

# Accessible Voting Technology Initiative

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**EAC Roundtable**



# Three Phase Research Project

1. Defining the problem
2. Designing a solution
3. Looking to the future

# Completed Projects

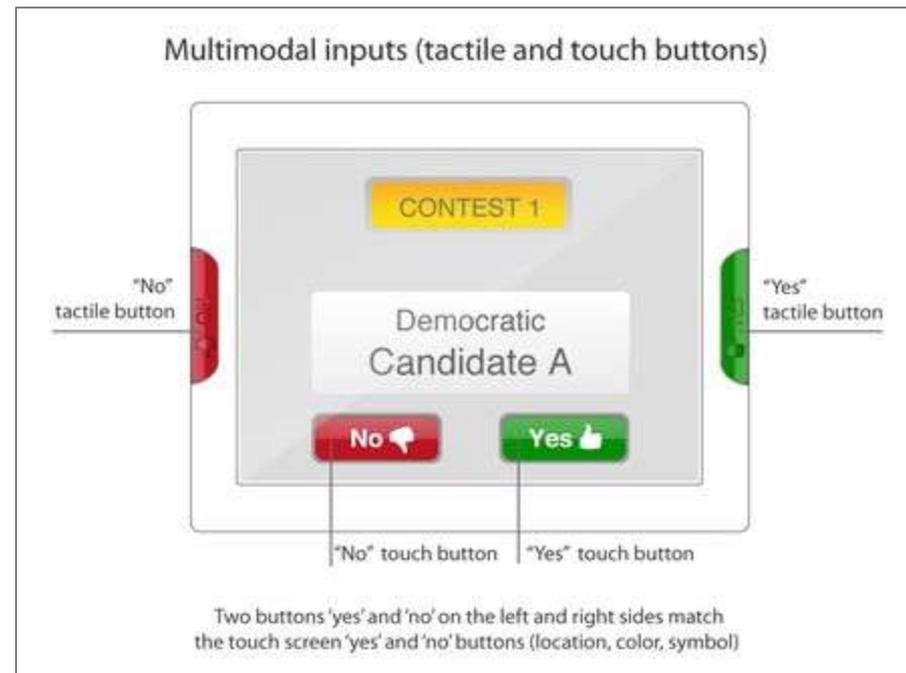
- Accessibility of current voting systems (University of Washington)
- Assistive technology in the voting process (Assistive Technology Partners)

# Completed Projects

- Barriers to political participation for people with disabilities (University of Utah)
- Ethnographic research on the voting experience of people with disabilities (Georgia Tech)

# Completed Projects

- Graduate course on universal design and voting systems (Georgia Tech)



# Complete Projects

- Accessible voting design workshops (Georgia Tech)

In-Person Voting
TEAM 2

**VOTING AT POLLING PLACES & VOTE CENTERS**

## Sample Ballot & Information Transfer System

**DESCRIPTION**

Our design solutions a system to better prepare voters for going to a voting center, and create a more accessible voting experience. Ballots are available on paper or in digital form, they're filled out by the voter, then brought to the polling center. Eliminating polling times, discomfort, and anxiety—the polling machine scans the sample ballot and generates your choices on-screen. You can confirm the selections and cast your vote. The machine itself is an accessibility designed polling machine equipped with a camera.

**ADVANTAGES**

- Increased voting participation
- Increased voter accuracy, more informed choices with less in-person anxiety
- Increased device flexibility (iPad, phone, etc.)
- Reduces paper cost with more targeted ballot printing
- Modular interpretation of machines (padding printer & scanner to electronic voting machine)

**1. SCAN BALLOT**

- Camera captures and loads the voting machine with your choice

**2. CONFIRM ENTRIES**

- Review your vote, and double-check your choices.

**3. CAST VOTE**

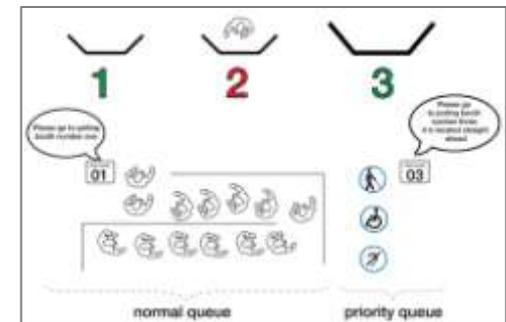
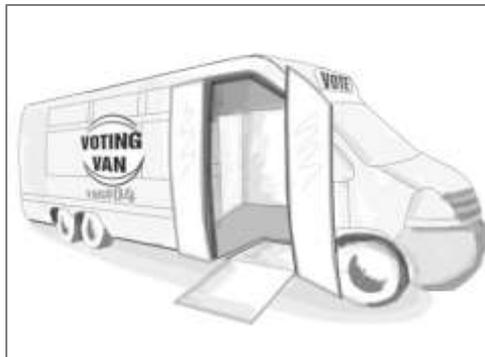
- Vote is cast electronically with a paper trail printed for paper-trail purposes.

