Relier

Usability Test Plan
Phase 2: Computer Prototype

Group 5: C. Chen, E. Mayhew, H. Park and I. Moreno

October 2020

***Template retrieved from Usability.gov*

Document Overview

This document describes a test plan for conducting a usability test for the computer prototype of our web-app Relier. The goal of usability testing is to identify potential design concerns to be addressed in order to improve efficiency, productivity and end-user satisfaction.

The usability test objectives are:

- To determine design inconsistencies and usability problem areas within the user interface and content areas. Potential sources of error may include:
    - Navigation errors - failure to locate functions, excessive keystrokes to complete a function, failure to follow recommended screen flow.
    - Presentation error - failure to locate and properly act upon desired information in screens, selection errors due to labelling ambiguities.
    - Control usage problems - improper toolbar or entry field usage.
- Exercise the web-app under controlled test conditions with representative users. Data will be used to assess whether usability goals regarding an effective, efficient and, well-received user interface have been achieved.
- Establish baseline user performance and user satisfaction levels of the user interface for future usability evaluations.

Relier will be deployed to two user groups: speakers and participants in video-conferencing online presentations. For each group, 3-5 tester users will need to be recruited. Because of the restrictions of visitation put in place by the Quebec Government to mitigate the spread of the COVID-19 pandemic, the testing can be performed remotely, with the help of a video-conferencing platform.

Methodology

In order to conduct this usability test, the evaluation team will need to be composed by at least two examiners (ideally three). The examiners will be responsible for:

- Guiding the user through the test, giving them instructions and answering their questions.
- Observing the test and gathering data
- Recording the test

Examiners will need to have access to a web browser on a computer to access the prototype. They will need to record their meeting conducted over a video conferencing software of their choice. A stopwatch will also be required to time the tasks. All documents for the test are provided on our website.

Test participants

In order to complete this usability test at least 6 testers will need to be recruited: 3-5 to test the prototype from the participant point of view and 3-5 to test the prototype from the presenter point of view. In order to match our personas, the testers recruited on the participant side will ideally be individuals who are highly focused during online presentation and who are either shy or active in terms of participation. On the presenter side, you will need to recruit individuals who have some experience with giving presentations online and who really care about interacting with their audience and solicit participation.
If the evaluation team struggles to find suitable testers, please contact ines.moreno@mail.mcgill.ca for assistance.

The test participants' responsibilities will be to attempt to complete a set of task scenarios presented to them in as efficient and timely manner as possible, and to provide feedback regarding the usability and their satisfaction with the user interface. The participants will be directed to provide honest opinions regarding the usability of the application, and to participate in a pre and post-session questionnaire , as well as a debriefing.

Training

No extensive training is needed to handle our prototype. The examiners have access to both the presenter's and participant's prototype User Guide, which thoroughly describes how to handle the prototype and perform all tasks tested.
The examiner will give the participant a quick overview of the main features of the app.

Procedure

Participants will take part in the usability test via remote screen-sharing technology. The participant will be seated at their workstation in the environment of their choice and verbal communication with the evaluators will be ensured via a video-conferencing platform. The test session will be recorded.

The facilitator will brief the participant and explain that **they are evaluating the web-app, rather than the facilitator evaluating the participant**. Participants will sign an informed consent that acknowledges: the participation is voluntary, that participation can cease at any time, and that the session will be recorded but the recording will only be available to members of our class. The facilitator will ask the participant if they have any questions.

Participants will complete a pre-test demographic and background information questionnaire. The facilitator will explain that exploratory behavior outside the task flow should not occur until after task completion. At the start of each task, the facilitator will read out loud the task description and instruct the participant to 'think aloud' so that a verbal record exists of their interaction with the web-app and understand their thought process. Time-on-task measurement begins when the participant starts the task.

The observer will observe and enter user behavior, user comments, and system actions in the data logging sheet provided.

After all tasks have been performed, the participant will complete a post-test questionnaire and debrief with the facilitator.

Once the session is over, the facilitator will debrief with the observer.

Roles

The roles members of the evaluation team will need to play are as follows.

Facilitator (1)

- Provides overview of study to participants
- Defines purpose of usability testing to participants
- Assists in conduct of participant's and observer's debriefing sessions
- Responds to participant's requests for assistance
- Records the session

Observer / Data Logger (1-2)

- Silent observer
- Records participant's actions and comments
- Takes notes about the completion of the tasks
- Identify problems, concerns and procedural errors

Usability Goals

The usability goals assessed by this usability test are the following.

Ease of Use

The system should be easy to interact with. We aim to offer a system where all interactions can be made easily and in real time, without the need of switching to different windows or apps.

