

Michigan Tech University

# Usability Test Plan

CS5760 Human-Computer Interactions & Usability

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## **1. Short description of the undergrad design**

This application would function to allow users to document and identify bird mortality events. The application is broken down into three main parts, the data entry which is done on the main app page itself, the database which will sit on the back end somewhere and store all gathered data, and the data view which will allow scientists who are interested in this information to examine it.

Our app has a data entry portion, which is comprised of the main app web page itself. This will be the part of our app that is seen and used by end users. This will include the part of the app which takes pictures of dead birds/roadkill, collects GPS data, weather data, speculative cause of death, and speculative species of dead animal. This part of the app will also interface with the database and send all the information that the user enters into to the database.

The database part of our app is the part that will store all of the information gathered from the data entry part of our application and facilitate its connection to the data view part of our application.

The data view is the part of our application that will be used by scientists. It will provide various ways to view the gathered data, including the ability to directly display the pictures that have been collected, as well as display GPS information conveniently in the form of heatmaps. It will also allow scientists to access all other gathered data in the hopes of extrapolating something useful from it.

## **2. Usability Test Purpose**

The purpose of this usability test is to collect information about how users are using Dead Bird App and whether they experience difficulties performing simple and more complex tasks using this App. So we can propose improvements to the App developers.

## **3. Before Test**

### **3.1 Consent**

Please see attached index.

### **3.2 Pre-test Questions**

Please see attached index.

### **3.3 Test set up details**

- A) Set up the computer to have the website open.
- B) Set up the webcamera/voice recorder/screen capture software.

## **4. Usability Test Scenario**

### **4.1 Scenario description**

Assuming you are a student in a biology group with some professors, they are

developing a new project with dead bird app and need volunteers to collect data. Volunteers could get one credit so you should have your own account in this app for proving. There would be one month to do this work. Volunteers are expected to take camera of dead birds and record some information so that scientists could make analysis.

## **4.2 Test Scenario 1: Create your own account and login**

### **4.2.1 Test Goals for the Scenario**

To test if the login function is ok and construct intuition and first impression for users.

### **4.2.2 Task list**

- A) Go to the home page and press “sign up today”
- B) Fill in the sign up form, input to “username”, “first name”, “last name”, “email”, “password” and etc.
- C) Submit the form
- D) Go back to the home page and press “login”
- E) Fill in the login form, input username and password
- F) Submit the form

### **4.2.3 Quantitative measurement list**

- 1) Actual Time to complete each task
  - a) Length of time each participant spends on filling in the “sign up” form
  - b) Length of time each participant spends on “login”
- 2) Number of participants completing tasks within allocated time
- 3) Number of participants completing tasks with extra time
- 4) Number of errors the participants made
- 5) Number of problems encountered, so that need help from coordinators
- 6) Number of unsuccessful retries to solve one error or problem and the length of time if resolved.
- 7) How many times the participants hesitate?

### **4.2.4 Qualitative measurement list**

- 1) Facial expressions
- 2) Verbal comments when they think out loudly
- 3) Spontaneous verbal expressions
- 4) Miscellaneous activities (stretching, wanting breaks, etc.)

### **4.2.5 Potential observations of participant**

- 1) Participants may be a little surprised when the password is not available, because there must be at least one character, one number and one symbols like @#\$(\*\_

2) Participants may feel difficult to recognize the words in the login form because of the color.

3) Participants may ask for help to find the login page after creating an account.

### **4.3 Test Scenario 2: Submit the report data and view the record**

#### **4.3.1 Test Goals for the Scenario**

To test if the report function is ok and help participants get the main use for this app.

#### **4.3.2 Task list**

A) Go to the home page and press “Report Form”

B) Fill in the form, check the location and input necessary information.

C) Submit the form

D) Go back to the home page and press “Table Data”

#### **4.3.3 Quantitative measurement list**

1) Actual Time to complete each task

2) Number of participants completing tasks within allocated time

3) Number of participants completing tasks with extra time

4) Number of errors the participants made

5) Number of problems encountered, so that need help from coordinators

6) Number of unsuccessful retries to solve one error or problem and the length of time if resolved.

7) How many times the participants hesitate?

#### **4.3.4 Qualitative measurement list**

1) Facial expressions

2) Verbal comments when they think out loudly

3) Spontaneous verbal expressions

4) Miscellaneous activities (stretching, wanting breaks, etc.)

#### **4.3.5 Potential observations of participant**

1) Participants may be confused for some input like speed limit.

2) Participants may want to click the map to choose the location rather than locate automatically.

3) Participants may ask for help to fill the form.

4) Participants may be frustrated to the result table.

#### 4.4 Bug Form

number	Bug name	uniqueness	location	description

## 5. After Test

### 5.1 Post test questions

1. Are you satisfied with the amount of time it took to complete this task?
  - a) Strongly agree
  - b) Agree
  - c) Neutral
  - d) Disagree
  - e) Strongly disagree
2. Overall, are you satisfied with the support information (tutorial, messages, and hints) when completing this task?
  - a) Strongly agree
  - b) Agree
  - c) Neutral
  - d) Disagree
  - e) Strongly disagree
3. Do you feel this App reliable as a tool for related research and environment?
  - a) Strongly agree
  - b) Agree
  - c) Neutral
  - d) Disagree
  - e) Strongly disagree
4. Which design did you find the most difficult to manipulate?
  - A) Sign up form
  - B) Login form
  - C) Report dead bird data
  - D) View the table data
  - E) None
5. What tasks were easy to complete?
  - A)sign up form
  - B>Login form
  - C)Report dead bird data
  - D)View the table data
  - E) None
6. Would you recommend this App to a friend or other scientists?
  - A) Yes
  - B) No
  - C) Depends
7. What suggestion do you have for us to improve or make it easy to use?

**Attached:**

● **Pre-test questions (given before any scenarios):**

1. How many years have you used a smart phone?
  
2. 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

- **Consent**

### **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](mailto:jpolzien@mtu.edu).

Signature:

Date: