



# GigXR

## Transform your learning environment with XR

Give medical and nursing students immersive, extended reality (XR) training experiences to improve learning outcomes, meet graduation requirements, and enhance clinical readiness with GigXR solutions deployed on Microsoft HoloLens 2.

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# What will education look like in years to come?

A revolutionary breakthrough in teaching and learning is here.

Immersive learning has become an integral part of quality training across a variety of fields. World-class academic institutions and industry leaders are turning to cutting-edge, research-backed technology to prepare learners for sustained success in a future where digital literacy will be a crucial skill across disciplines.

Mixed reality is one technology that is making a significant impact across industries – healthcare training and education being the most prevalent. For some, mixed reality has seemed like a dream. However, the blending of virtual and real-world elements to create hyper-realistic environments is a vital tool for institutions keen on finding new ways to train and educate students and employees alike.

## Mixed reality is no longer fiction.

We're bringing the impossible to the realm of the possible. GigXR and Microsoft HoloLens 2 deliver extended reality learning applications to transform learning and skilling for enterprises in the healthcare and education industries.

These XR platforms make the most of mixed reality technology, merging real and virtual worlds on the HoloLens 2 device to create visceral training experiences for deeper learning and understanding.

## Explore HoloPatient and HoloHuman running on Microsoft HoloLens 2.

GigXR's flagship mixed reality applications, HoloPatient and HoloHuman, as well as our holographic content management system, break through the limitations of traditional learning resources, such as 2D screens and books, by placing true-to-life 3D simulations in a collaborative physical space using the HoloLens 2 headsets. Broadening and deepening the impact of learning, GigXR and Microsoft HoloLens 2 together are delivering near to real-life scenarios to enhance training, reducing costs and improving learning outcomes for institutions and students.

Breathe life into medical curriculums with augmented and mixed reality simulations.

Give distance learners an immersive and interactive educational experience.

Discover how medical institutions and universities are finding increased value through mixed reality training curriculums.

# Expand the paradigm of learning

Transform students' clinical readiness with extended reality experiences that bring patient experiences to life with 3D holographic realism.

Picture a holographic man in the center of a room. You can see him leaning against the hard back of a real physical chair. Red lesions mottle the skin his hospital gown doesn't cover. And you can hear him – grunts of pain, the sound of his hand scratching his neck, the subtle shifts of his body as he begins to exhibit the symptoms of anaphylactic shock.

This hologram represents a 32-year-old mountain biker who was rushed into the emergency department following an accident. The hologram is running as a simulation on GigXR's HoloPatient in the New Zealand School of Nursing to help medical students develop clinical reasoning skills before entering their practice – a crucial, often lifesaving skillset that sharpens a practitioner's abilities to accurately observe, identify, and diagnose patient conditions based on telltale signs and symptoms.

**One solution could make all the difference.** Imagine the impact of a solution like HoloPatient, deployed on HoloLens 2 devices, bringing together augmented reality and mixed reality technologies to instantly create lifelike simulations. Teaching scenarios can be played over and over again to challenge a student's understanding of new diseases and ailments. Instructor resources help reinforce the key takeaways of lessons, increasing retention rates as students physically engage with visual scenarios that feel and sound like real patients.

## WHAT DO NURSING STUDENTS HAVE TO SAY ABOUT HOLOPATIENT?

**"It felt like we were really assessing a patient."**

*– Nursing Student, New Zealand School of Nursing*

**The HoloPatient experience was "surprisingly real," and it was easy to be "fully engrossed in looking at the [holographic] patient without feeling awkward about it."**

*– Nursing Student, New Zealand School of Nursing*

**"3D gave a more comprehensive picture and the ability to assess visual cues is easier than on a manikin."**

*– Student, University of Canberra*

**"I am a visual learner; I find reading case studies hard...this [holographic] patient was in front of me to move around and get a clear image."**

*– Student, University of Canberra*

## CASE STUDY

# Southern Institute of Technology

Hear firsthand how GigXR mixed reality solutions deployed on HoloLens 2 headsets are transforming the way nursing students engage and learn from clinical simulations and deepen their understanding of anatomy.

## Redefine remote education

### **Facilitate safe simulation training for remote and socially distanced students.**

Clinical simulation is an integral part of training and education in healthcare fields. Since 2014, it has already represented as much as 50% of clinical training for nursing students.<sup>4</sup> Access to simulation labs and other facilities and equipment where such training is traditionally done is limited at best in the age of COVID-19 protocols, slowing the learning progress for many students and even preventing graduation for lack of completed simulation hours.

