

Bergen Swamp Preservation Society Website – Usability Report

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Executive Summary

For the RIT's Usability Testing Class (HCIN-630), a team of six students worked to design and conduct a usability test on the Bergen Swamp Preservation Society Website. The study evaluated the usability and user experience of the website.

Each of the five participants of the study were asked to perform five tasks, to collect data and to verify the finding from the heuristic analysis. The tasks were designed to test specific sections of the website which might have violated certain heuristics.

The data collected included both quantitative data (ex: Likert-scales questions) as well as qualitative data (ex: participant feedback and suggestions). The main usability issues found were false signifiers in "Our Upstate New York Properties" section of the website, visibility of links in the header and general categorization of data within the website.

The results of the study endorse several recommendations. The restructuring of some of the links from "Favorite Links" to "Contact" section. Changing the shape of icons for the "Our Upstate New York Properties" section to one that is not internally consistent to links on the website. Moving links from the header to a more visible location on the website. Renaming the "Favorite Links" section to "Resources".

Introduction

The usability test was aimed at studying the usability and user experience of the Bergen Swamp Preservation Society website, developed the client Rita Locke Pettine. The client wanted to spread awareness to the community about Bergen Swam. The target audience were younger generation, below the age of 30, who may not have disposable income but have time to donate to the preserve.

Purpose

The user experience and the how closely the website matches the user's conceptual model was evaluated during this study. The study focused on potential usability issues on the website, collect participants feedback and suggestions with the result of improving the website. The results of the study indicated the general usability issues and suggests improvements.

Research Questions

Our Research questions were:

1. How quickly were the participants able to find information about Bergen Swamp and other locations mentioned in the site?
2. Were the participants able to locate and complete the visitor request form?
3. How many clicks or how long did it take the participants to find the photo gallery?
4. How many clicks or how long did the participants take to locate and complete Membership form?
5. What factors do participants consider before they donate to Bergen Swamp?
6. What were the questions the participants ask while completing the tasks?

7. How closely does the flow of the website match the user’s conceptual model (based on user’s think aloud protocol)?
8. Were the participants confident about navigating through the website?

Methodology

The study evaluated the usability and user experience of the Bergen Swamp Preservation Society Website in an exploratory usability test. The participants provided feedback after attempting each task assigned to them.

Participant Characteristics

The study was initially planned to recruit 10 to 12 participants who were interested in the preserve or the swamp for various reasons. Table 1 show the details of the participants desired and table 2 shows the participants demographic of the actual participants.

We recruited 2 participants to conduct the pilot test. The first test clarified the understandability of the scenarios we set for the tasks and the second pilot test helped us understand the requirement of counterbalancing our tasks.

For the test, we recruited 5 participants in total. All the participants were Masters students between the age of 18 and 26, studying at the Rochester Institute of Technology with an inclination towards joining or being a member of a nature preserve.

Characteristics	Desired Number of Participants
Test Type	
Pilot	1
Regular	10
Back-up	1
Total Number of Tests	12
Age Group	
18-50	5
50 +	5
Education	
High School/GED	4
Bachelor’s	3
Master’s/Doctorate	3
Frequency of Use (Electronic Devices)	
Rarely	4
Often	3
Very often	3

TABLE 1: DESIRED PARTICIPANT DETAILS

Characteristics	Actual Number of Participants
Test Type	
Pilot	2
Regular	5
Total Number of Tests	7
Age Group	
18-50	7
Education	
Master's/Doctorate	7
Frequency of Use (Electronic Devices)	
Very often	3

TABLE 2: ACTUAL PARTICIPANT DETAILS

Test Design

The usability test will be conducted in the usability testing lab at B. Thomas Golisano College of Computing and Information Sciences, RIT, Rochester, NY. This test will require the participant to use and evaluate the revamped version of the Bergen Swamp Preservation Society Website. The test sessions will last 45 minutes, approximately and each participant will each be given a list of five tasks. They will be asked to answer questionnaires before and after the test regarding the ease of use and feedback about the website. All qualified participants will receive a \$20 gift card from Amazon after they have participated in the test.

This study will involve a good mix of participants from different walks of life and age groups with an interest in visiting or volunteering in preservation societies or biological research. The table represents the order in which the tasks are performed by the 20 participants.

