April 1, 2013

NIST Accessible Voting Technology Research Workshop

Accessible Voting Technology Initiative

http://elections.itif.org

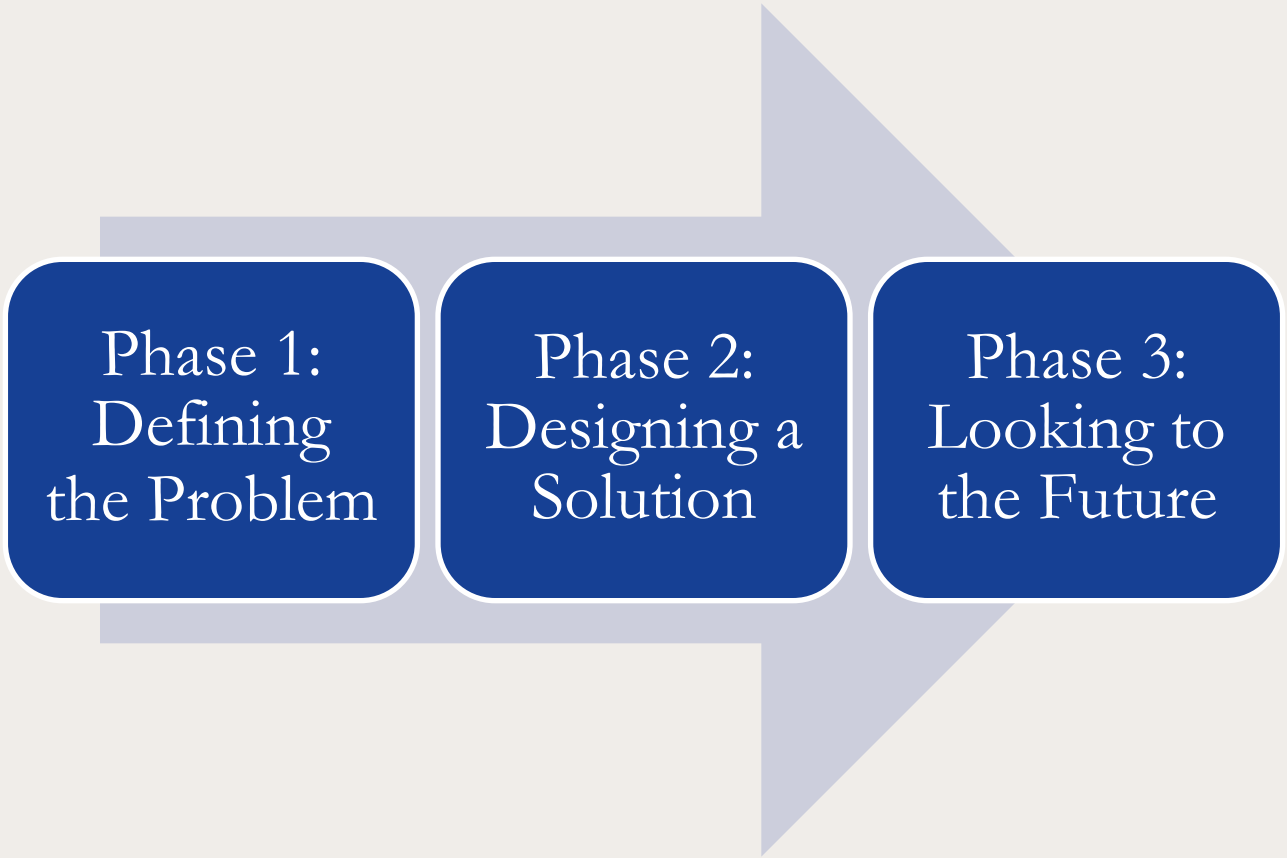
Whitney Quesenbery

Project Coordinator

ITIF
The Information Technology & Innovation Foundation

We focus on the user experience, not just the technology.

Project Details



Criteria for Success

- **Usable**
  - Supporting all voters in marking their ballot accurately & efficiently
- **Accessible**
  - Enabling people with disabilities to participate independently and privately
- **Flexible**
  - Fits within election management practices from traditional polling places to vote centers and vote-by-mail
- **Secure and auditable**
  - Making it possible to recount and audit elections
- **Affordable and robust**
  - Within the means of even a small election district

Phase 1: Defining the problem

Accessible Voting Technology: Analysis and Recommendations
Mark Harniss and Deb Cook, University of Washington Center for Technology and Disability Studies

AVT Workshops and Ethnographic Research
Jon Sanford, Frances Harris, Karen Milchus, Claudia Rebola, Georgia Tech CATEA) and GTRI

