CS5760: HCI & Usability Test

Evaluation Assignment 4

Usability Test Plan

STAFF GAUGE (PROGRAMMING STAFF)

(Project Team # 4)

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Test set up details for all the scenarios:

Test will be performed at Rekhi323 beside the window to get enough light (trying to mimic the water gauge location). While the user performs the test in an Android phone (Nexus 5), the whole performance will be video recorded using another phone. Side by side notes will also be taken for the detailed report. For every task the time will be measured either from the video recording or by using a timer. The user will be told to start the testing through browsing the app from Chrome mobile browser. Prior to testing a consent form will be signed by each of the user. The consent form is included at the end of this report.

Pre-test questions (given before any scenarios):

1. For how many years have you been using a smart phone?

2. Please indicate your level of agreement to the follow statement:
   I am very interest in the testing of this android application.
   1. Strongly agree
   2. Agree
   3. Neutral
   4. Disagree
   5. Strongly disagree
3. Have you ever used any similar type of web application?
   YES/NO
4. What do you expect from the app?

Test Scenario 1: Creating a new user account and logging in

1. **Test Goals:**

   To determine if the users can easily and effortlessly create a new user account of the StaffGauge Web App. Measure the average time required to successfully complete the task by all the participants. To identify bugs and complexities of the app while performing the particular task.

2. **Quantitative measurement list:**

   a. Total time to create an account and successfully login
   b. Number of taps to perform the task
   c. In case of failure, measure the percentage of task completed
   d. Number of failed/error clicks
   e. Time and steps to recover from an error
   f. Number of buttons/pages not used
   g. Number of times the user needs assistance

3. **Scenario description:**

   "For this task imagine yourself as a student who is involved in a high school hydrology project. Your teacher took you to read hydrology data from a specific location and upload those using the 'StaffGauge App'. To begin with you have to first create your login account. Open the app from your mobile browser and find how to sign up for an account. Enter the necessary information and submit. Then login with your name and password to use the app"

4. **Task list:**

   a. Browse the StaffGauge App's Home page
   b. Tap 'Login/Sign up' button from the top
   c. Tap 'SignUp' button from the top
   d. Enter Email, Username, Password and Confirm Password text fields
   e. Tap 'Sign Up' button at the bottom

5. **Qualitative measurement list:**

    a. User's Facial expression
    b. Spontaneous verbal expression
    c. Level of attention towards the task
    d. Activities showing reluctance (looking elsewhere, doing nothing etc…)

6. **Potential observations of participant**

    a. User may have difficulties to differentiate between a button and the page label at the beginning
    b. While inserting text in the account page the user might find the font size too small and might take more time
    c. Observe user to see if they search for user/password formats

7. **Bug Report Form**

Bug Number	**Bug Name**	**Bug Uniqueness**	**Bug Location**	**Bug Description**

8. **Post Scenario interview or questionnaire questions:**

Please indicate your level of agreement to the follow statement:

1. Overall, this web application was easy to perform the task.
    1. Strongly agree
    2. Agree
    3. Neutral
    4. Disagree
    5. Strongly disagree

2. I enjoy using this web application.
    1. Very much
    2. A little bit
    3. Neutral
    4. Not very much
    5. Not at all

3. I would use this web application again.
    1. Strongly agree
    2. Agree
    3. Neutral
    4. Disagree
    5. Strongly disagree

4. Performing the task on this app took very few steps, couldn't have been any shorter.
    1. Strongly agree
    2. Agree
    3. Neutral
    4. Disagree
    5. Strongly disagree

5. What did you like about the app while performing the task?
6. What are the things that you thought were frustrating or confusing?
7. Mention the things that you thought could improve the app's usability

Test Scenario 2: Submitting Hydrology data manually and view graph

1. **Test Goals:**

   To determine if the users can submit the hydrology data from the app and also be able to view the graph. 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 measure the average time required to successfully complete the task by all the participants. To identify bugs and complexities of the app while performing the particular task.

2. **Quantitative measurement list:**
   a. Total time to enter data and submit the data
   b. Number of taps to perform the task
   c. In case of failure, measure the percentage of task completed
   d. Number of failed/error clicks
   e. Time and steps to recover from an error
   f. Number of buttons/pages not used
   g. Number of times the user needed assistance
   h. Number of times the Graph did not appear
   i. Check for the confirmation messages to ensure successful task completion
3. **Scenario description:**

   "For this task imagine yourself as a student who is involved in a high school hydrology project. Your teacher took you to read hydrology data from a specific location and upload those using the 'StaffGauge App'. Your task is to read the meter and also the number of the meter and submit the data to upload it to the 'StaffGauge' site. Open the app from your mobile browser and find how to enter the required information and submit to see the graph view and enter data"

   "Now suppose you are a scientist who is working on a research project that involves getting the data of a particular river's water level. You want to view the graphical change of a particular river's staff gauge; you do not wish to upload any

data but only get the graphical view. Your task is to get the graph view of a particular staff gauge from the app"