In order to mitigate any transfer of learning effect between tasks 2 (locate and view photo gallery), task 4 (find driving directions) and task 5 (locate and view calendar and events), we counterbalanced the presentation order for task 2 (locate and view photo gallery), task 3 (locate and fill visitor request form) and task 4 (find driving directions). Table 3 shows the order we followed for each of the five participants. Tasks 2 completion is dependent on the participant navigating to “Favorite Links” Section and locating the “Photos” icon. The link for “Maps” Section and “Calendar” is also present here. This could lead the transfer of learning effect.

Participants	Tasks				
P1	T1	T2	T3	T4	T5
P2	T1	T3	T4	T2	T5
P3	T1	T4	T2	T3	T5
P4	T1	T2	T4	T2	T5
P5	T1	T3	T2	T4	T5

TABLE 3. EXPLORATORY MATRIX DESIGN, WHERE PN = PARTICIPANTS AND TN = TASKS

Task List

[Task 1: Locate the information about becoming a member and fill out the Membership form.](#)

State: The homepage of Bergen Swamp website will be opened again before continuing with this task.

Success Criteria: The user should be able to find the 'Become a Member' page, identify the two types of becoming a member and click on the option that they are comfortable with.

Scenario 1

Bergen Swamp Preservation Society is an environmental land trust and is considered as one of New York's living museum. You have already heard of Bergen Swamp Preservation Society and you like the work the preserve is doing. You would like to help out when possible and be a part of the preservation society.

[Task 2: Locate and view the photo gallery of Bergen Swamp society](#)

State: The homepage of Bergen Swamp website will be opened again before continuing with this task.

Success criteria: the user should be able to find the photo gallery and click on them to view pictures

Scenario 2

You visited Bergen Swamp during the weekend and saw a lot of interesting flowers there. You want to show these plants to you friends but did not take any pictures during your visit there. You decide to check the website for finding images.

[Task 3: Locate the information about visiting Bergen Swamp and fill out the visitor request form.](#)

State: The computer will be open with the Bergen Swamp website homepage.

Success Criteria: The user should have opened the 'Our Visitor Policy' page and later proceeded to the visitor request form. Participant must be able to fill out all the text boxes successfully before submission.

Scenario 3

You and 5 of your friends want to plan a trip to Bergen Swamp

Task 4: Locate the maps and find directions to get there.

State: The homepage of Bergen Swamp website will be opened again before continuing with this task.

Success Criteria: The user finds the link for Maps and navigates to a map for any of the swamps shown on the website.

Scenario 4

You want to take pictures of different types of swamp plants for your photo collection. You want to go to a swamp closest to you but you don't know the directions to get there. You decide to look at the website to find driving directions.

Task 5: Locate the Calendar and Events

State: The homepage of Bergen Swamp website will be opened again before continuing with this task.

Success Criteria: The user should be able to navigate to the calendar page and find the correct date.

Scenario 5

You are a member of Bergen Swamp Preservation Society and have free time coming up in the month of May. You have volunteered at the Bergen Swamp before and would like to help out again.

Participant Recruitment Process

The recruitment process involved the researchers posting flyers around Rochester Institute of Technology. This was aimed at attracting potential participants for the study. The Flyer contained information about the duration, location, compensation, contact information and a brief line about what was expected of the participant. The flyers were posted throughout the month of April around Rochester Institute of Technology campus at

- Gleason Circle Bus Stop
- Golisano Atrium
- 2nd Floor Bulletin board, GCCIS (Building 70)
- Sustainability Building
- Rustic Village Apartments
- Clayton Arms Apartments
- Crittenden Way Apartments
- Crossroads
- CAST building
- James Gleason Building
- Global Village
- Student Alumni Building

The participants contacted the researchers via the email provided on the flyer, indicated their interest to participate in the study. The researchers replied to the emails with a Google Forms link that contained a short survey to be filled out by the participant and reviewed their individual responses. Participant that met the study criteria were emailed asking them to fill out their availability for the study on another link.

Inclusion Criteria:

- Participants who were willing to join or already a member of a nature preserve.
- Participants who were willing to visit preservation society for recreational or study purposes.

Exclusion Criteria:

- People with less time and interest in outdoor activities
- People who were not interested in joining a nature preserve.