Assistive Technology in the Voting Process – Greg McGrew, University of Colorado Assistive Technology Partners

Defining the Barriers to Political Participation for People with Disabilities – Thad Hall and Mike Alvarez, University of Utah

Open Innovation Challenge: How might we design an accessible election experience for everyone - OpenIDEO and 825 participants from around the world

Phase 2: Designing a Solution

Voters Guides and Training Materials

Accessible Voter Information Guide and poll worker manuals – Steven Jacobs, Apps for Android

Voting Voice - **Voter's guide for people with aphasia** – Shaun Kane University of Maryland, Baltimore County

Vote Your Mind - Interactive voter guide for people with cognitive impairments – Camille Crittendon, Gregg Niemeyer, Faraz Farzin, Dan Gillette, CITRIS

Election Administration

Pilot programs for supervised voting by people in group living facilties – Bonnie Glaser and Karin MacDonald, Election Administration Research Center

Training material for poll workers based on ethnographic interviews – Frances Harris, CATEA

Phase 2: Designing a Solution

Voting Technology

Usability testing tablet voting system in long-term care facilities – Greg McGrew, Assistive Technology Partners

EZBallot design research – Jon Sanford, CATEA and three intertwined graduate studies

Anywhere Ballot design research – Kathryn Summers, University of Baltmore, with Dana Chisnell, and Drew Davies

Accessible hardware interface for an iPad-based voting system, development of a voting system testbed, and additional research – Brad Fain, Carrie Bell, Andrew Baranak, Linda Harley, GTRI

Engineering capstone projects to develop a joystick control and mounting bracket – Sarah Swierenga, Graham Pierce, Stephen Blosser, Michigan State University and students in two engineering courses

"Design thinking is a human centered approach to innovation: [it] includes understanding people as inspiration, prototype building to think, using stories, having an inspired and inspiring culture."

