



Prime III

One Machine, One Vote for Everyone

Prime III

Prime III, the single most accessible voting system, was conceived in 2003 at Auburn University, and later was developed and refined at Clemson University's Human Centered Computing Lab. It offers a secure, multimodal electronic voting system that delivers the necessary system security, integrity and user satisfaction safeguards in a user-friendly interface that accommodates all people regardless of ability. Prime III implements a Universal Design. By Universal Design, we mean "an approach to the design of all products and environments to be as usable as possible by as many people as possible regardless of age, ability or situation. Other terms for Universal Design used around the world include Design For All, Inclusive Design, and Barrier-Free Design." (Universal Design Education Online)

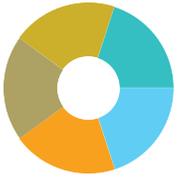
Prime III enables those who may have difficulty seeing, hearing, speaking, or reading, as well as those who may have other physical disabilities, such as missing limbs, with the ability to vote securely, privately, and with dignity.

Dr. Juan E. Gilbert thusly named Prime III because it is considered a third-generation voting device. First generation voting was done with mechanical equipment and paper (e.g., lever machines, punch cards, etc.) Second-generation voting uses computers (e.g., optical scan, Direct Recording Electronic [DRE] voting machine.) Third generation devices are multimodal. These are machines that accommodate multiple voters on one machine using multimodality. Prime III is a third generation voting device that allows voters to privately and securely cast their ballot using touch or voice interchangeably.

The screenshot displays the Prime III voting interface. On the left is a vertical navigation menu with options: Settings, Vote By Party, President and Vice-President (selected), US Senate, US Representative, Governor, Lieutenant-Governor, County Commissioners, Proposition #1, Amendment #1, and Review My Ballot. The main content area is titled 'President and Vice-President' and is labeled 'Contest 3 of 11'. It features a grid of candidate pairs for selection:

 Joseph Barchi and Joseph Hallaren (B)	Adam Cramer and Greg Vuocolo (Y)
Daniel Court and Amy Blumhardt (P)	Alvin Boone and James Lian (O)
Austin Hildebrand-MacDougall and James Garrity (V)	Martin Patterson and Clay Lariviere (G)
Elizabeth Harp and Antoine Jefferson (R)	Charles Layne and Andrew Kowalski (A)
Marzena Pazgier and Welton Phelps (W)	Candidate Write In

At the bottom of the interface are five buttons: Back, Top, Clear, Review, and Continue.



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Balloting

To address the issue of long lines and wait times, Balloting is a concept aimed at speeding up the voting process. Balloting allows a voter to fill out a ballot via phone or online system prior to Election Day or casting a ballot. The Balloting process gives the voter an opportunity to:

Read

Understand

Fill out

Review

Print the completed ballot in the form of a QR code at his/her convenience and prior to going to the polls.

On Election Day, the voting machine is used to scan the voter's QR code, which brings up the voter's prior completed ballot for review and modification before officially submitting it. When the voter submits the ballot, it will print on the voting machine where the voter can verify the ballot.

Since a voter would already be familiar with the ballot and have fully or partially completed the ballot, the hypothesis is that Balloting would reduce the voting time and errors in the voting process compared to other methods of voting

In a study using the 2012 Presidential Ballot from Broward County, Florida, a significant reduction in the average voting times using balloting versus paper ballots or voting machines was observed.

Paper Ballots- 4.5 minutes

Voting Machines- 3.8 minutes

Balloting- 48 seconds



Sample Balloting QR Code



Prime III

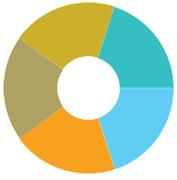
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VoterPass

VoterPass is a voter-line management tool designed to make voting more efficient. Voters will access VoterPass through multiple interfaces, including, but not limited to, Internet web browsers, mobile phone applications, interactive voice response over a phone line, etc.

Upon identifying the registered voter, the voter will select their assigned precinct and VoterPass will provide him or her with timeslots available for voting. VoterPass can provide the voter with a reminder email, phone call, or another form of communication to confirm the chosen time slot.

On Election Day, the voter will arrive at the voting precinct where he or she will bypass the regular voting line and enter the VoterPass line. When the voter reaches the front of the VoterPass line, his or her identity will be verified for voting as well as for the VoterPass time slot.



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Televoting

Because many members of the armed services are overseas during elections, they are unable to cast their ballot in person. As a result, The Uniformed and Overseas Citizens Absentee Voting Act (UOCAVA) was passed allowing them to vote by mail. According to a 2010 survey conducted by the United States Election Assistance Commission, only about 35% of the ballots sent to UOCAVA voters were returned to the states.

Of those returned ballots, almost seven percent were not counted for various reasons. Because their ballots are often not received or are received and not counted, military and overseas voters are being disenfranchised. While many have considered Internet voting to be the solution to this problem, there are those who worry about its security.

This research suggests development of Televoting, a process that will give UOCAVA voters the ability to cast a ballot that will be counted on Election Day. Televoting is presented as a secure alternative to the problem of mailed ballots and Internet voting for UOCAVA communities.

Televoting is an approach that uses telecommunication and information technologies to provide our uniformed and overseas citizens the ability to vote from a distance. Their ballots are often not received or are received and not counted, causing these voters to be disenfranchised. While many have considered Internet voting to be the solution to this problem, there are those who worry about its security. Televoting provides a solution to the security issues related with internet voting because it provides a way for voters to verify their votes and ensure that their data has not been altered in real time.

On Election Day, a poll worker sits ready to connect with a remote voter.

Once a connection is achieved, the poll worker verifies the voter's identity.

The voter proceeds to fill out their ballot and sends the final selections to the poll location.

The voter waits for their data to be transmitted to the poll location. As they wait, they may view information about the poll worker to verify his or her identity.

The voter will see this screen above as the poll worker receives the ballot. She will then ask if the voter is ready to print his ballot. At no point will the poll worker see the ballot, which ensures the right to privacy.

As the ballot is printing, the poll worker will hold up a number. Three camera views are displayed to verify that the ballot and poll worker are in the same location.

This same number will be placed into the view of the camera that shows the ballot printing. Finally, the poll worker will ask the voter to verify that the ballot is correct. If so, they will cast the vote, if not, the voter can resubmit.