Project Name: Neuromend

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Neuromend is a project focused on researching the possibility of using virtual environments in conjunction with various natural user interfaces for the rehabilitation of stroke patients.

In the event of a stroke, the blood flow to the brain is interrupted, at times resulting in loss of motor control due to areas of the brain becoming damaged. Researchers have found that the forced use of those areas of the brain may eventually lead to the brain rewiring and repairing itself.

To help invoke the use of those areas of the brain, the Oculus Rift virtual reality head mounted display will be used to help immerse the user in the virtual environment. In combination, the user will use other input devices including the Microsoft Kinect, Leap Motion, and Razer Hydra to complete specific tasks designed to exercise particular motions. Sensitivity of the input devices will be adjustable to deal with varying levels of motor control loss in patients.

The system will handle patient records securely, confidentially, and remotely so that a patient may be able to log into the system to view and update progress from any location.

This current stage of the project is to determine which devices may work better for certain tasks, and to observe user response to the overall system for future improvement. In the long term the project hopes to possibly become a practical solution in the field of stroke patient rehabilitation.