

SCM REFACTORING (User Experience)

Usability Test Plan

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23/12/2022

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Document Overview

This document describes a test plan for conducting a usability test during the development of SCM. The goals of usability testing include establishing a baseline of user performance, establishing and validating user performance measures, and identifying potential design concerns to be addressed in order to improve the 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 errors – failure to locate and properly act upon desired information in screens, selection errors due to labeling ambiguities.
 - Control usage problems – improper toolbar or entry field usage.
- Exercise the application or web site under controlled test conditions with representative users. Data will be used to access 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.

The users group is composed of 5 students that will be using SCM for their projects. The usability testing session will be held in presence on our own PCs and it is expected to last 2 days. Each user will deliver its opinion and it will be kept anonymous.

Executive Summary

The evaluated functionalities will be: reaching one of your projects, looking for profile info, cloning a repository, and look for information about one of your projects.

Upon review of this usability test plan, including the draft task scenarios and usability goals for SCM, documented acceptance of the plan is expected.

Methodology

Each participant is given a copy of the website under development and will try , using their browser on their pc, to complete the asked tasks. The user can also swap among all website pages and compare them to the older SCM version. He will then deliver its opinion to us.

Participants

There will be around 5/6 participants and they will be asked to look for basic information about their hypothetical projects on SCM. We expect the participants to have already used the older version of SCM and to have some knowledge and working experience about remote repositories.

The participants' responsibilities will be to attempt to complete a set of representative task scenarios presented to them in as efficient and timely a manner as possible, and to provide feedback regarding the usability and acceptability of the user interface. The participants will be directed to provide honest opinions regarding the usability of the application, and to participate in post-session subjective questionnaires and debriefing.

Training

We will not provide any training before the usability testing session as we expect all the participant to have already had experience with SCM. The participants will receive an overview of the usability test procedure, equipment, and software.

Procedure

Participants will take part in the usability test at SUPSI in Lugano. A PC with the Web site/Web application and supporting software will be used in a typical office environment. The participant's interaction with the Web site/Web application will be monitored by the facilitator seated in the same office. We will monitor the sessions aside of the participants. The test sessions will not be recorded in any way apart from the user reports.

The dev team will brief the participants on the Web site/Web application and instruct the participant that they are evaluating the application. The dev team will ask the participant if they have any questions.

The dev team will observe and enter user behavior, user comments, and system actions and record metrics on a Word document.

Roles

The roles involved in a usability test are as follows. An individual may play multiple roles and tests may not require all roles.

Trainer

- Provide training overview prior to usability testing

Facilitator (Dev Team)

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

Data Logger (Dev Team)

- Records participant's actions and comments

Test Observers (Dev Team)

- Silent observer
- Assists the data logger in identifying problems, concerns, coding bugs, and procedural errors
- Serve as note takers.

Test Participants (SUPSI Students)

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

Ethics

All persons involved with the usability test are required to adhere to the following ethical guidelines:

- The performance of any test participant must not be individually attributable. Individual participant's name should not be used in reference outside the testing session.
- A description of the participant's performance should not be reported to his or her manager.

Usability Tasks

The task descriptions below are required to be reviewed by the application owner, business-process owner, development owner, and/or deployment manager to ensure that the content, format, and presentation are representative of real use and substantially evaluate the total application.

The usability tasks are atomic because none of the participants actions interact with each others.

Usability Metrics

Usability metrics refers to user performance measured against specific performance goals necessary to satisfy usability requirements. Scenario completion success rates, adherence to dialog scripts, error rates, and subjective evaluations will be used.

Scenario Completion

Each scenario will require, or request, that the participant obtains or inputs specific data that would be used in course of a typical task. The scenario is completed when the participant indicates the scenario's goal has been obtained (whether successfully or unsuccessfully) or the participant requests and receives sufficient guidance as to warrant scoring the scenario as a critical error.

Critical Errors

The only critical error we collect is not completing the task asked as it means that we must refactor the website design.

Non-critical Errors

Non-critical errors are errors that are recovered from by the participant or, if not detected, do not result in processing problems or unexpected results. Although non-critical errors can be undetected by the participant, when they are detected they are generally frustrating to the participant.

The errors include not reaching easily the requested information or pages, and not instantly recognize where to find information. These errors will be recorded as it means design must be revised.

Subjective Evaluations

Subjective evaluations regarding ease of use and satisfaction will be collected via debriefing at the conclusion of the session.

Usability Goals

The next section describes the usability goals for SCM.

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. In other words, the completion rate represents the percentage of participants who, when they are finished with the specified task, have an "output" that is correct. Note: If a participant requires assistance in order to achieve a correct output then the task will be scored as a critical error and the overall completion rate for the task will be affected.

A completion rate of 100% 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 scenario to the time he/she signals completion.

Subjective Measures

Subjective 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 interview/debriefing session, these data are used to assess attitudes of the participants.

Problem Severity

To prioritize recommendations, a method of problem severity classification will be used in the analysis of the data collected during evaluation activities. 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

Impact is the ranking of the consequences of the problem by defining the level of impact that the problem has on successful task completion. There are three levels of impact:

- 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 problems that do not significantly affect the task completion (non-critical error)

Frequency

Frequency is the percentage of participants who experience the problem when working on a task.

- High: 30% or more of the participants experience the problem
- Moderate: 11% - 29% of participants experience the problem
- Low: 10% or fewer of the participants experience the problem

Problem Severity Classification

The identified severity for each problem implies a general reward for resolving it, and a general risk for not addressing it, in the current release.

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 to the Help Desk. Reward for resolution is typically exhibited in fewer Help Desk calls and reduced redevelopment costs.

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. Reward for resolution is typically exhibited in reduced time on task and decreased training costs.

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. Reward for resolution is typically exhibited in reduced time on task and increased data integrity.

Severity 4 - Low impact problems faced by few participants; there is low risk to not resolving these problems. Reward for resolution is typically exhibited in increased user satisfaction.

Reporting Results

The Usability Test Report is provided at the conclusion of the usability test. It consists of a summary and/or a presentation of the results; evaluate the usability metrics against the pre-approved goals, subjective evaluations, and specific usability problems and recommendations for resolution. The recommendations are categorically sized by development to aid in implementation strategy.