### 7 Principles of Universal Design

- 1. EQUITABLE USE**
  - Sample technology is publicly accessible
  - Voting machines are accessible
- 2. FLEXIBILITY IN USE**
  - Facilitate more accurate choices
  - Access in comfort of home (while using assistive technologies)
  - Ability to confirm choices
  - Make ballot verification into reasonable partitions
- 3. SIMPLE & INTUITIVE USE**
  - Need human verifiable code
  - Relies on using current best practices towards usability design.
- 4. PERCEPTIBLE INFORMATION**
  - Internet access enables higher technology
  - Allows use of personal assistive technologies
  - Safe space
- 5. TOLERANCE FOR ERROR**
  - Error handling in process
  - Multiple chances to examine answers
- 6. LOW PHYSICAL EFFORT**
  - Major actions and thoughts can be made in comfort of home (with existing AT)
  - Minimize time spent in voting location
- 7. SIZE & SPACE FOR APPROACH AND USE**
  - Majority of time and use can be spent in comfortable environments

# Completed Projects

- Innovation Challenge (OpenIDEO)
  - “How might we design an accessible election experience for everyone?”



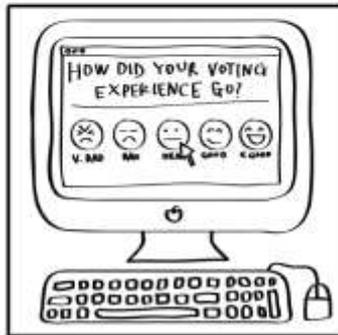
# Completed Projects

- 50 Ideas for More Accessible Voting

## 5. A "Yelp" for polling places

**Problem:** Election officials do not always receive a lot of feedback on how well a polling place is run, especially in big districts with many polling places.

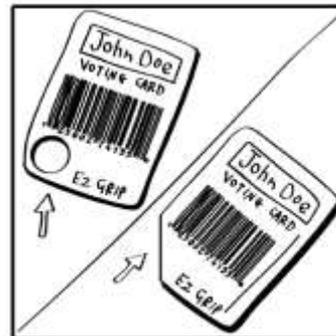
**Idea:** An online rating system could allow voters to give feedback to election officials on what is, or is not, working and how to improve the voting experience. Ratings for polling places could help voters identify the most accessible early voting centers and well-run polling places. This would also let the community recognize the expertise of election officials who operate the best polling places, who can then help improve neighboring locations.



## 8. An easier-to-grip smartcard

**Problem:** Some voting systems are activated with smooth, flat, plastic smartcards, but they can be hard for voters with arthritis or low dexterity to hold, and inserting them in the right direction is a challenge for blind voters.

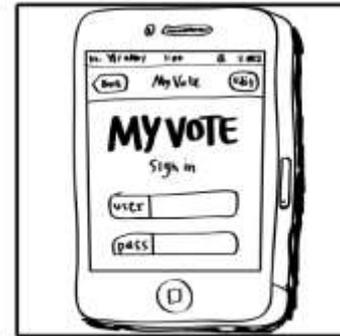
**Idea:** Election officials could add a hole for a finger grip and cut an angle off of one corner or add a notch in the bottom for orientation to make these plastic cards more accessible.



## 15. Mobile-friendly election web sites

**Problem:** For people with disabilities, smartphones can be a lifeline, but election web sites do not always work well on a small mobile device screen. This can keep voters who rely on their phone as their main computer from finding election information.

**Idea:** Election officials should make sure that election web sites and applications, like online voter registration, work on mobile devices, either with a mobile app or a website designed so that it automatically adapts to the size of the screen. One way to help ensure that forms and web sites work on smartphones is to keep the layout simple.