We decreased the number of participants from 10 to 5 since we were not able to get older citizens to test the website. While we were unable to get older participants, we were able to get a perspective from young nature enthusiasts and technically knowledgeable users.

Test Environment

The Usability Testing Laboratory in B. Thomas Golisano College of Computing and Information Sciences building at RIT, provided us with a controlled environment to conduct

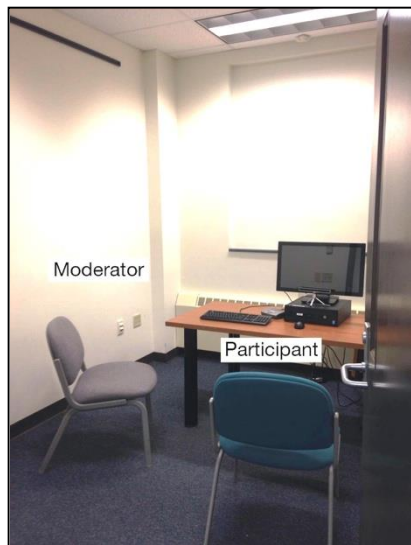


FIGURE 1: THE TESTING ROOM

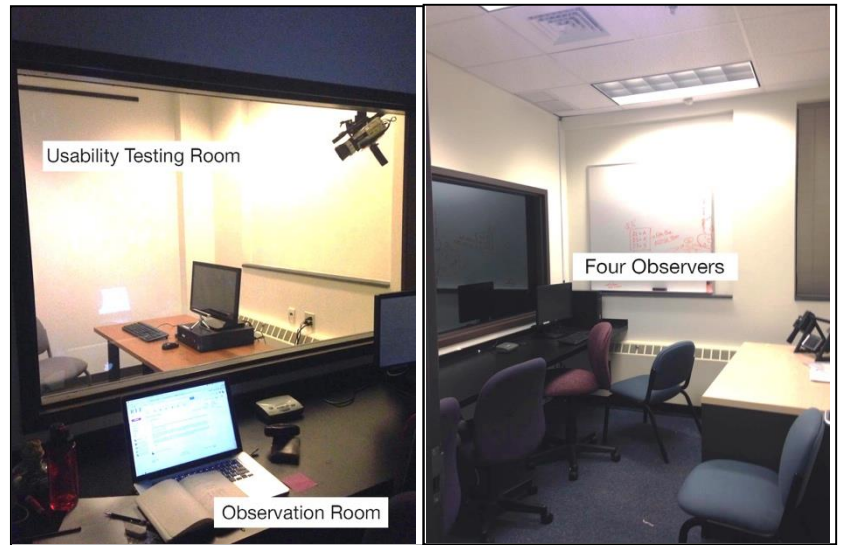


FIGURE 2: THE OBSERVATION ROOM

the test. The Usability Testing lab consists of two rooms, with one of the rooms containing a computer connected to the internet, a video camera observing the test taker and two chairs for the test taker and the moderator (Fig 1). The second room contains two computers connected to the internet and a one-way mirror to see into the test taker's room (Fig 2). The two rooms are connected via an intercom. Morae Recorder software was used on the test taker's system and Morae Observer used on the observer's system. The observers were able to view the test taker's system screen in real time and drop markers on the screen recording, while the test is being conducted.

Test Personnel Roles

The team was divided into two main roles: Test Moderator and Observer. At any given test session, there were at least 3 members present for the test where one of the team member assumed the role of test moderator and the others as observers.

Observer Role

Group members who carried out the role of an Observer were recording observations based on the decided metrics. They noted points from the think-aloud method the participants used during the tests. One of the observers was in contact with the moderator via intercom.

Moderator Role

The moderator was responsible for everything that happened in the testing room, from welcoming the participants, explaining the purpose of the study, carrying out the background questionnaire and conducting the test. The moderator was the sole person interacting with the participant unless a situation demanded the intervention of the observers. The moderator explained the tasks to the participants and asked timely/appropriate questions that would help extract more information from the

participants during the test. Conducting the pre-test and post-test questionnaire was also a vital role of the moderator.

Test Procedure

Session outline and timing

The session lasted for an hour and had four parts, pre-test arrangements, introduction to the test session, task list and post-test debriefing. The pre-test arrangement was done only for the first participant and only the participant packets were changed for each subsequent participant.

