Highlights of EAC Accessible Voting Research & Development: The Impact on Elections

A NIST/EAC Sponsored Accessible Voting Technology Initiative Webinar

June 20, 2014, 1:30 – 3:00 PM ET

Operator: Ladies and gentlemen, thank you for standing by. Welcome to the Highlights of EAC Accessible Voting Research and Development, the Impact on Elections Webinar. During the presentation, all participants will be in a listen-only mode.

Afterwards we will conduct a question-and-answer session. At that time if you have a question, please press the 1 followed by the 4 on your telephone. You can also submit a question using the chat feature located in the lower left corner of your screen.

If you need to reach an operator at any time, please press star 0. As a reminder this conference is being recorded Friday, June 20, 2014. I would now like to turn the conference over to Shaneé Dawkins at NIST. Please go ahead, ma'am.

Shaneé Dawkins: Thank you (Kelly). Hi everyone and thank you for joining us for the Webinar this afternoon. As you may know, this is the final Webinar for the AVT program from the EAC and NIST. This Webinar is where the PIs of the AVT grants will present their sub-grantee research and results and how that work can be applied to upcoming and future elections.

So on the schedule for today; I'm Shaneé Dawkins as you heard. We'll have opening remarks from Pat Leahy who is the Senior Advisor at the EAC followed by Juan Gilbert who is the PI for the RAAV grant which is the Research Alliance for Accessible Voting. That grant went out to Clemson University. Juan Gilbert is now at the University of Florida.

Then we will have Daniel Castro who is the PI for the AVTI grant initiative for ITIF, that's Information Technology and Innovation Foundation and then we'll close with Sharon Laskowski who is a Group Leader here at NIST who has worked since the beginning of HAVA on usability/accessibility of voting systems.

We really would like to have everyone participate in the live discussion and the Q&A at the end of the webinar. We'll have a good 20 to 30 minutes for everyone to just talk and share ideas and share information so please participate in that as well and then I will close with some final remarks so to start off we have Pat Leahy.

Pat Leahy's career encompasses service under members of Congress, a Cabinet Secretary and currently the U.S. Election Assistance Commission. Pat serves as Senior Advisor at the EAC where he leads policy initiatives and outreach efforts. Academically he graduated with honors from Millersville University in '97 with majors both in political science and history.

He is also a future MBA student. During his free time Pat enjoys helping our nation's wounded warriors, amateur bodybuilding, swimming, reading and being an avid baseball fan. Additionally he has a guide dog named Galahad who is a seven-year-old yellow Lab. Pat?

Pat Leahy: Thank you Shaneé. Hello, everyone. Thanks for joining us today. If you've been with us before, we've gone through kind of the first slide here, an overview of the project and kind of the pieces that have come together to build the accessible voting technology initiative.

So at the Election Assistance Commission where I am National Institute of Standards and Technology where Shaneé and Sharon work out of and then we've also had Juan Gilbert over at Clemson University and the University of Florida, Daniel Castro at Information Technology and Innovation Foundation.

All those pieces have come together to build what I think is an extraordinary team who have come up with some great results for this project. When you look at it on the results side, over 50 initiatives producing research and development [came] out of this grant.

I think that's just very impressive and something that we can just continue to build on moving forward as the information gets out there. They've been able to do a number of pilots across the country and a number of election jurisdictions and kind of really kind of get the word out on the different technologies and you'll hear more about that from them today.

And when you look at it, it's been a number of different areas. I mean, you'll hear it from Dr. Gilbert and Mr. Castro but anywhere from helping wounded warriors navigate the voting process to enhancing, improving and really just getting into the field prime three which is Dr. Gilbert's system.

I know that Daniel's team had a number of great successes on looking at ways to improve ballot access and have premarketing for the ballot ways to really have a ballot that comes to life. They had something called the Anywhere

Ballot so when you look at it over 30 projects from Dr. Gilbert, over 15 from Mr. Castro and it's just been a pleasure to work with them.

And then on my last slide here what gets me really excited when I look at what they've done and the things that we've accomplished together, I look at opportunities. What are the opportunities for the future?

And we can talk about it today, ways to promote the findings whether that be in a report which we've done some of already, symposiums where we can kind of demonstrate the research and the development, getting it out there, making sure that people know what we've done and what the subgrantees have done along the way.

Fostering future pilot projects, I know that Dr. Gilbert and ITIF have some plans to look down the road and how are the opportunities and the ways that we can get future pilot projects out there for the polling place, for the elections process.

And then identifies ways to move this research, this development into tech transfer which is the ways to get it into election machines, into election systems to balance design, voter registration whether that be someone who needs help reading the ballot, someone who needs help navigating the process. Maybe it's a language barrier.

So for me it's been a very personal project. It's been great. I have a guide dog. I'm blind and you never know what the project might be that you tackle that can touch someone that can really improve the process moving forward.

We've already we've come a long way since the adoption of HAVA, the Help America Vote Act but we have a ways to go and you just never know what

that project might be. I know I use an iPhone and have voice-over on it and a new app came out recently that allows me to point the camera and just about anything and it tells me what it is.

That's not a voting app but it's something that's practical and I'm positive that something exists within this project, maybe several, maybe a couple dozen small initiatives that are going to advance voting and bring us further along as we move forward.

So thank you for joining us and just thanks again to our team who have helped support this project but I don't think this is the end. It maybe the end of the project kind of just from the funding side but as far as the promotion side, the getting the results out there and incorporating them, I think our work has just begun.

Shaneé Dawkins: All right, great. Thanks Pat.

Pat Leahy: Thanks.

Shaneé Dawkins: All right so next we'll have Juan Gilbert. Dr. Juan Gilbert is the Andrew Banks Family Preeminence Endowed Chair and the Associate Chair of Research in the Computer & Information Science & Engineering Department at the University of Florida, where he has a much longer title than he did at Clemson. (laughter)

There he leads the human center computing lab. He's the PI for the research alliance for accessible voting known as RAAV. Juan?

Juan Gilbert: Okay, thank you Shaneé. All right, so I have a lot of information to convey in 15 minutes so I'm going to get through it and hopefully if you have questions

we can come back to it at the end so I'm going to highlight each of the subcontracts and the projects that we worked on.

So starting with the Association of Assisted Technology Act Programs, this particular group worked on demonstration and training that was conducted in six states through their accessible technology programs in those states and what they did they took accessible voting systems and did a demo or training on that machine with participants in their polling place or somewhere in that state.

And they were using the machine that is actually the accessible voting machine for that particular polling place so the demos were done by an accessible technology specialist. They had 506 demos and 64% of them had people with visual limitations, motor, intellectual. They covered the gambit and 47% were seniors, 36% middle-aged and 17% young adults.

So the results of these demos and the training were that the time it took for an individual to become independent with the voting technology varied from one to two minutes to 25-plus minutes and in some cases they never became independent with the technology.

