

**Protocol excerpt:**

**Goal.** To appraise the usability, reliability, privacy and accuracy of the Vote-PAD system when used in accordance with the proposed use procedures for each respective system.

What happened:

While comparing the ballot marks with the scanners' tabulations was sufficient for appraising the accuracy of the system, no part of the procedures tested for either reliability or privacy. In fact, privacy was violated at every turn. Many voters answered the "privacy" exit survey question by saying something like, "not with you watching every move I make." Usability testing was conducted without the oversight of a qualified expert.

**Protocol excerpt:**

These "poll workers" will be responsible for setting up the voting experience for each test participant *in accordance with the proposed use procedures for that respective system*. This 'set up' will include preparing the ballot in the Vote-PAD booklet for voting, supplying the voter with appropriate equipment for using the Vote-PAD (e.g., audio cassette & headphones, verification wand, non-slip pads, write-in ballots, etc), and providing basic instruction for the voter to get started.

Each voter will be directly monitored by Secretary of State Staff or Secretary of State consultant. These "monitors" will monitor and evaluate the entire experience for each voter, beginning with check-in and initial instruction, through actual Phase 1 and Phase 2 testing.

What happened:

Poll workers gave basic instructions and set up the voting experience. However, in addition to "monitoring and evaluating," monitors changed that voting experience by giving instructions and interacting with the participant throughout the experience.

**Protocol excerpt:**

During Phase 1, the voter will be asked to vote a ballot. As the voter records his or her vote choice for each contest, the voter will be asked to state aloud for the monitor the vote choice that voter believes he or she is marking on the ballot. The monitor will record the vote choices as stated by the participant voter. At times, the monitor will randomly direct the voter to:

- Skip a contest and then later return to the contest to record the vote; and/or
- Vote a specific write-in candidate for a particular contest.

What happened:

Monitors gave directions to voters throughout the testing, not randomly, but according to a script. Participants were directed to skip multiple contests and return to them, and they were directed to vote up to four write-in candidates on a single ballot.

In addition to these instructions, monitors assisted participants, gave feedback on the accuracy of their marks, and made suggestions such as turning the write-in sheet over and writing on the back. More details are in the Observations document.

**Protocol excerpt:**

**Observers:** The Secretary of State may designate up to three official observers of the test. Each applicant may have up to three designated observers of the test. Additional observers will be allowed upon the mutual agreement of the Secretary of State and *all* applicants. All observers will be physically restricted to the designated observer area and may not interfere with the test in any manner.

What happened:

Anyone who came into the room was allowed to observe. This included people who transported participants, and participants waiting for other participants. One participant observed before he tested the Vote-PAD.

One blind woman was accompanied by her 11 year old granddaughter, who sat at the testing station beside her while she did the test.

**Protocol excerpt:**

**Confidentiality:** All test participants and observers will be required to execute a confidentiality agreement, prohibiting discussion of the test in any manner until the Secretary of State has publicly released its report from the test.

What happened:

Test participants were read a confidentiality statement and asked to agree, on tape. No observer, including us, was given a confidentiality statement to agree to.

**The only criteria defined in the protocol was this:**

“In terms of accuracy for the system to capture and record the voter’s intent, the blended systems will be deemed an automatic pass if the error rate in Phase 1 voting (actual votes read and tabulated compared to stated vote choices) and in Phase 2 verification (stated ‘verifications’ compared to actual ballot) are below the threshold error rates in the 2002 Voting System Standards.”

*Note: The protocol is collapsing voter-intent accuracy with machine accuracy. Federal law indicates that no matter the intent of the voter, accuracy is based solely on the ability of the tabulator to accurately record what is printed on the ballot. The two are very different issues and collapsing them as one is inappropriate.*

**The "Protocol for Volume Testing of Voting Systems" on the Secretary of State's website says:**

General Specifications for All Tests

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**Location:** Testing will occur at a location in California that is mutually acceptable to the vendor and to the Secretary of State.

What happened:

Twice we suggested that the testing be done at an Independent Living Center near the capitol. Bruce McDannold refused the first time and did not respond the second time.

We arrived at the multi-purpose room on Tuesday at 2:30 or so. The room was set up and the county clerks were setting up stations. Kate McGregor was reading the test protocol.

## Unfamiliarity of monitors with the Vote-PAD

At approximately 4:30, we met with the consultants, Kate McGregor and Paul Craft. They had flown in from Florida that day. Kate mentioned that it was exhausting. We all met together before we left for the day at a little after 5:00 pm. In that time, Paul Craft gave a brief overview of how the test would work.

