Juan E. Gilbert, Ph.D.
Presidential Endowed Professor & Chair
Human-Centered Computing Division
School of Computing

Professor Automotive Engineering
Clemson University
juan@clemson.edu
Twitter: @DrJuanGilbert
http://www.JuanGilbert.com/
• Accessible Voting Technology Grant

• $4.5 million over 3 years

• Demonstration projects/elections

• Innovations in voting technologies with our partners...
Accessible Voting Technologies
Voter - Multimodal

- Multimodal Interactions
  - Voters can speak and touch interchangeably
Voter - Visual

• Touch screen tablets
  – Large fonts
  – Images or No Images
  – Touchable Names
• Voter touches the screen to make selection
  – Confirmation is visual
• Ballot layout
  – One race per screen
  – Voter confirms ballot twice before it is recorded
Voter - Haptic

- Rocker Switch
  - Large texture on buttons
  - Select and Next

- Voter presses the button to make a selection
  - Confirmation is verbal and visual
Voter - Verbal

- Headset
  - The system speaks to the voter through the headset
  - Conversation is confidential – no one can hear the machine’s speech, but the voter
  - System’s speech can be pre-recorded or computer generated or both.

- Embedded microphone in the headset
  - Voter speaks words like “vote”, “continue”, etc. or blows into the microphone
  - Confirmation is verbal
The World’s Most Accessible Voting Technology

- Sighted
- Blind
- Deaf
- Illiteracy
  - Sighted and Blind
- Physical Disabilities
  - Limited or no use of hands
  - For example, military wounded in Iraq, elderly, etc.
- All of these voters can privately and independently vote!
Security - VVGB

- Voter-Verified Ballot (VVB)
  - Printed ballots will contain only the selections for each race
  - May be printed on paper with a watermark
  - Green approach to voting
    - All paper is used and recycled
1. President and Vice-President

2. US Senate

3. US Representative

4. Governor

5. Lieutenant-Governor

6. County Commissioners

7. Proposition #1

8. Amendment #1

---

1889
Pilots

• NSBE Election (2008 - 2014)

• National Council on Independent Living (NCIL)

• Presidential Mock Election at Auburn University

• State of Oregon (May 2012)
Pilots

• Self Advocates Becoming Empowered (SABE 2012)
  – Ballot contained photos of the candidates

• Clemson Elementary School (2012)
Pilot Election

- Wisconsin
  - April 1, 2014
Pilot Challenges

• Election Officials
  – In many cases, unwilling to participate
  – It takes a lot of work to convince some of them

• Vendors
  – It took a lot of time to communicate that we are not vendors

• Participants
  – Getting a diverse group to participate
Questions???
http://www.AccessibleVoting.org

Juan E. Gilbert, Ph.D.
Presidental Endowed Professor & Chair Human-Centered Computing Division
School of Computing

Professor Automotive Engineering
Clemson University
juan@clemson.edu
Twitter: @DrJuanGilbert
http://www.JuanGilbert.com/
http://www.clemson.edu/computing