And if you look at the breakdown here, we have 51% became independent in one to four minutes, 34% of participants in five to 14 minutes and 15% took 15-plus minutes or didn't become independent.

And they actually allowed people to give their opinion and they did a pre and post-analysis or survey. In the pre-demo they had a 4.47 saying that they were not comfortable with the technology and then after the demonstration an 8.02 saying they're very comfortable.

So they saw an increase after giving a demonstration that allowed them to use the technology. Essentially the data analysis the results here tell us that these accessible voting systems tend not to be intuitive. They're not easy for all voters and you cannot expect poll workers to provide demonstration and training during a busy election day.

That won't go very well and in general voters with disabilities will take more time to complete their ballot using any accessible voting system so these kind of training systems are helpful in getting people up to speed but it also shows that it just takes more time.

Some of the recommendations that came back were larger text displays. That was a major issue, the screen size or text display size. Larger screen touch screens, strike areas, make those larger. Improve the audio navigation and instructions and improve switch input navigation as well.

So now I'm going to transition into the election center and the election center they put up a quote here, kinds of disabilities, a disability that impacts an individual's ability to access, process or remember information. What the election center did for us was a number of things.

They held meetings with election officials that the RAAV team would come to and show our technologies or techniques and get feedback from actual election officials and so they came up with these some guidelines to make voting more accessible in particular for election officials and poll workers.

So some of the tips were speak directly to the voter, use words voters understand. Write in an active voice to help voters use the information and avoid or explain election terminology.

And there's a whole list of words that voters may not understand or find confusing such as absentee ballot, legislation, primary election, provisional ballot, rank choice voting. These are some terms that could be confusing for voters.

So just summarizing real quick, the election center conducted several meetings with multiple election officials were we were able to collect data and establish pilots and do a lot of different projects and experiments.

Paraquad: Paraquad focused on poll worker training and their primary goal was to develop and improve poll worker training to better meet needs of the disability community so they sent out voter experience surveys. They had phone surveys of 1200 voters with disabilities in Missouri and Tennessee.

They did county clerk interviews. That was the face-to-face interviews with 10 in Missouri county and they put together this election day picture guide to help with training and so that guide and those training materials - just some pictures here - of a couple of snapshots that had lesson plans and handouts and checklists for poll workers.

They even had simple PowerPoint slides and notes that they could refer to and these were in response to the data they collected from those individuals in the initial study and here's a picture of the pilot picture guide. This shows you had pictures where they actually circled in red and provided arrows to point out different things to assist the poll worker in training.

Some of the general findings, poll workers find it helpful to have a variety of training methodology and materials. Election-day picture guide was very well-received and used by the poll workers. They had 51% use a picture guide and 90% found it helpful.

Now that picture guide has in it voting machines, polling place setup, curbside voting and other things. The majority of it is voting machines, about 47% of it. Rutgers so Rutgers did a 2012 post-election survey and this survey oversampled people with disabilities. They sampled 3022 adult citizens with 2000 with disabilities and 1022 without.

The survey was conducted by a professional survey firm with basic voting questions based on the U.S. Census. Now 30% of voters with disabilities reported some type of difficulty in voting at a polling place in 2012 compared to 8% of voters without disabilities.

Another finding was most common problems were difficulty in reading or seeing the ballot, understanding how to vote or using voting equipment and then obviously long lines. We heard a lot about that.

People with disabilities were just as likely as those without disabilities to say they were treated respectfully by election officials and among people with disabilities who voted by mail, about 1/10 reported difficulties and a need for assistance in filling-out or sending the ballot.

When asked about alternative voting methods for the next election, majorities of people both with or and without disabilities say they would prefer voting in person in a polling place which is one of the findings that I thought was fascinating because I always hear people say they want to vote from home so this is a fascinating result.

Some potential solutions and best practices, increase accessibility of polling places and voting equipment, mobile voting, coworker training, voter outreach and education and then he puts in here permanent no-excuse mail voting.

Next is Ted Selker and Dan Gillette. They worked on many projects actually so Ted and Dan worked on these freestanding magnifiers for optical ballot marking and they're testing those. They improve audio ballot techniques. They approve what that had on LEVI the low error voting interface which is actually what we use in Prime 3 and one of our Prime 3 examples.

And I think they're using this in the Maryland overseas voting system and they're doing something with anywhere ballots. They created a Web-based interactive polling place design and management system and that's being evaluated for testing in L.A. County in Missouri.

He created a Scrim, which is a visual-structuring overlay web browser extension, and that's being evaluated by election officials. They created a website, font and color analysis tool so they created a lot of different tools and we're running tests with those tools.

I'm just going to show you briefly here a couple of highlights on some of these things. The freestanding magnifier gave you this magnification and on the slides you'll see picture of that. They improved the audio ballot techniques. They worked on write-in candidates and they published a paper about that which is a challenge so they did a lot of work there.

Again LEVI using LEVI the low error voting interface which again we use in Prime 3 and they're looking at the State of Maryland's overseas voting prototype and they've put video up and he has a link here and their Dropbox where you can go and look at a two-minute video of that.

There's the Web-based interactive polling plan design and management system, gives you some analysis and preparation of polling place layouts prior

to an election, gives you some procedure support for opening polls and closing polls and things like that and again they put a video clip up about it.

So next I have the Center for Accessible Information Lynne Tamor. They created the RAAV Website at accessiblevoting.org and you can go check out that Website with all our materials and updates about our projects.

She also did studies on clear and simple language dealing with using tools like Google Translate to translate clear and simple language versions into Spanish and Korean and some of the findings were that many original voter guide and ballot sample scores at or above the college reading level.

These things didn't do good translations so she gave some recommendations here, provide writing guides to everyone writing materials for voters, to not rely on machine translations for second-language translation of readable material.

All right, she also did some readable instructions for auto-mark ballot marking device. Tennessee Disability Coalition conducted a three-voter experience pilot. They did voter experience surveys, over 500 voters, exit polls, 250 surveys and they did poll watching.

They developed again materials like Paraquad. They worked together actually to develop materials for poll worker training and let's see, some of the findings from their work. Poll workers need more training time. Training needs to be offered through different mediums such as in-person, self-studies, online, etcetera.

They talked about administrators should consider partnering with disability advocacy organizations to troubleshoot budget-friendly and time consuming ways to train poll workers.

And these are all visuals here with election data services. They built in their link in this also the RAAV Website but this is an equipment reporting database so it's a Web portal that allows you to do searches for equipment that's being used in counties in different places.

And so there's like three or four slides here that just gives screenshots of where you could, you know, enter queries and see who's using what particular equipment with and then we did work with Prime 3 at Clemson and now Florida. We did several pilots.

These pilots were elections for example the National Society of Black Engineers is the world's largest student-run organization. They used Prime 3 from 2008 to 2014 in their elections and Prime 3 is an accessible what we call a universal design voting prototype that allows people to vote by touch and/or voice.