Dianna commented that the set up seemed like there would be a lot of simultaneous input for participants and could be confusing to them. Paul Craft agreed.

Paul said that he and Kate were going to work that evening familiarizing themselves with the documents Bruce McDannold had provided them that day - including the exit survey that had recently been modified. In response to a question about the process, Paul mentioned that he had only just received the documents and he would be reviewing them. He said they were also going to pre-mark the ballots and write-in sheets for Phase II.

At the end of Day One, Bruce McDannold told our attorney that he was going to have his staff who were acting as monitors run through a trial of Vote-PAD that evening. We don't know if he followed through.

Throughout the test we saw the monitors behave in ways inconsistent with knowing the full instruction script of how users are to vote on the Vote-PAD.

Examples of this include:

- ◆ On Thursday afternoon after testing was done and we were examining the write-in sheets with the monitors, Paul pointed out to us that it is unwieldy for the participant to have to count the contests to mark the appropriate cell on the write-in grid (to indicate which office their write-in is for). However, the instructions for indicating the office to which the write-in applies clearly says "To write-in for governor, mark the first cell, to write-in for Lieutenant Governor, mark the second cell from the left", etc. The participant is NEVER asked to count the races and never asked to return to their ballot to determine which candidate they are writing in for.

*Note 1: One of the common mistakes in the test was that a participant went directly to the write-in sheet without marking the bubble next to the write-in line - disqualifying their vote. If the instructions were being followed, (i.e. vote your ballot and then move to the write-in sheet) we believe this mistake would have been much less prevalent.*

*Note 2: Asking a blind person to move from one medium to another and orient themselves to an entirely separate task without clear instructions and then moving back to the original medium and accurately orienting themselves to that original is preposterous. We see that our instructions need to be much more clear about the order of voting a write-in. Yet, we believe that interference from the monitors overrode the instructions given to them previously by the poll workers.*

*Note 3: Instead of asking the question "Is the write-in process being executed correctly per the design of the Vote-PAD?" the consultants began "stress-testing" this feature using their current procedures. This would naturally increase the frustration of the participants.*

- ◆ In Phase II, the participants were asked to verify an already marked ballot using the Ballot Marking portion of the instructions and not the Verification portion of the instructions. This is a tedious and trying way to verify the ballot because the Ballot-Marking instructions repeat and spell each candidate's name, giving the voter time to mark the ballot. However, at the end of the ballot marking process, there is a simple and fast "read-through" of the races and candidates which facilitates easy Verification.
- ◆ Again, Day Two, 4:11 Phase II, Gina was not using the verification part of the instructions. She commented about the problem of having to listen to the spelling all over again.
- ◆ Consultants pre-marked write-in sheets for the Phase 2 verification in a way that was impossible for participants to verify – the marks were an "X" made with a pen. The wand detects marks larger than 1/16" and these were too small for the verification wand to detect. We told Kate about the problem, but monitors continued to use the flawed sheets for subsequent participants.

## The Testing Experience

In a real election, voters would be taken to a voting station, be familiarized with the device, be given an opportunity to practice, and then left alone to vote their choices. At the end of the voting, writing-in, and verification process, they would be directed to the ballot box and the experience would be complete.

In this test, the participants were taken to the station and immediately read the confidentiality agreement and asked if they would agree. If they did, the poll worker then proceeded to familiarize them with the device and give them an opportunity to practice. Once the participant was done, the monitor called a poll worker to escort them to the ballot box. Then most times, they returned to the voting station for the exit interview.

The Vote-PAD was not used in this test the way that it would have been used in a live election. The following points support this:

- ◆ Participants were never left alone to mark the ballot independently. They were instructed to call out their intent with each mark they made on the ballot. The monitor periodically directed them to do specific tasks during the process.
- ◆ Many of those participants were blind and using audio instructions delivered through headphones, while simultaneously receiving verbal instructions from a monitor. Others were reading Braille while the monitor instructed them on the tasks to perform.
- ◆ Participants (even blind participants who were new to the Vote-PAD and navigating only through tactile and audio input) were periodically directed to skip a race, vote another two or three races, and then go back to the skipped race. We observed at least two instances in which the participant (one blind) was then asked move forward and find the place where they left off.
- ◆ In addition to these instructions, we observed some monitors interacting with the participant virtually the entire time. They assisted participants, gave feedback on the accuracy of their marks, and made suggestions such as turning the write-in sheet over and writing on the back.