# Current Projects

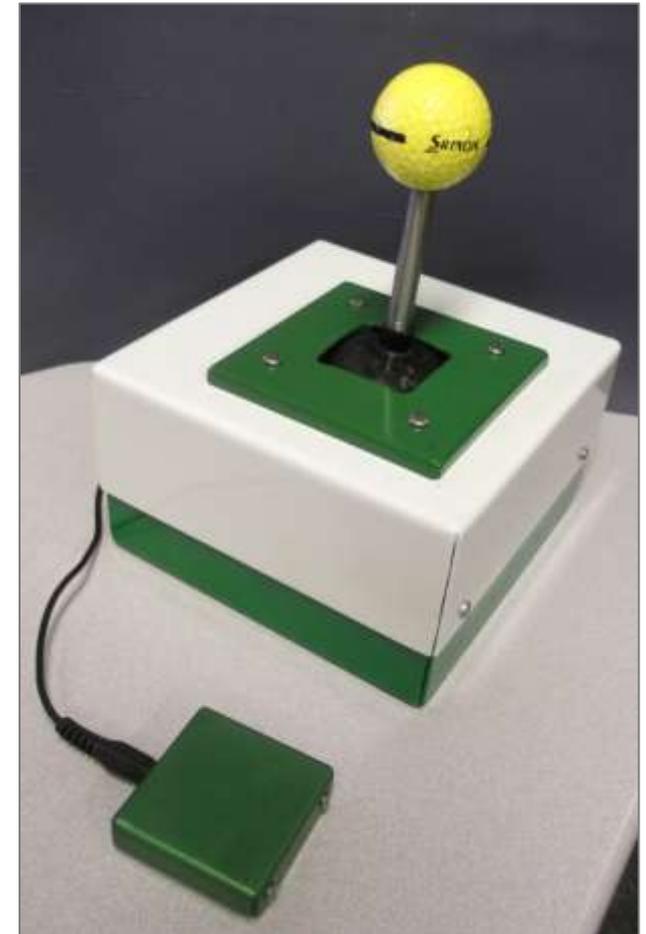
- Voting Technology
  - Evaluation of iPad voting for people living in long-term care facilities (Assistive Technology Partners)
  - Accessible ballot interface for mobile devices (University of Baltimore)

# Current Projects

- Voting Technology
  - Two-button linear ballot interface (Georgia Tech)
  - Accessible hardware interface for tablet-based voting systems and voting system testbed (Georgia Tech Research Institute)

# Current Projects

- Voting Technology
  - Joystick control and mounting bracket (Michigan State University)

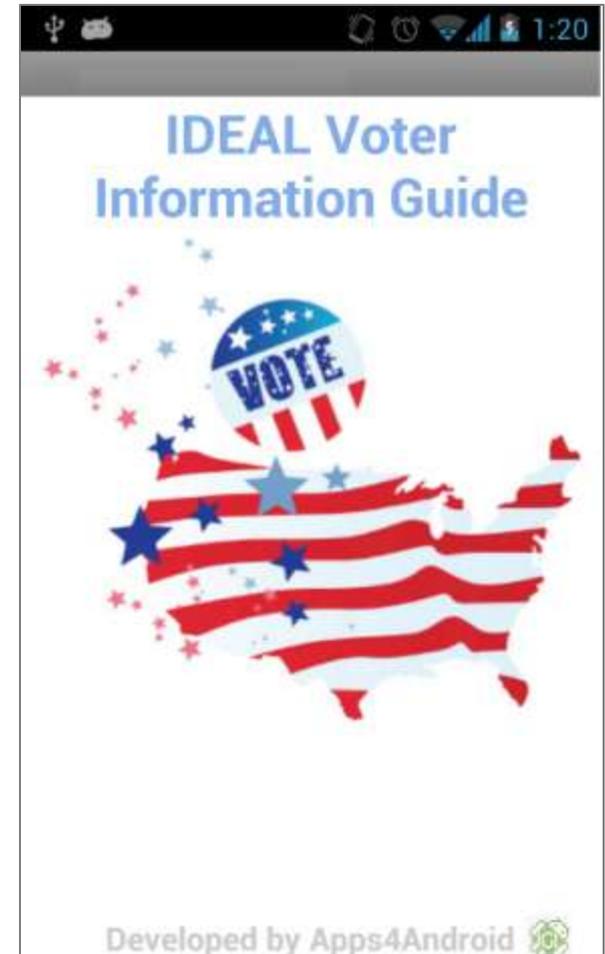


# Current Projects

- Voter Guides
  - Web-based voter guide for people with aphasia (University of Maryland, Baltimore County)
  - Interactive voter guide for people with cognitive disabilities (CITRIS)

# Current Projects

- Voter Guides
  - Voter information guide and poll worker manuals for non-visual access (Apps4Android)



# Current Projects

- Election Administration
  - Pilot programs for supervised voting by people in group living facilities
  - Training materials for poll workers based on ethnographic interviews (Georgia Tech)

# Learn more

- All material from the ITIF Accessible Voting Technology Initiative is available at: <http://elections.itif.org>

# Thank you!

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