SCHOOL OF ARCHITECTURE AND INTERIOR DESIGN
COLLEGE OF DESIGN ARCHITECTURE ART AND PLANNING

SUMMER RESEARCH OPPORTUNITIES FOR UNDERGRADUATE students

FOR APPLICATION YEAR: 2026

PROJECT TITLE: VR-Based Employee Safety Training: Therapeutic Crisis Intervention Simulation

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Project Description

The Extended Reality Lab at Digital Futures is developing a VR-Based Employee Safety Training: Therapeutic Crisis Intervention (TCI) Simulation project. This interdisciplinary initiative brings together the Immersive Learning Lab and the Employee Safety Learning Lab at Cincinnati Children’s Hospital Medical Center (CCHMC), in partnership with the Extended Reality Lab (XR-Lab) at the University of Cincinnati.

The project focuses on building an advanced virtual hospital environment populated with digital patient avatars to simulate a wide range of real-world TCI scenarios. These digital twins include both the hospital setting and the patient characters. The goal is to design immersive training modules, capture user performance data, and conduct a rigorous evaluation of how VR-based training can improve employee safety and crisis-response capabilities.

Through this project, students will develop practical skills in virtual reality game development, including 3D modeling, animation, and scripting in Unreal Engine. Special emphasis is placed on designing behavioral simulations for patients experiencing mental or emotional crises. Students will engage in collaborative research with Cincinnati Children’s Hospital to formulate and refine their own research questions.

Overall, this project offers hands-on experience in VR-based training research and provides insight into how knowledge and skills can be developed through immersive simulation. Students will gain a solid understanding of the full VR development pipeline—from motion capture and UI/UX design to runtime

data collection and analysis—and leave with valuable, transferable skills applicable across many related fields.