MOTION-TRACKED VR EXPERIENCES TO IMPROVE BALANCE AND POSTURE REHABILITATION

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An estimated 13 million people are currently living with an adult-onset brain disorder, such as Alzheimer's disease, stroke, and Parkinson's disease, in the US. These individuals are more prone to falling, and the rehabilitation of declining balance and postural stability is a challenging process.

Our Solution: Rehabilitation through Gaming

The Blue Goji Infinity system is a dynamic testing environment that utilizes VR gameplay. With this system, we have created two novel games that direct users with tasks to help isolate movement parameters related to balance and posture. Using data collected through force sensors and a depth camera, we are able to track and improve the rehabilitation of neurological disorders.

Immersive Gameplay

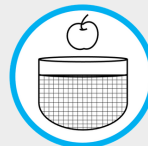Combining the digital VR experience with a sensor-instrumented treadmill to enhance rehabilitation

Equipped with:
- VR Headset
- Treadmill
- Safety Belt
- Depth Camera
- Force Sensors
- Tension Sensors

Multi-Game Experience

FruitFall
Catching fruits from an orchard to challenge the ability to balance

MotionFlow
Flowing through obstacles by matching positions to challenge the ability to maintain posture

Gait & Movement Analysis

Game stimuli prompt users to complete movement challenges. User motion is tracked over time with a depth camera, VR equipment, and force sensors.

Movement Tracking

Left   Right

Leaning left during game play
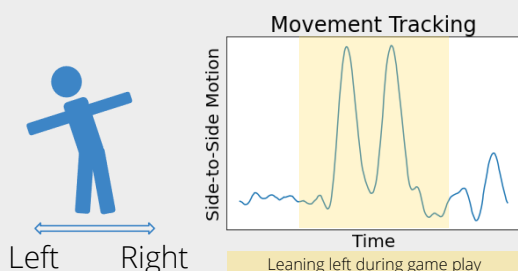
Neurological Assessment

Resulting balance and posture performance analyzed over time can be used to inform and enhance rehabilitation.

Flagged Neurological Parameters

Balance

Posture

Time

Leaning left during game play

TRANSFORMING NEURO-REHABILITATION FOR A HEALTHIER TOMORROW