Efficiency

The system should support live emotional expression without distracting the users from the presentation. Users should be able to react in real-time and view trends with minimal disruptions to focus

Effectiveness

The system should increase engagement of the audience during presentations. Users should feel comfortable to express themselves and feel more part of the presentation.

Satisfaction

Users should be satisfied when using the system. The goal of this project is to improve video-conferencing, users should feel that the system is a valuable add-on to existing video-conferencing tools.

Usability Tasks

For ‘Presenter’ testers

Task 1

Ask the user to talk for 1-minute about their favourite dish. While they’re talking, the level of understanding will change. After they’re done, ask them to assess how the level of understanding changed while they were talking.

Task 2

Ask the user to watch people who raise their hands appear in the questions queue. Then ask them to remove “Eric” from the queue. Once it is completed, ask them to clear the queue.

Task 3

Tell the user that the reactions from participants are coming to the reaction panel. Once the reaction panel is updated, ask the user to interpret the result of the reaction panel. Then, ask them to clear the result.

Task 4

Ask the user to tell you about their hobbies and interests. (The background of the reaction panel should turn red indicating they can’t be heard while they talk). Monitor their reaction: Do they notice this change? If they notice it, ask them to interpret the change: what

happened and what is this change trying to tell you? If this change suggests something went wrong, monitor what they try to do to fix it.

For ‘Participant’ testers

Task 0

Ask the participant to start the test. Ask them to wait about seconds. Ask them what changes they notice.

Task 1

Ask the participant to add themselves to the question queue. Once the task has been completed, ask the user to remove themselves from the queue.

Task 2

Ask the participant to react with a ❤️ emoji. Once the user successfully added the reaction, ask them to remove the ❤️ reaction.

Task 3

Ask the participants to tell you which participants are online.

Task 4

Ask the participants to rate their level of understanding as very high. Once they have successfully provided their understanding level feedback, ask the user to report what the Level of Understanding graph is telling them about how the other participants are following along.

Usability Metrics

Usability metrics refers to user performance measured against specific performance objectives necessary to satisfy usability requirements. Scenario completion success rates, error rates and subjective evaluations will be used. Time to completion of scenarios will also be collected.

Completion rate

Completion rate is the percentage of test participants who successfully complete the task without critical errors. A critical error is defined as an error that results in an incorrect or incomplete outcome.
Note: If a participant requires assistance in order to achieve a correct output then the task will be scored as a critical error.

A completion rate of 90% is the goal for each task in this usability test.

Error-free rate

Error-free rate is the percentage of test participants who complete the task without any error (critical or non-critical). A non-critical error is an error that would not have an impact on the final output of the task but would result in the task being completed less efficiently.

An error-free rate of 85% is the goal for each task in this usability test.

Time on Task (TOT)

The time to complete a scenario is referred to as “time on task”. It is measured from the time the person begins the task to the time they signal completion.

Qualitative Measures

Opinions about specific tasks, time to perform each task, features, and functionality will be surveyed. At the end of the test, participants will rate their satisfaction with the overall system. Combined with the debriefing session, these data are used to assess attitudes of the participants.

Problem severity

In order for the development team to prioritize recommendations after the test, we ask the evaluation team to follow the following problem severity classification. The

approach treats problem severity as a combination of two factors - the impact of the problem and the frequency of users experiencing the problem during the evaluation.

Impact

The impact a problem has on successful task completion is measured in three levels:

- High - prevents the user from completing the task (critical error)
- Moderate - causes user difficulty but the task can be completed (non-critical error)
- Low - minor problem that do not significantly affect the task completion (non-critical error)

Frequency

The frequency of participants who experience the same problem when working on a task is measured in three levels:

- High - 40% or more of the participants experience the problem
- Moderate - 21%-39% of participants experience the problem
- Low - 20% or fewer of the participants experience the problem

Problem Severity Classification

Severity 1

High impact problems that often prevent a user from correctly completing a task. They occur in varying frequency and are characteristic of calls for assistance.

Severity 2

Moderate to high frequency problems with moderate to low impact are typical of erroneous actions that the participant recognizes needs to be undone.

Severity 3

Either moderate problems with low frequency or low problems with moderate frequency; these are minor annoyance problems faced by a number of participants.

Severity 4

Low impact problems faced by few participants; there is low risk to not resolving these problems.

Reporting Results

A Usability Test Report should be provided at the end of the usability test. It contain the following supporting documents:

- Completed data collection sheets for each user and task
- Filled-in pre-test and post-test questionnaires of each user
- Recording of the test sessions

If time permits, we ask the evaluation team to also provide a summary of their findings including specific usability problems identified and recommendations for resolution.