**Event Planner**

# **Usability Test Plan**

**Version 0.42**

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## **Document Overview**

This document describes a test plan for conducting a usability test during the development of the Event Planner. 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:

o Navigation errors – failure to locate functions, excessive keystrokes to complete a function, failure to follow recommended screen flow.

o Presentation errors – failure to locate and properly act upon desired information in screens, selection errors due to labeling ambiguities.

o 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 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.

As they are both readily available and a subset of the target audience that is more knowledgeable of programming, five of the Software Engineering students at University of North Texas will be a perfect choice for the user group. These tests will be performed in person at the Business Leadership Building on UNT main campus on November 15th, 2024, between 3:00 P.M. and 5:00 P.M..

## **Executive Summary**

The usability test of the website will be focused on all core functionality aspects of the system; UI elements are mostly done, but have not been fully implemented across the website. This includes logging in, logging out, navigation between pages, accessing the list of events, creating an event, and booking an event. As the calendar and payment functionalities are not tied to any databases, successful navigation to and from those pages will be the only tests performed for those pages. Any issues reported will be documented to ensure they are no longer a factor upon the final release of the Event planner.

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

## **Methodology**

We expect five students to handle the usability testing of this system, and will perform this test during class time. As the system in question is only a website, the test will be performed on a laptop. We will be collecting all information provided by the participants for further refining of the system before the final release.

### **Participants**

We will have a target of five students to come to our demonstration setup during the testing session in class; given the average skill set of the class members, no additional characteristics will be necessary to have. The recruitment of testers will be handled through the class testing day, as all projects will be readily available for voluntary user testing. These participants will already have well beyond the minimum necessary background knowledge to properly use the program, and may even have css, html or javascript training that could be factored into the feedback of the test.

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.

Due to the nature of the test environment, the participants will select our project for testing, rather than the other way around. Despite the less controlled nature of the participant selection, they will be more than capable of performing the tasks that are provided to them given the background required to enter CSCE 3444.

### **Training**

As the system is a basic website, a full training session would be unnecessary; however, our trainer will be guiding testers through the initial process of using the website to streamline the testing experience. The participants will receive an overview of the usability test procedure, equipment and software. Currently, the calendar and payment functions are properly displayed and can be navigated to, but do not connect to anything as of the time of testing.

### **Procedure**

Participants will take part in the usability test in room 005 of the Business Leadership Building. A Laptop 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. Note takers and data logger(s) will monitor the sessions live, and record all relevant information as needed.

The facilitator will brief the participants on the Web site/Web application and instruct the participant that they are evaluating the application, rather than the facilitator evaluating the participant. The facilitator will ask the participant if they have any questions.

The facilitator will explain that the amount of time taken to complete the test task will be measured and that exploratory behavior outside the task flow should not occur until after task completion. At the start of each task, the participant will read aloud the task description from the printed copy and begin the task.

The facilitator will instruct the participant to ‘think aloud’ so that a verbal record exists of their interaction with the Web site/Web application. The facilitator will observe and enter user behavior, user comments, and system actions while assisting the Data Logger in typing all information the test may provide.

After each task, the participant will complete the post-task questionnaire and elaborate on the task session with the facilitator. After all task scenarios are attempted, the participant will complete the post-test satisfaction questionnaire.

## **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 – Evan Rodriguez**

· Provide training overview prior to usability testing

### **Facilitator – Lydiah Kabiru**

· 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 – Alex Trumble**

· Records participant’s actions and comments

### **Test Observers – Olumide Ayo**

· Silent observer

· Assists the data logger in identifying problems, concerns, coding bugs, and procedural errors

· Serve as note takers.

**Test Participants – Jolly Thomas, Travis Tannery, Troy Detorio, Logan Prosperie, Isaac Fyen**

· 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.

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## **Usability Tasks**

To prevent the data from becoming impractical, all test scenarios will go through an identical “base process” before the participant is then allowed to try the application in any way they wish. Alongside allowing for the baseline test to be completed more efficiently, this gives the participant experience to know all options available to them before they look for more opportunities within the software.

Due to the nature of the system, the test setup of the application will be done entirely on a local server environment, with no direct access to any sort of network. As such, all databases, user accounts, and other possible generated data will be exclusively held on the source machine during testing.

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. Their **acceptance is to be documented** prior to the usability test.

The functionalities to be tested within the Event Planner website are as follows:

* Test the login functionality
* Test the logout functionality
* Test the create account functionality
* Test the event list functionality
* Test access to the payment and calendar pages
* Test the create event functionality
* Test the book event functionality

## **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 the 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**

Critical errors are deviations at completion from the targets of the scenario. Obtaining or otherwise reporting of the wrong data value due to participant workflow is a critical error. Participants may or may not be aware that the task goal is incorrect or incomplete.

Independent completion of the scenario is a universal goal; help obtained from the other usability test roles is cause to score the scenario a critical error. Critical errors can also be assigned when the participant initiates (or attempts to initiate) an action that will result in the goal state becoming unobtainable. In general, critical errors are unresolved errors during the process of completing the task or errors that produce an incorrect outcome.

### **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.

These errors may be procedural, in which the participant does not complete a scenario in the most optimal means (e.g., excessive steps and keystrokes). These errors may also be errors of confusion (ex., initially selecting the wrong function, using a user-interface control incorrectly such as attempting to edit an uneditable field).

Noncritical errors can always be recovered from during the process of completing the scenario. Exploratory behavior, such as opening the wrong menu while searching for a function, will be coded as a non-critical error if it seems to be a matter of actual confusion.

### **Subjective Evaluations**

Subjective evaluations regarding ease of use and satisfaction will be collected via questionnaires, and during debriefing at the conclusion of the session. The questionnaires will utilize free-form responses and rating scales.

## **Usability Goals**

The next section describes the usability goals for the Event Planner.

### **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.**

### **Error-free rate**

Error-free rate is the percentage of test participants who complete the task without any errors (critical **or** non-critical errors). 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 90% is the goal for each task in this usability test.**

### **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: 60% or more of the participants experience the problem

· Moderate: 40% of participants experience the problem

· Low: 20% or fewer of the participants experience the problem

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### **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 will be provided at the conclusion of the usability test. It will consist of a report 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 will be categorically sized by development to aid in implementation strategy. The report is anticipated to be delivered to the Project UCD Contact by 11/22/24.