

BEACH MONITORING APP

Evaluation Assignment – 4

CS 5760 – HUMAN-COMPUTER INTERACTIONS AND USABILITY

Usability Test Plan

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Team PHOENIX

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Description of system:

During the swimming season, the swimming conditions are monitored at many beaches between one and five times per week. Measurements that are taken on-site can be used to develop a model that predicts bacteria levels and they are part of a standardized sanitary survey. The sanitary survey information helps public health professionals identify potential causes of contamination. The application needs to capture observations made at the beach. Often student interns are hired to collect data and most have access to a smartphone. In some locations, WIFI or cellular signal may be limited so the app needs to be able to store the collected information until the collector is within signal range to send the data to the centralized database or beach manager who then uses the data as inputs to the model.

Usability Test purpose:

Usability Testing is a process to uncover usability problems by observing potential users performing tasks on a prototype. Usability test plan is required to meet the needed to properly structure of usability testing. This Usability testing is aimed for a Beach monitoring app to found out potential usability issues. Usability testing is also an effective way to find out bugs of the applications or the functionality errors.

Consent Form:

Computer User Interface Usability Testing

You are being invited to participate in a research study to determine the usefulness and usability of computer user interfaces. This study is being conducted by Dr. Robert Pastel of Michigan Technological University Computer Science Department and students in Dr. Pastel's Human-Computer Interaction (HCI) courses. The students are performing the usability tests as part of their project and to fulfill the HCI course requirements.

There are no known risks if you decide to participate in this research study. There are no costs to you for participating in the study. The information you provide and tasks that you will perform will determine the usefulness and usability of user interfaces. The questionnaires and the tasks should take less than an hour to complete. The information collected may not benefit you directly, but the information learned in this study should provide more general benefits.

The questionnaires and test are anonymous. Do not write your name on the survey. No one will be able to identify you or your answers, and no one will know whether or not you participated in the study except for the instructor of the class that is giving you credit for participating. Should the data be published, no individual information will be disclosed.

Your participation in this study is voluntary. By completing the questionnaires and performing the tasks, you are voluntarily agreeing to participate. You are free to decline to answer any particular question you do not wish to answer or not to perform a task for any reason.

If you have any questions about the study, please contact Dr. Robert Pastel, Assistant Professor, Computer Science Department, Michigan Technological University, Houghton, MI 49931.

The MTU Institutional Review Board has reviewed my request to conduct this project. If you have any concerns about your rights in this study, please contact Joanne Polzien of the MTU-IRB at 906-487-2902 or email jpolzien@mtu.edu.

Participant signature and date:

Pre-test Questions:

1. Sufficient How many years have you used a smartphone?

2. Which smartphone OS are you comfortable with?

Select all that apply

1. Android

2. iOS

3. Windows

4. Other: _____

3. Please indicate your level of agreement to the follow statement:

I am very interest in the testing of this application.

1. Strongly agree

2. Agree

3. Neutral

4. Disagree

5. Strongly disagree

Test Scenario -1:

1] Test Scenario Name: Create and submit one report

2] Goals for test scenario:

To determine how much the first-time user of the app could understand the app and complete the main task. The general idea and purpose of the app would be described for the participant but no instruction or demo on the app would be shown.

3] Quantitative measurement list:

- I. The participant could finish the task or not
- II. Time to complete the task
- III. Number of times the participant asked for help/assistance
- IV. Number of wrong taps/errors in entering data
- V. Check for confirmation messages to ensure task completion.

4] Scenario description:

You are a student intern working at the beach and you need to take the measurement complete the report step by step and submit it. You are provided with a sample data set of measurements from one of the beaches. You must create a new report, complete it and submit the report.

5] Task list:

- I. Create A new report
- II. Fill the data in forms
- III. Review the data
- IV. Submit the form

6] Qualitative measurement list:

- I. The confusing pages/tasks for the participant
- II. The reason that the participant asked for assistance/help
- III. Facial and verbal expression.
- IV. Participants comfort finding the form/ menu keys.

7] Potential observations of participant:

- I. User's facial expressions while finding a form
- II. User's attention in towards task
- III. User's comfort while filling the forms

8] Bug Report Form:

Bug Number	Bug Name	Bug Uniqueness	Bug Location	Bug Description

9] Post scenario interview questionnaire:

Rate on your experience using the app 1st time.

- I. Do you understand the app? (1 is least understanding)
1 2 3 4 5

10] Test setup details:

Tests will be performed in a room on Android phone/ iPhone/ Tablet.

Test Scenario -2:

- 1] Test Scenario Name: View and edit past and incomplete report.