And the State of Oregon used Prime 3 in May 2012 in presidential primaries. Self Advocates Becoming Empowered is an organization of people with connective disabilities, they use Prime 3. They're going to use it again this year and we did a mock election at Clemson elementary schools with Prime 3 to test to see if people that could not read could actually vote.

And on April 1st we did an election in two counties in Wisconsin. They used Prime 3 and their local election officials there actually ran the election and we just provided technical support. There's a report coming out about that.

And so basically some of the things we learned from our pilots, election officials in many cases unwilling to participate because there's huge barriers for them to overcome to do a pilot. Takes a lot of work to convince some of them because of legislation and rules in the state.

It took us a long time to get vendors to realize we're not vendors and competitors so now we're starting to work with different vendors and you'll see designs and technology that resemble the work that we've done and we were able to do these studies and pilots with a very diverse group.

We've had just about every disability use Prime 3 over the term of this grant so that's it and we'll do Q&A a little later.

Shaneé Dawkins: Okay. Thank you. Right now I'm not showing any questions in the chat box so we'll move over to Daniel. Daniel Castro is a Senior Analyst with the Information Technology and Innovation Foundation and Director of the Center for Data Innovation.

Mr. Castro writes and speaks on a variety of issues related to information technology and Internet policy and his work has been quoted and cited in numerous media outlets. In 2013 Mr. Castro was named to FedScoop's list of "Top 25 most influential people under 40 in government and tech." Daniel?

Daniel Castro: Hey, thanks for the introduction and thanks everyone for joining us on the Webinar. So really we enjoyed working tremendously on this project over the past three years. We divided up our projects - switch the slide - we divided up our project into three phases. One we called defining the problem. Second is designing a solution and three looking to the future.

So what we did is we started off by trying to really scope out the size of the problem that we were trying to solve and understand what exactly was happening on the ground today so what we did is we brought together a lot of the existing research as well as doing a review of what the state of the art was in existing election systems.

And all of the information that we produce from this is available on our Website which is up here on this slide election site iask.org where we summarize all of our findings. Our goal is really to make it much easier for any researcher that wants to come in after us to pick-up and build from where we left off.

So one of the projects that we had was at the University of Washington where our team reviewed the accessibility of existing voting systems. They spent a lot of time looking at different systems that are in use today and that have been designed in the past and they identified a number of examples of poor accessibility or usability problems that could be improved in future systems.

And, you know, there were a few key items that kind of came up a lot. One was configuring the system. A lot of times you actually configure the system to make it accessible will require assistance from poll workers and the idea is that, you know, the entire voting experience should be accessible from beginning to end.

Another problem that came up a lot was confusing keypads or keypads that had unusual layouts or had keys that were hard to use. Another issue was on the instructions. Often the instructions would either be repetitive or confusing or the system would lack context appropriate help functions.

Another area that was found to be a problem in pretty much every system we looked at was difficulty designing a write-in system that was usable for a wide range of individuals and this is actually a research problem that we tried to tackle a little bit in some of our projects.

Two more issues that came up. One was poor design for privacy when using the accessibility features of a voting system. The last one is just that there's a lot of inconsistency between systems so voters that were learning how to use a particular system would struggle when they were moved to a different one or when there was an update or their voting system was replaced.

So we also pulled together statistical research and we actually looked at the barriers to political participation for people with disabilities. This was led by Thad Hall and Mike Alvarez and what they did is they pulled together data to see the influence of the different policies - state policies had - on voters.

And what we've seen is that, you know, as we know there's been a gap in participation but actually this gap has narrowed over the years so people with disabilities still are less likely to vote than people without disabilities but what was really interesting is that, you know, states that have made specific changes to election processes to make elections more convenient for everyone actually helped people with disabilities significantly.

In particular there are two policies that really in my opinion at least, you know, no state should not be pursuing and one is no excuse absentee balloting meaning that anyone can vote absentee and having permanent absentee voting lists meaning that once you sign-up to be an absentee voter, you continue to receive your ballot by mail if that's how you ask for it.

For every additional election, you don't have to go back through the process and re-sign-up every time. Their research found that both of these measures had a, you know, tremendous effect on the accessibility of elections.

In addition to kind of the high-level statistical analysis looking at Census data and other surveys, we also had a team do ethnographic research so they spent time with voters and they got to understand their specific experiences of voting in elections, sometimes even accompanying them when they went to vote.

And this research, you know, identified, you know, a number of key areas where, you know, voters experience difficulties or problems in elections. One is in accessing information so there'll be a lack of accessible information about polling place locations or it'll be hard to find or the sample ballots would be inaccessible.

There are challenges related to actually the kind of human interactions at the polling place so poll workers might have a, you know, a lack of knowledge about the voting procedures or technologies. They might not recognize - the poll workers - might not recognize the needs of specific voters with disabilities.

There might not even be enough poll workers in place to assist voters or there'll be a lack of privacy or voters won't be afforded the independence they ask for. There'll also be challenges, you know, that we found with the physical environment at polling places so they might be hard to reach.

They'll be, you know, stairs or curbs or other barriers and one particular problem that hasn't received as much attention is there'll be, you know, poor acoustics in some of these voting locations making it very difficult to

communicate and also making it a not very welcoming environment for people with certain disabilities especially cognitive disabilities and individuals who have had traumatic brain injury.

And then as I mentioned of course there's a number of inaccessible voting systems and that obviously affects the accessibility of elections so after we spent time on this phase, we really tried to scope-out, you know, where we could have the most impact and where, you know, solutions that might be identified could be applied.

And what we decided to do in addition to funding a series of grants where we made funds available to different researchers to pursue individual projects, we wanted to have a very collaborative approach to how we identified solutions and so we did kind of really innovative projects.

One we launches an open innovation challenge. We did this with the design firm IDEO and the big question we asked was how might we design an accessible election experience for everyone?

And there was a Website and all this information is still available. You can see all the concepts and ideas that were submitted but anyone anywhere in the world could go to this Website and contribute ideas as to how they thought elections could be made better.

They could share their experiences voting or their experiences they had with a child or a parent or a friend and they could make suggestions for how voting processes could be improved. They could make suggestions on other people's ideas.

And there was a series of activities designed to stimulate, you know, creative thinking around solutions here and ultimately, you know, we identified about 10 solutions that were nominated as winners and we went on to actually fund some of these ideas in later research.

We also held a series of accessible voting design workshops at Georgia Tech where we brought together different stakeholders from engineers, designers, advocates, election officials, a whole range of individuals to come and participate in creating solutions in a two-day workshop that we could then develop.

And, you know, the idea of these different activities was to have a very participatory, very collaborative approach to solving some of these, you know, deeply entrenched problems and what we found is that this was very effectively actually to identify what might work and what might not work and then feed this into some of the grants that we later funded.

So one of the projects that we funded is called the easy ballot and this was developed at Georgia Tech and this was also an idea that, you know, was part of the open IDEO challenge and was talked about a bit in some of our workshops.

