

## Evaluation 6

### **Usability Test Report**

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### **Team Dead Birds**

Scientist: David Flaspohr  
djflaspo@mtu.edu

## 1. Team Details:

Name	Role	Department
Eric Vasey	Team Leader	Computer Science
Rebecca Driver	Team Leader	Humanities
Caleb Chapman	Team Member	Computer Science
Jonathan Faron	Team Member	Computer Science
Ryan Fenton-Garcia	Team Member	Computer Science
Bradley Ross	Team Member	Computer Science
Kuber Dutt Sharma	Consultant	Computer Science
Haitang Duan	Consultant	Computer Science

## **2. System Description:**

The undergraduate team aims at developing an app which would serve as a simple, convenient solution for documenting and identifying dead birds found, as well as analyzing causes for bird mortality, for David Flaspohr. The app is a citizen science project, and the primary users of the app are people in any region. The primary users are tasked with collecting data about the dead carcass of the bird and nearby scenario by taking/uploading pictures as well as entering data manually.

### 3. UI Description

The users can report incidents of bird deaths as registered users, guest users or experts. The experts can verify the reports submitted by the users. Also the in the table view the database entries are made available to every user of the application.

Following are some screenshots describing the features of the application:

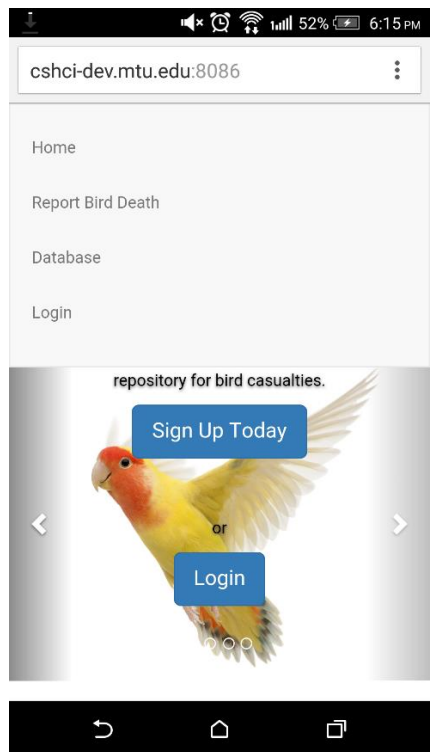


Figure 1: Home page

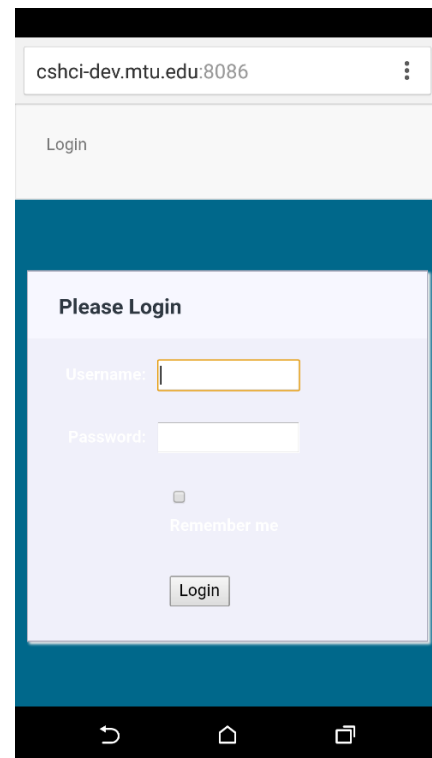


Figure 2: Login page

Figure 1 shows the home page. Upon entering the URL the user is directed onto the home page. Here the user can choose between reporting an incident as a guest user or as a registered user.

Figure 2 shows the login page. When a user is returning to the application, they can make use of this form to enter the correct credentials and log-into the application.

Figure 3 shows the sign-up page. Using this from the user can create an account for the application.

Figure 4(a) and (b) show the report page. Here the user can create a report of bird death sighting.

Figure 5 shows the table view of the database.

