PSU RERC on AAC 3

Overview
Our sponsor has a Visual Scene Displays (VSD) mobile application which can be used to provide a person with disabilities an interactive way to either learn a task or capture a personal event experienced in life. Before, the VSD application was only optimized for large 10 inch Samsung tablets. Our challenge was to get the application working on smaller 5-6 inch phones.

Objectives
Our main objective was to optimize the app to work on a smaller 5-6 inch smartphone, while retaining most functionality. The challenge here was to avoid typical smart phone navigations, such as drop down menus, to also retain simplicity.

Approach
- Our sponsor initially lent us a 10’ tablet to experiment with the larger app.
- We were given a reduced, simple shell version of the app’s codebase to avoid NDA agreements.
- We learned about the requirements for an application created for those with learning and communication disabilities from Dr. McNaughton and his research team.
- We worked with our sponsor to create a UI that would retain functionality and limit navigation complexity.
- Our team had weekly meetings with RERC on AAC sponsor Dr. McNaughton and InvoTek sponsor Erik Jakobs where we discussed requirements and technical solutions.
- Using the shell of the application, we created a working prototype of the UI we designed.
- Using Android Studio, we adjusted the UI elements in XML and Java to better fit smaller devices.
- Performed testing using Android Studio’s device emulator & tested on a physical Pixel XL phone

Outcomes
- The application can be used on smaller 5-6 inch devices.
- The application layout slides left and right to show different functionalities while avoiding the complexity of drop down menus.
- Those using the application for communication will be able to explain ideas to others without needing additional, bigger pieces of technology, making communication more accessible.
- Those with learning disabilities using the application will be able to learn a process without needing additional, bigger pieces of technology, and therefore any learning disability would not be obvious to the rest of the world.