Design and Implementation Of Movement Rehabilitation Treatment Application For Post Stroke Patients Using Kinect Technology

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ABSTRACT

Nerve function impairment in stroke disease generally causes a decrease in the function of the body of the sufferer. One part of the body paralysis is often the limbs of the body. Efforts to improve the patient's motor function is through the training provided in the rehabilitation therapy. However, rehabilitation is done in the hospital, causing the patient who does not have a mobility may have difficulty accessing the rehabilitation. Thus, to facilitate the rehabilitation of poststroke patients in order to make it easier, built a motion rehabilitation therapy applications using the Windows Kinect technology.

This Final Project applications developed with Kinect-based technology framework for creating an artificial training environment and motion capture poststroke patients. Construction of artificial therapy environment is tailored to the level of muscle strength, as known from initial diagnosis tests before doing the therapy. Although, this application also gives training history and advice history information provided by the patient's therapist.

This application has been tested on patients with poststroke muscle strength hands level 6. From the test results, it can be concluded that the application can create the training environment for motion therapy that is tailored to the user's hand muscle strength and adjust the selected object user desires. Thus, it indirectly this application to motivate patients to continue therapy. In addition, through this application the user can monitor the training history
has ever done. This confirms that the application is able to make an artificial therapy environment for poststroke therapy.

Keyword: Kinect, Motion Therapy, Poststroke, Rehabilitation