UX of Voting

- Introduction/Voting Machines
- How Does UX effect Voting
- When did this become important
- HAVA
- UX Voting Projects
  - NIST Voting
  - UPA Voting Project
  - Design for Democracy
  - MIT-CalTech Voting Project
  - Brennan Center
  - Center of Civic Design
- What Can You do?
Solving Big Problems: UX of Voting

- Voting machine technology have become digital and that presents more UX problems then before.

- UX has the solution for correcting user error, and in voting that is the difference between success and failure.
Impact of Voting

Have a say in how your city is run

- Mayor and Alderman impact how things run in my city
- City school board elections impact the environment children experience in school, their budget impacts the taxes I pay each year
- My city voted on whether to ban leaf blowers in the summer months
- Value of municipal bonds impacted by economic health of my city as a result of all of above

Help decide what laws are passed

- This year my state voted on whether to legalize marijuana and whether to fund charter
- Last year Oregon voted on whether to require GMO labeling on food
Voting Machines
Automatic Voting Machine

- Pull the handle to close the curtain
- Turn the voting levers over the names of your chosen candidates to expose X-safety mechanism where built in to keep a voter from spoiling their vote
- Pull the handle back to register your vote and reopen the curtains.
- Mechanism built in to lock out other candidates for a race once a vote is made and built to last decades
Pull level machine (punchcard technology)
Finger Electronic voting
• Digital voting machines are aging out and some are over 10 years old.

• Would you trust your important work on a computer that was 10 years old?
Vote Recorded Feedback

Do all voters understand these words?
Optical Scan Paper Ballot
VVPAT

- Voter Verified Paper Trail
Voter Verified Paper Trail
How does UX Effect Voting?
How Does UX Effect Voting

Usability Factors

- Useful
- Usable
- Findable
- Credible
- Desirable
- Accessible
- Valuable

Impact of errors and misuse have quality of life implications.
Aging Voting Machines

- Aging machines create errors
- Create situations were users might create errors
- Impact voter’s trust in the voting system
Voting Machine Accessibility

Federal requirements state all voting machines must be accessible for any voter.
When Did it Become Important?

• Original voting machines were mechanical, a technology designed to last decades. Design was considered less important for mechanical machines. **CASE STUDY: Butterfly ballot showed that to be wrong.**

• Today voting technology has evolved and computers were used to count and record votes.

• Digital technology needs UX even more, where bad design creates confusion that lead to user error.
Case Study: 2000 USA Presidential Election
2000 Presidential Election

- Florida recount because of the tight race.
- Hanging and pregnant chads on the butterfly ballot
## Ballot Design

### PRIMARY ELECTION BALLOT
**DEMOCRATIC PARTY**

<table>
<thead>
<tr>
<th>CANDIDATES FOR UNITED STATES OFFICES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PRESIDENT</strong></td>
</tr>
<tr>
<td>JOHN KERRY</td>
</tr>
<tr>
<td>DENNIS KUCINICH</td>
</tr>
<tr>
<td>AL SHARPTON</td>
</tr>
<tr>
<td>LYNDON H. LaROUCHE, JR.</td>
</tr>
</tbody>
</table>

| **NONE OF THE NAMES SHOWN**         |
| (UNCOMMITTED)                      | 83 |

| **UNITED STATES SENATOR**          |
| NO CANDIDATE FILED                 |

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*Lathe County, Idaho
May 25, 2004*
Two page design caused confusion
Butterfly Ballot
Hanging Chads
Florida Recount


- Review by independent consortium, looking at the broader group of rejected ballots, found that Mr. Gore might have won if the courts had ordered a statewide recount of all the rejected ballots

- “In addition, the review found statistical support for the complaints of many voters, particularly elderly Democrats in Palm Beach County, who said in interviews at the election that confusing ballot designs may have led them to split their ballots by voting for more than one candidate.”
H. R. 3295

One Hundred Seventh Congress
of the
United States of America

AT THE SECOND SESSION

Began and held at the City of Washington on Wednesday,
the twenty-third day of January, two thousand and two

An Act

To establish a program to provide funds to States to replace punch card voting
systems; to establish the Election Assistance Commission to assist in the adminis-
tration of Federal elections and to otherwise provide assistance with the adminis-
tration of certain Federal election laws and programs, to establish minimum
election administration standards for States and units of local government with
responsibility for the administration of Federal elections, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