And that this is an interface - a ballot interface - that was reconstructed so that every interaction could either be entered with a yes or a no so there's no multiple choice, there's no, you know, kind of clicking through a ballot or, you know, having lots of different buttons on the screen.

Everything is presented as yes or no so it required rethinking a ballot into a very linear process and so this project was funded over the course of about two years. It's developed into a ballot that can be used on a tablet.

We've talked to a vendor about implementing some of the ideas in here and they're in the process of integrating some of that and really it's a very novel way of approaching this and what we've found is that this, you know, this ballot was tested with a number of groups.

It's actually very effective when you need a simple ballot and what we found is that you can also pair it with a more complex ballot so that voters can choose which interaction is most appropriate for them depending both on their own needs and the particular election they're voting in.

Another project that we did was the Anywhere Ballot and let me switch to that slide and this was a mobile ballot interface so we had a team at the University of Baltimore that asked, you know, can we design a voting system ballot and interface that's designed for the new type of mobile systems that so many people use?

So it's design specifically for, you know, the iPads, the iPhones, the Android phones, all of these different mobile devices, the Microsoft surfaces that now people are using and it's designed using a system called responsive design so it can be resized based on the orientation and configuration of the mobile device

And the idea is that this is much more user-friendly for users and this was also designed in a process where we had a number of iterations. We did a lot of testing on this with people with cognitive disabilities and this is also available. In fact all of the material that we develop is available as either a creative common license so anyone can reuse it or it's just part of the public domain so anyone can use it without even attribution.

They can just take it, integrate it, build off of it. We want all of our ideas to be out there and available for further development. Another project we worked on was with Michigan State University that was around using a joystick as a control for voting systems.

This was another subgrant that came out of our competitive process where we had first a team of Engineering 101 students look at how they can improve accessibility in elections and then they kind of asked the question, you know, what can we use as a universal controller?

And joysticks hadn't really been considered although joysticks are used very commonly with wheelchairs and also in gaming so that most people actually had experience with this.

So what they did in this project was actually looked at how they could, you know, create a joystick that was very appropriate for elections and different things like what kind of buttons to use with it, how they could configure the joystick so it provided haptic feedback so that you could feel how you were moving along the screen.

They wanted to control the movements so that, you know, people with different levels of dexterity could use it as well as how they can mount it so that it would be appropriate in different configurations and so this was another very successful project that came out of this.

Another kind of hardware-based project that we did was at Georgia Tech Research Institute where they asked the question can we create a case for an iPad or other tablet that would make it so that these devices could be used in elections in a more accessible way?

The challenge with using tablets in elections is that they, you know, they require the user to hold them. They're not necessarily secure because they can be turned on and off. You can access, you know, other parts of the device so they wanted to create something that would, you know, retain the accessibility benefits of the table but also build on that and add to them.

So they created what was a very lightweight case that has a built-in stand that has an integrated and retractable keyboard, has an input for a headset and a switch that you can have different types of input.

It's also the way it's designed you can actually use it in different configurations so you can have it setup for example on a table. Somebody that wants to use it there, you can make it mobile so you can bring it to someone for example in the hospital and all of this was to kind of improve what is already existing.

This iPad case we actually made all of the design files - the CAD files - available electronically so that if anyone wants to build off of this, they can actually go out and manufacture themselves.

In fact much of the device can actually be recreated using a 3-D printer and so all of that material is available online. I think this is the first time that we've kind of integrated 3-D printing into the actual, you know, election process.

We also had a number of software-based tools so we created a Web-based voter guide for people with aphasia at the University of Maryland Baltimore County. This was basically a voting guide that could be annotated so people could at their leisure, you know, figure out who they wanted to vote from the comfort of their home or workplace, annotate that, add that information and bring it with them to their voting booth.

And we had a number of similar projects like this, one at CITRIS where it was a voter guide focused on people with cognitive disabilities. We were really looking at how we could take information that's made available and present it in a simplified manner.

We also experimented, we had a group called Apps for Android that developed an election data look-up tool. So there are some efforts to make, you know, voter information available just the raw data and we wanted to create a very accessible interface for that data.

The project itself was very successful in developing an interface, but what we found is that the election data itself is not yet fully complete and available in a way that is, you know, really useful to voters and so this is an open problem that we would like to see addressed in the coming years because if you don't have the complete data, building the interfaces for it, it's less compelling.

We ran a few pilot projects so we had a pilot project run through UC-Berkeley that was looking at supervised voting for people in (group living facilities). In this project we developed a number of best practices for how election officials should engage with the different long-term facilities.

We also did an evaluation study were we looked in Colorado in Denver County we looked at how iPads were being used and we looked to see specifically what the voter experience was with them and what the experience was of the election officials.

It was actually very positive, more positive than we even anticipated and it showed that there were though a number of specific issues that could be addressed for any county that wanted to pilot an iPad.

There were simple things for example. A lot of people have dry skin. If you have dry skin, you have trouble touching the iPad and having your touch be registered so simple things like actually having moisturizer available for people made a difference.

The last stage of our project is really looking to the future so we're trying to make sure that we have an impact not only on today's projects but also kind of going forward so we created a few deliverables that will hopefully aid in this process.

One we created an online training course for poll workers. This grew out of some of the ethnographics that we did so we basically created a module that can either be used in a standalone way, it can be used independently or it can be used - these lessons can be integrated - into existing poll worker training and it's all around how poll workers can interact with people with disabilities.

We're really hoping that a number of state and local election officials will adopt this and integrate this into their curriculum. Again all of the material is fully available and can be adapted to use however anyone wants. We've also created an online course on universal design for building system developers.

The goal here is to bring some of the lessons that we've learned outside of the voting space on how you build accessible technology and making those lessons available for anyone designing voting systems who maybe haven't been exposed to that in the past so new researchers and existing vendors. Finally we've put together a few publications.

One is "50 Ideas for More Accessible Voting". This captures many of the ideas that were generated in our open IDEO challenge and in our workshop so

this is just a simple guide to many of the different ideas just quickly highlighting the specific problem we identified and the specific idea solution that we have and we're hoping that these ideas are just out there for people to build on.

And lastly we have a report, "Innovations for Accessible Elections" that we just released last month and this kind of recaps all of the findings at a high level that we achieved in this grant. I think it makes it pretty simple in that it kind of points you on our Website to, you know, all of the additional research where we go in-depth if you have questions on any of these items.

And again just all of the information from this research both the kind of technical white papers we've produced, the peer-reviewed research, all of the code that we've developed, all of the, you know, the CAD files, the 3-D printing files, everything is up on our Website.

We're encouraging people to just, you know, take this and build on it and here is my contact information if anyone has specific questions after the Webinar but also happy to do any questions.

Shaneé Dawkins: Okay, thanks Daniel. We do have one quick question from chat, and I believe it's related to the Anywhere Ballot out of University of Baltimore and Susan Greenhalgh asked if you could provide more details on the mobile ballot and she specifically asked how was the iPad ballot counted?