Participants were introduced to the test environment, equipment and the flow of the test session talked about with them. We emphasized the fact that the application is being tested and not the participants' capabilities. Purpose of the test was also explained. Participants were asked to think aloud in order to collect the inputs. Any participant concerns that they had regarding the test session was addressed and all necessary information was provided to the participants to finish the test successfully.

Table 4 briefly lists the different parts of each test session and their estimated duration.

Test Session Subparts Duration (minutes)	
Pre-test Arrangements	10
Introduction to the Test Session	5
Tasks	40
Post-test Debriefing	10

TABLE 4. TEST SESSION SCHEDULE.

Pre-test Arrangements (10 minutes):

- The team arrived about 10 minutes before the participant and setup the system.
- The moderator setup the following items in the testing room:
 - Started Morae Recorder on the system and tested audio and web camera functionality.
 - Made sure that the moderator is able to communicate with observers in the adjacent room through intercom.
 - The participant packet was ready for the participant.
- The observers started Morae Observer on the system available in the room and connected via LAN to the testing system

Pre-test session greeting to participant (5 minutes)

- Welcomed participant
- Introduced the research team
- Briefed them about the informed consent,
- Explained the “Think aloud” procedure.

After the consent form was signed and the participant briefed about the test, we proceeded to the next part of the session.

Test Session (40 minutes)

The tasks mentioned in the task list was provided to each participant according to the participant number. The participant number is important since we counter balanced the learning effect. During the entire test session, the participants were encouraged to ‘Think Aloud’. During the test session, we recoded details such as time on task and number of clicks to complete the task. The data collected during this session might have been impacted by the think aloud protocol.

Post-test debriefing (10 minutes)

Once all five tasks were marked as completed,

- The participant was given the post-test comparison questionnaire.
- Asked broad questions to collect preference and other qualitative data.
- Followed up on any problems that came up for the participant.

Deviations from Test Plan

We had to include participants on spot due to no shows while conducting the study but we made sure that they met the inclusion criteria and that the participant could be considered as a user representative before proceeding with the test. However, such an incident happened only during the pilot study and we were able to collect valuable information that needed to be incorporated during the study.

Data Collection and Evaluation Measures

Since the product to be tested is a website there aren't many features and characteristics that are new to most of the population. Hence, we are concentrating more on the qualitative data than the quantitative data that indicate the features and nuances of the website that the creators need to concentrate on. The quantitative data was collected to support the qualitative data

The experiment will take note of three main quantitative attributes:

- The time each participant takes to complete a task
- The number and type of questions they ask before completing a task
- The number and type of hints the moderators give the participant before successfully finishing the test.

The experiment will take note of four main qualitative attributes:

- Any positive comments that the users have while they practice the 'think aloud' method.
- Any confusions or misunderstandings about the website while finishing each task
- Any constructive feedback on how to improve any elements or functions of the website
- Any overall commentary on whether the website is able to communicate and serve its purpose.

The experiment will take note of the user's preference data:

- Ease of use and access
- Appropriate labels and headings to find the necessary information
- Appropriateness of the website's functions to the user's mental model.

Table 5 identifies the type of data collected and which of the research questions they answer. The legend for the acronyms used in the table are as shown below.

