FREEMAN, CRAFT, MCGREGOR GROUP

Accessibility Test Records

ES&S EVS 5.2.1.0

California SOS Contract #16S52058

Attachment A to Consultant's Report on:
Accessibility Testing of the
ES&S EVS 5.2.1.0 Voting System

Prepared for:
The California Secretary of State

Voter's Name ___Voter 1_____ Observer's Name __Steve Freeman_____
Date ___6/29/17_____
Machine Model _____AutoMARK __X___ExpressVote   Consent to be video recorded? Y_X_____ N _____
Machine # _____2_____

Accessibility Test Record

Observation**:**

Ballot 1 Begin Time _8:50___ End Time _9:04____   Video? ___Y___ Camera #_5___
Ballot 2 Begin Time _9:05___ End Time _9:10_____   Photos?___N___ Camera #____

Observation Notes:

> Voter speaks German, and said she can handle English. Said "This is disgusting.", regarding lack of German on ballot. She asked how to select "Change Volume". When the ES&S representative gave instructions. She wass allowed to feel the keypad but was not given a description of the keys. There were no instructions on how to adjust the tempo. She stated that ambient noise in the area interfered with understanding.

Post Test Interview:

I'm going to ask you about your experience with the voting system you've just used. For each question, please indicate how strongly you agree or disagree with the statement. The choices are [REPEAT as needed.]:   AGREE STRONGLY
                                                     AGREE SOMEWHAT
                                                     DISAGREE SOMEWHAT
                                                     DISAGREE STRONGLY

	Agree strongly	Agree somewhat	Disagree somewhat	Disagree strongly	N/A or No Opinion
The voting method was private.	X				
I feel I can use this system to vote independently.	X				
I am confident that my vote was recorded accurately.					No opinion *
The voting instructions were clear and complete.	X				
The voting method was easy to use.	X				
I could read the display easily.					N/A
I could understand the speech output.		X			
The assistive device(s) were easy to reach and use.	X				
I found the system confusing to use.				X	
The timeframe it took to vote was what I expected.					No Opinion

* She said she would like to take the ballot to a reader. It was explained that she could put the ballot back in and verify her selections. She declined to do so. (This was not explained in the original instructions.)

Would you be satisfied using this system to vote in an election or would you rather vote using another method? If you prefer another method, what method would you prefer?

> No preference. I have always used absentee ballots with assistance. If there were a lot of propositions there would be a long time waiting on the AutoMARK to read through it.

Do you have any suggestions for changes on this system and/or any other comments you would like to provide?

She recommended a tape of propositions be available as part of the instructions.
She recommended voting machines be in separate rooms to control noise.

Voter's Name ___Voter 1_____   Observer's Name __Steve Freeman_____

Date ___6/29/17_____

Machine Model ___X__AutoMARK ____ ExpressVote   Consent to be video recorded? Y__X__ N _____

Machine # _____1_____

Accessibility Test Record

Observation**:**

Ballot 1 Begin Time __9:16___ End Time __9:20_____   Video? ___Y____ Camera #__5___

Ballot 2 Begin Time _9:22___ End Time ___9:25___   Photos?_____ Camera #____

Observation Notes:

    The voter had trouble finding the slot to insert the ballot. She selected Spanish for the second ballot. She appeared to have more trouble on the AutoMARK with the key pad than she did with the ExpressVote.

Post Test Interview:

I'm going to ask you about your experience with the voting system you've just used. For each question, please indicate how strongly you agree or disagree with the statement. The choices are [REPEAT as needed.]:

           AGREE STRONGLY

           AGREE SOMEWHAT

           DISAGREE SOMEWHAT

           DISAGREE STRONGLY

	Agree strongly	Agree somewhat	Disagree somewhat	Disagree strongly	N/A or No Opinion
The voting method was private.	X				
I feel I can use this system to vote independently.	X				
I am confident that my vote was recorded accurately.					No opinion
The voting instructions were clear and complete.	X				
The voting method was easy to use.	X				
I could read the display easily.					N/A
I could understand the speech output.		X			
The assistive device(s) were easy to reach and use.	X				
I found the system confusing to use.				X	
The timeframe it took to vote was what I expected.					No Opinion

Would you be satisfied using this system to vote in an election or would you rather vote using another method? If you prefer another method, what method would you prefer?