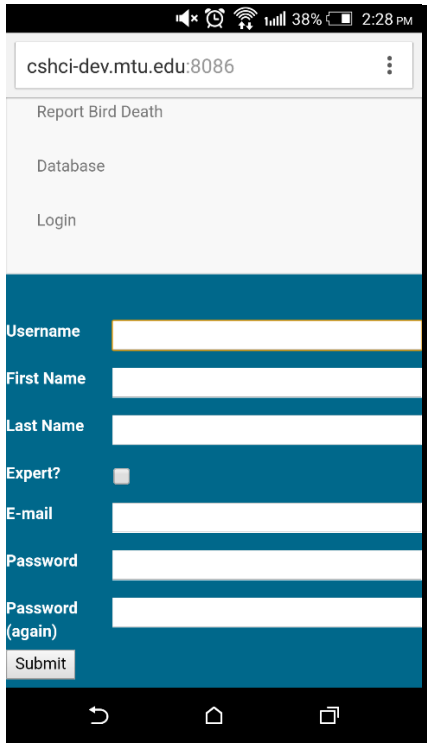


Figure 3: Sign-up page

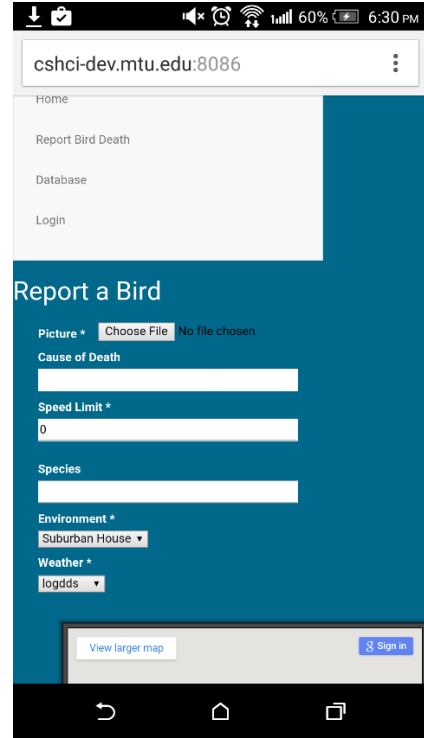


Figure 4(a): Report page

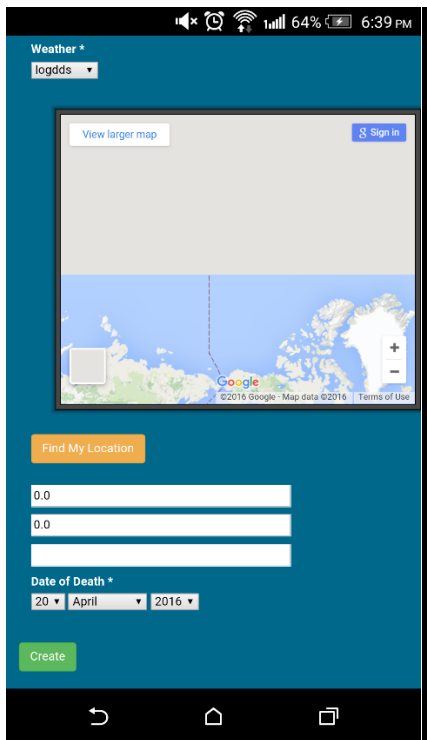


Figure 4(b): Report page

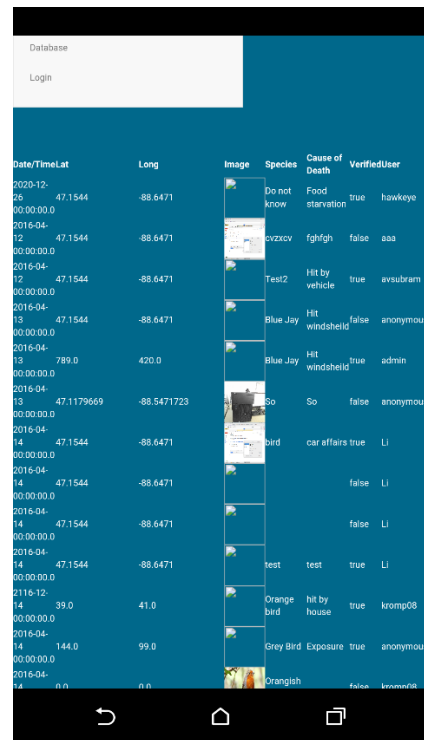


Figure 5: Database table view

## 4. Testing Results

### 4.1 Pre-test questions

1. How many years have you used a computer?
2. How many years have you used a smartphone?
3. Please indicate your level of agreement to the follow statement: I am very interest in the testing of this application.
  - a) Strongly agree
  - b) Agree
  - c) Neutral
  - d) Disagree
  - e) Strongly disagree

Figure 6(a) and (b) depict the responses of the participants to the pre-test questions.