4. **Task-1 list:**

    a. Browse the StaffGauge App's Home page
    b. Tap on the 'Measure in centimeter' field to enter the reading
    c. Tap on the 'Staff Gauge Number' field to enter gauge number
    d. Tap on the 'Submit' button
    e. The app directs to the Graph View
    f. Tap on 'Submit' for a successful upload

    Task-2 list:

    a. Browse the StaffGauge App's Home page or press back button after completing task-1
    b. Tap on the 'Staff Gauge Number' field to enter gauge number
    c. Tap on the 'View Graph button
    d. The app directs to the Graph View page
    e. Tap on 'back' button to go to the home page

5. **Qualitative measurement list:**

    e. User's Facial expression
    f. Spontaneous verbal expression
    g. Level of attention towards the task
    h. Activities showing reluctance (looking elsewhere, doing nothing etc…)

6. **Potential observations of participant**

    d. User may click the back button instead of the submit button in the graph view page; thinking that they have already clicked the submit button while entering the readings.
    e. To only see the graph view user might try to enter the gauge reading too which is unnecessary.
    f. User might find the graph from the graph view too small and as a result might squint their eyes.

7. **Bug Report Form**

Bug Number	**Bug Name**	**Bug Uniqueness**	**Bug Location**	**Bug Description**

8. Post Scenario interview or questionnaire questions:

Please indicate your level of agreement to the follow statement:

8. Overall, this web application was easy to perform the task.
    1. Strongly agree
    2. Agree
    3. Neutral
    4. Disagree
    5. Strongly disagree

9. I enjoy using this web application.
    6. Very much
    7. A little bit
    8. Neutral
    9. Not very much
    10. Not at all

10. I would use this web application again.
    6. Strongly agree
    7. Agree
    8. Neutral

9. Disagree
10. Strongly disagree

11. Performing the task on this app took very few steps, couldn't have been any shorter.
    11. Strongly agree
    12. Agree
    13. Neutral
    14. Disagree
    15. Strongly disagree

12. What did you like about the app while performing the task?
13. What are the things that you thought were frustrating or confusing?
14. Mention the things that you thought could improve the app's usability

Test Scenario 3: Uploading water gauge picture

1. **Test Goals:**

   To determine if the users can upload a picture of the water gauge correctly. The test will be performed to check if the user can differentiate between submitting the data manually and taking a picture. To check if the camera button and retake button works properly. To measure the average time required to successfully complete the task by all the participants. To identify bugs and complexities of the app while performing the particular task.

2. **Quantitative measurement list:**

   1. Total time to submit a picture
   2. Number of taps to upload and retake the picture
   3. In case of failure, measure the percentage of task completed
   4. Number of failed/error clicks
   5. Time and steps to recover from an error
   6. Number of buttons/pages not used
   7. Number of times the user needed assistance
   8. Check for the confirmation messages to ensure successful task completion

3. **Scenario description:**

   "For this task imagine yourself as a student who is involved in a high school hydrology project. Your teacher took you to read hydrology data from a specific location and upload those using the 'StaffGauge App'. Your task is to upload a picture of the water gauge to the app. Open the app from your mobile browser and take a picture or choose from the phone's gallery. Once you have choosen a picture, try to retake another picture and then upload it. After completing the task go back to the app's home page."

4. **Task-1 list:**

   a. Browse the StaffGauge App's Home page
   b. Tap on the 'Use picture' button
   c. Take/choose a picture using the mobile's camera

d. Tap the ‘Retake’ button
e. Repeat step b and c again
f. Tap the ‘Use picture button
g. Click ok to the confirmation page

5. **Qualitative measurement list:**

a. User’s Facial expression
b. Spontaneous verbal expression
c. Level of attention towards the task
d. Activities showing reluctance (looking elsewhere, doing nothing etc…)

6. **Potential observations of participant**

a. User might take few moments thinking of which button to click to take the picture because the manual ‘submit’ button is positioned before the ‘take picture’ button.
b. User might expect for a picture in the picture preview page which is not yet implemented.
c. Instead of taping the Retake button to retry taking another picture, user might tap the back button which does not work.

7. **Bug Report Form**

Bug Number	**Bug Name**	**Bug Uniqueness**	**Bug Location**	**Bug Description**

8. **Post Scenario interview or questionnaire questions:**

Please indicate your level of agreement to the follow statement:

9. Overall, this web application was easy to perform the task.
    1. Strongly agree
    2. Agree
    3. Neutral
    4. Disagree
    5. Strongly disagree

10. I enjoy using this web application.
    11. Very much
    12. A little bit
    13. Neutral
    14. Not very much
    15. Not at all

11. I would use this web application again.
    16. Strongly agree
    17. Agree
    18. Neutral
    19. Disagree
    20. Strongly disagree

12. Performing the task on this app took very few steps, couldn't have been any shorter.
    21. Strongly agree
    22. Agree
    23. Neutral
    24. Disagree
    25. Strongly disagree

13. What did you like about the app while performing the task?
14. What are the things that you thought were frustrating or confusing?
15. Mention the things that you thought could improve the app's usability

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:

_____ _____

Signature Date