No Opinion

Do you have any suggestions for changes on this system and/or any other comments you would like to provide?

Needed Larger Braille. Needed protection for sharp edge on privacy shield. Needed color tape with contrasting colors to mark the edge. Separate Room for each machine. Poll workers may need training on where to direct people and where the ballot box is located.

Voter's Name __Voter 2_____   Observer's Name __Kate McGregor_____

Date __6/29/17_____
Machine Model _____AutoMARK ___X__ExpressVote   Consent to be video recorded? Y_X___ N _____
Machine # _____4_____

Accessibility Test Record

Observation:

Ballot 1 Begin Time __9:07__ End Time _9:48_____   Video? ___Y___ Camera #__7__
Ballot 2 Begin Time __10:01_ End Time _10:14____   Photos?__N____ Camera #_____
Observation Notes

She had trouble understanding the pronunciation of "write-in" despite changing tempo because when she changed the tempo the pitch also changed and it threw her off.

She got lost during one of her write-ins. She managed to get back on path without any help. She was struggling with some of the spoken words for candidate names and asked for verification of the name highlighted on the screen.

Post Test Interview:

I'm going to ask you about your experience with the voting system you've just used. For each question, please indicate how strongly you agree or disagree with the statement. The choices are [REPEAT as needed.]:

AGREE STRONGLY
AGREE SOMEWHAT
DISAGREE SOMEWHAT
DISAGREE STRONGLY

	Agree strongly	Agree somewhat	Disagree somewhat	Disagree strongly	N/A or No Opinion
The voting method was private.	X				
I feel I can use this system to vote independently.		X			
I am confident that my vote was recorded accurately.	X				
The voting instructions were clear and complete.		X			
The voting method was easy to use.	X				
I could read the display easily.					N/A
I could understand the speech output.		X			
The assistive device(s) were easy to reach and use.	X				
I found the system confusing to use.			X		
The timeframe it took to vote was what I expected.			X *		

* Because she expected it to be longer and more complicated.

Would you be satisfied using this system to vote in an election or would you rather vote using another method? If you prefer another method, what method would you prefer?

Quite happy using this one.

Do you have any suggestions for changes on this system and/or any other comments you would like to provide?

She suggested using words to associate with each letter such as a, alpha, b, bravo. She would like the write-in to read back the name. Perhaps spell the name back to you and on a double click read the name.

Pitch and Tempo should be on separate controls.

For text to speech she uses Eloquence within Jaws.

Voter's Name ___Voter 2_____   Observer's Name ___Kate McGregor_____
Date   __6/29/17_____
Machine Model ___X___AutoMARK _____ExpressVote   Consent to be video recorded?   Y_X___ N _____
Machine # _____3_____

Accessibility Test Record

Observation**:**

Ballot 1 Begin Time __10:25_____ End Time __10:36_____   Video? _Y___ Camera #_7____
Ballot 2 Begin Time ___N/A_____ End Time _____   Photos?_____ Camera #____
Observation Notes:

She did not exercise the write-in function on this machine.

Post Test Interview:
I'm going to ask you about your experience with the voting system you've just used. For each question, please indicate how strongly you agree or disagree with the statement. The choices are [REPEAT as needed.]:   AGREE STRONGLY
                                                                          AGREE SOMEWHAT
                                                                          DISAGREE SOMEWHAT
                                                                          DISAGREE STRONGLY

	Agree strongly	Agree somewhat	Disagree somewhat	Disagree strongly	N/A or No Opinion
The voting method was private.		X			
I feel I can use this system to vote independently.	X				
I am confident that my vote was recorded accurately.	X				
The voting instructions were clear and complete.	X				
The voting method was easy to use.	X				
I could read the display easily.					N/A
I could understand the speech output.	X				
The assistive device(s) were easy to reach and use.	X				
I found the system confusing to use.				X	
The timeframe it took to vote was what I expected.			X *		

          * Shorter than expected.

Would you be satisfied using this system to vote in an election or would you rather vote using another method? If you prefer another method, what method would you prefer?

