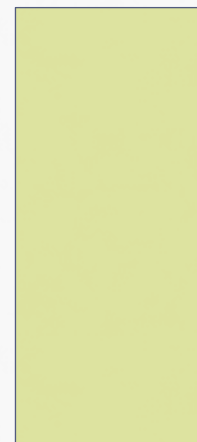


# MAKING VOTING ACCESSIBLE

PLAIN LANGUAGE & PLAIN INTERACTION



# WHAT IF ANYONE COULD VOTE ON ANY DEVICE?

- Dana Chisnell, Usability Works
- Drew Davies, Oxide Designs
- Kathryn Summers, University of Baltimore

# TABLET, SMARTPHONE, COMPUTER...

- Users can use their own device and their own, familiar, assistive technology
- Optimized for low literacy users
  - Plain language
  - Plain interaction

# ABOUT THE BALLOT

- NIST medium complexity ballot, modified slightly
- 18 pages
- 14 races, one constitutional amendment, two ballot measures

# ABOUT THE TESTING

- Paper prototype
  - 18 participants
  - 4 days
  - 16 versions
- Digital Prototype
  - 15 participants
  - 4 days
  - 4 versions

Participants with

- Low literacy skills (4<sup>th</sup> to 8<sup>th</sup> grade reading level)
- Advanced age
- Mild cognitive impairments (i.e., short-term memory loss)

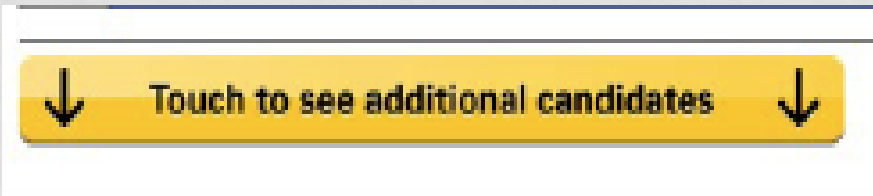
# PLAIN LANGUAGE

- Ginny Redish and Dana Chisnell (2009) demonstrated the crucial role of plain language in ballot instructions for successful voting
- In our testing, we found that participants with lower literacy tended to ***act on every single word***

# MAKING IT PLAIN

- Language tweaks that impacted voter success:
  - Eliminating ambiguous words
  - Reducing election jargon
  - Reducing the amount of text on key screens
    - Introductory
    - Review
    - confirmation

# BUTTON TEXT



- Several participants struggled with the “see additional candidates” button
- To ease use
  - Text was simplified
  - Jargon was eliminated



# REVIEW SCREEN TEXT

**City Council**

<input checked="" type="checkbox"/>	Barbara Shry	Yellow
<input checked="" type="checkbox"/>	Carole Barker	Yellow

You could have voted for 4 candidates, but you only voted for 2.  
If you want to vote for more, touch here.

**Water Commissioners**

You did not vote in this race.  
If you want to vote in this race, touch here.



**City Council**

<input checked="" type="checkbox"/>	Barbara Shry	Yellow
<input checked="" type="checkbox"/>	Carole Barker	Yellow

You voted for 2 people. You can vote for 2 more.  
If you want to vote for more, touch here.

**Water Commissioners**

You did not vote for anyone.  
If you want to vote, touch here.

**Board of Appeals - Inter...**

After noting confusion from users, text on the review screen was changed:

*“You could have voted for 4 candidates and you only voted for 2”*

Became

*“You voted for 2 people. You can vote for 2 more.”*

The change

- reduced election jargon
- focused on actions
- moved from familiar to new

# CAST YOUR BALLOT

## Are you sure you have finished voting?

**Note:** Once you press the **Vote** button, you will not be able to make any more changes.

If you want to make changes, touch the **Return to ballot** button.

If you are ready to cast your ballot, touch the **Vote** button.

Return to ballot

Vote



## Are you finished?

If you want to make changes, touch the **Return to ballot** button.

If you are ready to cast your ballot, touch the **Vote** button.

