Usability Test Plan

Hello, and thank you for participating in this usability test as an observer (examiner). You will be observing users testing a system aimed at helping visually-impaired people better orient themselves when navigating web pages. This document describes the usability test plan you will be following. The goal of the tests is to identify potential design problems to be addressed in order to improve learnability, ease of use, efficiency, effectiveness, and user satisfaction.

During this study, you will be observing users interacting with a computer prototype as they complete some simple tasks. The test and user training will take approximately 20 minutes, and 10 more minutes will be spent on pre and post test questionnaires. However, we recommend allocating 1 hour per session to allow time for setting-up the prototype, reviewing the test materials and **Usability Test Plan**, and filling up the **Usability Test Report**.

For optimal results, the system should be tested on 3 to 5 users (participants), and there should be 2 to 3 observers (examiners) present. Preferably, the tests could be conducted in person, but they could also be conducted online via video conference applications, such as Zoom, that allow screen sharing and recording.

Usability Test Objectives

The usability test objectives are:

- To determine if the system button-sound mapping is easy to learn. Preferably in less than 2 minutes.
- To determine what causes users to not understand the button-sound mapping, and consequently not find the buttons. Potential causes include:
    - Flipped mapping - As observed in the low-prototype tests, users thought that objects positioned on the right were actually on the left, and vice-versa.
    - Sound confusion - Users may not be able to understand what sounds they are listening for, and sounds may be too similar to one another.
    - Uncertainty and hesitation - Users may not be sure if they found the button or not and they may hesitate to click.
- To determine if the system sounds cause any anxiety or stress to the users.
- To determine if users can effectively find different objects after having learned the button-sound mapping.
- To determine if users feel satisfied with the system if they feel it is helpful to find the objects.

Responsibilities

Observers are responsible for:
- Finding 3 to 5 users to participate in the experiment.
- Guiding the user through the test, instructing on how to interact with the system, and answering their questions.

- Observing the user interacting with the prototype and assisting if necessary.
- Recording the test while keeping in mind the usability test objectives. Meaningful data includes but is not limited to: facial expressions, physical signs, comments, or mouse movements that could indicate confusion, frustration, confidence, satisfaction, or any other feeling.

Requirements

The computer prototype is built on a website, so prior to starting the tests, examiners need access to a **computer** and connected to the **internet**. The system is designed for visually impaired people, so examiners need to limit users' eyesight with something such as **blindfolds**. Users also require **headphones** for our audio display. If the tests are not conducted online, we recommend the examiners record the sessions with camera devices for later analysis.

Participants

Evaluators are responsible for finding 3 to 5 participants to act like users. Participants are not required to be visually impaired as long as they wear blindfolds during the experiment. Participants that have auditory problems are not recommended for this experiment.

Procedure

Prior to starting the tests, examiners must read the **User Manual and Installation Guide, Usability Test Plan, and Usability Goals**. Therefore, it is recommended that observers have these documents in hand while conducting the tests.

Observers should **find a quiet environment** to conduct the test, and ensure that the prototype's sounds are played clearly and loudly on the headphones. Set up the recording device or software if applicable.

Examiners should treat the test subjects with kindness and patience. Remember, they are volunteers. Observers should read the **User Introduction** to the users, give the users the **Participant Consent Form** and **Pre-Test Questionnaire**, present the **User manual and installation guide**, and finally explain the list of **User Tasks**.

While users perform the tasks, examiners should measure the time they take to complete each task. They should also count the **number of mistakes** (clicking outside of a button) or **long pauses** (15 seconds or more) the user makes while conducting each task.

Examiners should **avoid telling the user how to do the tasks** but remind them of their goal if they ask for assistance. In addition, examiners should avoid **giving the user directions**, **personal opinions**, **feedback** (verbal), **interrupting**, or **making noises**.

While conducting the tests, examiners should keep in mind the **Usability Test Objectives** and **Usability Goals**. They should use the **Usability Test Report** to write and report their observations. Examiners should record any valuable information for later analysis, including but not limited to the user's facial expressions, physical signs, comments, or mouse movements that could indicate confusion, frustration, confidence, satisfaction, or any other feeling towards the system.

In the end, examiners should give the users the **post-test questionnaire**. If time permits, we ask the evaluating team to summarize their findings, including identified usability problems and resolutions recommendations. Any recording of the session should be kept safe and only be available to members of the class.