          Yes. Preferred the AutoMARK to the ExpressVote.

Do you have any suggestions for changes on this system and/or any other comments you would like to provide?

          Character Recognition (Spelling it out) for Candidate Names.

Voter's Name __Voter 3_____   Observer's Name __Steve Freeman_____
Date __6/29/17_____
Machine Model ____AutoMARK __X__ExpressVote   Consent to be video recorded? Y__X__ N _____
Machine # ____2_____

Accessibility Test Record

Observation**:**

Ballot 1 Begin Time __10:10__ End Time __10:21__   Video? __X____ Camera #_5___
Ballot 2 Begin Time __N/A_____ End Time _____   Photos?_____ Camera #____
Observation Notes:

 He went through this ballot very quickly skipping past the ends of two page races.

 He raced through and did not appear to take time to listen to all instructions.

Post Test Interview:
I'm going to ask you about your experience with the voting system you've just used. For each question, please indicate how strongly you agree or disagree with the statement. The choices are [REPEAT as needed.]:   AGREE STRONGLY
        AGREE SOMEWHAT
        DISAGREE SOMEWHAT
        DISAGREE STRONGLY

	Agree strongly	Agree somewhat	Disagree somewhat	Disagree strongly	N/A or No Opinion
The voting method was private.	X				
I feel I can use this system to vote independently.	X				
I am confident that my vote was recorded accurately.	X				
The voting instructions were clear and complete.	X				
The voting method was easy to use.	X				
I could read the display easily.					N/A
I could understand the speech output.	X				
The assistive device(s) were easy to reach and use.	X				
I found the system confusing to use.				X	
The timeframe it took to vote was what I expected.	X				

Would you be satisfied using this system to vote in an election or would you rather vote using another method? If you prefer another method, what method would you prefer?

 He said he would use it.

Do you have any suggestions for changes on this system and/or any other comments you would like to provide?

No suggestions. He said he found system very easy to do and comfortable to use. He liked being able to adjust volume but adjusting speed did not help.

Voter's Name __Voter 3_____   Observer's Name __Steve Freeman_____

Date __6/29/17_____

Machine Model __X__AutoMARK ____ExpressVote   Consent to be video recorded? Y__X__ N _____

Machine # ____1_____

Accessibility Test Record

Observation**:**

Ballot 1 Begin Time __10:26__ End Time _10:36____   Video? ___X___ Camera #__5__

Ballot 2 Begin Time __10:36__ End Time _10:56____   Photos?___N___ Camera #____

Observation Notes:

Post Test Interview:

I'm going to ask you about your experience with the voting system you've just used. For each question, please indicate how strongly you agree or disagree with the statement. The choices are [REPEAT as needed.]:   AGREE STRONGLY
AGREE SOMEWHAT
DISAGREE SOMEWHAT
DISAGREE STRONGLY

	Agree strongly	Agree somewhat	Disagree somewhat	Disagree strongly	N/A or No Opinion
The voting method was private.		X			
I feel I can use this system to vote independently.	X				
I am confident that my vote was recorded accurately.	X				
The voting instructions were clear and complete.	X				
The voting method was easy to use.	X				
I could read the display easily.					N/A
I could understand the speech output.	X				
The assistive device(s) were easy to reach and use.		X			
I found the system confusing to use.				X	
The timeframe it took to vote was what I expected.	X				

Would you be satisfied using this system to vote in an election or would you rather vote using another method? If you prefer another method, what method would you prefer?

He liked the ExpressVote better.

He commented that he appreciated using the same ballot that sighted people used.

Do you have any suggestions for changes on this system and/or any other comments you would like to provide?

Prior to being reminded of the privacy screen he was unhappy with the privacy, but was OK with it once it was demonstrated.

He said he had difficulty reaching the key pad. He preferred the keypad on the ExpressVote which he could hold in his hands.

He suggested using more pronounced bumps for braille.