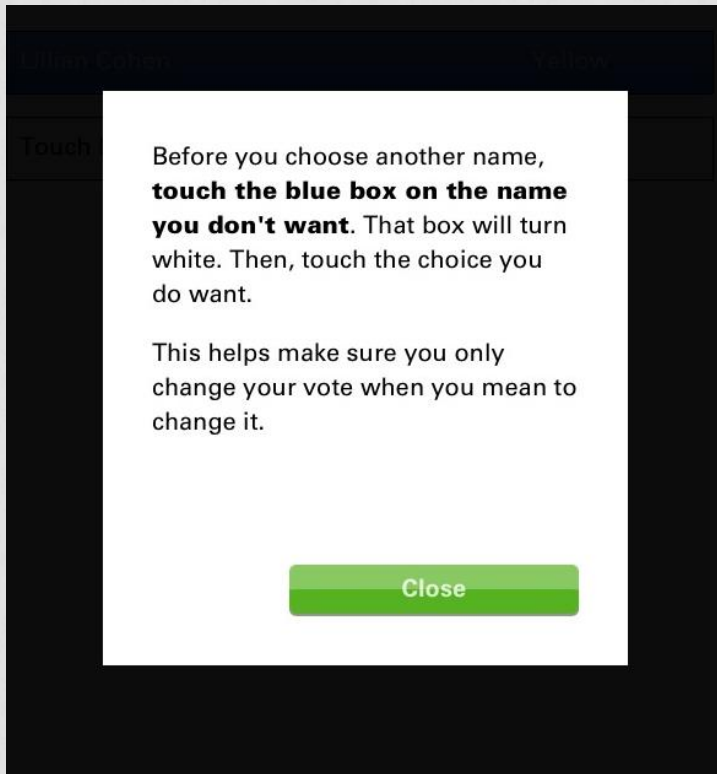
Return to ballot

Vote

Participants were confused and sometimes anxious about this page; they backed away from casting their vote.

Focusing the text on the message and the choice, rather than on the danger of making a mistake, allowed for easier processing and more confidence in voting.

# NECESSARY HURDLES



Requiring users to deselect a choice before making a change is a known challenge

Our participants struggled with this

We simplified the text message, and bolded the key action (and made it easier to get out of the error message 😊)

# PLAIN LANGUAGE FINDINGS

- Minimal text, short sentences
- Specific, concrete, familiar words
- No jargon
- Large typesize

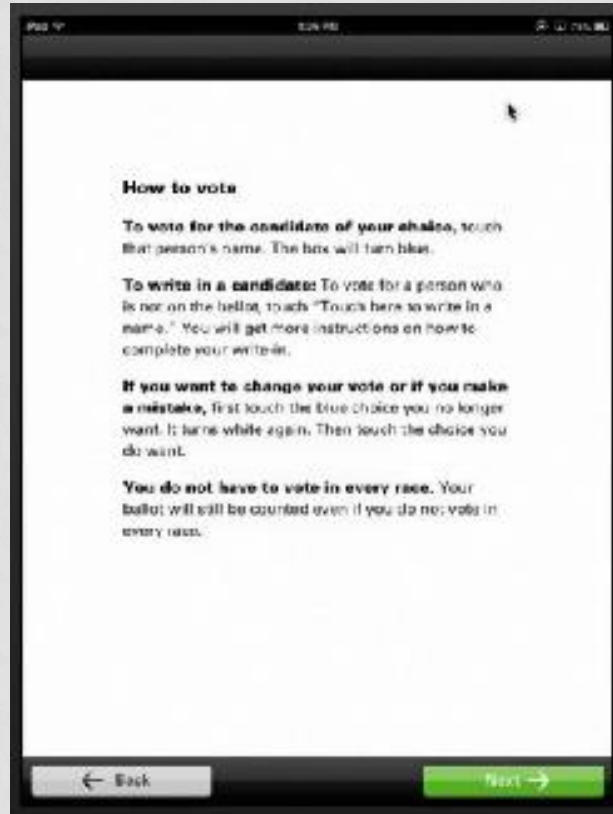
# PLAIN INTERACTION

- Transition from paper ballots → electronic interfaces makes **interaction design** crucial
  - Previous research with low literacy participants on websites found that distractions, such as links, shifts in locus of action & sidebars, had detrimental effects on task success (Summer & Summers, 2005; Summers & Summers, 2006)
- Our ballot interface confirmed that distractions can similarly impede the voting process

