Software for Assessing Scanning Performance with Single Switch Technology

Overview
The use of single switch scanning technology can assist persons with disabilities in accessing technology. An assessment must be conducted to identify the best switch location (e.g. head, hand) and set-up (e.g. scanning speed). Current technology is designed for adults. Our job was to re-engineer the software to support the needs and interests of children with severe disabilities so they can use it too.

Objectives
- Create a User Interface (UI) that contains familiar images and is easy for the children to use that will assist in collection of data to support decision making and switch placement and set up
- Scanning Assessment tool will use images instead of letters

Approach
- Scanning assessment software is adapted from Scanning Wizard (created by KPR)
  - We were given access to the online repository by the creator, Heidi Koester of KPR
- Research conducted:
  - Understand the current software and technologies – Ember.js, HTML, CSS
  - Know what to use to make this compatible with children
    - Decided pictures were best to use based on weekly meetings with sponsor and other members of InvoTek (non-profit focused on providing products to help people with severe disabilities)
- Our software will feature on option of selecting between one, two or three row set-ups with three pictures in each row (example shown in picture below)
- Blue highlight frame scans through the pictures one at a time.
- Once the desired image is highlighted, the child will press a switch (spacebar)
- The assessment tool will collect and present data on the child’s performance.
- Feedback will be given in the form of a report

Outcomes
- Step closer to incorporating scanning wizard for children into software already being used in the field
- Saved hundreds of hours devoted to research, design, and coding for groups working on this in the future