
EWU MOBILE APP

Usability Test Plan

Madeline Le, Lizzy Garcia, Phillip Smelser, and Alejandro Zuniga

Submit to Professor Kate Crane

Due Date: March 2, 2018

Table of Contents

| | |
|---|-----------|
| Executive Summary | 3 |
| Problem Statement | 3 |
| Test Objectives | 4 |
| User Profiles | 4 |
| Participant Incentive | 4 |
| Team Roles | 5 |
| Test Script | 5 |
| Lab Preparation Checklist | 5 |
| Pre-Test actions | 5 |
| Greeting and Study Information | 6 |
| Consent Form | 8 |
| Assigned User IDs | 9 |
| Pre-Test Survey | 9 |
| Test Scenario | 10 |
| Test Tasks | 11 |
| Post-Task Data Collection and Test Conclusion | 12 |
| Evaluation Methods | 13 |
| Test Environment and Equipment | 13 |
| Deliverables | 14 |
| Appendices | 15 |
| Appendix A: Consent form Figure 1 | 16 |
| Appendix B: Pre-Test Survey | 17 |
| Appendix C: Test User Observations | 19 |
| Appendix D: Observer Notes from Test | 20 |
| Appendix E: Screener Sheet (FOR TEAM EYES ONLY) | 21 |
| Appendix F: SUS Form for Post Test | 22 |

Executive Summary

Dr. Kate Crane's Usability class will be conducting a usability evaluation to assess the Eastern Washington University Mobile App using the Mr. Tappy recording apparatus and Morae Recorder software. This study's conclusions to be confirmed or disproved by this usability test are listed in the problem statement and the test objectives are listed below this summary. The test outlines user profiles generated by current EWU student demographic data consisting of six different user types we will be testing, followed by a pizza-based incentive for participants. This test plan also includes our test script that consists of: the Lab Preparation Checklist, Pre-Test Actions: Greeting and Study Information, Consent Form, Assigned User IDs table, Pre-Test Survey, Test Scenario, 5 Test Task, and Post-Task Data Collection and Test Conclusion.

The Lab Preparation Checklist will help the group manage and keep track of what materials are needed for the day of testing. The Pre-Test Actions include setting up the test for users and assuring that all the correct documents (most provided in Morae Recorder) are needed to conduct the test. The documents consist of the consent form so the group has permission from the user to test them and use the data collected in the group's research. Additionally, the greeting and study information, test scenario, and 5 test tasks will be printed out for the facilitator to present the information needed for the user so they know what task to perform, while the Assigned User IDs table will be used by the group to help keep track what mobile device was used during the test by each user, and which user was assigned that user ID number.

After the test of the available users concludes, the usability team will evaluate the data through Morae collected using a Time-On-Task, Think-Aloud-Protocol by users during the test. This will include other members in the group taking notes on how the user is reacting during the test. The study will gather additional information on user perception of the EWU mobile app in a post-test interview and an SUS form after determining their plans to use said app in the future, and submit all of this in the form of deliverables in a final presentation, which includes Morae analysis data, to Dr. Crane.

Problem Statement

The issue that we are addressing in this document is the usability of the EWU mobile app. Word-of-mouth among students seems to suggest that those who do know of the app's existence complain about issues regarding how efficient the app is and the app's actual usefulness for the Eastern Washington University community. As the situation exists, no demographic information has been collected regarding people who use the app, nor has any usability testing been conducted on the EWU mobile app.

Test Objectives

Our test objectives will determine if the resources (like the ability for the user to navigate campus maps, find student jobs, or check EWU's upcoming events, for example) in the EWU mobile app are an efficient and convenient source. Our objectives are to answer the following questions:

1. How comfortable does the user feel about using the app?
2. Is the app navigable for the user?
3. What changes can the creators implement to make the app more accessible?
4. What problems are making the app's usability difficult?
5. Would the user recommend the app to someone else?