# PLAIN INTERACTION

- We started off simple, and had to get even more simple:
  - Focused on immediate action
  - Eliminated supplemental content
  - Removed extra icons
  - Removed the BACK button from all the screens in the Review process

# INSTRUCTION SCREEN



Users thought images on the instruction screen were interactive:

- Images were removed
- Text was reduced

# BALLOT ITEM INSTRUCTIONS

**Supreme Court Chief Judge**

**Choose Yes or No** Keep **Esther York** as Supreme Court Chief Judge?

To vote, touch a choice. A check mark (✓) will appear to show your choice.

To change your vote, touch the other choice.

If you want to keep Esther York as State Supreme Court Chief Justice, vote **Yes**.

If you do not want to keep Esther York as State Supreme Court Chief Justice, vote **No**.



<input checked="" type="checkbox"/>	Yes
<input type="checkbox"/>	No



**Supreme Court Chief Judge**

Keep **Esther York** as Supreme Court Chief Judge?

**Choose Yes or No**

<input checked="" type="checkbox"/>	Yes	
<input type="checkbox"/>	No	

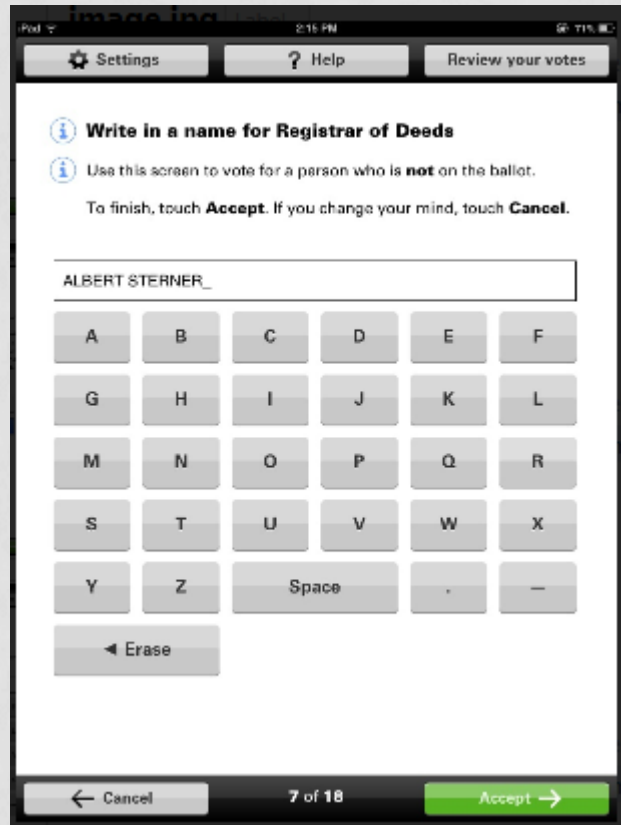
Voting screens were streamlined, to focus all cognitive resources on the voting process itself

Instructions were removed to make screens more readable and clean

Even extra icons were eliminated



# TEXT ENTRY



A non-QWERTY keyboard

- Supports text entry for those unused to typing
- We made the letters bigger → easier to identify

# PLAIN INTERACTION FINDINGS

**City Council**

Vote for up to 4. You can choose 1 more.

↑ Touch to see more names ↑

<input type="checkbox"/>	Harvey Smith	Orange
<input type="checkbox"/>	Randall Eagle	Orange
<input type="checkbox"/>	Reid Davis	Orange
<input checked="" type="checkbox"/>	Barbara Shry	Yellow
<input checked="" type="checkbox"/>	Carole Barker	Yellow
<input checked="" type="checkbox"/>	Donald Rupp	Yellow
<input type="checkbox"/>	Hugh Feister	Tan
<input type="text" value="Touch here to write in another name"/>		

↓ Touch to see more names ↓

- Find out what behaviors your participants want to use, and make them work if you can...