Daniel Castro: Yes, so to make that clear the Anywhere Ballot is just the interface. The idea is that this is the front end to any voting system so how the ballot itself is counted is up to how it's being processed on the back end so the Anywhere Ballot can be used to for example print a paper ballot or it can be used to, you know, create a fully electronic ballot.

How, you know, what's done after voters' input is captured is up to, you know, whoever's actually designing the voting system so, you know, the idea there really is that this can be used in a very flexible way. The point is that it's very accessible for the end user because it's, you know, it's available on the type of technology that people are familiar with.

Shaneé Dawkins: Great, thank you. Okay, so up next we have Sharon Laskowski. Dr. Sharon Laskowski is a Computer Scientist at the National Institute of Standards and Technology and the Manager of the visualization and usability group.

Since 2002, Sharon has been leading the effort at NIST to develop the accessibility and usability standards and test methods for voting systems in the United States and works closely with the United States Election Assistance Commission.

She and her staff also have research projects underway for biometrics usability, usable security, health information technology usability, and information analysis. Sharon?

Sharon Laskowski: Thank you so much Shaneé so I'm going to be brief because we've heard these wonderful talks. The progress we've made over the past three years with these grants from the EAC has been really tremendous and has really pushed the forefront of improving the accessibility of elections and voting systems.

So I'd like to just talk a little bit about where we are from a kind of birds-eye view and where we've been and how can we transfer these results into practice so very briefly, I always like to put things into a context. In terms of voting system standards for usability and accessibility, we had very little up until the Help America Vote Act of 2002.

The IEEE did a little bit of work while HAVA was getting started and the EAC getting started and then the technical guidance development committee of the EAC working with NIST providing technical support created the VVSG and there's a whole chapter - Chapter 3 - that is mostly best practice and user interface design applied to voting systems and also requirements for reporting on testing with users for the manufacturers to do.

However, the version of the VVSG that was released in 2005, that is VVSG I want to point out is what is currently we're certifying to and although an updated version has gone through two rounds of public comment, it's still waiting on release and the 2.0 which was complete in 2007 has not been implemented.

And NIST has also been discussing with the lab accreditation program - what kinds of qualifications can we do to improve the voting system test labs for better usability and accessibility testing and consistent testing?

So when we were looking at VVSG, we were in a very different world. We really have undergone a transformation of technology in IT accessibility which has profound implications for voting systems as you heard.

So right now we've got current voting systems that are aging out and so the question is how do we move from this focus on the kiosk to commercial off-the-shelf mobile devices and standards for and guidelines for improved usability and accessibility?

People are using their iPads and smartphones. We've got now a number of designs. You've heard about a few of them today for iPads. Some of these

devices have built-in accessibility. There's also new assistive devices, some of the research coming out of this initiative.

Things are being built in terms of Web applications rather than traditional PC-based programming and we've got lots of new best practices for accessibility and universal design. We just know more about the field and these best practices are slightly different for just like mobile design.

So right now we're at an opportunity to transfer all this AVTI research into the next generation of voting systems so certainly to put this into practice we need to inform kind of the next generation of systems and processes and birds-eye view, we know a lot more about the demographics and the population that need accessibility to the surveys.

We've got things that deal with better poll worker education. We know about accessibility needs and assistive technology. We know more about universal design on mobile devices. We know more about clear and plain language and interaction. We've got better designs that apply to a wider range of voters with disabilities.

And we've got new processes and workflow where one could imagine doing a selection of choices at home and bringing-in your choices so that whole selection and thought process and workflow separated from actually going to the polls and submitting and casting your vote so there's lots of possibilities there.

And we've got results from multiple pilot tests in the field and also formal testing with a wide range of voters most of which is coming out of the AVTI program so I think that the next step in addition to the hard work that RAAV

and ITIF have put into their reports and their Website, NIST also has an AVTI portal that points to a lot of this research that we hope to keep active.

In addition to that, we really need to formally look at making usability and accessibility guidelines, new standards and education about this more widely available and a lot of this our hope is we'll go through the EAC.

In addition to, you know, when you think about transition, you also have to think about, you know, the information on cost, the analysis of commercial off-the-shelf issues if they're not directly usability and accessibility issues but to actually do this kind of technology transfer one has to address this for the election jurisdictions.

And also interaction with best practices and security and what are the ramifications so we're halfway there in getting a lot of this technology and knowledge transferred so what about the role of NIST? We've been actively monitoring this research.

We've provided our testing and VVSG expertise and also our medium complexity test ballots which some have used for some of their tests. What we are planning to do is a roadmap for the creation of next-generation guidance standards and education for usability and accessibility for voting with input not just from researchers but from all the stakeholders.

We are building what we call a next-generation voting platform test bed so that we can demonstrate, explore and test new voting system prototypes. We've already started to gather up, in fact, Prime 3 and the Anywhere Ballot, etcetera, for this test bed.

And that allows us to then formally identify best practices across these systems for design. Identify best practices in how you test performance. I know the EAC is very much interested in more performance-based standards and I think there's a challenge in exactly what that means and how do you go about that.

But I think the key here is testing with the voters and a wide range of voters with different needs. This test bed can also be used to identify research gaps, follow-on to the research that's already been completed and answers to specific research questions need to inform standards.

And also it allows you to explore accessible solutions and what ramifications are to say the security issues for example so that's where we are. I'm very optimistic that we can leverage this work to get it into practice.

We already see a few states allowing pilots and considering these so now is the time to try to codify this in a more formal process to help other jurisdictions that don't have the resources or the time to do some of these pilots on their own so we can provide them guidance. That's the end of my talk here. Thank you very much.

Shaneé Dawkins: All right, thanks Sharon so right now we're going to have a session for discussion and questions and oh, and ideas, I'm sorry. I was reading a chat to see if it was a question but it was a comment and so (Kelly) can you open it up for live discussion?

Operator: Thank you. Ladies and gentlemen if you'd like to register a question or a comment, please press 1 followed by the 4 on your telephone. You will hear a three-toned prompt to acknowledge your request. If your question has been

answered and you would like to withdraw your registration, please press the 1 followed by the 3.

You may also submit a question using the chat feature located in the lower left corner of your screen. One moment, please, for the first question.

Shaneé Dawkins: Okay, so as you all start pressing your keypads for discussions and questions or anything you may have so feel free to ask anything or share anything, any experiences you may have, any ideas you may have for future work but right now I'm going to start with a few questions for the PIs.

Something that came up in the EAC roundtable last week was a discussion on pilots in voting and what pilots have been done and what have been the outcomes of those pilots and how can this information be used to inform elections so if we can have let's start with Daniel.

Just talk about some of the pilots that were done in the subgrants or what results from the subgrant research can be used in this upcoming election this year or what can election officials use in future elections down the line so Daniel?

Daniel Castro: Yes, no, thanks, that's a great question. You know, there's a few things specifically from our research. One is as I mentioned the poll worker training. You know, this is an area that, you know, just consistently came up that, you know, voters were saying, you know, often times poll workers didn't have, you know, enough training on how to work with people with disabilities.