QT - Quantitative Metrics

QL - Qualitative Metrics

P - Preference Data

Research Question vs. Data Collected	
<i>How quickly are the participants able to find information about Bergen Swamp and other locations mentioned in the site?</i>	<ul style="list-style-type: none"> • Time to complete a task (QT) • The number and type of questions they ask before completing a task (QT) • Any confusions or misunderstandings about the website while finishing this task (QL) • Any constructive feedback on how to improve any elements or functions of the website (QL) • Appropriateness of labels and headings to find the necessary information (P)
<i>Are the participants able to locate and fill up the visitor request form?</i>	<ul style="list-style-type: none"> • Time taken to complete a task (QT) • The number and type of questions they ask before completing a task (QT) • Any confusions or misunderstandings about the website while finishing this task (QL) • Appropriateness of the website's functions to the user's mental model. (P)
<i>How quickly and easily are the participants able to locate and fill the Membership form?</i>	<ul style="list-style-type: none"> • Time taken to complete a task (QT) • The number and type of questions they ask before completing a task (QT) • Any confusions or misunderstandings about the website while finishing this task (QL) • Appropriateness of the website's functions to the user's mental model. (P)
<i>How quickly and easily are the participants able to locate the events and calendar?</i>	<ul style="list-style-type: none"> • Time taken to complete a task (QT) • The number and type of questions they ask before completing a task (QT) • Any confusions or misunderstandings about the website while finishing this task (QL) • Appropriateness of the website's functions to the user's mental model. (P)
<i>What questions do users ask as they navigate through the website, while completing a task?</i>	<ul style="list-style-type: none"> • Any constructive feedback on how to improve any elements or functions of the website (QL) • Any overall commentary on whether the website is able to communicate and serve its purpose. (QL)
<i>What are the reasons they would be interested in becoming a member of/visiting Bergen Swamp?</i>	<ul style="list-style-type: none"> • Any overall commentary on whether the website is able to communicate and serve its purpose. (QL) • Appropriateness of the website's functions to the user's mental model. (P)
<i>What are the factors of the website that the participants consider before they would donate to a preservation society like Bergen Swamp?</i>	<ul style="list-style-type: none"> • Any overall commentary on whether the website is able to communicate and serve its purpose. (QL) • Appropriateness of the website's functions to the user's mental model. (P)

TABLE 5: RESEARCH QUESTIONS AND CORRESPONDING DATA COLLECTED

Findings

All the information found were calibrated using the Morae software that is available in the Usability Testing Lab. The recording was started as soon as the participant gives the consent and signs the informed consent form. Morae software was setup in such a way that:

- Participant's facial expressions were recorded.
- Every task's start time and end time was marked by the observer.
- The mouse movements were indicating a grey stroke line.
- Every click was indicated by a yellow triangle.

Every post session questionnaire had qualitative answers as well as the System Usability Scale through which we were able to calculate the 'Usability Score' of the system. While the participant rated each task, we asked them to explain why they thought task was easy or difficult.

Quantitative Analysis

Task Outcome

Every task had a specific destination that marked the task to be complete. Each task warrants a confirmation from the participant that they had completed the task, before we marked it a success or failure.

