

HOLOLens



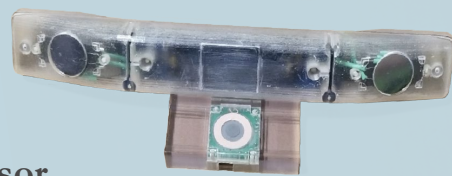
The HoloLens is a head-mounted augmented reality platform. It shows great potential to go beyond standard therapies, it provides patients with cognitive challenges a fun and engaging approach to treatment.

Requirements:

A comfortable, easy-to-clean and use device that assists clinicians in the assessment and treatment of visual, spatial and perceptive deficits. Functionality must be variable to allow customization between patients.

Impact:

The anticipated benefits from use of the HoloLens are yet to be proven. Clinical applications for the HoloLens are beginning to be developed. Expectations for improvements in standard therapies remain high.



Hot/Cold Sensor

The hot/cold sensor is a therapeutic tool designed to provide an easy and consistent way to test for loss of hot/cold sensitivity.

Requirements:

A safe, portable, easy-to-use tool, capable of providing consistent test results in a clinical setting.

Impact:

Reliable and efficient sensation testing will allow therapists to advise patients with sensory loss about how to avoid personal injury from burns or frostbite.

Glenrose Grocery Game



The Grocery Game was designed as a fun way to engage patients with cognitive disability for assessment and skill building.

Requirements:

Customizable therapeutic software that allows a patient to successfully engage in interactive on-screen tasks related to progressively more challenging meal planning, budgeting and grocery shopping.

Impact:

In the clinical setting, the Grocery Game has proven to be an effective engagement mechanism for patients with cognitive challenges. Its entertaining interface facilitates longer, more intense rehabilitation sessions.

Feedback from a GRRIT Partner:

"For the last four years, we've been working with the GRRIT team on an innovative project to use video games to help older adults recover the cognitive skills needed to live independently. In that time, we moved consistently from prototype to product and now distribution. They've been generous in sharing their expertise and receptive to learn from ours. Whenever we meet, we come away with a clear sense for what we need to do next and why we're doing it. You couldn't collaborate with a better group of people."

Shane Riczu, Owner & Game Design Consultant, Beach & Lanes

FEPS (Flexion, Extension, Pronation, Supination)



FEPS stands for Flexion, Extension, Pronation, Supination. Hand and wrist function is a major rehabilitation challenge for stroke, traumatic brain injury and geriatric patient populations. The FEPS device enables patients to exercise their hands and wrists through multiple ranges of motion at various levels of resistance.

Requirements:

A portable device with multiple types of grip accessories and 'infinitely' adjustable resistance, that can be cleaned between patient uses. The device must fasten securely to a table top and be easy to set up.

Impact:

This new FEPS device will solve infection control problems associated with a multiple use device. It gives therapists an accurate representation of the effort and abilities of our patients.

Feedback from a GRRIT Partner:

"Knowing that value is defined by the customer, GRRIT focuses on providing companies the information they need so that everyone can be successful, from prototype through to production. GRRIT has provided vital insight on how patient care can be improved through local innovative manufacturing companies."

Darryl Short, CEO KARMA Machining & Manufacturing Ltd.

GLENROSE REHABILITATION RESEARCH INNOVATION & TECHNOLOGY TEAM

Geoffrey Gregson, Jim Raso, Doug Hill, Darrell Goertzen, Gail Kostiw, Rob Hirsche, Kerry Bayless, Michael Cimolini, Megan Miskiman

MISSION

To advance rehabilitation research and innovation that improves the quality of life for people with disabilities in both the clinical setting and community through cooperation with academic and industrial partners.

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GRRIT

Glenrose Rehabilitation Research
Innovation & Technology (GRRIT) Hub



The mandate of GRRIT is to engage with external partners to develop technological solutions to the challenges experienced by people living with physical or cognitive disability. GRRIT is designed to be easily accessible for collaborations with academia, industry, entrepreneurs, clinical staff, patients and their families.

The path to meaningful rehabilitation, whether for a patient recovering from a disabling injury or coping with chronic complex conditions, requires dedication and determination (courage and grit). Rehabilitation involves patients, their families, clinicians and caregivers all of whom can greatly benefit from access to technologies and processes that can maximize each patient's rehabilitation potential.

GRRIT supports the development of innovative products and solutions by providing access to clinical settings, traineeships, specialized equipment, technical advice and clinical evaluations. This includes connections to specialized expertise such as engineering, design, business development and marketing. Support is flexible and customized.

Some examples of GRRIT projects are as follows.