to innovative display technologies and techniques that induce users to react in the realistic and naturalistic ways needed in effective training and learning experiences.

Immersive 3-D Viewers
Developed long before Google’s Cardboard, MxR’s suite of low-cost immersive viewers enables the creation of 3-D, immersive virtual and augmented reality experiences using smart phones and tablets. These low-cost, lightweight systems can be used to create portable virtual reality applications for training, education, health and entertainment. These software and hardware platforms are part of the open-source design philosophy that helped inform the design of the Oculus Rift HMD.

The Mixed Reality Research and Development group, led by Mark Bolas, receives mission and customer funding through ICT’s UARC contract to do basic and applied research and advanced technology demonstrations.