User Profiles

| Gender | Age | College | Student/Faculty | Apple or Android |
|--------|-------|------------|-----------------|------------------|
| Female | 18-20 | U.C. | Traditional | Apple |
| Female | 25-35 | C.A.L.E. | Non-Traditional | Android |
| Female | 23-50 | C.S.S. | Graduate | Apple |
| Male | 22-24 | C.S.T.E.M. | Traditional | Android |
| Male | 23-50 | Staff | Faculty | Android |
| Male | 25-50 | U.C. | Non-Traditional | Apple |

For our usability test, our group gathered information based on the Eastern Washington University demographics from the EWU Fact Book. We assigned profiles based on colleges instead of majors on which user would best fit to cover a broad range of disciplines. We tried to include a user from each category . We came to the conclusion we would have three android users, and 3 apple users. Also, three of the users would be females, and the other three males.

Our team decided to have one traditional female student that is an apple user, and one traditional male student that is an android user. One of the traditional students needs to be 18-20, and the other 22-24. The other two users we decided to add were two non-traditional students. One male and one

female. One has to be a mac and the other an android user between the ages of 25-50. The last two user our team chose to be a faculty member and a graduate student between the ages of 23-50 with one being an apple user and the other an android user.

Participant Incentive

Considering our chosen user participants will be volunteering their time in order to assist our group with the EWU app, we have decided to give our participants a small incentive; our group will be providing slices of Domino's pizza to all of the users involved. We hope the user will feel excited for participating in our test, and continue to advertise by word of mouth about the usability testing and the class.

Team Roles

Greeter: Will meet initially with user to conduct pre-screening, get the user to sign a consent form, and escort user to observation room.

Facilitator/Logger: Will operate the Morae software on the laptop computer, read the test script to the user, collect any missing consent forms, and deliver electronic pre-test and post-test surveys.

Observers: Will be in the testing room to directly observe users as they perform the usability tasks and generate follow-up questions as well as take error note and user behavior notes.

Test Script

Lab Preparation Checklist

Greeting Room

- ☐ Copy of consent form for test participants

Observation Room

- ☐ Copy of consent form for test participants
- ☐ Pre-Test Survey for test participants in Morae
- ☐ Post-Test Survey for test participants in Morae.
- ☐ Copy of test script for facilitators
- ☐ Make sure that the room is set up for testing (see pre-test actions list below)
- ☐ Tablet is unlocked with the EWU mobile app open with the following equipment set up:
 - a. Mr. Tappy attached to tablet
 - b. Tablet (Android product for 3 tests, Apple product for 3 tests)
 - c. Laptop with Morae for one observer attached to Mr. Tappy
- ☐ Check Mr. Tappy equipment for functionality with tablet
- ☐ Check laptop connection and functionality with Mr. Tappy
- ☐ Log out of EWU mobile app account between users

Pre-Test actions

Make sure that the room is set up for testing with:

- ☐ A chair at a table for the user
- ☐ A few chairs for the observers located behind the facilitator and user.
- ☐ A chair for the facilitator beside the user.
- ☐ A tablet should be placed with a Mr. Tappy attached for use by the user
- ☐ Tablet is unlocked, with the EWU mobile app open
- ☐ Mr. Tappy is attached to the observer's laptop for data collection

Pre-Screening

Recruitment of potential users will be done using the screener sheet (see Appendix E). Data collected will determine if potential users fit testing demographics in user profile table and can be included in the usability testing.

Greeting and Study Information

Welcome, and thank you for taking the time to help us test the EWU mobile app. My name is _____ and I'll be guiding you through this usability test. We are conducting this test on the EWU mobile app because we want to make sure the app is useful, and a convenient source for current EWU students. The EWU mobile app could be used for many purposes that includes but not limited to looking up class schedules, grades and EWU's Cheney Campus Map. We aren't testing you, your abilities or your knowledge of the app, we're more interested in how you interact with the mobile app and whether or not you'll choose to use it in the future. Your feedback will help our team with future design recommendations to provide the best user experience, so there are no wrong answers.

We will be asking you to use Think-Aloud Protocol, which means while you go through your tasks, you will tell us in as much detail as possible what you are doing and why you are choosing to do it. Please be as specific as possible, voicing any problems, questions, interests, or concerns.

There will be one practice task to get you warmed up, and after that, you will complete five more tasks. If you have any questions during the test, please let me know. If you feel like stopping the test, please let me know, and we will stop the test immediately.

Do you have any Questions?

Give user some time to answer.

Your name and information will not be shared with anyone outside our team. We will be recording you during the test, so we ask that you to fill out a simple consent form to use the recorded data for research purposes only.

(Give consent form to User)

Once again, thank you for participating in our usability test.