Most participants marked “neutral” as response to interest in participation.

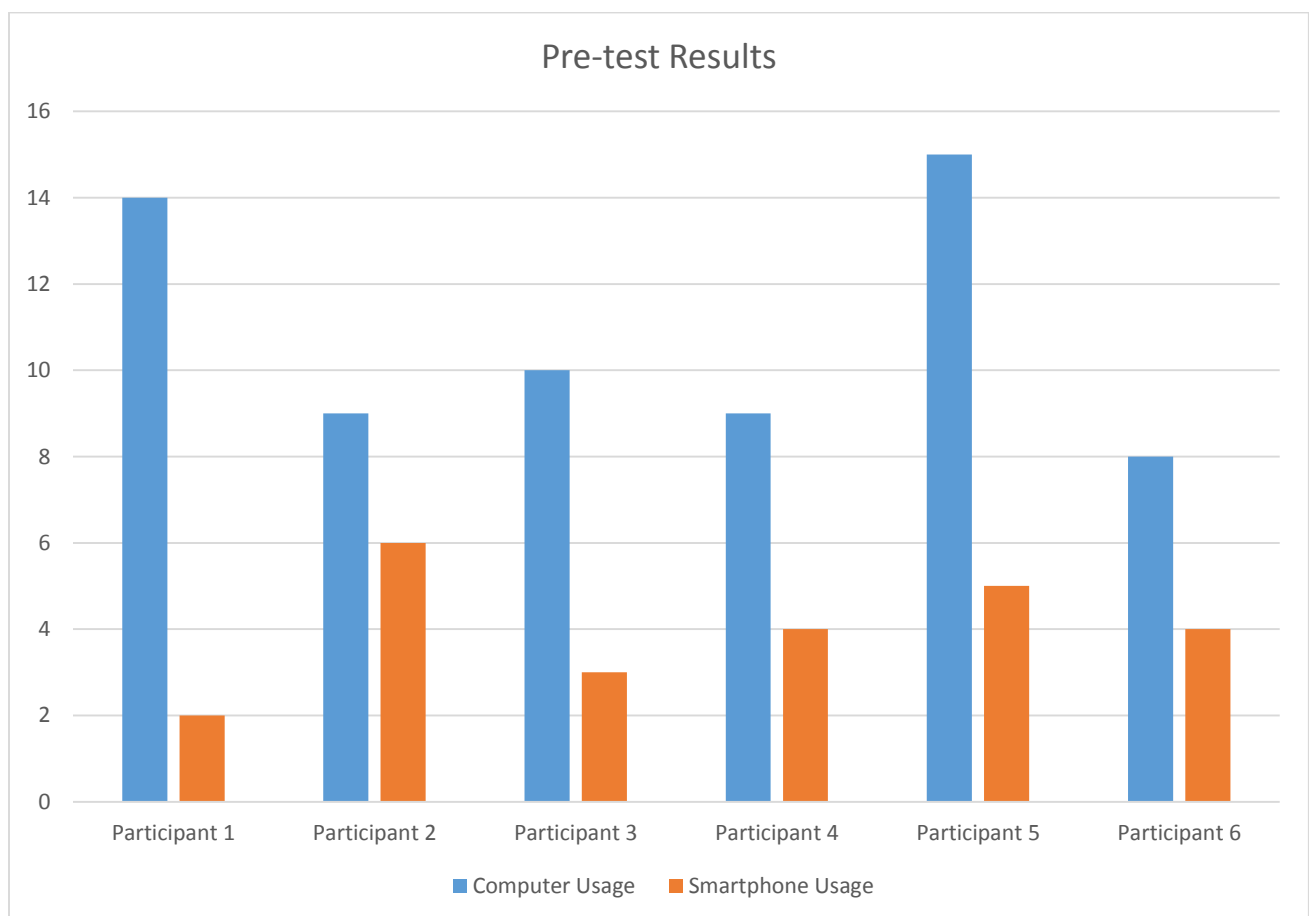


Figure 6(a): Pre-test results

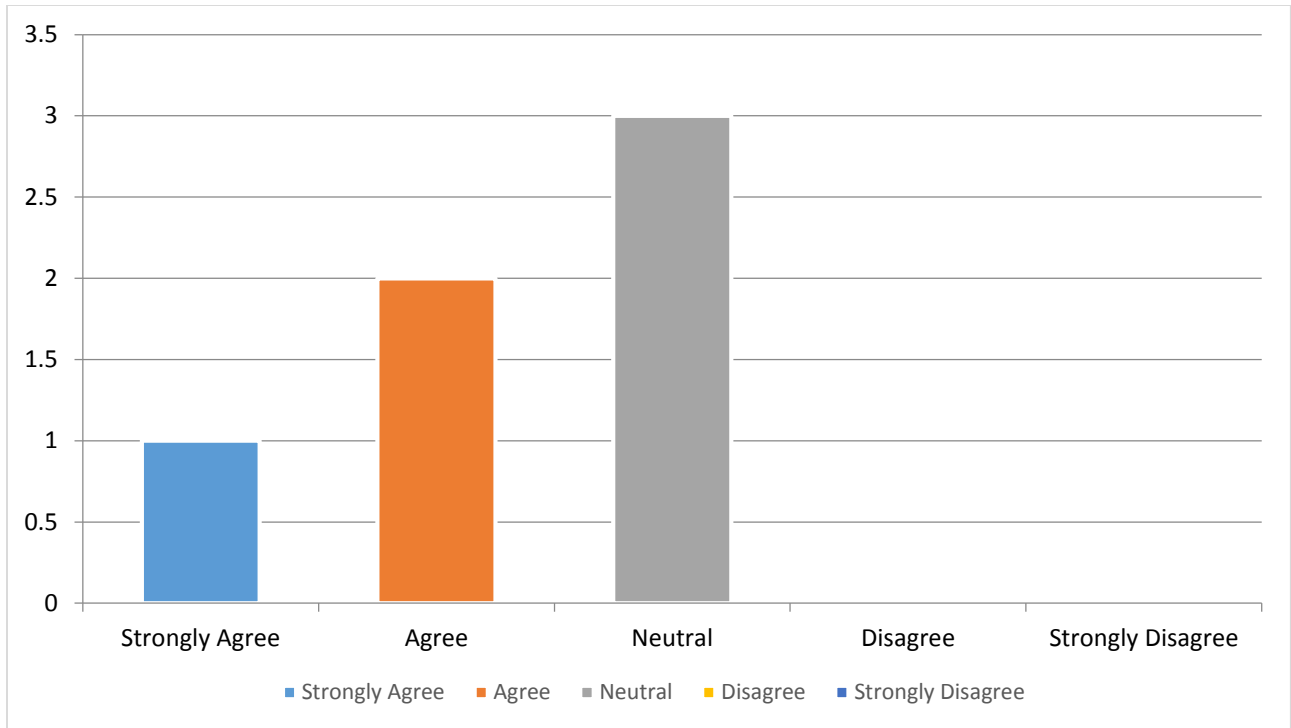


Figure 6(b): Pre-test Results

## 4.2 Testing Scenarios

### Test scenario 1

#### ❖ Test scenario name

Sign-up and Login

#### ❖ Test Goals for the scenario

The goal of this scenario is to test the login and going to the home page. Another goal of this test is to test the response of the application if the wrong login information is provided.

#### ❖ Scenario description

The user of this app can report incidents with or without accounts on the app. So to test a scenario where a user wants to report incidents after creating an account, we are testing the login feature of the app. Here we will test how the application responds to correct and incorrect data provided at the time of sign-up or login.

“Assume you have to report a new incident. You can do that by creating an account or as a guest user. For this test case you are required to create 2 new accounts. The privileges for the first account would be of a user who reports incidents. The privileges for the second account would be for a scientist who can access all data recorded through the app. You

will sign out after creation of each account and try logging in using the same credentials. If successful you will log out from each account.”

- ❖ Task list

- For Sign-up

The participant will perform the following tasks.

- a) Find the correct button to login
- b) Select a new user name and password
- c) Press login button
- d) After successful login, the user can view submitted data.
- e) Find the correct logout button and logout

- For Login

The participant will perform the following tasks.

