

## Simple Prototype Grid Application

### Overview

Alternative and Augmentative Communication (AAC) is any device, tool, or technique to assist with communication other than verbal communication. Individuals with disabilities often rely on assistive forms of communication in their daily lives, but many devices and software are stagnant or robotic. The goal of this project was to create a highly customizable assistive communication grid. This app is not meant to be used by a person with a disability as it is currently configured. Our goal was to write the code that would create an easily customizable prototype app that could be used in research activities to explore new device features.



### Objectives

The objectives of the grid were outlined by our mentor team of software engineering Erik Jakobs and Dr. David McNaughton, professor in special education. The objectives were as follows: create keys, edit keys, edit grid (spacing and background color), record/play audio, and text to speech.

### Approach

- Mentor team saw a need for customizable AAC for research
- Mentor team presented needs and objectives above to the project team
- Project team began work on grid interface using Xamarin
  - Xamarin was chosen because it is cross platform program that will allow easier implementation in the future
  - C# was the chosen coding language because it is used in software development industry
- Project team began adding in each functionality as listed in the objectives
- Testing was done by testing each use-case defined by the team

### Outcomes

- Overall outcome: customizable AAC grid software that can be modified by researchers
  - “Add” button allows user to create new keys
  - “Style” button (not pictured) allows users to change grid layout
  - “Help” button (not pictured) explains app to user
- This project did not pose a cost to the mentor or project teams