- For example, one monitor, Paul, was observed telling a blind participant that he had overvoted in the Governor's contest before the participant had used the verification wand to review his ballot.
  - Another monitor, Miguel, was observed contradicting the poll workers' instructions to wait until the end to complete write-in sheets, by saying, "Now, write in a candidate for this race using the write-in sheet." He also told her there was a write-in sheet for that and showed her where it was.
  - He was also observed spelling the name "Cruise" for the participant.
  - On the other hand, other monitors, such as Kate, called a poll worker when the participant had a question, as we had been told the monitors would do.
- ◆ During the testing, participants were directed to write-in a candidate in a way that encouraged them to stop voting on the ballot and produce a write-in sheet. Monitors directly contradicted poll workers and Vote-PAD's overview instructions that encourage the voter to vote all the way through the ballot, then move on to the write-in sheets. At one point, Armand (a blind man) got to the write-in instructions at the end of the ballot contest choices and said [paraphrase] "I wish I had known these were here, it would have been so much easier with this information."
  - ◆ In Phase II, monitors assigned blind participants tasks that voters would never do in a real election.
    - They were asked to verify a ballot they had not marked.
    - They were asked to verify a write-in sheet they had not marked.
    - They were asked to verify a write-in sheet without knowing the name of the candidate indicated on the sheet. At least one participant simply declined to attempt.

Other testing experiences to note:

- ◆ At one point, directly after a write-in execution, when the blind participant (Armand, I believe) returned to continue marking the ballot, Paul Craft told him he had not returned to the correct place and was now mis-marking the ballot. This happened before Armand had the chance to discover his own error.
- ◆ Once just after the monitor, Paul, told Armand that he made a mistake, Bruce McDannold went over to the testing station and interacted with Paul during the testing.
- ◆ One blind woman was accompanied by her 11 year old granddaughter, who sat at the testing station beside her while she did the test.
- ◆ In Phase II, one blind participant, Dan Kysor, on the first day said, "There should be a verification part on the tape without the spelling, etc." He also was surprised that the wand verified a candidate that he did not choose. The monitor said, ["You are not verifying your ballot. This is a separate ballot." ] His response: "Oh, I thought I was verifying my ballot." (paraphrase).

*Note: This suggested to us that he was not given an opportunity to verify his own ballot in Phase I, rather than that he chose not.*

- ◆ On Day one, after noticing that they were not telling the Phase II testers the name of the write-in candidate to verify, we pointed out to Bruce that this was a very difficult and unrealistic task. He agreed to change the protocol so that Phase II testers would be told the candidate. At 11:10 on Day Two, during Phase II, Tiffany, a blind woman inserted the wand into every cell of at least the first few rows.

*Note: This suggested to us that she was not told the name of the candidate she was looking for.*

- ◆ One man at 11:04 on Day One in Phase II was asked to verify a write-in sheet he did not complete. He said "I can't orient myself to this write-in and find marks with any confidence." He then declined to do it. His exit survey was administered by Kate after Phase II.
- ◆ On Day II, at 2:03 a visually impaired person was asked during Phase II to verify a write-in candidate without being told the name, and said "I can't do this."
- ◆ At the end of the day on Wednesday (first day), Dero and Carolyn (poll workers/county clerks) reported that Bruce McDannold came over to them and said that the write-ins were a "disaster". The next testing day, participants were asked to produce three and four write-in sheets rather than the one or two they were executing on the first day.
- ◆ Some participants used the wand during the ballot-marking process. Bruce McDannold told us that many were so fatigued by the ballot-marking that they chose not to verify their ballots. Nevertheless there were many blind people who agreed to perform Phase II.

## Participant Responses to the Experience

- ◆ One of the prevalent complaints that Bruce McDannold mentioned to us was that participants were "overwhelmed with instructions," experienced "voter fatigue" and were too worn out to go back and verify their ballots with the verification wand.