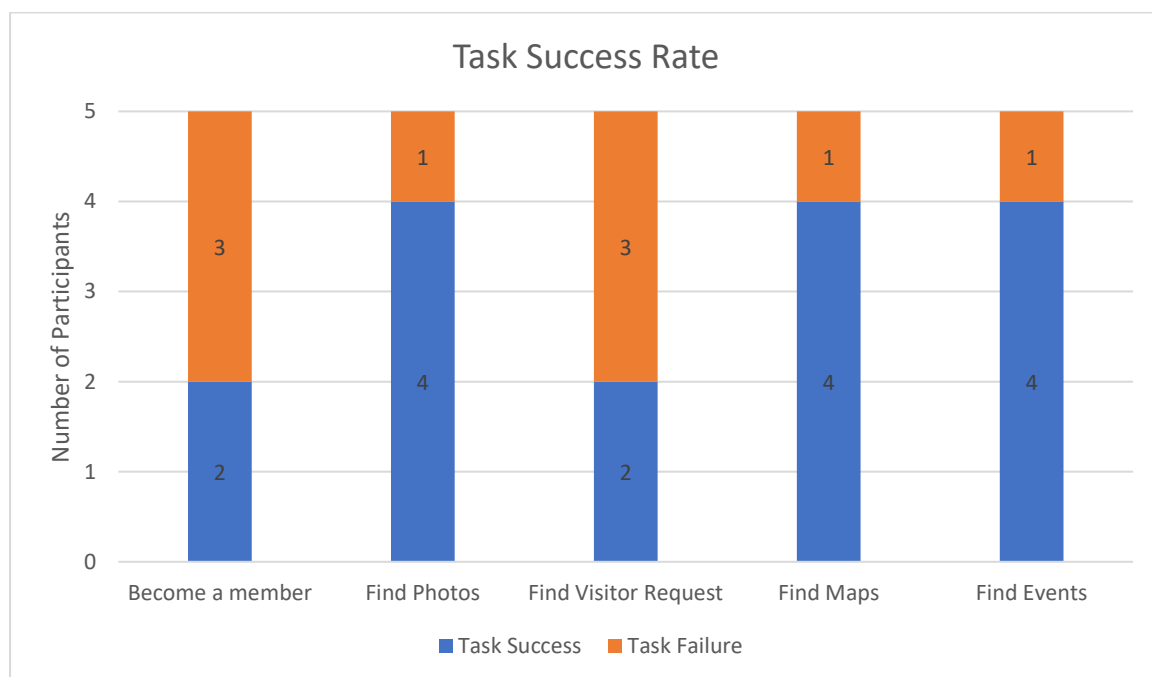


CHART 1: TASK OUTCOME OF EACH TASK THAT INDICATE HOW MANY PARTICIPANTS FAILED OR COMPLETED EACH TASK

Tasks were marked a success or failure based on the success criteria that was established in the Test Plan. Looking at chart above (Chart 1) we can see that only 2 participants were able to find the 'Become a Member' link. During the post task question, they indicated that "Become a Member" option was not very visible.

The second task “Find Photos” seemed to have been completed successfully by 4 of the 5 participants once they found the “Favorite Links” section. Once the second task was successful, they were able to complete the fourth (Find Maps) and fifth (Find Calendar) task, mainly due to learnability.

The final task was to find out about the calendar and it was masked as though they had to find events. Some of them had interesting ideas of how they can find events apart from the calendar given on the website. The details of this task will be elaborated below.

On an average the success rate of the tasks was 64%. Tasks related to the “Favorite Links” (Find Maps, Find Calendar and Find Photos) section had a success rate of 80% and the tasks to find “Become a member” and “Visitor Request” links had a success rate of 40%.

