

Ensuring the Usability of Voting Systems

Duration:	[X] One Day
Desired Number of Participants	<i>List the maximum number of participants you intend to accept to your workshop (not to exceed 20), and the minimum number of participants you need to have an effective workshop</i> 5 - 20
Audio Visual Requirements	List any additional AV or other special requests. 3-5 Flipcharts (depending on number of participants)

ABSTRACT:

This workshop will look at the social, civic and methodology issues in ensuring the usability of voting systems and new voting concepts currently being trialed. The goal of this workshop is to bring together practitioners, officials and researchers from around the world to look at the issue of e-voting/e-participation through the lens of usability and user-centered design.

YOUR BACKGROUND IN THIS MATERIAL

The workshop leaders have all been involved in usability issues with voting systems for at least three years, with various degrees of professional involvement. All have written, presented, or participated in professional panels on this subject. Two are from the US, one from the UK/EU

- One held a prior position on the staff of a state Elections Board
- One is a researcher and usability/ethnographer with a specialty in e-government and e-participation issues
- One has served in voluntary capacities on various advisory boards

PREVIOUS PUBLICATION OR USE OF THIS MATERIAL

None, but the goal of this workshop is to bring together disparate efforts on the usability of voting systems, for publication in a white paper or backgrounder providing a review of the field.

PARTICIPANT SELECTION CRITERIA

Our goal is to gather together practitioners, officials and researchers working on issues surrounding the usability or context of use of voting systems. We will ask for position papers describing their current work, background in the field or interest in participating.

In the event that more than 20 people express an interest in participation, we will make our selection based on the following criteria:

- The uniqueness of their contribution to the workshop, or whether they represent a point of view not found in other participants
- Their ability to provide breadth or depth of experience
- The likelihood that they will be able to make use of the results of this workshop in their own work

PRE-WORKSHOP PARTICIPANT ACTIVITIES

Before the workshop, participants will be able to join in an online discussion group (already active), read reports, standards and other resources on the web site and read each other's position papers.

PRE-WORKSHOP FACILITATION ACTIVITIES

1. Publicize workshop on voting-related lists, and solicit participants representing a range of points of view.
2. Read all papers submitted, and use them to set the final roster for the session
3. Gather material on existing projects around the world, and make available by posting on the web site
4. Collect as many pictures of actual system interfaces as possible, for display and reference during the workshop.

Solicitation of participants

This is a niche field, and not a topic that is of deep interest to many people, although UPA members have been very concerned about voting and usability. To ensure good representation across the full range of this issue, we plan to solicit the involvement of representative of several major projects, such as:

1. NIST standards project, reporting on how they assessed the usability of voting systems and produced performance standards (usability goals) for these systems.
2. A recently-awarded NSF grant to study social and usability issues in voting systems
3. Free-democracy project in the UK
4. Verified Voting.org, or other technology-centered organizations
5. Organizations representing the disabled, (typically in favor of the immediate deployment of e-voting systems because of accessibility concerns).
6. The Chicago-based Design for Democracy Project (for which UPA is a supporting organization), which has already influenced design changes in the Chicago elections materials
7. Local voting officials, either from Minnesota or from NASED (their national organization), or someone from an advocacy organization such as the League of Women Voters
8. Voting systems designers, that is, people facing these issues as part of their job

WORKSHOP SESSION TIMELINE

Number of Minutes	Topic or Event
30	Introduction of the participants Reintroduce the goals of the workshop and ensure agreement Identify the three topics for discussion, and solicit any others <ul style="list-style-type: none"> ▪ The voting context ▪ Usability methods ▪ The social context - e-voting and e-participation, the role of technology
60	First round – Voting context What are the critical factors in testing a voting system or process
	BREAK
45	Report on first round Identification of the critical factors, and how they affect usability research
30	Introduction of different testing methods, including short reports on methods suggested by various standards, guidance documents and in use in research projects
	LUNCH
60	Second round – Usability Methods Each group will consider one method or group of related methods for discussion, and identify the considerations in the use of this method for voting systems
60	Report on the second round and summarization into combined table
	BREAK
30	Third round – Social Context Each group will look at one of the social, civic and technology issues and how it relates to usability in the broadest sense – voter preference, dangers to the system, etc.
30	Report on third round and discussion of the issues
30	Group Discussion: Ethics and Process What are the other issues that we must take into account
30	Summary and Wrap Up Wrap up of the day. Plans for dissemination of the work and for future work.

WORKSHOP DESCRIPTION

It is easy to push usability out of the picture in discussions of voting technologies. It is done all the time.