Voter's Name __Voter 4_____   Observer's Name __Paul Craft_____

Date ___6/29/17_____

Machine Model _____AutoMARK __X___ExpressVote   Consent to be video recorded? Y__X__ N _____

Machine # _____2_____

Accessibility Test Record

Observation:

Ballot 1 Begin Time __10:35__ End Time __10:46___   Video? ___Y____ Camera #__5_

Ballot 2 Begin Time __10:47__ End Time __10:50___   Photos?__N____ Camera #____

Observation Notes:

Voter tried the touch screen, the large binary switches, a large grip stylus and the Key Pad. He had great difficulty with the Key Pad. To use it, he required the assistance of someone holding it down on a table   He found the large binary switches too time consuming to use. The available tilt and height options on the unit did not work for him. The touch screen was easier for him to use once the privacy screen was removed. The large grip stylus did not work for him.

Post Test Interview:

I'm going to ask you about your experience with the voting system you've just used. For each question, please indicate how strongly you agree or disagree with the statement. The choices are [REPEAT as needed.]:   AGREE STRONGLY

AGREE SOMEWHAT

DISAGREE SOMEWHAT

DISAGREE STRONGLY

	Agree strongly	Agree somewhat	Disagree somewhat	Disagree strongly	N/A or No Opinion
The voting method was private.			X *		
I feel I can use this system to vote independently.			X		
I am confident that my vote was recorded accurately.	X				
The voting instructions were clear and complete.		X			
The voting method was easy to use.				X	
I could read the display easily.	X				
I could understand the speech output.					N/A
The assistive device(s) were easy to reach and use.			X **		
I found the system confusing to use.		X			
The timeframe it took to vote was what I expected.		X			

* Because we had to take the privacy screen off for him to reach the touch screen.

** Because of the need for a table. Poll workers need to understand and assist.

Would you be satisfied using this system to vote in an election or would you rather vote using another method? If you prefer another method, what method would you prefer?

I would prefer to use the Edge, The new Los Angeles system, the most recent Dominion system and any of the Remote Accessible Vote by Mail systems.

Do you have any suggestions for changes on this system and/or any other comments you would like to provide?

It needs to be set up on a table with a privacy screen around it. There needs to be a ledge on the lower right where the accessible key pad can sit. It needs more options for angle and height.

Write-ins are not easy or intuitive. It is difficult to scroll all the way through the alphabet. Polling places need small tables to support the key pads. The two button switch seemed unnatural. It would take forever to use it. The pointer stick on touch screen is easier.

The sensitivity of the touch screen is pretty good. Someone who was weaker might not be able to use it. It's usually the other way around. (Laughed)

Express Vote has more potential if they make it more adjustable and if they add a way to make the keypad fixed. And do something so that if someone has a write-in it doesn't take a half hour to write it in.

Voter's Name __Voter 4_____   Observer's Name __Paul Craft_____
Date   __6/29/17_____
Machine Model   ___X__AutoMARK   _____ExpressVote   Consent to be video recorded? Y__X__ N _____
Machine # _____1_____

Accessibility Test Record

Observation:

Ballot 1 Begin Time _11:12__   End Time _11:18____   Video? __Y____   Camera #__5__
Ballot 2 Begin Time _11:18__   End Time _11:23____   Photos?__N____   Camera #____
Observation Notes: (Use back of page if necessary)

Voter referred to the machine as "the infamous AutoMARK"

He had difficulty getting the touch screen to respond. He applied more pressure and got a response but then shifted to the key pad.

He was unable to remove the ballot from the machine without assistance.

Post Test Interview:

I'm going to ask you about your experience with the voting system you've just used. For each question, please indicate how strongly you agree or disagree with the statement. The choices are [REPEAT as needed.]:   AGREE STRONGLY
AGREE SOMEWHAT
DISAGREE SOMEWHAT
DISAGREE STRONGLY

	Agree strongly	Agree somewhat	Disagree somewhat	Disagree strongly	N/A or No Opinion
The voting method was private.	X				
I feel I can use this system to vote independently.		X			
I am confident that my vote was recorded accurately.		X			
The voting instructions were clear and complete.	X				
The voting method was easy to use.		X			
I could read the display easily.		X			
I could understand the speech output.					N/A
The assistive device(s) were easy to reach and use.					N/A*
I found the system confusing to use.			X		
The timeframe it took to vote was what I expected.	X				

* Same Issues as the ExpressVote

Would you be satisfied using this system to vote in an election or would you rather vote using another method? If you prefer another method, what method would you prefer?

