Problem: Voting is difficult for many with disabilities

Solution: Carnegie Mellon is working on accessible voting solutions as part of the Research Alliance for Accessible Voting (RAAV), a nationwide consortium tasked to explore voting and disability

**Current Focus**

**Ballot Magnifiers**

Paper balloting is the most common form of voting in the USA.

Using standard ballot magnifiers, voters tend to struggle to keep the text in focus while managing voting materials and the magnifier at the same time.

A free standing magnifier frees up the hands and keeps the text consistently in focus.

This magnifier was a modified to explore how focusing the eye on a smaller portion of the ballot effects voting accuracy and speed.

**Audio Ballot Systems**

To improve the speed and accuracy of audio voting:

- Reduce steps required to navigate
- Accelerate browsing of lists, such as fading and 3D sound techniques that allow for presentation of more than one option at a time
- Provide consistent instruction sets
- Make physical controls intuitive
- Focus help dialogs on what the user is trying to accomplish in the moment

It can often take up to ten times longer to vote an audio ballot vs a visual ballot.

Some standard audio voting controls, each of which requires different instruction sets, navigation strategies and time to master.

The CMU team is developing context-aware help strategies that provide instruction based on what the voter needs most in the current context.

**Other Projects**

**Ballot Magnifiers**

New methods to display information on direct-recording electronic voting systems (DREs), such as touchscreen voting machines, to prevent errors while decreasing voting times for all voters.

**Ballot Magnifiers**

"Voters had few problems with ballots, and the chief complaint was ballot measure language." 1

Ballot language is a common cause of voter confusion and frustration. The CMU team is exploring how to solve this problem by creating a ballot language classification system, collaborating with plain language experts, and researching how long text can be broken into more manageable chunks for audio ballots.

Most individuals with disabilities vote by mail and mail-in voting is increasing throughout the country, creating new accessibility challenges. The CMU team is exploring how to better provide training for those assisting vote by mail voters.

"Voting is a fundamental and special part of our society. Voting should feel like one of the most important acts that we perform, not one of the least important. If we make voting feel like another survey, it will become just that." 2

References