What if we could facilitate deep, immersive educational programs for remote students across institutions, from hospitals to universities and high schools? Using HoloPatient and HoloHuman on HoloLens 2, that's not only a possibility, but a tried-and-true reality that is helping students gain a deeper understanding of their field while increasing their ability to retain what they learn.



## CASE STUDY

# The University of Canberra

### SITUATION

Preparing healthcare professionals for the clinical reality is essential. The problem is, if you're talking about healthcare professionals, the ability to translate academic learning into real-world scenarios can have life or death implications for their patients.

### CHALLENGE

Common health emergencies such as heart attack or anaphylactic shock require health students to be able to make the connection between symptoms presented in a textbook and the patient in front of them. It is difficult to fully prepare students for the real-time observation of patients with urgent conditions, and textbook images fall far short.

### SOLUTION

Using Microsoft HoloLens 2 headsets, instructors at The University of Canberra are using GigXR's HoloHuman and HoloPatient apps to mimic real-life scenarios in the form of holographic patient simulations. The combined power of Microsoft hardware and GigXR's mixed reality solutions allows students to learn in a realistic way and within a safe environment.

### RESULTS

- Recognizing deterioration and interpreting patient cues.
- Developing professional language and common understanding.
- Augmenting clinical skills through visualizing anatomy and physiology.

# Improve the value of training

Learn how GigXR solutions are making a difference across healthcare and educational institutions.

*Emma Collins MSN, Principal Lecturer, Otago Polytechnic School of Nursing*

After using applications like HoloPatient and HoloHuman in her classes for years, Dr. Collins saw tremendous value in using mixed reality for clinical training purposes.

“Mixed reality immersive tools provide in-depth clinical experiences that lead to more accurate patient assessment and care planning. Our students respond incredibly well to mixed reality apps, with some saying they prefer the experience to manikin simulations and the ability to visualize real-life clinical scenarios to better prepare for placement over textbooks.”

*Dr. Jane Frost, Associate Professor of Nursing, The University of Canberra*

A TedX speaker with a notable track record in research focusing on simulation in nurse education and technology-enhanced learning, Dr. Jane Frost, a Senior fellow of the Higher Education Academy, noted a tremendous difference between experiencing medical simulations with mixed reality and relying on conventional lecture-style learning.

"We can discuss the signs and symptoms of anaphylaxis, but that's not like actually seeing a patient go into shock. HoloPatient allows students to see and really explore a patient's deterioration in a safe environment without the need to act."

*Evaluation of Vaccination Training in Pharmacy Curriculum: Preparing Students for Workforce Needs, 2020 Medical Study*

A recent medical report<sup>5</sup> explores the impact of using GigXR's HoloHuman to support the curriculum at a university vaccination training program.

“[HoloHuman] provided students with a unique way of identifying landmarks (i.e., deltoid muscle) for intramuscular (IM) vaccination. It was used to enable students to visualize the shoulder (synovial) joint and to recognize why a shoulder injury related to vaccine administration (SIRVA) would occur if given too high. Mixed reality has the power to engage the learner in a variety of interactiveways, which until this point have not been possible.”

## CASE STUDY

# Otago Polytechnic

### SITUATION

Otago Polytechnic is always on the lookout for ways to help healthcare students develop and use their theoretical knowledge. As mixed reality solutions became more prevalent in the healthcare industry, they thought to explore how the technology could help them blend clinical and theoretical learning environments to enhance student learning.

### CHALLENGE

Traditionally, a student develops theoretical knowledge by engaging in both real-life clinical scenarios and in classroom simulations using manikins. However, these forms of training pose limitations. One such challenge is the fact that students may never experience certain learning opportunities in the context of a real clinical scenario.