And poll workers themselves when we did our interviews with them said the same thing so, you know, it's a very, you know, low lift to, you know, you don't have to necessarily even make a formal requirement that poll workers,

you know, complete the online training that we've made available or, you know, downloaded it and look at it.

You can simply, you know, in many cases just, you know, recommend the poll workers take a look at this information and, you know, complete the modules that they'd like and those especially who feel like, you know, they could benefit from it could pursue it and, you know, over time, you know, we can more formally integrate that type of thing.

We also, you know, have some really interesting recommendations around election officials providing better services to long-term care facilities. We're basically we've developed some best practices and some of these best practices really involve, you know, having poll workers, you know, reaching out to long-term care facilities.

And they're finding the, you know, the facility directors who are, you know, best able to, you know, provide, you know, the interface between the election office and the residents', you know, fear of how they're going to organize visits, you know, give presentations so that they can make sure everyone's registered to vote.

Figure out how they can actually schedule time so that residents who are there who have questions can get their questions answered and so that they can actually, you know, deliver whatever materials they need so that these individuals can successfully complete ballots.

And, you know, this is something that we found was important not only in the pilot that we did in California but this tied-in very much to the work that we did in the military heroes initiative where we found that there were a lot of veterans who were in long-term care facilities.

And there wasn't very strong outreach and that more could be done to just making it clear to both the residents of these facilities as well as, you know, the facility directors what election officials could do to, you know, help everyone participate in elections.

Shaneé Dawkins: Okay, great, thanks Daniel. Juan?

Juan Gilbert: Yes, well we ran a number of pilots. I guess the question is, is there a way to better utilize the information from the pilots or to actually do more pilots? I'll kind of talk to both real quick. We're going to be doing more pilots. The grant is over but we'll continue to do pilots so if there's states or organizations out there that want to test it out, we're happy to do that and work something out.

The information from the pilots, we're in the process of publishing that. The Wisconsin pilot they're putting together a report that will be released as well so we like to document the pilots and we're actually working with the individuals or the organizations to put together that documentation.

So we're getting it out there. It's just and if you need more just contact me directly and I can get anything from our pilot or any of our partners.

Shaneé Dawkins: Okay, thank you.

Pat Leahy: And Shaneé, this is Pat. One thing. That question from last week's roundtable made me think of something and I'm not sure where we are on this yet but it's something that jumped in my mind was a way for folks to come and see what pilots are available to them.

So I'm playing around with it but anybody who has some feedback on that but I can see a situation where election official would be interested in doing a pilot on Prime 3 or doing a pilot on whatever the technology might be but just not sure what's available to them and how to reach that individual and maybe there's a way to provide a platform for that information.

Shaneé Dawkins: (Kelly) do we have anyone on the line to share a comment?

Operator: Ladies and gentlemen as a reminder if you'd like to register a question or a comment, press the 1 followed by the 4 on your telephone.

Shaneé Dawkins: Yes, so you know, the pilots in having maybe a list of the pilots available to them, I think that part of that is getting these reports out there and from, you know, Daniel and Juan and after the Webinar they'll be posted on the AVT portal and also NIST is going to compile a report of, you know, the accessible voting work that's been done under the grant and some of the work that we funded here as well.

So that should be a good resource for those election officials who are interested in doing...

Pat Leahy: Yes, that's exactly what I was thinking of so that's really good.

Shaneé Dawkins: ...election officials that are on the participating in the Webinar. It would be great to hear your opinion and hear about this from your perspective and (Kelly) can you repeat what that was again to comment?

Operator: Yes, to register for a question or a comment, you press the 1 followed by the 4 on your telephone and we do have a question.

Shaneé Dawkins: Okay.

Operator: It comes from the line of Noel Runyan. Please proceed.

Noel Runyan: The name is Noel Runyan and in response to poll workers, county clerks and others who have said after doing all this work setting-up a system of accessible terminals in the polling places to have nobody show up to ever use them and I've asked them what did you do to in public outreach and usually there's nothing.

Did you guys investigate the public outreach and public information about the polling place accessibility and what tools do you think they could use to help inform the public better about what accessible equipment is already out there? Thank you.

Daniel Castro: This is Daniel Castro. Great question, I mean, I agree with you so in some of the work that we did, you know, that type of issue came up where, you know, voters simply aren't going to make the trek to a poll site if they don't know what to expect when they get there and if, you know, their expectation also has not been met in the past.

So in one of the, you know, interesting results we found from actually the military heroes initiative we went out and we looked at, you know, what the 50 states were doing in terms of providing information about accessibility in the polling place and, you know, some had actually kind of gone above and beyond, you know, the baseline which is just to say, you know, we have accessible system.

Please come out and experience it for yourself, you know, for example one state and I forget which one it basically had for example photos and detailed

information about what to expect so that, you know, the voter would know ahead of time for example where accessible parking was, how they would get from that to the polling place.

You know, information, you know, detailed information about the, you know, the equipment that was being used, about, you know, what phone number they could call if they had questions, you know, just really making it very informative.

And you know, that's ultimately, you know, the minimum that any state should be doing I think in this area but as we saw there's really a gap I think between where we are and that even minimum baseline.

Juan Gilbert: This is Juan. I would echo the same thing. In our research though what one of the things we're promoting is that you don't you get rid of the accessible voting machines and have a universally-designed machine so now you only have one machine that everyone votes on.

So it's every machine is an accessible voting machine essentially and that eliminates a lot of these issues that we've seen.

Shaneé Dawkins: Okay, thank you. Does anyone else have a comment on that, Sharon or Pat?

Operator: Ladies and gentlemen as a reminder if you would like to register a comment or a question, press the 1 followed by the 4.

Shaneé Dawkins: Okay, do you all from your - all meaning Daniel and Juan - from your subgrants have anything that you have seen from them or any results that can be used to improve this election this year?

Juan Gilbert: Well from our side update the materials that Paraquad and Tennessee Disability Coalition has developed, those things could be used I think from information that from Diane's study, ATAP about video training. That stuff could be done so there's different pieces I think to be used almost immediately. It's just a matter of election officials saying they want to try it out and do it.

Daniel Castro: Yes, and I'll echo, I mean, again you know, the examples I gave before, all of that is, you know, those are things that can be done today and, you know, what we've found is that, you know, election officials that want to experiment with new technology, you know, they now can go back and see lessons learned from others that have piloted these technologies so they don't have to, you know, start from the beginning here.

They can, you know, build on the lessons that others learned so if they want to, you know, have an iPad in the polling place they can, you know, they can see what worked and what didn't work with that so there's, you know, there's no need to go back to the beginning on some of this and then again, you know, there's just a lot that they can do.

The one other thing I'd mention, you know, the kind of open participatory design process that we used is very much something that, you know, election officials can duplicate on, you know, even a smaller scale. They don't have to go for a grand redesign of their elections.

