Navigation Watch for People with Hemiplegia and Paraplegia

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In 2011, the number of people in the world that had mobility disabilities was 785 million. Individuals with hemiplegia and paraplegia encounter difficulty in performing their daily routines, moving around, and catering to personal needs. This study aims at exploring a new technology that facilitates the mobility of people with paraplegia and hemiplegia in order to make their lives easier and more productive. A smart wrist-watch that contains a gyroscope sensor has been developed to enable this group of people to move wheel-chairs using wrist-gestures. This technology will help them to manage their daily activities. A pilot study was conducted on a group of 8 individuals with paraplegia and hemiplegia and was divided into two sub-groups, the controlled group and the experimental group. The experimental group was given a wrist watch to use for three days while the controlled group was given a sound-operated bracelet. A survey was conducted to measure the satisfaction of the controlled group. The results showed that using this technology facilitated the mobility of the controlled group compared to the experimental group. Providing this device to people with disabilities can offer them better mobility and a higher quality of life.

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