- a) Find the correct button to login
- b) Fill up the user name and password
- c) Press login button
- d) After successful login, the user can view submitted data.
- e) Find the correct logout button and logout

## Test Scenario 2

- ❖ Test scenario name:

Create new submission

- ❖ Test Goals for the scenario

Assume that a user want to report an incident. For that he/she will click pictures of some dead birds. To report the incident the user will then go to the application. Upload the pictures and fill the form along with it.

- ❖ Scenario description

The user of this app would now try to report an incident. To do so, the user would need to upload pictures from the spot and fill a form provided. The user can report incidents as guest or a registered accounts. Here we will try performing the task in both the settings. “First login using the user account credentials from scenario 1. Now report an incident. To do so you will have to upload pictures from your gallery and fill the form with it. Once done log-out.”

“Now try repeating the same process as a guest user.”

- ❖ Task list



The participant will perform the following tasks.

- a) Select new submission
- b) Upload photo
- c) Fill the form
- d) Select the submit button

Test scenario 3

❖ Test scenario name:

Sign in as a scientist

❖ Test Goals for the scenario

Assume that a scientist wants to analyze the number of deaths and the leading cause in any particular region. The scientist can login and access the data and generate patterns. Also the scientist can check if any report entered by a user is correct or not.

❖ Scenario description

The secondary user of this app is a scientist who is responsible for validating all entries recorded by the app. The scientist can also use the data collected through the app to see patterns in bird deaths in any region.

“First login using the scientist account credentials from scenario 1. Now go to any report. Now see if the user has entered all the required data. Once done log-out.”

“Now login again as the scientist and try to access the table view of the entered data. Once done log-out.”

❖ Task list

The participant will perform the following tasks.

- a) Sign in
- b) Validate report
- c) Select table view
- d) Logout

### **4.3 Post-test Questions**

Please indicate your level of agreement to the follow statement:

1. Overall, this web application was easy to perform the task.
  - a) Strongly agree
  - b) Agree
  - c) Neutral
  - d) Disagree
  - e) Strongly disagree

2. I enjoy using this web application.
  - a) Very much
  - b) A little bit
  - c) Neutral
  - d) Not very much
  - e) Not at all
  
3. I would use this web application again.
  - a) Strongly agree
  - b) Agree
  - c) Neutral
  - d) Disagree
  - e) Strongly disagree
  