## Participant Screening

- ◆ The Secretary of State's office screened and scheduled the participants.
- ◆ Certain disabilities advocates including Ana Acton (FREED) and Margaret from PAI (Protection and Advocacy, Inc) were scheduled as participants. These are people that Bruce McDannold knows. Ana is on the Secretary of State's advisory board, and Margaret is one of the leaders of PAI, which is included in the open house held after any equipment testing for people to come and evaluate the equipment.
- ◆ With regards to Ana Acton and Margaret, Bruce McDannold said they are...."used to coming in and representing various disabilities - they haven't done this before - they are not coming in as themselves. Our job is to keep it from contaminating the data."
- ◆ While both women are in wheelchairs, both Ana and Margaret have sufficient use of their arms and eyes to mark a ballot without assistance.
- ◆ When Dianna demonstrated the Vote-PAD in Nevada County several months ago, Ana Acton refused to attend the demo. A few weeks later we were told by a worker at an Independent Living Center in Humboldt County that Ana had called the Vote-PAD "the equivalent of an eighth-grade science project". During her testing experience, she asked questions as an evaluator would, rather than simply behaving as a participant. We told Bruce McDannold this and requested that evaluators' participation not be included in the results.

- ◆ Later we heard Bruce McDannold explaining to Margaret and several other participants – before they began testing - that what they were here for was NOT to evaluate the device but to participate in the testing. Nevertheless, Margaret, like Ana, asked questions as an evaluator would. Even though she is not blind, she had ear phones on during her participation and used the verification wand. She also took notes in a notebook on her lap.

Bruce McDannold confirmed that these two would not be considered as “participants” and that their exit surveys would be discounted. He also noted that they were used to coming in to evaluate systems, and had never participated in this type of testing, so they had their role confused.

- ◆ Three of the participants had enormous difficulty scheduling themselves to come in and test the product. Two of these three people had heard about the testing from us before we were told to stop publicizing. Both reported to us that they called multiple times to try to schedule appointments. It was not until we intervened that they were given a testing time. The third person showed up on Thursday (day two) at noon saying that she had been trying to schedule an appointment to test, but that no one had ever gotten back to her. She was turned away at the door because it was lunchtime and asked to come back at the end of the day (4:00).

## Exit Surveys

- ◆ While the initial test protocol did not explicitly say that exit surveys were taped, before the start of the testing, we requested that they be included, and Bruce McDannold agreed.
- ◆ The exit interview of Shirley (stroke victim) was not taped. Shirley is quite old, has little use of her arms, and her speech is very difficult to understand. During her exit interview, she called on Ana to help her, which Ana did.
- ◆ When we noticed, early on the second day, that one participant had not been taped during this phase of the testing, the videographer replied “We are not taping the exit surveys”. Randy Riddle (our attorney) brought this to Bruce’s attention right away and Bruce cleared up with the videographer that, indeed, the exit surveys were to be videoed. Bruce then came to tell us that some of the exit surveys had not been taped, but they would enforce that practice throughout the rest of the testing.
- ◆ At 9:35 on Day Two, voter number 202 mismarked the ballot and caught it himself. His exit survey was not taped.
- ◆ At 10:38 on Day Two, Mike Collins from California Disabilities Rights with manual dexterity issues voted – his exit survey was not videotaped.

## Other Notes

- ◆ One man in a wheel chair and dexterity problems said he could not hold a pencil. Bruce McDannold came to get me to talk to the man. I suggested that he use a pen in his mouth, and he said that wouldn't work. He refused to try.
- ◆ One man with neither arms nor legs marked his ballot successfully with the Vote-PAD, using a pen in his mouth and his teeth to turn the page-turning aids.

- ◆ One staff member used a blindfold to “test” the device without the monitors. We don't know whether or not she has input on the staff report. She said that after a couple of contests to orient her to the way it worked, she did fine.
- ◆ Early on Day One, Bruce McDannold told us that some staff members who have input into the staff report would be testing the Vote-PAD with a blindfold on. We objected several times, saying it was inappropriate and not in the test protocol. It did not occur.
- ◆ The observation area was set up in a way that did not allow for complete observation. 67% of the testers backs were to us. We were asked to not move around in the testing area after we were specifically told we could (prior to the test) as long as we didn't interfere or appear to be the ones conducting or monitoring the test.
- ◆ Scott Luebking came first as an observer (at 10:25 am on Wednesday), then later as a test participant. (3:08 pm)
- ◆ Parking was awful according to one person who transported participants.
- ◆ Bruce McDannold said “We were testing for the ability to register a voter’s intent accurately.” Also said, “Compressing the schedule much more than we normally would” .... “very real need to get this done.” “95% of elections that are problematic are because of lack of preparation.”
- ◆ Neither a human factors testing expert nor an ADA expert was present to oversee the testing. We were never told that any such expert had been involved, even though we asked if one had reviewed the exit survey.