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Abstract

Virtual Reality (VR), Augmented Reality (AR) and Head Mounted Displays (HMDs) are revolutionizing the way we view and interact with the world, affecting nearly every industry. These technologies are allowing 3D immersive display and understanding of anatomy never before possible. Augmented and virtual reality are transforming the practice of healthcare by providing powerful and intuitive methods of exploring and interacting with digital medical data, as well as integrating data into the physical world to create natural and interactive virtual experiences. These immersive technologies use lightweight stereoscopic head-mounted displays to place users into simulated and realistic three-dimensional digital environments, unlocking significant benefits from the seamless integration of digital information with the healthcare practitioner and patient's experience. This seminar explores some of the current and emerging technologies and applications in surgery, therapeutic approaches in rehabilitation, pain management, and psychology, their benefits and challenges around immersion, spatial awareness and cognition, and their reported and projected use in learning environments, procedure planning and perioperative contexts.

Keywords: Augmented Reality, Virtual Reality, Healthcare, 3-D environments, Head-Mounted Displays, Anatomy, Rehabilitation, Psychology.

Remark by Seminar Guide:

Date: **Seminar Guide**