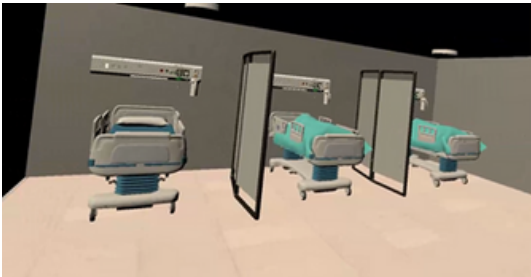# NEXT GEN OPERATION THEATRE PREPARING FOR REALITY WITH DIGITAL TECHNOLOGY

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AT A GLANCE

This invention revolutionizes medical education by integrating digital, 3D, and mixed-reality technologies to enhance understanding and confidence in operating theatre (OT) environments.

CHALLENGES ⌄

In medical education, students face significant challenges with operating theatre (OT) training due to restricted access to practical experiences. This is made worse by feelings of intimidation and a lack of confidence when encountering the OT environment. for the first time. Traditional training methods, which primarily rely on theoretical knowledge and passive observation, fail to address the practical and emotional complexities of working in high-pressure situations. These gaps in training create a steep learning curve and increased anxiety, highlighting the urgent need for innovative solutions that offer immersive, interactive learning experiences to better prepare students for real-world clinical practice.

THE INNOVATION ⌄

- Multiphase Learning Approach: This technology employs a three-phase learning approach using web-based, 3D, and mixed-reality technologies to progressively build students' understanding and confidence regarding the OT environment.
- Progressive Complexity: The phased approach ensures that students start with basic concepts and gradually advance to more complex scenarios, allowing them to build competence and confidence incrementally.
- Behavioral and Emotional Training: By incorporating mixed reality for crisis management, the technology addresses not just clinical skills but also the behavioral and emotional aspects of working under pressure, which is crucial for effective crisis management in the OT. These principles of crisis management experienced will be useful in identification and management of similar crisis in any other areas within or outside of the hospital.setting

THE OPPORTUNITY ⌄

- The global virtual reality (VR) and augmented reality (AR) market in healthcare is expected to grow substantially, with projections indicating a compound annual growth rate (CAGR) of around 30% from 2024 to 2030. This growth reflects the increasing adoption of immersive technologies in medical training and simulation.
- This innovation offers a significant opportunity to enhance medical education by better preparing students for real-world surgical environments.
- Its modular design, with phases targeting different levels of learners, could also be adapted for broader use in other healthcare settings, helping to improve patient safety and overall care quality.

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