They can simply, you know, have a day, you know, focused on, you know, bringing-in different voters, bringing-in technologists and getting them together and what we found is that, you know, there's a number of activities that you can do that really create, you know, constructive dialogue about what can be changed in, you know, very easy ways.

We'd encourage people to take a look at our 50 ideas for more accessible elections. All of the materials that we use to stimulate brainstorming during our workshops is available and can be built-on so any election official that wants to, you know, seize on this issue and really work on it making it tangible improvements and then the actual election can, you know, build on a lot of what we created in this past year.

Shaneé Dawkins: Okay.

Pat Leahy: That is a really good question there Shaneé and I think that Daniel and Juan highlighted well what the contributions are immediately. I mean, I can even think of the online courses, the training. There's a lot there for this fall.

Shaneé Dawkins: All right. Okay, (Kelly) do we have anyone on the line?

Operator: We have no further phone questions at this time.

Shaneé Dawkins: Okay and to ask a question on the phone they have to press...

Operator: 1 followed by the 4.

Shaneé Dawkins: ...1 followed by 4. Okay, so I know there are a few of the subgrantees actually on the Webinar and I would like to ask, you know, Juan and some of those other subgrantees what are some of your challenges or opportunities moving forward now that the grant has ended and I'd really encourage some of the ones on the call to voice their opinion on this as well so Juan?

Juan Gilbert: Well moving forward we're going to continue doing pilots. There are a number of states and organizations that have asked already how do we get a pilot? How do we test this out?

We are actually now working with vendors. Vendors are looking at the work we're doing. As I mentioned like Ted is working with Maryland so a lot of our activities are continuing.

The funding ran out but some other entities are picking-up the funding or we're using the momentum from the funding to continue these efforts so a lot of things - my advice would be - don't assume we can't do something. Definitely ask.

Operator: We do have a phone question that's coming from Adele Eisner. Please proceed.

Adele Eisner: Thank you. Sure, my name is Adele Eisner. I'm in Cuyahoga County and a veteran election observer and an election integrity advocate. I really appreciate this seminar. I have a few questions actually.

One is regarding the simple, plain, direct language issue and I'm wondering how that can get across to legislators, for instance we just had a - new for everyone, not just people who are considered in some way disabled - I think it's important for everyone given the fourth to sixth-grade average adult reading level.

And we recently in Ohio had new legislation regarding provisional ballots where the language even though it was brought to the legislators' attention, the language was not changed and I used to be a sixth-grade teacher for many years and it's definitely well above sixth-grade reading level.

I'm wondering how this can get through to actual legislators who in many states actually control the process.

Shaneé Dawkins: Thank you Adele for your question. Anyone care to comment on that?

Pat Leahy: It's a really good question. This is Pat over at the Election Assistance Commission and something that I know, you know, for example Dana Chisnell has done some work in this area and she was one of the subgrantees on the side of Daniel.

The idea of making sure that a ballot is something that's very usable and very user-friendly and I think it falls into the category of just promoting our findings and promoting what we've done because that certainly falls under it.

Sharon Laskowski: This is Sharon. Let me add to what Pat said. I think that as these reports are written-up and they're definitely amongst some of the testing that has been done, there's research to back this up and so hopefully as this research gets promoted more heavily, there'll be sort of ammunition to use to make the case from actual data that is important to use plain language and there's lots been written on it, lots of guidelines.

So if we can couch some of these reports in terms of elections and what the data says, that may help people convince the legislators to pay attention to this.

Adele Eisner: May I ask one more question?

Shaneé Dawkins: Sure.

Adele Eisner: Great. I also I'm very interested in this certification process right now and I'm going tangential to this particular seminar but I just became aware of this seminar and then aware of the earlier June one regarding the certification process and I already typed-in a question.

Is there a different way of accessing the archive of the video of that Webinar or that roundtable because I'm...

Shaneé Dawkins: The EAC roundtable that was held last week, is that what you're speaking on?

Adele Eisner: ...yes, yes.

Pat Leahy: Did you have trouble accessing it or have you gone to - it's up on our Website - I'd be happy to send you the link or if you want to e-mail me, I can forward you the link to it. It's up on the Website.

Adele Eisner: Yes, my wariness is that in order to view it, the only viewer that seems available is the Windows media Silverlight player and I read the licensure and the licensure, you know, they disclaim all warranties that this is of use, etcetera, and they talk about how they'll share your information and I'm not sure if it's something I want to put on my computer.

Pat Leahy: Okay, well let me check into that. Could you e-mail me and I'll see if I can troubleshoot that for you?

Adele Eisner: If you...

((Crosstalk))

Pat Leahy: Sure, sure.

Shaneé Dawkins: I just put the e-mail address on the screen so all of the contact information for each presenter is now on the screen.

Adele Eisner: Great, thank you so much.

Pat Leahy: Yes, just shoot me an e-mail and we'll see what we can do.

Adele Eisner: Thank you very much.

Pat Leahy: Sure, sure, yes, I had a quick question so both of our intermediary grantees there, they're a bit modest and they've done a great job and there are two projects that just jump out at me when I look at it as far as what they've accomplished.

One is on Juan's side obviously is improved, enhanced and just really grown over the past couple of years and then on Daniel's side although it's not part of this $7 million it was part of the grant funding or the funding, the million dollars we received from Congress was their military heroes initiative.

So if there aren't any other questions, it would be great to hear like a one minute from each of them on those projects but if there are then I'll let the other questions kind of go first.

Shaneé Dawkins: (Kelly) do we have any other questions?

Operator: We have no further phone questions at this time.

Shaneé Dawkins: And I don't see anything in the chat window. Let me scroll down. Yes, nothing in the chat window so okay, Daniel?

Operator: We actually do have a follow-up question from Noel Runyan. Please proceed with your question.

Shaneé Dawkins: Okay.

Noel Runyan: Thank you, this is Noel Runyan and again I'd like to add-in my thanks for all the great work you guys have all done on this. In regards to those things that could be done to try to improve the elections immediately, I would like to cite the fact that in my 15 attempts to vote on electronic voting systems, only three of those times have the poll workers actually been able to make the system work by themselves.

And they also had never set the system up before I arrived at the polling place and what I've found in my own experience as well as many others is that one of the things that could make the biggest difference in the reliability and the ability to use the current systems would be a requirement that the accessible systems be actually up and working before the polls are opened.

And that up and working means including following a ballot all the way through to where it's talking and that would require in some case some implementation of new rules that would allow a ballot to be wasted just to test the system.

And I don't know if recommendations like that are in your best practices but I think it would be the single most important thing for improving the reliability of the systems that we already have and have to go to vote with. Thank you.

Shaneé Dawkins: All right.

Pat Leahy: I agree Noel, that's a great point. I mean, it doesn't do anyone any good to have technology available that's not up and running and the challenge in elections of course is how do you enforce requirements?

