Single Switch Technology for Teaching Adolescents to Scan

Overview
One of the major goals of our project is to reduce the learning demands of the AAC system and make it more intuitive for a teen to use. We are designing an AAC system that is simple for parents and speech pathologists to use in a hospital setting and easier for teens to learn and operate. Today, many scanning practices are not intuitive enough for teens and children to understand. Our application incorporates effective scanning practices from research provided by our sponsor in order to decrease the learning demands.

Objectives
The goal of our project is to design an AAC (augmentative and alternative communication) single-switch scanning system for teenagers with head trauma that are unable to communicate verbally. The application must be designed in a way so that it is intuitive for the users and easy for them to teach the child how the application is to be used.

Approach
- Read project description
- Met with sponsor to learn more about his vision
- Researched current and past methods for scanning and non-verbal communication
- Visited Tobii Dynavox, developer and manufacturer of AAC products
- Generated concept art for our own application
- Received feedback and altered design to fit specification
- Purchased cloud server space
- Began developing the web application using Python and Django framework
- Tested our application on classmates and judged their understanding
- Fixed small bugs and added more enhancing features

Outcomes
- The sponsor will be able to use our application as an introduction to scanning.
- Since this was developed in Python and uses the popular web framework, Django, it can easily be modified to introduce new features
- The project is hosted on a virtual machine in the cloud, which allows for easy and fast resource expansion, should the need arise.