- One way is by focusing on the isolated act of marking the ballot. “After all, how hard is it to pick a candidate from a list? Most people manage it just fine.” is a typical comment. In this context, the large problems of designing the voting system and technology overwhelm the details of the core interaction.
- Another is to suggest that computer or political systems issues are more important, saying things like “If we can’t trust the machines, there is no point in discussing any other aspect of the problem.”

We take a different view. It is only by considering usability (in the “big U” sense of looking at the entire context and user experience), and by following a user-centered design process that we will successfully make the transition to electronic voting technologies. Because those technologies are coming, and we can either stand like Luddites against the “machines” or we can be part of the process of integrating those new technologies into voting systems.

The question we ask is a broad one: what does it take to design a voting system that is not only usable, but might help meet larger goals of encouraging greater participation in the democratic process. Technology is neither inherently good nor bad, but if the human process is not considered in designing the use of that technology, the results will be flawed, unusable, and possibly untrustworthy. Our goal in this workshop is to explore what it takes to change this scenario into one with a successful outcome, though the use of our usability and user-centered design skills.

ISO13407 suggests that the first step in a human-centred design process is to identify the need for such a process. This workshop (and the other activities of the Voting and Usability Project) are part of this step.

Voting Context

The second step in a human-centred design process is to understand the context of use. In an election, this context is large, even for a single voter, but the system also includes elections officials, party representatives, maintenance and operations staff, politicians and the poll workers.

Voters: For voters, the context includes the entire process, from voter registration, to learning about the election and the candidates, to deciding how and where (or whether) to cast their vote, to any travel to the polling place (or receipt of remote material), to the actual casting of the ballot. It also includes how they learn about election results. Even if we simply focus on the materials created for the election, this is not a single problem. These materials include all printed (or electronic) material distributed to inform them of the election, notification of their polling methods or locations, signage at a central polling place, instructional materials, dissemination of results

The Design for Democracy project in Chicago included a wide range of materials in their work and were able to propose some significantly improved designs. Our questions about voters include:

- Can we create a model to describe the complete voting experience?
- What research has already been done (in any field) that informs this model?
- What are the primary usability needs within this model?

Usability Methods

The usability toolkit is a large one, with methods that range from direct observation to gathering information from secondary sources. As we look at the model of the voting experience, we believe that some methods are more appropriate than others.

- What are the best practices in selecting methods at various points in the design process, and for different aspects of the voting experience?

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- What is the best approach to creating system performance measures for electronic or innovative voting methods? (If NIST has published standards for measurement, we will use them as the basis for discussion)
- How do we create guidelines for usability exploration or evaluation that will help us not only test existing voting technologies, but create a framework for future innovations?

Ethics and Process

This is a small, focused area of interest. Many of the people working in the field have worked at some time for a vendor, or another party that creates the potential for conflicts of interest. In fact, one of the researchers at Johns Hopkins who participated in a negative report on one vendor's solution was attacked for his connections to the industry.

- What are appropriate ethical guidelines for people working in this field?
- Are they higher than in any other usability work, specific to the industry, or will general ethical guidelines be enough to provide guidance.
- Are there special guidelines needed for working with participants in usability evaluations? Is it possible to conduct usability research during a "live" election?

POST-CONFERENCE DISSEMINATION OF RESULTS

Our goal in organizing this workshop is to provide participants with an opportunity to meet others in this small and scattered field. We plan three means of disseminating results:

1. An article in the UPA Voice to report, at an overview level, to the general UPA membership
2. A substantive posting on the Voting and Usability section of the UPA web site, to make this material available to the rest of the voting/e-participation/e-government community. This will include not only the output of the workshop, but also position papers from the participants (they will have an opportunity to edit them after the workshop if desired).
3. A white paper offering guidance to usability professionals on testing methods, ethical standards and special issues in understanding the context of voting systems and elections, if they choose to work this field

POST-CONFERENCE ACTIVITIES

We see this event as part of an ongoing, world-wide conversation about the design of voting systems, the conduct of elections and the role of new technologies in elections. We expect to see this discussion continue in the egroup that we have already set up, and that the work we have done will be presented at other forums.

We also hope for two other post-workshop goals:

1. That this workshop will provide people working in the field with the opportunity to meet. We started the e-group to meet a need that we heard from almost everyone – to find ways to connect with others.
2. That we will be able to broaden the discussion of innovations in voting to include a consideration of both the usability of the voting system and the entire context of use from a human perspective.