L.A. COUNTY + IDEO

Deliverable 3.1.2
In-process BMD User Experience
“Works-Like” Prototypes
VOTING PRINCIPLES

Goals for User Interface Prototypes 3.1.2

4. The voting system must instill public trust by having the ability to produce a physical and tangible record of a voter’s ballot to verify the ballot was marked as intended before it is cast and to ensure audibility of the system.

- The BMD UI should experience should allow voters to feel secure once they have cast their ballot.
- The BMD UI should assure voters that the contests are accurate in their native language as well as English.

7. The voting system must guarantee a private and independent voting experience for all voters, including voters with a full range of types of disabilities and voters with limited English proficiency.

- The BMD UI should strike the right balance of large enough text for legibility, while still maintaining a sense of privacy.

8. The voting system must be easy for all voters to use, in particular, for voters with a full range of types of disabilities and voters with limited English proficiency.

- The BMD UI should adjust to provide a voting experience that accommodates the needs of various disabilities.
- The BMD UI should be intuitive for voters to use.
GOALS

User Interface Prototypes 3.1.2 User Studies

1. How do central and integrated ballot boxes compare in terms of usability (efficiency, ease of use, ease of learning, user satisfaction), perceived privacy and accessibility?
2. How do we provide a highly usable experience for speakers of other languages?
3. What are usable, accessible, and private ways to manage the paper ballot?
4. How do voters want to customize their experience in terms of making the screen angle and user interface comfortable for them?
### CHANGES FROM PROTOTYPE 3.1.1

<table>
<thead>
<tr>
<th>Prototype</th>
<th>3.1.1</th>
<th>3.1.2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Display Size</strong></td>
<td>12.3”, 15.6”, or 18.4”</td>
<td>15.6”</td>
</tr>
<tr>
<td><strong>Session Initiation</strong></td>
<td>Touching the screen</td>
<td>Selecting language or inserting ballot</td>
</tr>
<tr>
<td><strong>Directions</strong></td>
<td>Directions from facilitators</td>
<td>Overview directions/step-by-step</td>
</tr>
<tr>
<td><strong>Action Buttons</strong></td>
<td>Bottom of page</td>
<td>Bottom of page/above candidates name</td>
</tr>
<tr>
<td><strong>Settings</strong></td>
<td>Prompted to adjust settings</td>
<td>Settings button in page/physical buttons</td>
</tr>
<tr>
<td><strong>Scrolling</strong></td>
<td>No scrolling arrows</td>
<td>Up and down scrolling arrows</td>
</tr>
</tbody>
</table>
## User Experience Overview of Features

<table>
<thead>
<tr>
<th>UX Features</th>
<th>Prototype 1</th>
<th>Prototype 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session activation</td>
<td>Ballot first</td>
<td>Language first</td>
</tr>
<tr>
<td>Action Button placement</td>
<td>Pill shaped in footer</td>
<td>Rectangular shaped above candidate names</td>
</tr>
<tr>
<td>Header Navigation</td>
<td>Buttons</td>
<td>Tabs</td>
</tr>
<tr>
<td>Contrast / Text Size</td>
<td>Settings button in interface</td>
<td>Physical buttons</td>
</tr>
<tr>
<td>Write-in names</td>
<td></td>
<td>same for both prototypes</td>
</tr>
<tr>
<td>Digital review</td>
<td></td>
<td>same for both prototypes</td>
</tr>
<tr>
<td>Ballot box</td>
<td>alternated between central and integrated</td>
<td>alternated between central and integrated</td>
</tr>
<tr>
<td>Voting on candidates / measures</td>
<td></td>
<td>same for both prototypes</td>
</tr>
<tr>
<td>Scrolling</td>
<td></td>
<td>same for both prototypes</td>
</tr>
<tr>
<td>Providing context</td>
<td>overall overview</td>
<td>step by step instructions</td>
</tr>
</tbody>
</table>
Prototype 1

Prototype 2

**BMD PROTOTYPES 3.1.2**

*Display Overview*

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SESSION ACTIVATION

The first screen the user sees upon approaching the BMD

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BALLOT ACTIVATION

Insertion of ballot and confirmation of ballot activation

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PROVIDING CONTEXT
Exploring what kind of contextual information the user needs

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ACTION BUTTONS

Placement of back / next (or other action) buttons

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Prototype 1: Pull shaped footer buttons

Prototype 2: Rectangular shaped above candidate names

HEADER NAVIGATION
Placement of back / next (or other action) buttons

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Prototype 1: Were not prompted to change the settings, but could be found in the settings button.

Prototype 2: Had physical buttons on the BMD, but could also access the settings through the interface.

SETTINGs
Changing contrast and text size.

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SCROLLING

Up & Down scrolling was the same on both prototypes

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VOTING ON CONTESTS

Selected state of candidates were the same on both prototypes

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WRITE-IN CANDIDATES

Write-ins were presented in the same way in both prototypes
Prototype 1

Prototype 2

DIGITAL REVIEW

Digital review

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CHANGE SELECTION

Digital review

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PRINT & VERIFY BALLOT

Central Ballot box steps (alternately used on both)

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Integrated Ballot box steps (alternately used on both)
This randomized control trial of the voting experience provided the IDEO team with qualitative and quantitative data to inform our iterative design process.

Data analysis led to the following insights:

• Although both central and integrated ballot boxes are acceptable options, and both require more design work to make them truly intuitive, the integrated ballot box is more usable, private, and accessible.

• Voters who speak other languages preferred to see both the original English and the translation into their preferred language together. A monolingual experience is reasonably usable and accessible but would be substantially enhanced by the ability to easily toggle between preferred language and English.

• Ballot slot should be familiar (like the sidecar prototype) and enable voters to manage and review the ballot with ease (like the monolith prototype).

• Voters found the prototype’s default settings fairly usable, in terms of screen angle, text size, and contrast. Letting them know that they can customize these things for their comfort and privacy will require better discoverability and clearer guidance.