- 2] Goals for test scenario:

To determine if the user can recall the previous incomplete reports and past submitted reports. The test will be performed to evaluate the app design on the basis of user's effortless and fast performance of accomplishing the task. To check if all the fields, buttons, pages and their interactions work properly. To identify bugs and complexities of the app while performing the tasks.

- 3] Quantitative measurement list:
 - I. No. of times user needed assistance.
 - II. Number of wrong taps/errors in entering data
 - III. Check for confirmation messages to ensure task completion.

- 4] Scenario description:

You are a student intern working at the beach. You are revisiting the beach and you want to see the incomplete report and add/ edit the information. Also, you want to read the past report.

- 5] Task list:
 - I. Open incomplete report
 - II. Review the information
 - III. Add/ Edit the required fields
 - IV. Submit the report
 - V. Open Past report
 - VI. Review the report

- 6] Qualitative measurement list:
 - I. The confusing pages/tasks for the participant
 - II. The reason that the participant asked for assistance/help
 - III. Facial and verbal expression.
 - IV. Participants comfort finding the form/ menu keys.

7] Potential observations of participant:

- I. User's facial expressions while finding a form
- II. User's attention in towards task
- III. User's comfort while filling the forms

8] Bug Report Form:

Bug Number	Bug Name	Bug Uniqueness	Bug Location	Bug Description

Test Scenario -3:

1] Test Scenario Name: Offline test

2] Goals for test scenario:

To determine if the user can use the app while there no data connection. The test will be performed to evaluate the app design based on user's effortless and fast performance of accomplishing the task. To check if all the fields, buttons, pages and their interactions work properly offline. To see the user's comfort and reaction while using the app when there is a network issue at the location. To identify bugs and complexities of the app while performing the tasks.

3] Quantitative measurement list:

- I. The participant could use the app even after no data connection availability.
- II. Number of times the participant asked for help/assistance
- III. Functioning of key's/ menu options
- IV. Check for error messages/ bugs while using the app offline.

4] Scenario description:

You are a student intern working at the beach. You are visiting the beach where the data connection is limited. You are working on a report like the first task while doing performing the task you lost the data connection and performing the task but offline.

5] Task list:

Offline

- I. Create A new report
- II. Fill the data in one form
- III. Save the form

Online

- IV. Review the same report in incomplete report

6] Qualitative measurement list:

- I. The confusing of the participant while using app offline
- II. Facial and verbal expression

- III. Participants comfort
- IV. Participants reaction to the offline app response

7] Potential observations of participant:

- I. User's facial expressions
- II. User's attention in towards task
- III. User's comfort while using app offline

8] Bug Report Form:

Bug Number	Bug Name	Bug Uniqueness	Bug Location	Bug Description

9] Post scenario interview questionnaire:

The difference you felt while using the app offline?

10] Test setup details:

Tests will be performed in a room on Android phone/ iPhone/ Tablet. We will use airplane mode available in smartphones and tablets to create desired offline environment to perform this test.

Post-test Questions:

1. Please indicate your level of agreement to the follow statement:

Overall, this application was easy to perform the task.

1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree

2. Please indicate your level of agreement to the follow statement:

I enjoy using this application.

1. Very much
2. A little bit
3. Neutral
4. Not very much
5. Not at all

3. Please indicate your level of agreement to the follow statement:

I would use this application again.

1. Strongly agree
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree

4. Please indicate your level of agreement to the follow statement:

I am very interest in the testing of this application.

- 1. Strongly agree**
- 2. Agree**
- 3. Neutral**
- 4. Disagree**
- 5. Strongly disagree**

5. Please indicate your level of agreement to the follow statement:

This app is a reliable tool for the assigned tasks.

- 1. Strongly agree**
- 2. Agree**
- 3. Neutral**
- 4. Disagree**
- 5. Strongly disagree**

6. What features of the app frustrated you the most in the process?

7. What features of the app did you liked the most?

8. Features you would like to add in the app.

System Usability Review (Mark the appropriate box)

Strongly Agree *Agree* *Neutral* *Disagree* *Strongly Disagree*

1.	I would like to use this app frequently.					
2.	I thought the app was easy to use.					
3.	I found the app unnecessarily complex.					
4.	I think that I would need the support of a technical person to be able to use this app.					
5.	I found the various functions in this app were well integrated.					
6.	I thought there was too much inconsistency in this app.					
7.	I would imagine that most people would learn to use this app very quickly					
8.	I feel very confident to use the app now.					
9.	I needed to learn a lot of things before I could get going with this app.					

Any Suggestions or Feedback
