

# **Research in Accessible Voting, Carnegie Mellon University - Silicon Valley**

## **Introduction**

Carnegie Mellon's Research in Accessible Voting Group (RAV) exists to meet the needs of disabled and aging voters through universal design and the development of assistive voting technology. RAV is led by Professor Ted Selker, who has been conducting accessible voting research and development for over a decade.

## **Current Projects**

### **Audio-only Voting**

RAV is currently working on improving the audio-only voting experience for individuals who have difficulty with printed text. We are developing and testing methods for reducing ballot browsing time and entry difficulties. We are having success with reducing time to present audio ballots, reducing time traversing candidate lists, and reducing time for entering write-ins.

### **Multimedia Voting Interfaces**

RAV has multiple ongoing projects in the area of Low Error Voting interfaces to improve the graphical and audio interfaces of voting machines. We are especially interested in better integrate these graphical and audio interface styles in a supportive way, instead of simply reading aloud the text and buttons visible on the screen.

### **Considerate Voting Interfaces**

Considerate computing systems are ones that take the current context of the user into account when providing prompts, help and options. RAV is conducting research into how the voting experience can be more considerate. One area of focus is on prompt and help systems that reduce the amount of instruction provided as the voter successfully moves through the ballot, but also knows when, and how, to step in when the voter appears stuck or confused. Another project is targeting the vote confirmation and review process, exploring how symbolic interaction (such as speech-to-text intonation) can replace long confirmation scripts.

### **Voting Magnifiers**

While most jurisdictions provide magnification aids at the polling place for those that need a little extra boost in text-size while using paper ballots, magnifiers currently on the market make it difficult to hold focus and mark the ballot while under magnification. We have a program of testing available magnifiers and developing prototypes as well. We have found that size, angle of magnification, illumination, and self-standing designs can all improve magnifier success at improving voting.

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