4. 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
  
5. 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
  
6. 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
  
7. 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
  
8. 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

9. Would you recommend this App to a friend or other scientists?

a) Yes

b) No

c) Maybe

Figures 7-15 show the participants' answers to post-test questions

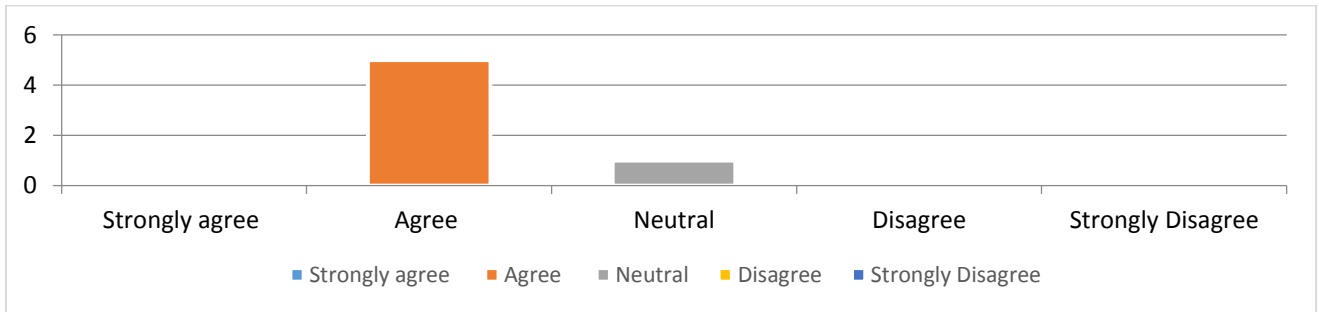


Figure 7: Post-test question 1

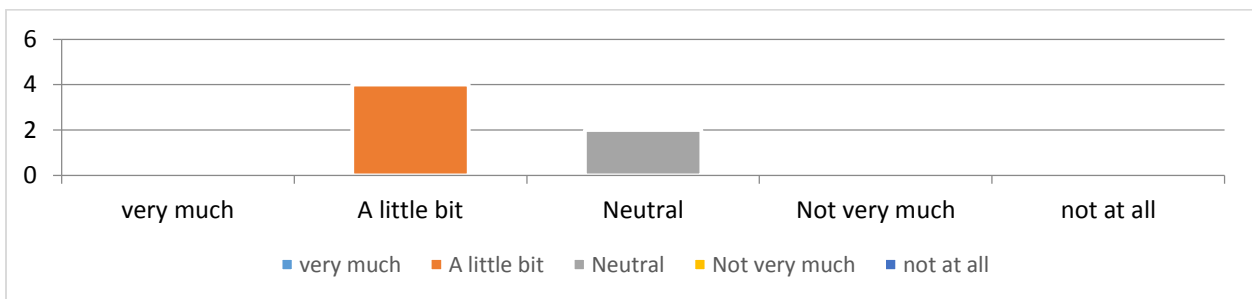


Figure 8: Post-test question 2

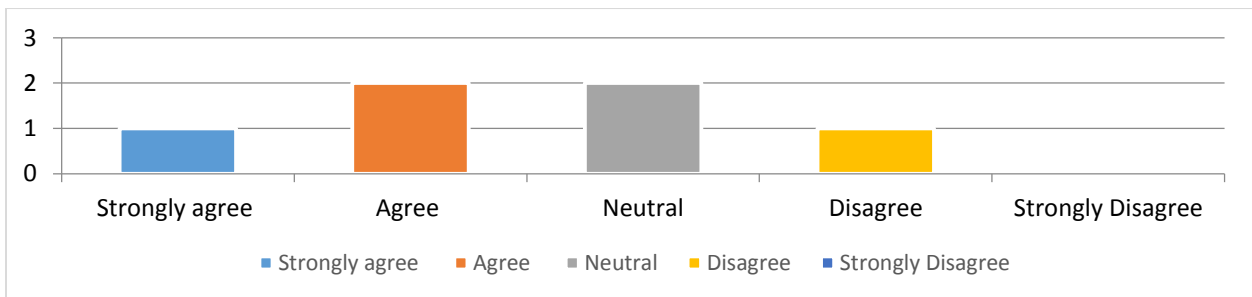


Figure 9: Post-test question 3

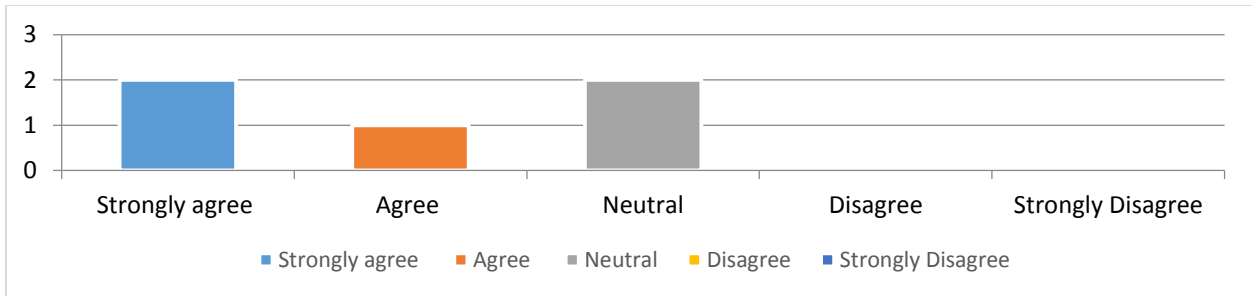


Figure 10: Post-test question 4

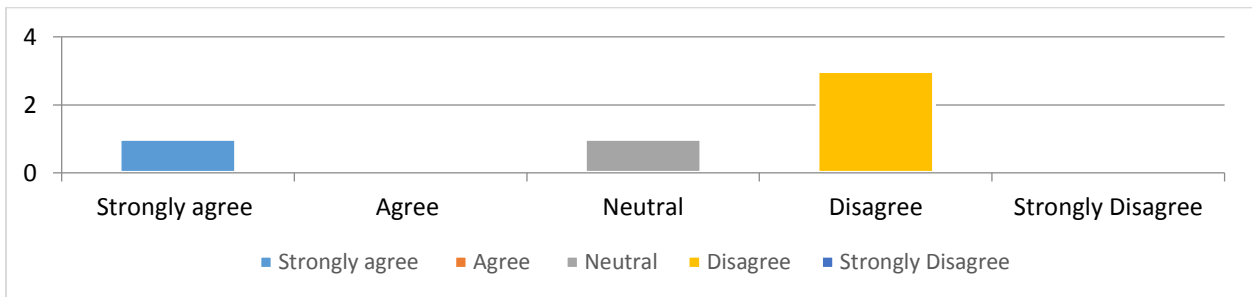


Figure 11: Post-test question 5

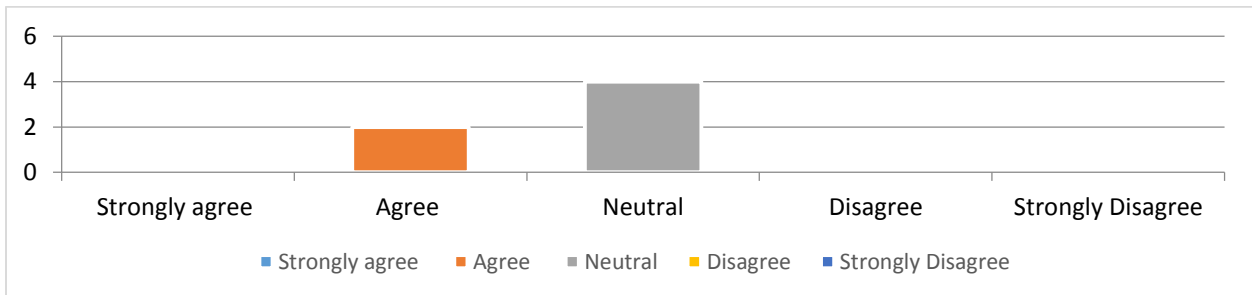


Figure 12: Post-test question 6

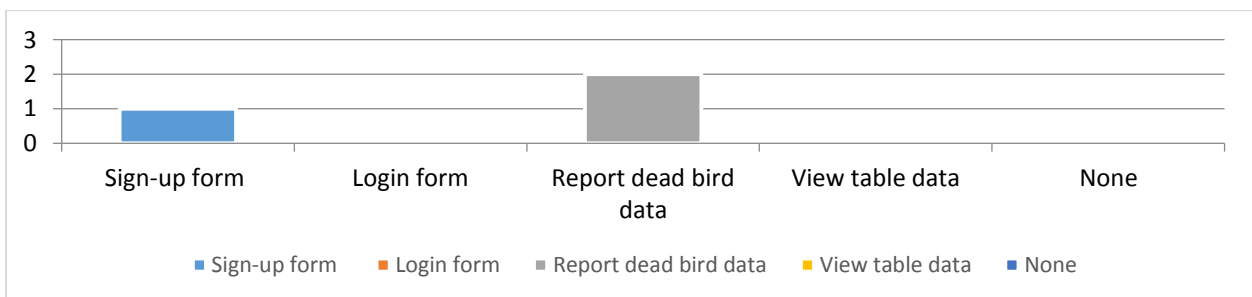


Figure 13: Post-test question 7

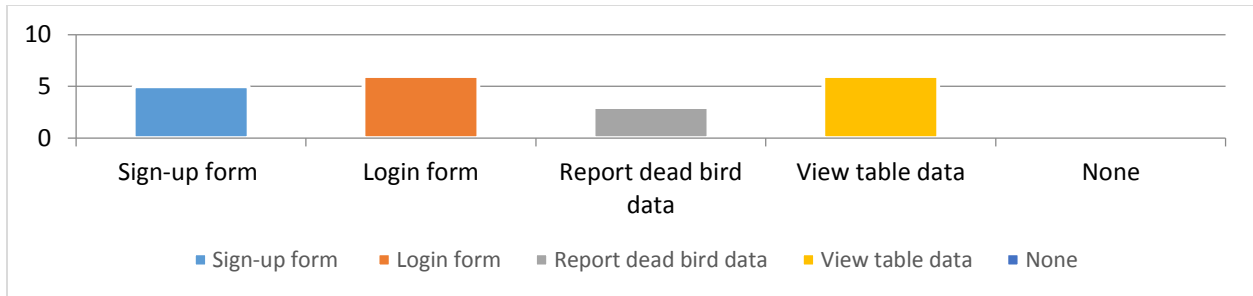


Figure 14: Post-test question 8

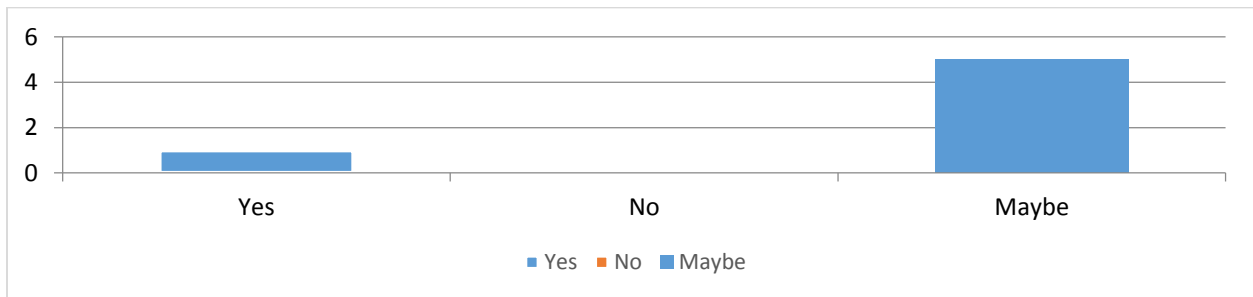


Figure 15: Post-test question 9

#### 4.4 Qualitative measurement

Across all test scenarios the following observations were recorded to analyze the application qualitatively:

- a) The facial expression of user
- b) Comments about this feature of user
- c) User's attention in the application
- d) User's comfort while entering information

Across all test scenarios it was observed that the participants were motivated and attentive. They were showing enthusiasm during the evaluation process. In most scenarios the participants were willing to experiment with the application layout with little or no supervision.