Do you have any questions?

(Give user some time to answer)

CONSENT FORM

I agree to participate in the Eastern Washington University Mobile App Usability Study, and understand that this participation is completely voluntary. The purpose of the study is to determine the effectiveness of the EWU Mobile App in meeting users needs through observed task performance.

I understand that my usability test session will be recorded for research purposes only and that my name and image will not be used for any other purpose. I relinquish any rights to the recording, and understand the recording may be used by Eastern Washington University for educational purposes without further permission.

I agree to immediately raise any concerns or areas of discomfort during the testing session with the study administrators. The TCOM 405 Usability Group has the right to record me during my session to further improve the EWU Mobile App.

I will sign below to indicate that I have read and I understand the information on this form, and that any questions I might have about the session have been answered.

Print Name _____ Date _____

Signature _____



Figure 1: Consent form for test participants

Assigned User IDs

| User ID Number | Apple or Android | User Name |
|----------------|------------------|--------------------|
| User 1 | Apple | Katherine Senechal |
| User 2 | Apple | Carlos Munoz |
| User 3 | Apple | Cameron Todd |
| User 4 | Android | Rachel Bean |
| User 5* | Android | Lacie Broten |
| User 6 | Android | Kara Monroe |
| User 7 | Android | Kathy Rowley |

Pre-Test Survey

Our team's facilitator will begin the recording once the session begins by reading the test scenario script for the user, and the user will start out by doing the Pre-Test Survey that is produced by the Morae software for the user to complete (see Appendix B) .

Test Scenario

The scenario for this test is that you are a student at EWU, and you will be asked to perform a series of five of unrelated tasks using the EWU mobile app. Each task will be complete when you provide the information that you are asked to find on the app. Please say "done" to indicate you have found the information. If you need me to repeat any part of the instructions for each task, feel free to ask and I will gladly re-read them.

Do you have any questions?

Wait for user to ask any questions.

Before the actual testing begins, I will ask you to perform a practice task so you can become familiar with the process.

Are you ready to begin?

Wait for user confirmation.

Ok. For this practice task, you will log into the EWU mobile app.

Wait for user to acknowledge finding the information.

Redirect user if they are having difficulty completing the task.

Do you have any questions before we start the actual test session?

START RECORDING

Test Tasks

Task 1:

This is your first task: You are working on a class assignment in room 248 in Patterson (a computer-enhanced classroom). You need to print a document and a paper jam occurs. Find the IT Help Desk phone, tell me what the number is outloud.

Wait for user to indicate finding the information.

Redirect user if they are having difficulty completing the task with an catastrophic error.

Task 2:

This is your second task: It is the beginning of the quarter and you want to find a job to help pay for school. You do not have a car and it would be easier to work on campus. Using Handshake, please find a job on campus that interests you.

Wait for user to indicate finding the information.

Redirect user if they are having difficulty completing the task with an catastrophic error.

Task 3:

This is your third task: It's the beginning of the quarter and you are taking TCOM 205 in Patterson and EENG 160 in the Computer Engineering Building. You are concerned how long it will take you to walk from one building to the other. Using the app, can you tell me how long will it take?

Wait for user to indicate finding the information.

Redirect user if they are having difficulty completing the task with an catastrophic error.

Task 4:

This is your fourth task: A friend mentioned there is going to be an event called Coffee Talk: Meet the World. What is the date and time of this event?

Wait for user to indicate finding the information.

Redirect user if they are having difficulty completing the task with an catastrophic error.

Task 5:

This is the fifth and final task: You want to stay late on campus tonight to hang out and study with a friend, but you live in Spokane and don't have a ride home. What time does the last bus leave from the EWU campus in Cheney to Spokane?

Wait for user to indicate finding the information.

Redirect user if they are having difficulty completing the task with an catastrophic error.

Post-Task Data Collection and Test Conclusion

Interview user after completing Task 5 utilizing retrospective recall. Interview questions will be based on notes from the facilitator and other observers.

Now that the test session is complete I have some follow-up questions to ask you, and a form for you to fill out. The answers from these questions will be used to better understand the process you used to complete each task.

Use Morae to deliver the SUS post-test survey

After the SUS post-test survey, the facilitator will ask the user any post-test interview questions the observers wanted to ask HERE.

Interviewer will document all answers and file them under the appropriate user ID number.

