

Deciding on Digital Democracy: The Psychology of Electronic Voting

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Abstract: Adoption of new voting technologies is currently driven by standards for security, accuracy, and accountability. User interface standards are arguably just as important. This moment of change in voting systems is an opportunity for many areas within psychology to be heard with regard to the future of digital democracy.

The United States is slowly moving toward adoption of electronic voting systems. Most systems under consideration use “Direct Recording Electronic” (DRE) devices which collect data through a computer interface. DREs are more easily configured and offer fewer design constraints than the interfaces of traditional voting technologies (i.e. lever machines, punch cards, and optical scans). This should mean that good ballot design will be easier to achieve since prototype interfaces can be developed, user-tested, and ultimately improved through iterative design and continuous reevaluation. However, for this to be true, designers must have knowledge of the human-computer interaction (HCI) issues involved in ballot design, computer interface design, and the design of interactive decision-support systems. Also, governments must include these HCI issues in their design standards, giving them as much importance as security, accuracy, and accountability standards.

Electronic voting systems inherit many HCI problems from traditional ballots, including legibility, correspondence of choice identifiers (e.g. candidate names) to the choice mechanism (e.g. checkboxes), ordering effects, and wording. DRE interfaces add new HCI challenges, including navigation, error blocking and correction, help dialogues, and ballot overview. A thorough understanding of the perceptual, cognitive, and motor characteristics of voters, over a wide range of voter types, is necessary to address user interface issues in this area.

Most current DRE designs use the paper ballot as a design metaphor for what is essentially an electronic form. Placing voting in the broader context of citizen participation in government means that an electronic voting system should be thought of more broadly, as a civic decision support system (Robertson, 2005). Electronic ballots should be only one part of a larger environment, integrated with other tools for digital government. A study just being completed in our laboratory suggests that electronic ballots that are integrated with search tools and information categorization capabilities lead to a better understanding of issues and more confidence in the final votes that users cast (Robertson, Achananuparp, Goldman, Park, Zhou, & Clare, 2005). Designs for digital environments for civic engagement and democratic decision making will need to be informed by relevant data from social and cognitive psychology.

A final challenge for digital systems is their acceptance. A significant reason for non-participation in the voting process is decreasing social capital and a lack of voter identification with issues. Adopters of digital voting systems must face the fact that technology itself is alienating to many people and that trust in technology is often low. Thus, movement toward electronic voting has the potential to decrease participation. It is important for designers to be aware of relevant information from political and personality psychology.

Electronic ballots are not just digital forms. They represent a more fundamental shift in citizen participation in government which is mediated by technological systems. The design, implementation, adoption, and impact of these systems should be informed and studied by a broad spectrum of behavioral science researchers (Robertson, 2004).

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