(a) Short Title.—This Act may be cited as the “Help America
Vote Act of 2002.”
Help America Vote Act

- Human Factors
UX Voting Projects
National Institute of Science and Technology

- Voting technology requirements
- Voting machine certification
- Appointments on the Election Action Committee technical working groups, including human factors. The results of these groups develop into guidelines and regulations for voting machines.
Design for Democracy

- http://www.aiga.org/design-for-democracy/
The Caltech/MIT Voting Technology Project (VTP) applies social science and engineering to voting. Our work ranges from the functioning of voting machines to the effects of reforms on voter behavior to the assessment of voting systems. We are an interdisciplinary group that both conducts original research in this area and engages in an active program of outreach to the public and election officials.
A Methodology for Testing Voting Systems

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Abstract
This paper compares the relative merit in realistic versus lab style experiments for testing voting technology. By analyzing three voting experiments, we describe the value of realistic settings in showing the enormous challenges for voting process control and consistent voting experiences.

The methodology developed for this type of experiment will help other researchers to test polling place protocols and administration. Comparing the results from laboratory experiments with voter verification and realistic voting experiments further validates the procedure of testing equipment in laboratory settings.

The methodology and protocol for testing voting systems can be applied to any voting technology. This protocol matches the real-world conditions of voting by replicating them for the experiment.

Keywords
Usability testing, voting technology testing, methods and tools, voting systems, audit trails, user-centered design.

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Bentley User Experience Center worked with Penn State to study Voter’s guide
A total of 60 interviews were conducted in:
- Portland, Oregon
- Denver, Colorado

Findings were that people found the new Citizen’s Initiative Review helpful but not completely trustworthy and more work needs to be done to make it trustworthy.
Non-Citizens Are Not Voting. Here Are the Facts.
The Trump administration continues to double down on its false and widely-criticized assertion that 3 to 5 million non-citizens illegally voted in the 2016 election.

Read more

Brennan Center to House: Do Not Terminate the Only Federal Agency Protecting Voter Systems
Wendy R. Weiser, Nicole Austin-Hillery
The Brennan Center for Justice urges members of the House Administration Committee to reject bills to terminate the Electoral Assistance Commission and the Presidential Election Campaign Fund. Read the letter here.

ISSUES
Voting Rights & Elections
Liberty & National Security
Money in Politics
Justice for All
Government & Court Reform

FEATURED VIDEO
Michael Waldman on MSNBC: Trump’s False Voter Fraud Claim

FEATURED BOOK
Center for Civic Design

Our goal:
Ensuring voter intent through design

We want every citizen's interactions with government to be effective and enjoyable.

This means giving every election official access to useful, researched guidelines to use in communicating with citizens.

Field Guides to Ensuring Voter Intent
The Field Guides to Ensuring Voter Intent are a collection of 8 small books with evidence-based tips and guidelines for usability and design issues in voting and elections in an easy-to-digest pocket format.

Get yours today

Current Projects
We work on:
- ballot design and plain language
- voter ed in print and online
- poll worker best practices
- voting system standards
- accessibility in elections

Current projects & reports
Updates on our blog

Civic Design Bibliography
An annotated bibliography of resources from peer-reviewed articles to white papers relevant to civic design.

It covers topics from election statistics to universal design.

Search the bibliography
Anywhere Ballot

- Designed to answer the question “What is anyone could vote on any device?
- Center of Civic Design created a responsive ballot that was designed to be device agnostic.
- CCD did rapid iterative testing starting with a paper prototype and then a working digital version between November 2012 and January 2013.
- By January 2015 the team had address screens and created patterns.