We are now done with the test. We appreciate the time you took out of your schedule to help us today. Thank you!

STOP RECORDING.

Escort the user out and prepare the room for the next user.

Evaluation Methods

We will collect quantitative and qualitative data to evaluate the user's behavior towards the EWU mobile app. This includes the reactions and responses the user makes during the five tasks with follow up questions that the observers will ask the user after the test is finished.

Quantitative data will be time-on-task and dwell time which will be captured by Morae. The entire test session will be video recorded via Mr. Tappy on a Dell Laptop issued by EWU. Qualitative data will be gathered using think-aloud protocol, a SUS questionnaire after the post-test interview, and observer notes on user behavior (see appendices A, B, C, and D).

The test evaluation will include pre-test surveys, a post-test questionnaire based on questions raised during the test, post-test interviews, and number of clicks during tasks. The combination of quantitative and qualitative data will be compiled by the usability team, analyzed, and then used to develop conclusions for the final report.

Quantitative

- Time to complete task
- Number of users able to complete task
- The post-test evaluation will include the System Usability Scale (SUS) questionnaire scored through Morae (Appendix F).

Qualitative

- User's comments and questions as recorded by Mr. Tappy
- User's body language and facial expressions captured by observers
- Each user's comments, questions, body language and facial expressions will be captured by the observer (logger) in Morae.

The results will be evaluated and reported. The user observation sheet will be evaluated individually and as a group. Selected video clips will be presented in the final reports and presentation. The pre-test survey and post-test questionnaire form are included in the Appendices of this document.

Test Environment and Equipment

The usability test will be conducted in room 211D in Patterson Hall on February 27, 2018 in a quiet environment in order to get the best results. The 15-minute test session will take place on a gray 4 ft by 10ft gray table surrounded by 5-10 chairs where our group member will sit. The user will have either an android device or apple product where he/she will complete five tasks. While the user is completing the tasks, two of our group members will be taking notes with a black ink pen on a

observer sheet. The other group member will be handling electronics such as the dell laptop, Morae, and recording equipment.

Before our users can participate in our usability test, they will sign a printed consent form. Afterward the user will be completing a short survey with simple information such as seen in the Pre-Test survey questions (See Appendix B).

Deliverables

Analysis derived from the completed test will be presented in a final presentation by the undergraduate group using PowerPoint. This will include a summary of the purpose of the testing, an explanation of the testing process, and details of the findings from the testing. Deliverables include, but are not limited to:

- Oral presentation
- Written report
- Screener Sheet
- MP4s of session recordings/video clips
- Logs from usability tests made by observers
- Test plan and script
- Pre-Test surveys
- Post-Test Interviews
- User Participation Consent Forms

The official usability testing day is Tuesday, February 27th starting at 3:00 p.m. and ending at 5:00 p.m. There will be six users in total, and each individual will be given a total of 20 minutes separately to complete their tasks, with ten minutes for setting up for the next test. The user will answer any post-test interview questions and complete the post-test SUS form.

The post-test interview will be given by the facilitator directly after the user participant finishes their usability testing of the EWU mobile app. The interview will be recorded using the audio picked up from the Mr. Tappy apparatus if no cam recording is available after testing. Facilitators will ask simple questions regarding the success or lack of success for both the testing and the app itself. Any follow-up questionnaires regarding user interviews will be completed the same day of testing (February 27th). The questionnaires will be quickly reviewed after individual testing, and thoroughly reviewed the following class day (March 6th).

We will be completing an electronic information record via MP4 gathered by Mr. Tappy and Morae Recorder software to keep track of the research and data gathering during the usability testing. This will be filed by our group during and after each usability test on the test day (February 27th).

Appendices

Appendix A: Consent form USED Figure 1

CONSENT FORM

I agree to participate in the Eastern Washington University Mobile App Usability Study, and understand that this participation is completely voluntary. I understand that my usability test session will be recorded for research purposes only and that my name and image will not be used for any other purpose. I relinquish any rights to the recording, and understand the recording may be copied and used by Eastern Washington University for educational purposes without further permission.

I agree to immediately raise any concerns or areas of discomfort during the testing session with the study administrators. Eastern Washington University has the right to record me during my session to further improve the EWU Mobile App.

I will sign below to indicate that I have read and I understand the information on this form, and that any questions I might have about the session have been answered.