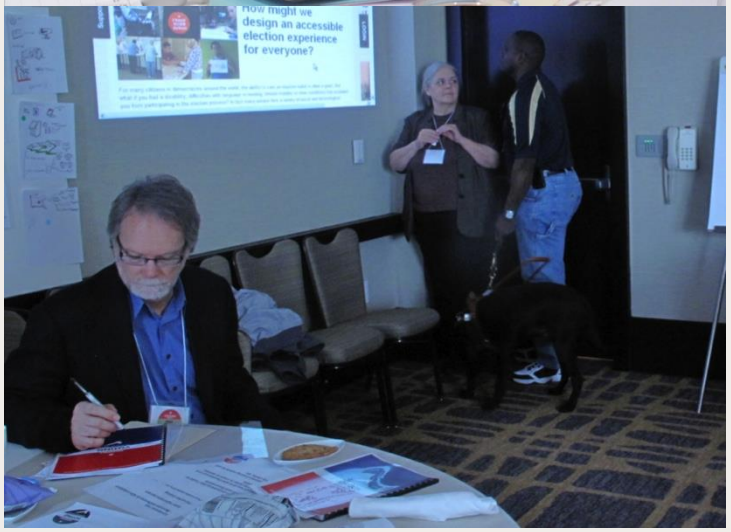
- Tim Brown, CEO, IDEO

Collaborative approaches to problem solving

Brainstorm many ideas

Build from inspiration to concept to refinement

Encourage inclusive, open collaboration



Focusing on people with personas

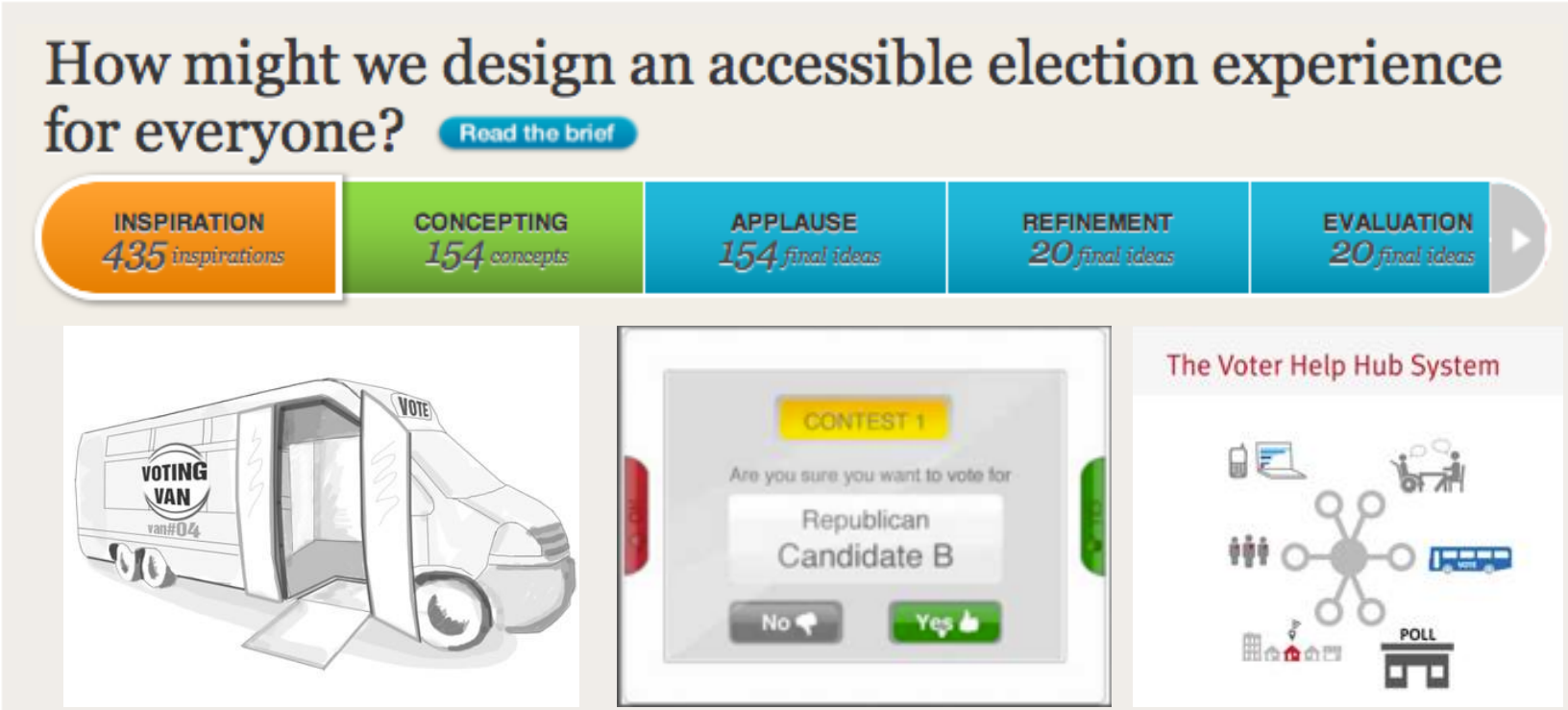
Summarize research

Connect human and technology needs

Show the journey through an election for people with disabilities

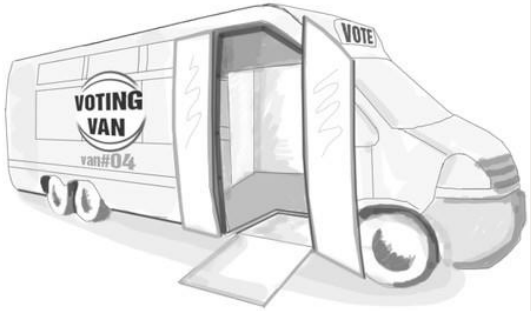
Personas: http://elections.itif.org/projects/design-workshops/

Invite new perspectives



3 of the winning concepts from the Open IDEO Innovation Challenge
http://www.openideo.com/open/voting/winning-concepts/

Invite new perspectives



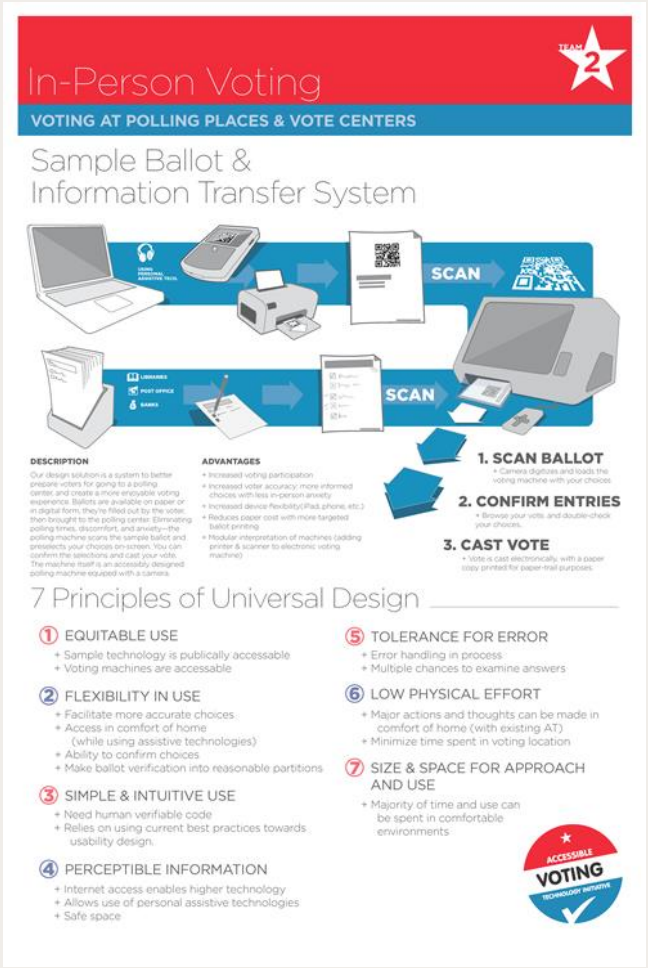
NPR News Story: http://www.npr.org/2012/10/24/163560324/vote-while-you-shop-pop-up-poll-sites-sweep-iowa