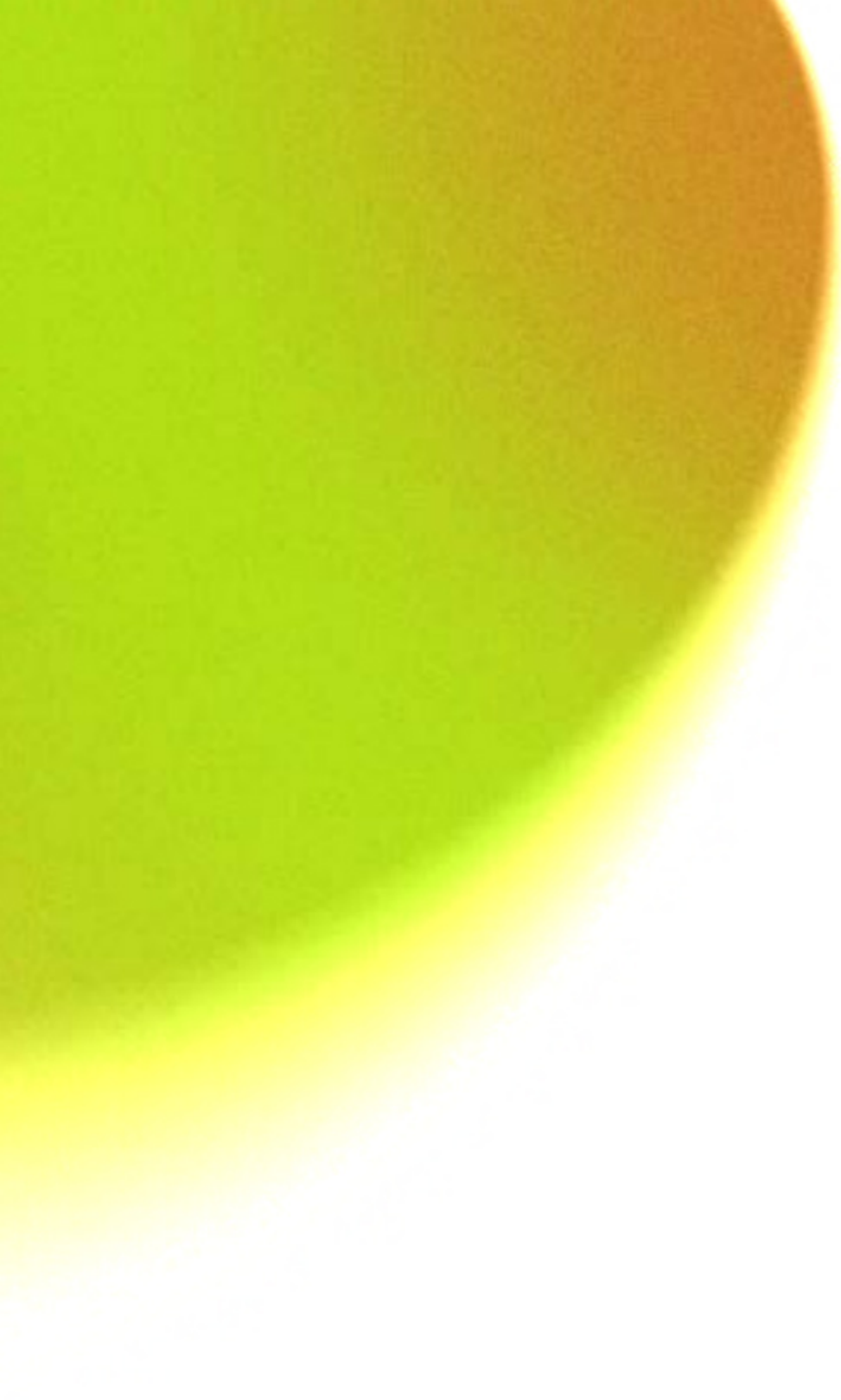
### SOLUTION

By deploying GigXR's HoloHuman and HoloPatient applications on Microsoft HoloLens 2 headsets, instructors can give their students the opportunity to not only grow their theoretical knowledge, but also to immediately put theory into practice. An application like HoloPatient helps students practice assessments and diagnosis, moving them beyond textbook learning and into the realm of lifelike, holographic patient simulations that better prepare them for working with real patients.

### RESULTS

GigXR's mixed reality applications have had a significant impact on Otago students, giving them an authentic learning experience in a safe and controlled environment.

Students are not anxious or nervous about their responses to patients because they know they are holograms. This gives them a chance to gain confidence. They are also able to learn while standing over a patient, by discussing what is going on for them – something they cannot easily do in real life. Such practice gives them the assessment skills required to come up with the right care plan for every patient.



# A game-changer in healthcare education and training

GigXR is a Gold member of the Microsoft Mixed Reality Partner Program. This distinguishes the company as an innovator in the mixed reality market, partnering with Microsoft to deliver practical solutions that break through the current paradigm of learning.

GigXR offers more than the HoloPatient and HoloHuman applications. As a platform-based company, we can also be the conduit for other tech companies bringing innovative healthcare solutions to market. With the combination of Microsoft mixed reality technologies, GigXR is transforming the face of healthcare and education one solution at a time.

<sup>1</sup> 2019 Augmented and Virtual Reality Survey Report

<sup>2</sup> Global Augmented and Mixed Reality Market (2021 to 2026), Global Newswire

<sup>3</sup> Microsoft head of mixed reality Alex Kipman interview with Joanna Stern for the Wall Street Journal

<sup>4</sup> NCSBN National Simulation Study

<sup>5</sup> Evaluation of Vaccination Training in Pharmacy Curriculum

