Accessible Gaming Controller for Mark

Status: Filled

Group Members: Dimitar Kalfin, Alaa Khadouri, Will Qi, Wei-Cheng (Ken) Lee, Hira Riaz

Sponsor(s):   Neil Squire Society

Supervisor(s):   Carlo Menon, PhD, PEng, Professor, Mechatronic Systems Engineering
                     Rashmi Prakash . Engineering Intern, Neil Squire Society

Project Description

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, micro USB connection, or bluetooth. The work has been released open source and people are building this project around internationally.

Meet Mark. Mark, who is triplegic stroke survivor, has no use of his legs and use of only one arm. This makes it impossible to play video games as most controllers require use of both hands. Mark would like to play video games, and use the LipSync as the joystick often found on the lefthand side of the controller, and then make a custom controller that would enable him to use key buttons with his functioning hand.

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:

Enabling access to gaming systems sis an important piece to digital and social inclusion fing ece .

Product development log
Design and Validation documents

Special Considerations

Skills that will be developed in this project:
User centered design and user testing
Hardware and firmware design and implementation
Ergonomic and discreet design for packaging of any electrical components
User driven design based on unique requirements