Anywhereballot.com
Anywhere Ballot Pattern Library

Basic Screen Layout

1. Header bar
2. Settings button
3. Help button
4. Review button
5. Page title
6. Page instructions
7. Footer bar
8. Back button
9. Progress indicator
10. Skip/Next button
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  - Citizens Initiative
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  - Center of Civic Design
- What Can You do?
What Can You Do
Participate

- Take something off the table in the debate about problems in our voting systems- make sure the voting technology works

- See the list on Center for Civic Design
  [http://civicdesign.org/make-a-difference/](http://civicdesign.org/make-a-difference/)

- Join NIST Human Factors Public Working Group

- Investigate/Volunteer/Publish/Blog
  - Do the district report problems with the voting machines?
  - Do pollworkers find the technology hard? Become a pollworker to find out.
  - Does the technology need constant attention like calibration etc. Volunteer and help others know about this problem so we can get machines upgraded.
Join a **Code for America Brigade**. The brigades work on projects in their local community, often in cooperation with local officials. As the name implies, many of these groups are focused on coding apps using civic data. But anyone in UX knows that the best use of data starts by understanding real needs. Code for America has embraced user research, design, plain language and all the UX skills, so your work can make the difference between a good project and an awesome user experience.

**Volunteer for Design for America.** Most of the studios are on university campuses, but putting students of all ages together with working professionals is a winning combination.

If you are specifically interested in elections, creating, editing, or designing voter information is a critical part of motivating turnout and helping everyone be an informed voter.

**Start with the League of Women Voters.** This amazing national non-partisan organization goes back to the suffrage movement. (Don’t be put off by the name — there are lots of men in the group.) In addition to the national organization, the local leagues work on a wide variety of issues in local and state government from advocacy to voter information.

You might know them from local candidate forums and voter guides. Their work is also online, with the non-partisan nationwide guide to candidates and measures in national, state, and local elections, [vote411.org](http://vote411.org). This guide goes far beyond data, with carefully curated questions about local issues, and analysis.

As part of our work on designing better voter guides, we have partnered with the League in California. They produce an online guide, *Voter’s Edge* and create the *Easy Voter Guide*, written for (and tested with!) people with lower literacy, in 5 languages. Their work is hands-on with an opportunity for you to use your web, plain language, or content skills to help people understand elections.

If you have other passions, take some time to find out who else is working on those goals. They all need your help – and one might be the place where you can make a huge difference. It’s a chance to work with people in your community, not just work for distant users.

Chances are there were a few new people elected to be your mayor or county council, or state legislator. Check in with them. Whether you show up at meetings or public hearings to speak out, or join one of their initiatives, it’s a chance to have a voice all year.

Most importantly, **show up.**

No matter what issue you care about, chances are that there are others with the same passion. Join them and commit your skills and time and energy to making your community a better place.

Democracy works best when we all participate. Every election. And every day.
Become Engaged

- Communicate with your representatives and tell them how you feel
- Save the EAC!

Congress: Do Not Eliminate the Election Assistance Commission
February 7, 2017

Congress is considering H.R. 634, the Election Assistance Commission (EAC) Termination Act, which would eliminate the EAC — the only federal agency charged with improving voting systems and helping states with other critical functions of election administration.

The EAC was created by the Help America Vote Act of 2002, in part as a response to voting equipment and election failures that led to controversial outcome in Bush v. Gore.

The Commission, which is designed to work in a bipartisan manner with four commissioners — two Democrats and two Republicans — performs a number of vital election functions at the national level. Among other duties, the EAC:

- Sets national standards for new voting machines and systems.
- Tracks and corrects problems with those systems.
- Conducts research into election management and improvement.
- Collects and disseminates critical election administration data.
- Provides a clearinghouse of information for local election officials, and promotes accessible voting for Americans with disabilities.
- Maintains the national mail voter registration form.

The EAC’s role setting standards for voting technology is particularly important in 2017.

Forty-seven states rely on EAC standards and testing for voting equipment. A 2014 report by the Presidential Commission on Election Administration identified an “impending crisis” in voting technology. A 2015 Brennan Center study detailed this crisis, finding the vast majority of voting machines in use today are close to or exceed their lifespans. In fact, 42 states used machines that were at least a decade old in the 2016 election. New equipment is needed to avoid increased machine failures, and security and reliability flaws. These issues entered the spotlight in 2016 when, according to credible reports, Russian cybercriminals attempted to access state voter registration systems.

Numerous organizations, including the Brennan Center, urged the Committee on House Administration to reject the legislation. On February 7, 2017, the Committee voted to advance H.R. 634. A number of civic groups and government officials issued statements in response to the Committee’s action. Read the letters and statements below.
Thank you

ANY QUESTIONS?

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