Accessible Input Devices Network for Tom

Status: Available

Group Members:

Sponsor(s):   Neil Squire Society

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Project Description

How could you use a touch screen device, if you couldn't use your hands? People that have limited use of their arms cannot independently use mobile touchscreen devices. An estimated 1,000,000 people in Canada and the United States have limited or no use of their arms— meaning they are unable to use touchscreen devices that could provide access to helpful apps and services, directly affecting their quality of life. While solutions exist for desktop computers, they can cost up to $2,000 and do not work well on mobile devices. There is a need for technology access solutions for people with a high level of physical disability to use mobile devices independently.

The Neil Squire Society has developed a prototype called the LipSync that is a portable, mouth operated input device with sip and puff functionality allowing it to be used on smartphones, tablets and PCs. The design includes a micro-controller circuit board, pressure sensitive sensors, supporting firmware and a 3D modeled housing. It connects to devices via a USB A or micro USB connection. The work has been released open source and people are building this project around internationally.

Meet Tom. Tom, who is quadriplegic, has no use of his arms and has only a small amount of movement in this thumb. This makes it impossible to regularly use tablets, smartphones and PCs. He currently uses a mouth operated Darcy Sip and Puff device (which is a morse code input device connected to tablets via micro USB or USB A), however would like to use this in combination with the LipSync. Due to his lack of head movement, he would require one mouth piece to connect to both Darcy sip and puff as well as the LipSync. He would also need a mechanism that allows him to switch between the two input devices that go into his phone/tablet/PC.

Mentoring will be provided by the Neil Squire Society, which has worked with people with physical disabilities for over 35 years in applying technology solutions to meeting their needs.

Main Objectives: