

xR HEAD

eXtended Reality Health Economic Acceleration and Development



GlenxRose: xR Simulations to Increase Patient Compliance for Rehabilitation

PROJECT FAST FACTS

PARTNERS: University of Alberta and Glenrose Rehabilitation Hospital

AWARD: \$250,000

THE PROBLEM

Studies indicate that with appropriate therapy, people can gain or re-gain meaningful functional improvements, even long after an initial injury has occurred. For therapy to be effective, however, it must be challenging as well as repeated and relevant. Patients often do not follow therapy regimens as therapy can be perceived as difficult, tedious, and irrelevant to daily life. The result is a disengaged, uninformed patient population that regains optimal function slowly, if at all, and costs the healthcare system both in therapist time and in dollars.

THE SOLUTION

The creation of the “GlenxRose Program”: a collaboration between established developers from the University of Alberta and the Glenrose Rehabilitation Hospital (GRH) to create xR simulations that focus on patient improvement through intensive engagement leading to better compliance. Specifically, this project will create a multi-tiered XR program that establishes patient salience via VR simulation to accurately visualize details about the pathology and subsequent XR gamification therapy to rehabilitate the patient. Establishing the utility and value of these approaches in the GRH provides an ideal opportunity to establish the wider market for these products.

An engaging approach to therapy and patient education is gamification in xR. It can significantly improve therapeutic outcomes due to its compelling immersive qualities that persuasively engage the patient. The patient's modified perception of therapy evolves from difficult, tedious, and irrelevant to fun, rewarding, and meaningful. Thus, xR's interactive qualities make therapy and education approachable and can be tailored to meet a patient's specific and changing needs. This customization ensures therapy is always just difficult enough to be challenging but not impossible.

Gamification makes the repetitive elements of therapy part of the fun and mentally stimulating. As a result, the patient forgets that he/she is performing a repetitive therapeutic action and is willing to persist, despite pain, if they are 'seeing' and walking in a beautifully simulated forest rather than back and forth in a hallway.

PROJECT OBJECTIVES

- Creation of a gamification version of rehabilitation in Virtual Reality, for areas such as Speech Language Pathology and Stroke Rehabilitation
- Significant improvements in the participation of patients in their rehabilitation programs.
- Commercialization within the Alberta market and beyond.

ABOUT xR HEAD

In partnership with the Alberta Chapter of the Virtual Reality / Augmented Reality Association (VRARA), Alberta Innovates is proud to announce the eXtended Reality Health Economic Acceleration and Development (xR HEAD) program. This program will be a first-of-its-kind opportunity for stakeholders in Alberta's virtual, mixed, and augmented-reality (collectively 'xR') health innovation ecosystem to come together in a coordinated way to jointly develop xR innovations that can enhance patient care or support the training of health professionals. These opportunities will be co-identified and co-developed by health innovation stakeholders and will align to Alberta Innovates' four research and innovation priorities, the Alberta Research and Innovation Framework (ARIF), and will create economic and health system economic value.

Learn how

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