Print Name _____ Date _____

Signature _____

Appendix B: Pre-Test Survey

Pre-Test Survey Questions

Are you (circle one):

- An Undergraduate student
- A Graduate student
- An EWU faculty member.
- An EWU staff member.

Gender (Please write): _____

Age (Please write): _____

Occupation (Please write): _____

Highest education completed (circle one) :

- High school degree.
- Bachelor's degree.
- Master's degree.
- Doctorate.

PC or MAC Preference (circle one):

- I prefer a PC.
- I prefer a MAC
- I have another preference (please write): _____

Mobile Brand Preference (circle one)

- I prefer Apple products
- I prefer Android products
- I have another mobile preference (please write): _____

Do you prefer to web surf using (circle one, then circle to indicate which you prefer of that type):

My desktop

PC

MAC

Other (please write): _____

My mobile device

Tablet

iPad

Smart Phone

Other (please write): _____

Do you prefer to work, or do homework using (circle one, then circle to indicate which you prefer of that type):

My desktop

PC

MAC

Other (please write): _____

My mobile device

Tablet

iPad

Smart Phone

Other (please write): _____

Appendix C: Test User Observations

| Task | Time | Observation | Error |
|------|------|-------------|-------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

Appendix D: Observer Notes from Interview

| QUESTIONS ASKED BY TEAM | ANSWERS GIVEN BY USER |
|-------------------------|-----------------------|
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |
| | |

Appendix E: Screener Sheet (FOR TEAM EYES ONLY)

Hi. We are conducting a usability test of a website as part of an EWU usability testing class. We are seeking college students or staff who might use the EWU Mobile App and are willing to be recorded while they complete a usability test. We are offering some Domino's Pizza for participation in the study on Thursday, March 1st.

Would you be interested? Yes No – NOPE

Don't ask, but is their English understandable enough for the "Think Aloud" protocol? Yes No – NOPE

Great! I need to ask you some more questions to determine if you meet our user profile.

What is your current status? (OK to select more than one but must be college student)

- College Student at EWU (Full time or Part Time),
- Employed by EWU (Full Time or Part Time),
- Retired - CAN'T BE TESTED
- Homemaker – CAN'T BE TESTED

Degree? Undergrad, Graduate, Certificate Major? _____ (See Profiles for List of Colleges)

Age?

0-16 – CAN'T BE TESTED

17-29 30+

Gender _____

Are you available for a 20 minute usability test at EWU Cheney Campus on: Thursday, March 1st 3-5PM?

Yes No - CAN'T BE TESTED

Which of the following devices do you own?

Computer Laptop Tablet Smartphone (Must own Smartphone or Tablet)

Of those devices, which do you use most?

Computer Laptop Tablet Smartphone (Prefer Frequent Mobile Users)

Thank you for talking with me! We need to review our candidates for the test and determine if you meet our criteria. Can you give me the following so that we can contact you?

Name _____

Email _____

Cell Phone # _____

Appendix F: SUS Form for Post Test

System Usability Scale

© Digital Equipment Corporation, 1986.

| | Strongly disagree | | | | | | Strongly agree |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--|-------------------|
| 1. I think that I would like to use this system frequently | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| | 1 | 2 | 3 | 4 | 5 | | |
| 2. I found the system unnecessarily complex | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| | 1 | 2 | 3 | 4 | 5 | | |
| 3. I thought the system was easy to use | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| | 1 | 2 | 3 | 4 | 5 | | |
| 4. I think that I would need the support of a technical person to be able to use this system | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| | 1 | 2 | 3 | 4 | 5 | | |
| 5. I found the various functions in this system were well integrated | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| | 1 | 2 | 3 | 4 | 5 | | |
| 6. I thought there was too much inconsistency in this system | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| | 1 | 2 | 3 | 4 | 5 | | |
| 7. I would imagine that most people would learn to use this system very quickly | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| | 1 | 2 | 3 | 4 | 5 | | |
| 8. I found the system very cumbersome to use | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| | 1 | 2 | 3 | 4 | 5 | | |
| 9. I felt very confident using the system | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| | 1 | 2 | 3 | 4 | 5 | | |
| 10. I needed to learn a lot of things before I could get going with this system | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | | |
| | 1 | 2 | 3 | 4 | 5 | | |