Both of these systems have their problems. The AutoMARK is easier for me to use because the Key Pad is fixed.

Do you have any suggestions for changes on this system and/or any other comments you would like to provide?

I require help to remove the ballot. I get a lot of complaints about paper jams. I don't know other than what I already provided.

Voter's Name __Voter 6_____   Observer's Name __Steve Freeman_____
Date ___6/30/17_____
Machine Model ___X___AutoMARK _____ExpressVote   Consent to be video recorded? Y__X___ N _____
Machine # _____1_____

Accessibility Test Record

Observation**:**

Ballot 1 Begin Time __11:48__ End Time __11:50____   Video? ___Y___ Camera #_7__
Ballot 2 Begin Time __11:52__ End Time __11:54____   Photos? __N____ Camera #____
Observation Notes:

> She was familiar with the AutoMARK. And she required the use of the large grip stylus.
>
> She had difficulty inserting the ballot.

Post Test Interview:
I'm going to ask you about your experience with the voting system you've just used. For each question, please indicate how strongly you agree or disagree with the statement. The choices are [REPEAT as needed.]:

AGREE STRONGLY
AGREE SOMEWHAT
DISAGREE SOMEWHAT
DISAGREE STRONGLY

	Agree strongly	Agree somewhat	Disagree somewhat	Disagree strongly	N/A or No Opinion
The voting method was private.		X			
I feel I can use this system to vote independently.	X				
I am confident that my vote was recorded accurately.	X				
The voting instructions were clear and complete.	X				
The voting method was easy to use.	X				
I could read the display easily.	X				
I could understand the speech output.					N/A
The assistive device(s) were easy to reach and use.	X				
I found the system confusing to use.				X	
The timeframe it took to vote was what I expected.	X*				

*Shorter

Would you be satisfied using this system to vote in an election or would you rather vote using another method? If you prefer another method, what method would you prefer?

> She said she has voted on this model for years.

Do you have any suggestions for changes on this system and/or any other comments you would like to provide?

> The AutoMARK gives her a sense of empowerment, and allowed her to vote with a sense of privacy.

Voter's Name __Voter 6_____   Observer's Name __Steve Freeman_____
Date ____6/30/17_____
Machine Model ____AutoMARK __X___ExpressVote   Consent to be video recorded? Y__X___ N _____
Machine # _____2_____

Accessibility Test Record

Observation**:**

Ballot 1 Begin Time _12:16__ End Time _12:19___   Video? _Y___ Camera #__5_
Ballot 2 Begin Time _12:20__ End Time _12:22___   Photos?_____ Camera #____
Observation Notes:

    She was slightly confused on the second page of the first race.

Post Test Interview:
I'm going to ask you about your experience with the voting system you've just used. For each question, please indicate how strongly you agree or disagree with the statement. The choices are [REPEAT as needed.]:   AGREE STRONGLY
                                AGREE SOMEWHAT
                                DISAGREE SOMEWHAT
                                DISAGREE STRONGLY

	Agree strongly	Agree somewhat	Disagree somewhat	Disagree strongly	N/A or No Opinion
The voting method was private.	X				
I feel I can use this system to vote independently.	X				
I am confident that my vote was recorded accurately.	X				
The voting instructions were clear and complete.	X				
The voting method was easy to use.	X				
I could read the display easily.	X				
I could understand the speech output.					N/A
The assistive device(s) were easy to reach and use.	X				
I found the system confusing to use.				X	
The timeframe it took to vote was what I expected.	X				

Would you be satisfied using this system to vote in an election or would you rather vote using another method? If you prefer another method, what method would you prefer?

    Satisfied. She said it was easier than the AutoMARK. The AutoMARK was easier than other methods.

Do you have any suggestions for changes on this system and/or any other comments you would like to provide?

    No suggestions, Comments, The selection area (on the ExpressVote) was easier to hit than the smaller target on the AutoMARK.