Our ballot lets users scroll by

- pressing a button
- dragging the scrollbar
- flicking a finger

# PLAIN INTERACTION FINDINGS

- Allow the users to touch anywhere on a name to select it

## Straight Party Vote

You can vote all at once for all the candidates from one political party. This is called a straight-party ticket.

If you want most candidates from one party, but some candidates from another party, you can vote straight party here. You can change your vote later for any of the races.

In some races, the candidates don't belong to a party. You will need to vote in these races later.

To vote straight party, touch the party name, and then touch **Next**.

To not vote straight party, just touch **Skip**.

<input type="checkbox"/>	Orange
<input type="checkbox"/>	Yellow
<input type="checkbox"/>	Tan
<input type="checkbox"/>	Gold

## Straight Party Vote

You can vote all at once for all the candidates from one political party. This is called a straight-party ticket.

If you want most candidates from one party, but some candidates from another party, you can vote straight party here. You can change your vote later for any of the races.

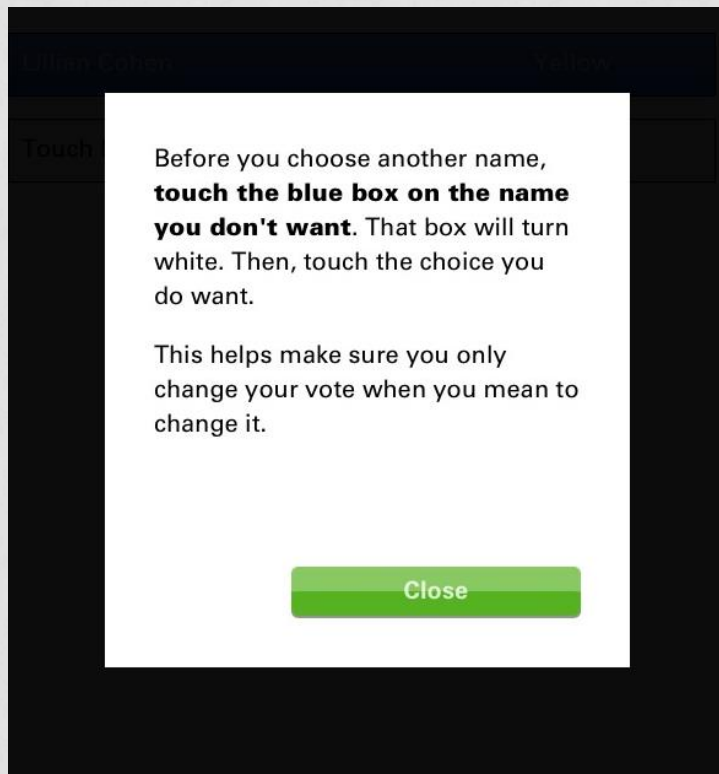
In some races, the candidates don't belong to a party. You will need to vote in these races later.

To vote straight party, touch the party name, and then touch **Next**.

To not vote straight party, just touch **Skip**.

<input type="checkbox"/>	Orange
<input checked="" type="checkbox"/>	Yellow
<input type="checkbox"/>	Tan
<input type="checkbox"/>	Gold

# SUPPORTING ERROR RECOVERY



We made the CLOSE button green, to match the action buttons in the main interface

We allowed users to press anywhere outside of the box to close it

# PLAIN INTERACTION FINDINGS

- Support immediate action
- Eliminate distractions and disruptions
- Make natural user behaviors successful if possible
- Little things have big impact
- Iterative testing is a good way to be brilliant

# UNFINISHED WORK

- A toggle to have instructions and messages read aloud
- A way to pause and resume voting
- Additional QA testing to perfect compatibility with assistive technologies