Computer interaction for people with motor impairments

Jake Mckinnie
Central Michigan University
Mt Pleasant, MI

Abstract

Accessibility is an essential part of society. Since people with disabilities can have difficulties performing various tasks it is important that steps are taken to allow for equal access. Advocating for equal access has led to multiple pieces of legislation. These pieces of legislation have allowed people with disabilities to gain equal access to social, political, and economic facilities and services. Technology is constantly growing and changing, and as technology continues to advance it is important to make sure that there are ways for it to be accessed by people with disabilities. Because of this, two forms of technology, assistive technology and adaptive technology, have been developed to help people with disabilities. Assistive technology is the creation of new devices that assist an individual in performing a task. Adaptive technology is the modification of an existing device to allow an individual to perform a task. Individuals with arm and hand mobility impairments can find it difficult to interact with a computer. This project will focus on developing different methods of computer interaction for an individual with severely restricted hand and arm movements. To achieve this, a program will be adapted from its original form to accommodate a one-switch control method. A one-switch control will allow an individual to interact with the program using a single button. The ultimate goal will be the creation of a method of one-switch control that will allow a person with disabilities to interact with and use a program without running into any difficulties that may be caused by the disability.