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Real time monitoring system for upper arms rehabilitation exercise

(Conference Paper)

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Abstract
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Arm rehabilitation activities necessary to be continuously monitored in order to provide information of rehabilitation results to be examined by physical therapist. The determination of monitoring is to enhancing rehabilitation process. Moreover, a portable and simple home-based rehabilitation device can help patients to improve daily rehabilitation process activity. Some earlier studies regarding home-based rehabilitation process have shown improvement in promoting human movement recovery. This paper focuses on the development of a measurement by using arms guard and Smart Glove or Rehabilitation Glove, to assist stroke patient because of some complications such as accident and disease. This paper concourses on the method and application of mechanical equipment, sensors equipped Rehabilitation Glove measurement gripping activities. The devices will move based on a human operator's finger and arms movement using the Rehabilitation Glove. The system development involves a Microcontroller and HyperTerminal as a core processing for the instrumentation, communication and controlling applications. A series of bend or known as flex force sensors are fitted in a Rehabilitation Glove to get reading from the movement of human fingers. The quality of the force feedback is strongly affected by the maximum torque measurable by the Rehabilitation Glove and the performance of the force controller. Finally, the intelligence, learning and experience aspects of the human can be combined with the strength, endurance and speed of the human arms and Rehabilitation sensor in order to generate proper output of this paper. © 2015 IEEE.

Author keywords

Premillinary   Rehabilitation   Sensory application and Hyper-Terminal

Indexed keywords

Engineering controlled terms:	Measurements		
Compendex keywords	Arm rehabilitations	Mechanical equipment	Premillinary	Process activities
	Real time monitoring system	Rehabilitation devices	Rehabilitation exercise
	System development		
Engineering main heading:	Patient rehabilitation		

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