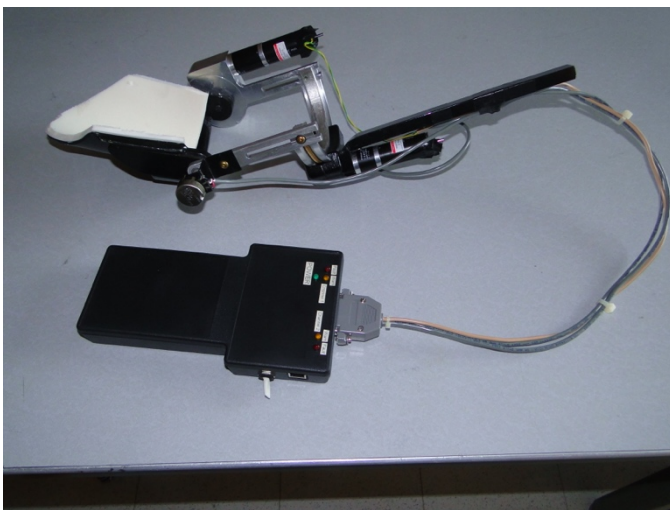


Wearable Wirelessly Controlled Rehabilitation Device

A need was identified to develop an assistive device to help teenage boys who have Muscular Dystrophy (MD). In result, a rehabilitation device was developed at Worcester Polytechnic Institute (WPI) that applies not only to MD, but to a broader spectrum of the rehabilitation field. The rehabilitation device itself is a wearable powered brace that allows users to flex their elbow and rotate their upper arm in a frontal plane motion, giving the user 2 degrees of freedom. The powered arm orthosis is activated by a wireless link that allows users to pick almost any two control motions, such as a click of the tongue or a shoulder shrug. The present embodiment uses a simple joystick.



The image above shows the rehabilitation device along with a simple power pack worn on the belt. As features of the rehabilitation device, it is wearable, compact, sleek, lightweight, and not visually obtrusive. Additionally, the rehabilitation device can be worn under clothes, unlike other products on the market. Each aspect of this rehabilitation device helps to reach the ultimate intent: to help users become self-sufficient. When entering the marketplace, the device has the greatest potential in the stroke rehabilitation market alone or when paired with other hand technologies. This rehabilitation device can also be used independently as an assistive device; keeping the intent of helping users become self-sufficient.

Key Features

- Rehabilitation device
- Powered brace that allows users to regain motion freedom
- Wirelessly controlled
- Wearable and compact
- Helps users become self-sufficient
- Rehabilitation or assistive device

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