Voter's Name __Voter 5_____   Observer's Name __Paul Craft_____
Date ___6/30/17_____
Machine Model _____AutoMARK __X__ExpressVote   Consent to be video recorded? Y_X___ N _____
Machine # _____2_____

Accessibility Test Record

Observation:

Ballot 1 Begin Time __11:45___ End Time _11:55____   Video? __Y____ Camera #__5__
Ballot 2 Begin Time _11:55____ End Time _12:06____   Photos?__N___ Camera #____

Observation Notes:

Voter had difficulty with the combination of the write-in QWERTY keyboard on the screen and the keypad that scrolled through the alphabet in alphabetical order.

In exiting the write-in on the US Representative Race, the machine jumped back to the US Senate race. She replicated this twice and could not replicate it with other races further down the ballot.

She had trouble with the key pad moving around.

Post Test Interview:
I'm going to ask you about your experience with the voting system you've just used. For each question, please indicate how strongly you agree or disagree with the statement. The choices are [REPEAT as needed.]:

AGREE STRONGLY
AGREE SOMEWHAT
DISAGREE SOMEWHAT
DISAGREE STRONGLY

	Agree strongly	Agree somewhat	Disagree somewhat	Disagree strongly	N/A or No Opinion
The voting method was private.	X				
I feel I can use this system to vote independently.	X				
I am confident that my vote was recorded accurately.	X				
The voting instructions were clear and complete.					N/A *
The voting method was easy to use.			X		
I could read the display easily.	X				
I could understand the speech output.	X				
The assistive device(s) were easy to reach and use.			X		
I found the system confusing to use.		X			
The timeframe it took to vote was what I expected.		X			

* She skipped the instructions.

Would you be satisfied using this system to vote in an election or would you rather vote using another method? If you prefer another method, what method would you prefer?

I guess it would be alright. I don't know of another method that I would like.

Do you have any suggestions for changes on this system and/or any other comments you would like to provide?

The hand held keyboard needs to be taken off a stretch cord. (Note: She did not like holding against the constant pull of the stretch cord.)

The instructions were not on the screens and the instructions for pressing next and previous do not match the labels on the keypad.

Voter's Name __Voter 5_____   Observer's Name __Paul Craft_____
Date   ___6/30/17_____
Machine Model ___X__AutoMARK ____ExpressVote   Consent to be video recorded?   Y_X___ N _____
Machine # _____2_____

Accessibility Test Record

Observation:

Ballot 1 Begin Time __12:19___ End Time __12:30____   Video? ___X___ Camera #__7__
Ballot 2 Begin Time __N/A___ End Time _____   Photos?_____ Camera #____

Observation Notes:

> She noted that the instructions came up when the ballot was inserted unlike the ExpressVote. She noted that the alphabetical keyboard was consistent with the scrolling order on the key pad but that you still have to scroll through the keyboard.

> She tried the large grip stylus pointer which worked much easier for her than the touch screen.

Post Test Interview:

I'm going to ask you about your experience with the voting system you've just used. For each question, please indicate how strongly you agree or disagree with the statement. The choices are [REPEAT as needed.]:
AGREE STRONGLY
AGREE SOMEWHAT
DISAGREE SOMEWHAT
DISAGREE STRONGLY

	Agree strongly	Agree somewhat	Disagree somewhat	Disagree strongly	N/A or No Opinion
The voting method was private.	X				
I feel I can use this system to vote independently.	X				
I am confident that my vote was recorded accurately.	X				
The voting instructions were clear and complete.			X *		
The voting method was easy to use.		X			
I could read the display easily.	X				
I could understand the speech output.	X				
The assistive device(s) were easy to reach and use.			X		
I found the system confusing to use.			X		
The timeframe it took to vote was what I expected.	X				

*Same issue as with the ExpressVote, with next and previous on the key pad.

Would you be satisfied using this system to vote in an election or would you rather vote using another method? If you prefer another method, what method would you prefer?

> This is the one I used in the last election. It's fine.

Do you have any suggestions for changes on this system and/or any other comments you would like to provide?

The write-in process (with the key pad) is ridiculous. There should be a way to let you move around the keyboard grid.

The keypad should be movable. For me, it would be better on the left side but it is nice that it is stationary.