It's easier to enforce a requirement in how a system can be designed before it can be used in an election than it is to enforce, you know, election day, you know, procedures, you know, which is why, you know, we've had so many problems with long lines and, you know, challenges that the polling place is not meeting the standards to which people said they were created.

So I agree with you and I think that that's a big challenge and, you know, enforcing that, you know, it becomes an enforcement issue in that, you know, in many ways is really up to, you know, the state to, you know, have that kind of oversight that those types of problems don't arise.

Shaneé Dawkins: Okay, (Kelly) do we have anyone else?

Operator: No phone questions at this time.

Shaneé Dawkins: Okay, Pat and Sharon do you have...

Pat Leahy: If we could just back up to the...

((Crosstalk))

Shaneé Dawkins: Oh right, that's right, the military heroes...

((Crosstalk))

Pat Leahy: For 30 seconds because I'll intro for Daniel so his organization as part of this kind of larger pot of funding won an award and he's mentioned it military heroes initiative which is to help veterans, you know, we have over 2-1/2 million veterans with different disabilities in the country.

And they came up with a demo pilot kind of ready to go for folks that wanted to pick it up and normally on how to help veterans with disabilities in the voting process. If that isn't enough, you could highlight it just for a brief minute.

Daniel Castro: Sure Pat and thanks for giving me this opportunity to talk about this project. It's a really interesting really important work where we looked at, you know, the challenges that, you know, individuals coming back, you know, coming back especially from overseas with, you know, injuries are facing at the polling place.

What we found is that the transition period especially between, you know, active service members and when they became veterans that there was a lot that could be done in that transition to help ensure that, you know, their ability to vote was, you know, was maintained because when an individual's in the military, there are certain services that provide to them.

And then when they become part of the VA system, we need to make sure that election officials are working with the VA system so as civilians they're still provided, you know, high-quality services.

And we also were looking specifically at the types of disabilities that are common in veterans and the types of challenges that these veterans face. As I mentioned earlier, you know, when of course when defining the characteristic

of a lot of people coming back from Iraq and Afghanistan is traumatic brain injury and post-traumatic stress disorder.

And so, you know, there are certain types of, you know, issues related to accessibility that haven't been considered as much in elections so looking at things like the lighting and the noise at a polling place.

You know, if you can't have the type of environment that somebody's willing to go into, you can't have an accessible election so we put forward a number of recommendations for how states could pursue kind of a pilot in this area.

We made recommendations to identify best practices like online training videos for poll workers, how to serve voters with disabilities, how to improve our information guides, you know, the types of pilots that other states were doing.

As well as, you know, really looking at how we could, you know, how we could use both new technology and new services to make these elections more accessible so we talked specifically about coordinating building assistance services with the VA facilities and this is something that we've been pushing the VA to do and I think we're still going to need to have political pressure to see that happen.

We talked about, you know, doing more to make the actual voting information available and as I mentioned earlier, the data just isn't being created to build the types of applications that would allow people to do this.

We want to streamline the process for obtaining absentee ballots. This should be something that's really simple that a volunteer at a VA could easily get for anyone that they want to assist or who asked for assistance.

We talked about relaxing the ballot design requirements at the local and state level that, you know, sometimes were interfering with more accessible solutions and then, you know, just kind of generally looking at different types of innovative technology that would allow election officials to, you know, bring an accessible device to poll workers.

And that's where, you know, I think some of the progress we've seen over the last three years with this grant looking at how for example tablet PCs can be used. I think that's really powerful because it's really about changing how voters are casting their ballots and as Sharon talked about really separating the marking from the, you know, casting and submitting process.

Pat Leahy: Thanks Dan and there's pieces in there that could be used for this fall so that's really good.

Shaneé Dawkins: Great, and Juan can you touch on Prime 3 in a little more detail really quickly? You got a few minutes here.

Juan Gilbert: Okay, I'll be brief. Prime 3 we started working on this technology back in 2003 to create a universally-designed voting machine and it was using COTS, commercially off-the-shelf, components and we've been working on it since then.

It allows you to vote by touching the screen and speaking to the system or blowing into a microphone so we want both on the same machine independent of ability or disability. Some of the things that we've been able to do we've extended the research. We've implemented the low error voting interface.

We're actually creating a new interface for Prime 3. Prime 3 produces a paper ballot that is read by a separate machine that's an optical character recognition device so it does scanning and reads like a person.

So there's a lot of features in the tools meaning in Prime 3 that we're starting to see manufacturers adopt, printing a single ballot, universal design principles and things like that so we're actually having impact and again it's ideas to look at COTS, to look at how you can use devices off-the-shelf and we're having some success.

To date the only group that we have not been able to have vote with Prime 3 was the deaf-blind but outside of deaf-blind we tested with just about every population and everyone's been able to use it.

Our next task is that this summer we've come up with a design to make paper accessible for everyone, a universal design for paper and we'll be releasing that I think sometime later this summer or early fall.

Shaneé Dawkins: Great, thanks.

Pat Leahy: Thanks, Juan.

Shaneé Dawkins: (Kelly) are there any questions or comments?

Operator: We have no further phone questions at this time.

Shaneé Dawkins: Okay, Pat and Sharon do you have anything else before I close?

Pat Leahy: No, I'm good, thank you.

Shaneé Dawkins: Okay. All right, thank you, so wait, let me go back to the contacts screen just to be fair, so if you want to contact Pat Leahy, the representative from the EAC, it's pleahy@eac.gov. Juan Gilbert is juan@ufl.edu.

Daniel Castro is dcastro@itif.org and Sharon Laskowski is sharon.laskowski L-A-S-K-O-W-S-K-I @nist.gov so the last thing I want to touch on is just some things we use, always close our Webinars with accessible voting technology e-mail list.

It's avtlist@nist.gov and you can join the e-mail list to receive information about accessible voting technology or to send out information or request or if you want to hold a pilot with some of these technologies, you can send the e-mail to one of the people on the Webinar or you can send a blast out to see what technologies are available to everyone on the list.

So it's not just a one-way list from the EAC or NIST to everyone else. It's for anyone to post anything related to accessible voting technology. The second thing is the AVT Web portal.

It's at nist.gov/itl/vote/accessiblevoting and on there you can find a lot of information about these different projects, a lot of information about past accessible voting projects, some other voting research that's done that may inform accessible voting or vice versa.

You will also find a lot of those events related to accessible voting technology or voting in general and all of the information from this Webinar and the previous three Webinars will be on the portal and you can access them through the events page.

You will find the recording of the Webinars, transcripts of the Webinars and any presentation slides or handouts or other materials for instance the Paraquad picture guide I think is on the Website now so all of these things will be available for you. I do not see any questions in the chat box and (Kelly) I'll ask you one more time before I close, are there any questions?

Operator: No questions at this time.

Shaneé Dawkins: All right, well I will thank you all for joining us for our final Webinar here and we hope to continue to work with you all in the future. Thank you.

Operator: Ladies and gentlemen, that does conclude the Webinar for today. We thank you for your participation and ask that you please disconnect your line.

END