

# Mixed reality simulation platform to significantly improve medical education



## Company profile

### Overview

WyzLink is a Seattle-based leading VR/AR/MR education platform and solutions provider. WyzLink delivers a suite of VR/AR/MR medical simulation solutions for professional medical and nursing education.

### Industry focus

Medical and nursing simulation.

### Solutions and services

WyzLink creates an immersive virtual reality hospital where healthcare students and professionals can treat virtual patients, individually or collaboratively, using procedural, clinical reasoning, and interprofessional collaboration skills.

### Customers

University of Pittsburgh, George Washington University, University of Washington Bothell, Pacific Lutheran University, Bellevue College, First Affiliated Hospital of Zhengzhou University, and more.

WyzLink was founded by a group of visionaries and technology enthusiasts, including serial entrepreneurs, computer scientists, medical professors with more than 20 years of teaching experience, and creative artists.

Among the first group of certified MRPP partners, WyzLink sets an example of riding the wave of technology advancements, while staying close to the pulse of the market. With offices in Seattle, Silicon Valley, and Shanghai, WyzLink works closely with Microsoft's global partner and sales team, to successfully promote disruptive technological innovation in an entrenched medical simulation market in the United States and China.



“Mixed Reality is the next and best alternative for training many medical skills and best restores information in the 3-D world.”

— Conrad Lee, Former Bellevue City Mayor, Bellevue City Council

"We've been fortunate to work with WyzLink for over two years. Without them, we would not have AR/VR or any kind of immersive program. It's very exciting to see what they've done to bring this to 'reality.'"

— Dr. Mark Veljkov, Director for Computers and Technologies, Bellevue College Continuing Education



WyzLink is committed to significantly improving the current state of medical education. Each medical simulation scenario has clear learning goals. Students can customize the learning plan according to their needs and practice the simulation scenarios repeatedly until they have fully mastered the learning objectives. The WyzLink platform provides an interactive, exploratory, experiential learning experience and leverages cloud and artificial intelligence to automatically analyze student performance and provide instant feedback.

WyzLink's content platform scales to millions of users worldwide, supports multiple learners working collaboratively as a team, can record learners' sessions on the cloud, provides automatic debriefing, runs on learners' own schedules, and provides outcome-based learning.

#### **Clinical Reasoning Skills Training**

Expert-designed scenarios with medically accurate simulations for clinical reasoning and differential analysis training.

#### **Interprofessional Education**

Collaborative learning sessions with multi-institution, interprofessional education (IPE) capabilities.

#### **Low Cost, High Scalability**

Flexible and ultra-scalable medical simulation solution serving thousands of users on-demand, with a rich content platform on the cloud.

#### **Instant Feedback, AI Debriefing**

Individualized, instant assessment; group performance analysis.

"Medical knowledge is best taught in immersive and hands-on clinical settings. MR solutions fulfills those needs."

— Dr. Mark Wen, Former Vice President, Seattle Children's Hospital



# University of Pittsburgh

## A new look for medical education

In healthcare education, students, for obvious ethical reasons, cannot learn by practicing on actual patients. Previously, mannequin-based simulators were used to provide critical thinking and decision-making experiences in low-stakes environments. However, physical simulators are poor semblances of actual human beings, are expensive, and, because of the need for rigid scheduling to accommodate the physical center, do not support interprofessional team experiences.

The University of Pittsburgh has four world-renowned schools of health science: medicine, nursing, pharmacy, and dentistry, and is home to The Peter M. Winter Institute for Simulation, Education, and Research (WISER), a world-class multidisciplinary training and research facility. WISER's mission is to conduct research and training programs utilizing simulation-based education to promote patient safety. As a pioneer in simulation education, WISER is working with WyzLink to develop a VR/AR simulation curriculum and is conducting rigorous evaluations and research in this field. The students and faculty have responded enthusiastically!

## Solution spotlight

A Mixed-Reality Medical Simulation package that covers fundamental aspects of healthcare education.

Technologies used:

- Windows Mixed Reality
- Azure Cloud
- Microsoft Cognitive Services
- Unity

### Benefits:

- Ultra-scalable
- Accessible 24/7
- Self-paced, outcome-based learning
- Similarly effective to traditional methods
- Interprofessional education with VR

“MR simulation *is* the future of medical education. It addresses education and assessment challenges economically, and the students love it! Shortly, all healthcare professional schools will employ it.”

— Dr. William McIvor, MD, FASA Professor of Anesthesiology University of Pittsburgh School of Medicine Associate Director of WISER for Medical Student Education



Wyzlink's VR/AR-based medical simulation solution adapts to an individual student's current skill level and is accessible 24/7, thereby accommodating students' unique needs. Additionally, the multiplayer feature allows students to communicate and practice collaboratively and interprofessionally.

By adopting WyzLink's mixed-reality simulation application, Pitt continues to be a leader in medical education. The University of Pittsburgh and WyzLink are collaborating to make improvements and add features to the application that will make it an important provider of medical virtual reality world-wide, with agreements in place that allow Pitt faculty to write scenarios that WyzLink renders for VR.

"Mixed Reality takes the best of theory and helps convert it into practice—and under a variety of situational constraints/challenges. This challenges students to 'think WHILE doing'—with the only limitation being our creativity!"

— Dr. Bill Erdly, Chair & Associate Professor, Computing & Software Systems Division,  
University of Washington Bothell

## Universities and Hospitals in action: Use cases



### University of Washington + Swedish Hospital

We held classes to train nursing managers at Swedish Hospital with MR solutions. According to the survey data, 72% intend to use MR medical simulations in their future nursing training, and with an average score of 4.9 out of 5, they showed interest in using it to experience many scenarios.



### Pacific Lutheran University

We jointly developed an MR school nurse training [program](#) and plan to promote it nationally. We received a very positive response about the overall experience (average score 9 out of 10). 83% feel MR simulation is better than mannequins in developing critical-thinking skills.



### First Affiliated Hospital of Zhengzhou University

WyzLink provides design and implementation services for multiplayer surgical scenarios where learners receive practical simulation experience during complex procedures. In September 2018, this project was granted the provincial award of Zhengzhou province and is also applying for the national simulation lab award this year.

