Rehabilitation and Utilizing Impaired Hand Using a Motor Controlled Prosthetic Arm Using by the Non-Paralyzed Hand

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This project represents a prosthetic device that can be an external wearable mobile machine that covers the hand or part of it. The movement is generated by pneumatic and electric motors. It can be installed on an upper limb. The device can send electric pulses to stimulate the neurons of the peripheral nervous system. Moreover, it can be used for different purposes such as rehabilitation, training, power assistance, diagnostics, ergonomics, and more. In comparison, most of the existing wearable devices face different problems in terms of size, cost, and weight; they are large in size, costing a lot of money, and ponderous. Therefore, the goal of this project is to design a portable, lightweight and low-cost rehabilitation system for people with a paralyzed hand. The wearable device allows patients to perform specific movements and exercises in order to train their affected hands. Thus, in a gradual way, the user who benefits from this device starts to restore the functionality of his hand.

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