**Usability study design**

**Key hotspots:**

* Revoting interface and mechanism
* Conveying information

**Prerequisites:**

The solution must be modified to allow a persistent state for any N number of users. There must be a way to “begin a simulation”, which creates an ID for the researcher to write down. This ID would have an associated array of ballots consisting of noise ballots generated for this user and their own cast ballots. There must also be a way to input the ID to restore this array to the system and fill in noise ballots up to the current time.

To ensure that every participant in the test experiences the same scenario, my explanations to them will be prewritten.

**Script:**

"You will be looking at a prototype of a new online voting system. The main goal is to see how easy and understandable the system is to use. I am looking for your honest feedback – this means that there are no right or wrong answers here. You are not being tested here, the system is.

I'll be recording our session (screen and audio). This recording is just for our internal research purposes and will be kept confidential. Is that okay with you?" [Wait for confirmation]

As you use the system, I'd like you to try and think aloud as much as possible. That means saying out loud what you're looking at, what you're trying to do, what you expect to happen, and what you think of what you see. This is very valuable for me to understand your thought process better.

I'll mostly be observing, but I'll give you specific tasks to do. Note that once we begin, I will not answer your questions about the system – you are encouraged to use the tools and information the system provides you to find your answer. If you cannot find the answer, it is a fault of the system and must be fixed.”

**Scenario 1:**

Inform the user about things about general things they would probably know in a real scenario before opening the system for the first time. Do not disclose too much information, encourage the use of the built-in help tab to explain concepts.

**Inform:**

-This is a prototype for an online voting system

-It has some extra protection mechanisms against voter coercion

-You are able to revote to change your vote

-You are encouraged to think out loud while using this program

**Task:**

-The election has started, and you must use the system to cast your vote

**Take a note:**

-When the user asks a question. Do not answer, encourage the user to use the interface to find out.

-When the user does something unexpected.

-Whether the user uses the help menu at all.

Once the user reaches the receipt page, ask if they’re willing to do a follow-up in 1-2 days. If yes, encourage them to have a closer look at the receipt page. Observe their behaviour. Do not try to prevent them from taking pictures of the page. Ask questions.

**Script:**

“Imagine this is a prototype for an online voting system you need to use. It has some extra protection mechanisms built-in, designed to help protect against voter coercion – that's when someone might try to force you to vote a certain way. One important feature is that you are able to revote multiple times to change your vote before the election finally closes.

"Now, imagine the election has started. Your task is to use the system now to cast your vote for the candidates or issues presented."

*On receipt page:*

“Before we talk about that experience, I have a quick logistical question: Would you potentially be willing and available to do a short follow-up session, maybe 15-20 minutes, in about 1 or 2 days to test another aspect of the system?”

**Questions:**

Did you feel like you knew what you were supposed to do at all points of the process?

Was there ever a moment where you felt you needed something explained to you?

Did the application do a good job of explaining things to you?

Did you make use of the built-in help section? Why/ why not?

Was there anything unexpected during the experience?

**Scenario 2:**

Inform the user that a massive scandal has changed their voting preferences and that they now wish to change their vote.

**Task:**

-You must log into the system and cast a new vote

-You are encouraged to think out loud while doing this

**Take a note:**

-About whether the user reads the help texts about revoting and valid ballots.

-About whether the user casts a valid ballot or not.

Once the user reaches the receipt page, ask if they wish to do a third, hypothetical coercion scenario.

**Script:**

“Imagine a major news scandal related to one of the candidates or issues has completely changed your mind. You now strongly want to change your vote. Your task now is to log back into the system and cast a new vote that reflects your changed preferences.”

**Questions:**

Did you feel like you knew what you were supposed to do at all points of the process?

Did revoting feel like a natural option that one may use or like something unusual?

Was there ever a moment where you felt you needed something explained to you?

Did the application do a good job of explaining things to you?

Did you make use of the built-in help section? Why/ why not?

Was there anything unexpected during the experience?

Was it easy for you to remember your previous ballot?

If yes, what helped you most to remember it?

If not, what would have helped you to remember it?

What do you think about the current memory aids overall?

What do you think about the revoting mechanism overall?

Are you aware of the possibility to cast an invalid ballot?

Do you think the website provides enough information about invalid ballots?

How sure are you that you have cast a valid ballot?

**Scenario 3:**

Explain the hypothetical coercion scenario to the user – they are being watched and told they need to vote for the first option on each issue. They must however make sure that, when the election concludes, it is the user’s intended vote that is counted, not the coerced vote. The user must also not raise any suspicion to the watching coercer – reading help texts about coercion is now out of the question.

**Ask:**

What will you do in this scenario?

Has the website provided you with enough information thus far for you to be confident about your next actions?

**Task:**

-Log into the system and vote as instructed by the coercer.

-If the user submits a valid ballot, ask what their next step would be to ensure their intended vote is counted. If this step is revoting, ask them to do so.

**Take note:**

-Whether the user attempts to cast a fake ballot or a real one.

**Script:**

“Imagine the following situation, which is hypothetical but important for us to understand. Imagine you are trying to vote, but someone is coercing you – maybe they are physically present, watching over your shoulder, or watching your screen remotely. They are telling you exactly how you *must* vote. Specifically, they insist that you must vote for the *very first option* listed for each question or issue on the ballot.

Now, here's the critical part: You need to act normally while doing this, so you don't raise the coercer's suspicion. This means you cannot obviously click on or read any help sections or information buttons, especially anything related to coercion, while they are 'watching'.

However, your *secret* goal is to make sure that when the election finally concludes, it's your *own secretly intended vote* (the one you truly want) that actually gets counted, NOT this coerced vote you're about to cast."

**Questions:**

Can you explain in your words what you did?

Does the website provide you with enough information even while you cannot access the help section?