Reframe the question

What questions can we ask to suggest new directions?

How can the idea be used by more people with varied abilties?

What changes would new ideas require?

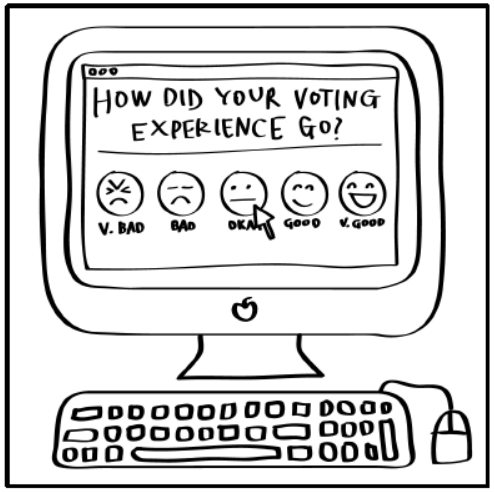


50 Ideas for Accessible Elections

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.

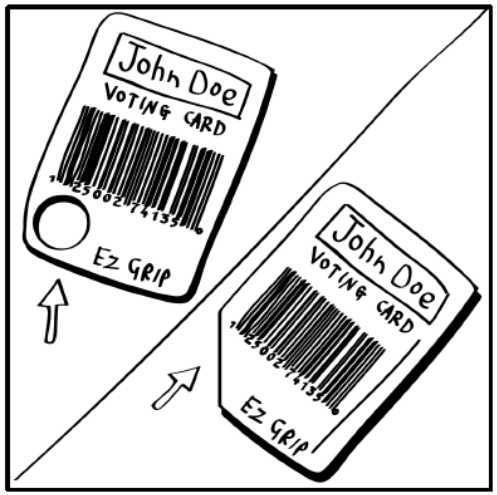
Idea: An online rating system could allow voters to give feedback to election officials on what is, or is not, working and how to improve the voting experience. Ratings for polling places could help voters identify the most accessible early voting centers and well-run polling places. This would also 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.

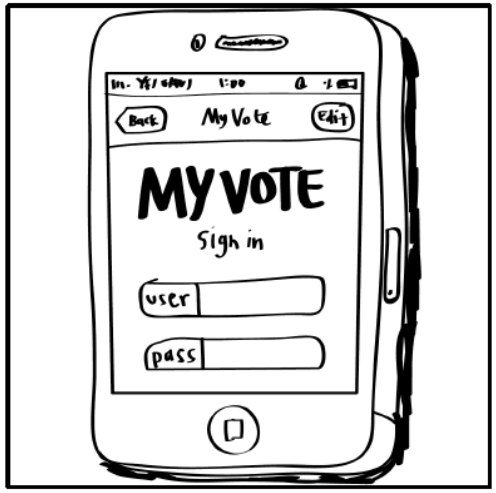
Idea: Election officials could add a hole for a finger grip and cut an angle off of one corner or add a notch in the bottom for orientation to make these plastic cards more accessible.



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.



“Design is not just
what it looks like
and feels like.

Design is how it
works.”

- Steve Jobs

Thank you!

Email: accessiblevoting@gmail.com

Web: http://elections.itif.org

Election design workshops:
http://elections.itif.org/projects/design-workshops/

Working papers:
http://elections.itif.org/resources/working-papers/

50 Ideas for More Accessible Elections
http://www.openideo.com/open/voting/realisation/50-ideas-for-accessible-elections/

ITIF
The Information Technology & Innovation Foundation