

Usability and electronic pollbooks

DRAFT Project Report: Part 3

Checklists for usability and accessibility of electronic pollbooks

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What usability features to look for in e-pollbooks

Electronic pollbooks are in wide use, and gaining more users with every election. There are few standards for the usability of these systems, although many of the requirements in the Voluntary Voting System Guidelines (VVSG) could easily apply to them. Few of the state-level e-pollbook certification programs have strong standards for usability.

But usability of e-pollbooks can be a factor in how efficiently and smoothly a polling place or a vote center runs. Bad usability could contribute to long lines, or other problems ensuring that voters are checked in efficiently and accurately.

Based on our extensive fact-finding with election officials, poll workers, and voters, and on what we learned in a pilot usability test, we have identified dozens of items to use to evaluate e-pollbooks for usability and accessibility.

The usability checklists are organized by poll workers' tasks. They are not absolute requirements, but a guide to evaluating how well a specific e-pollbook supports poll workers and voters in the polling place.

This checklist is Part 3 of the complete report on e-pollbooks usability. The other parts are:

[Electronic pollbooks: usability in the polling place \(Part 1\)](http://civicdesign.org/wp-content/uploads/2015/06/CCD-ElectronicPollbooks-Part1-Report-15-1114.pdf)

<http://civicdesign.org/wp-content/uploads/2015/06/CCD-ElectronicPollbooks-Part1-Report-15-1114.pdf>

[Usability test plan for electronic poll books \(Part 2\)](http://civicdesign.org/wp-content/uploads/2015/06/CCD-ElectronicPollbooks-Part2-TestPlan-15-1114.pdf)

<http://civicdesign.org/wp-content/uploads/2015/06/CCD-ElectronicPollbooks-Part2-TestPlan-15-1114.pdf>

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How to use the checklists

The checklists are based on the findings from our landscape analysis and fact-finding discussions, and from a related pilot usability test of e-pollbooks. They turn those findings into a series of checklists that you can use to review a single e-pollbook model or to compare the usability of several different products.

Use the checklists to review e-pollbooks

- when your jurisdiction is making decisions about purchasing voting and pollbook systems
- as part of retrospective and post-election evaluations and reviews when there may have been problems in polling places
- to inform decisions about poll worker training scenarios and practice

What's in the checklists

The first set of items are for **general usability features** of e-pollbooks. They actually apply to nearly any digital interface you might encounter. Each is a simple Yes / No question. If you can answer Yes to each of the items, it is likely that poll workers will generally do well with the e-pollbook you are evaluating.

The **detailed checklists** that follow are designed to assess the usability of e-pollbooks from the point of view of poll workers, as they do typical tasks during an election. These aren't simple Yes / No ratings. As we so often find in usability studies, "usable" can fall within a range. So the question we ask is, "How easily and successfully can users..." complete actions or tasks as listed in each section.

Using the checklists

To use the checklists, start by using the e-pollbook yourself. Consider using the scenarios in the test plan (part two of this report) to help you cover both easy and harder tasks. Check the items on the list against your experience.

Better yet, conduct a usability study of the equipment using our recommended protocol in Part Two of this report, "**Usability Testing for e-Pollbooks.**"

Whether you are doing a review or a usability test, you can rate the success against each checklist item using a stop light scale of green, yellow, or red:

- **Green** means that the scenario was completed accurately and easily, without help or any stumbles in using the e-pollbook.

- **Yellow** is for problems completing a scenario, from minor issues (like easily correcting a misspelling of a name in a search or simple mistake in navigation) to major problems (like actions repeated or having to hunt or ask for help)
- **Red** is for scenarios or actions with an important error, like selecting the wrong voter, giving up on a task, or handling a voter incorrectly.

Understanding usability

To evaluate the usability of an e-pollbook, start with the broad features of *efficiency, effectiveness, and satisfaction*.

Efficiency is a measure of how well poll workers can complete both routine and unusual tasks. Efficiency is important because checking in voters is one of the bottlenecks that can cause long lines at a polling place.

