Northeastern

Office of Technology Innovation & Commercialization

TECHNOLOGY AVAILABLE FOR LICENSING

Multiple User Virtual Environment for Rehabilitation (MUVER)

Provisional Patent Application #61/145,825

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Invention Details:

The NU-MUVER (Multiple User Virtual Environment for Rehabilitation) system is currently under development. The invention is an inexpensive device that can be used to rehabilitate hand and finger movements of patients with neurological or orthopedic problems. It consists of: an instrumented glove that monitors hand, finger, and thumb movements; commercially-available graphics software; Northeastern-developed software for performance analysis and creation of training scenes. All of these elements combine to create a virtual environment designed for rehabilitation exercises. The virtual environment also allows for multiple players to interact together.

Benefits of the Invention:

Advantages:

- Can be used at home and/or over the internet
- Can be used by the patient solely or with a therapist
- Inexpensive virtual environment-based device
- Multiple users able to interact together over internet

Applications:

- Remote therapy
- Hand rehabilitation
    - Future improvements include ankle rehab.
- Motion therapy

The Bottom Line:

This is an inexpensive virtual-environment system that patients (such as stroke victims) can purchase and use at home. The system is specifically designed to enhance finger and thumb movement, in addition to arm movement. This represents an advance in motion therapy technology. An estimated 700,000 cases of stroke are diagnosed in the United States each year; stroke is recognized as a leading cause of long-term disability. Low-cost hand rehabilitation devices present a viable option for at-home stroke therapy and rehabilitation.

For More Information:

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