## 5. Design Recommendations

1. The application has a unique feature of email verification. This should be made robust, as the user can still login without getting the email verified.
2. The application home page remains unchanged after user login. The home page options can be changed. A user profile can be made available after login.
3. The navigation menu is clustered at the left corner. The user logout button should be shifted to the right corner. This would help in avoiding any unnecessary logout scenarios. Also the navigation bar design should be optimized as per devices.
4. The users should be provided the option to edit their reports. Adding this feature to the application would make sure that users don't end up submitting incorrect reports.
5. The user forms can be redesigned to provide more information to the first time users.
6. The database modelling can be changed in a manner such that, newer entries in are inserted at the top of the database.
7. Admin moderation can be introduced to approve expert sign-ups and report submissions. Introducing this can ensure user safety. It also prohibits users from posting malicious content through the application.
8. The color scheme for the application should be reconsidered. In some instances the options on screen were barely visible because of the present color scheme.
9. Some application information in the form of a "Help" or "About" section should be added to the application.
10. The experts should be given limited options to edit in a user report.
11. The database details shown in the application's table view must be altered. This would ensure safety of the applications' users. Displaying time stamps and locations can lead to breach in privacy of individuals.

## Appendix A – Undergraduate Attendance

Name	Number of Sessions Attended
Eric Vasey	2
Rebecca Driver	2
Caleb Chapman	2
Jonathan Faron	2
Ryan Fenton-Garcia	2
Bradley Ross	2

## Appendix B – Bug Report

Bug Number	Bug Name	Bug Uniqueness	Bug Location	Bug Description
1.	Duplicate data	Across all participants	Report page	User can edit weather and environment fields; thus resulting in duplicate entries
2.	Null Fields	Across all participants	Report page	User can submit reports without filling data in mandatory fields
3.	Irregular data	Across all participants	Report page	Under location mandatory text field text can accept digits
4.	False dates	Across all participants	Report page	User can enter futuristic dates
5.	Negative speed	Across all participants	Report page	User can enter negative speeds
6.	Wrong file type	Across all participants	Report page	User can submit reports with attachments of non-image type file extensions
7.	Session trouble	Across all participants	Report page; Login page; Table view	User can delete reports even after logging out; by using the back button in the browser
8.	Lost images	Across all participants	Table view	User images get deleted upon expert validation
9.	No admin	Across all participants	Expert login page	The admin view link for expert login is broken
10.	No delete	Across all participants	Report page	The delete link is broken