Effectiveness is measured by the accuracy with which poll workers can handle each voter. For example, can they:

- Find and identify the correct voter registration record including records that are easily confusable such as Jr/Sr or similar and common names
- Recognize special conditions, such as whether the voter has already voted or identification requirements
- Take appropriate action to check the voter in or deal with special requirements
- Complete administrative procedures such as logging unusual events or updating records

Finally, **satisfaction** is a measure of poll workers' attitude towards e-pollbooks. This includes both positive attitudes and lack of negative attitudes about them. For example, do they believe that e-pollbooks:

- Help them do their job well
- Make finding voters easy
- Let them check voters in quickly
- Help them interact with voters in a helpful way

Checklists

General usability features

If you can answer Yes to each of these items, the rest of the evaluation is likely to be positive, too.

- Does the screen look clean and easy to use?
- Is it easy to see what is what on the screen?
- Can you tell what the most important information is?
- Are related pieces of information grouped (for example, are name, address, and date of birth together)?
- Is the text big enough (but not too big)?
- Is the text easy to see in different lighting conditions?
- Can you tell what is clickable?
- Are buttons and links large enough to click or tap easily?
- When you click or tap something, can you tell that the device is doing something?
- Are labels on links, icons, and buttons simple and clear?
- Are buttons and links in the right place for the steps in a task and overall workflow?
- Are information and error messages helpful?
- Do messages appear in the most helpful, visible place?

Basic voter check in

How easily and successfully can poll workers

- Get to and return to the starting point
- Get search results
- Navigate and narrow search results
- Identify the correct person in the list of results

- Select the name or address and check a voter in
- Recover from or correct a mistake
- Return to search results from a search they've already done

Find a voter by scanning an ID

How easily and successfully can poll workers

- Handle the scanner
- Get the scanner in the position to quickly scan the barcode
- Tell that the scanner has scanned the barcode
- Check a voter in
- Respond to and recover from mistakes
- Determine whether the scanned ID matches the voter record
- Protect personally identifying information for the voter

How easily and successfully can **voters** who are scanning their own ID

- Position their ID to be scanned
- Recognize whether the scan was successful
- See whether the information in their voter record is correct

Finding a voter by searching

How easily and successfully can poll workers

- Find the right place to start a search
- Type part of a name or an address to start a search
- Get a search result closely matching the voter in one try
- See which information is required for a search (such as last name versus full name, street names versus full address)
- Narrow the search results

Reviewing the list of voters found

How easily and successfully can poll workers

- Pick out a specific voter from a list of voters
- Determine whether a voter
 - Is the person in front of them (is this Jr. Sr., etc.)
 - Has already voted
 - Is in the wrong precinct
- Expand the search to county, state, or inactive voters
- Narrow the results list by adding search criteria

Checking voter status

How easily and successfully can poll workers

- Tell who has already voted
- Find the voter status

Checking voter details

How easily and successfully can poll workers

- See and read the voter's name or address
- Recognize and interpret voter status

Handling updates and exceptions

How easily and successfully can poll workers

- Find where to start handling an exception
- Make necessary changes (and make no other changes)
- Take the next step to close or complete the exception

Collecting signatures

How easily and successfully can poll workers

- Get to the right place for voters to sign
- Tell that the signature form is for the correct voter

OR

- Print the paper signature form

How easily and successfully can **voters**

- Find the space for signing
- Sign their name
- Clear the space and start over
- Tell that they are signing for the correct voter

Helping voters in line

When using a tablet computer to interact with voters in line, how easily and successfully can poll workers

- Open a version of the poll book on the portable device
- Manage and hold the e-pollbook
- Hold the e-pollbook in one hand and interact with the other
- See and use the data in bad lighting and weather conditions, such as street lights at night, in cold or wet weather
- Turn the display for voter to see

OR

- Print or send a polling place location for a voter

Entering text with an on-screen keyboard

If the e-pollbook has an on-screen keyboard, how easily and successfully can poll workers

- Get to the keyboard when and where it is needed
- Get rid of the keyboard (or hide it) when it is not needed
- Get to all of the fields, controls, and information needed for a task while using the keyboard
- See the necessary voter information and controls while using the keyboard

Supporting poll workers

How easily and successfully can poll workers

- Find appropriate supplemental information, procedures, and online training manuals and navigate them
- Follow on-screen scripts
- Follow troubleshooting procedures under stress
- Enter notes about voters or polling place incidents

Accessibility

How easily and successfully can poll workers

- Change aspects of the display that will make it easier to see, read, and perform tasks
- Use assistive technology such as a screen reader