Time Taken

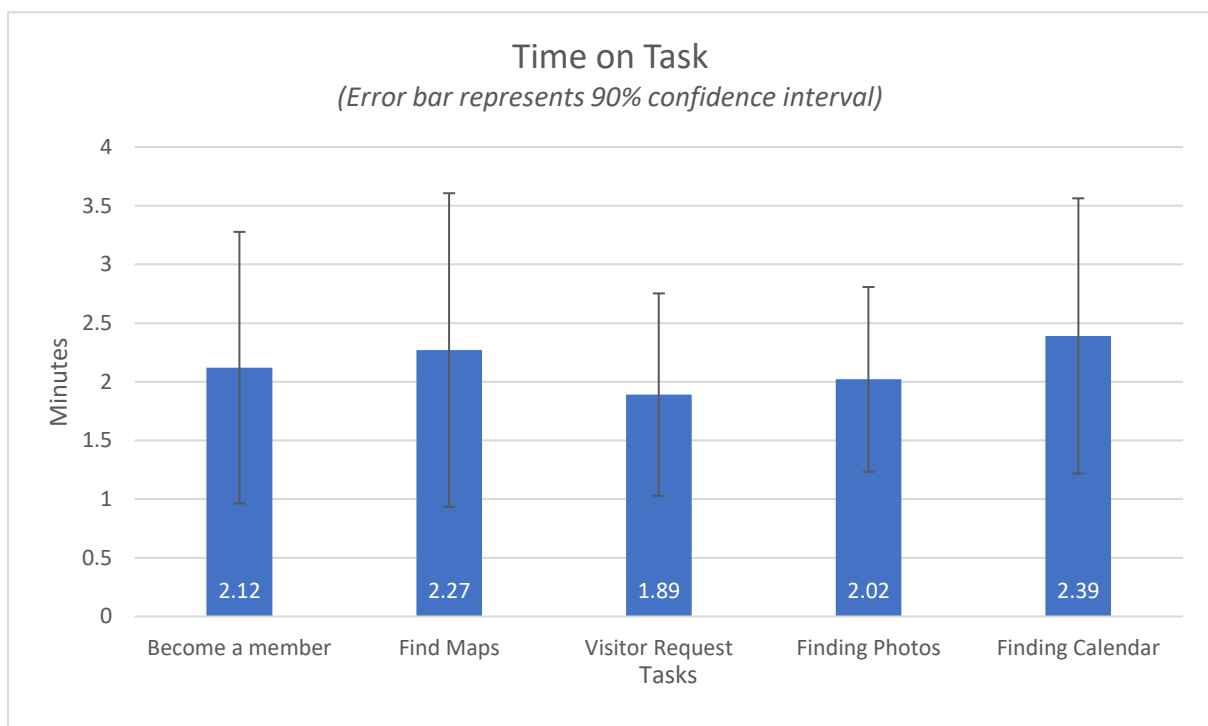


CHART 2: THE CHART INDICATES THE TIME TAKEN TO COMPLETE EACH TASK IN MINUTES

The time on task was calculated from when the participant starts reading the task to when they declare to have completed the task. This includes the time taken to read the scenario, understands the task, the think aloud protocol (time spent on the website, hints and questions asked/suggestions given), till the participant declares that they have completed the task. Chart 2 indicate the mean time on task for each of the five tasks. The confidence interval indicated takes into account the extended time taken due to the think aloud protocol.

Number of Clicks

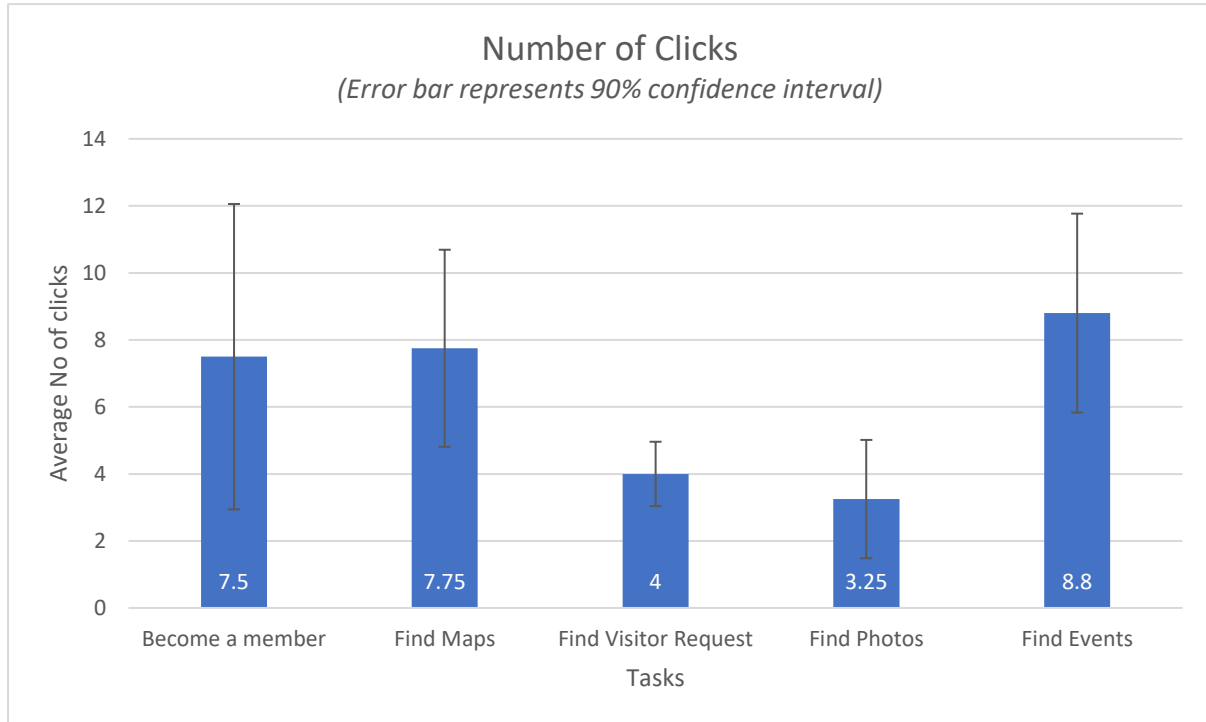


CHART 3: THIS CHART INDICATES THE NO. OF CLICKS THAT EVERY PARTICIPANT CLICKS ON FOR EACH TASK.

The number of clicks were calculated to imply how confused the participant was and to observe which icons and pages were clicked on before arriving at the destination. The number of clicks are calculated from the beginning of the task until they declare was complete.

The number of clicks are subject to error since the participants clicked on each of the text boxes or icons as part of the think aloud protocol. These clicks were counted after successfully completing the task but before the participants declared it as complete. While calculating the average clicks per task, the outlying data has been excluded to provide a more accurate interpretation of the results. Chart 3 shows the number of clicks and the error bar shows 90% confidence interval.

Hints/Questions

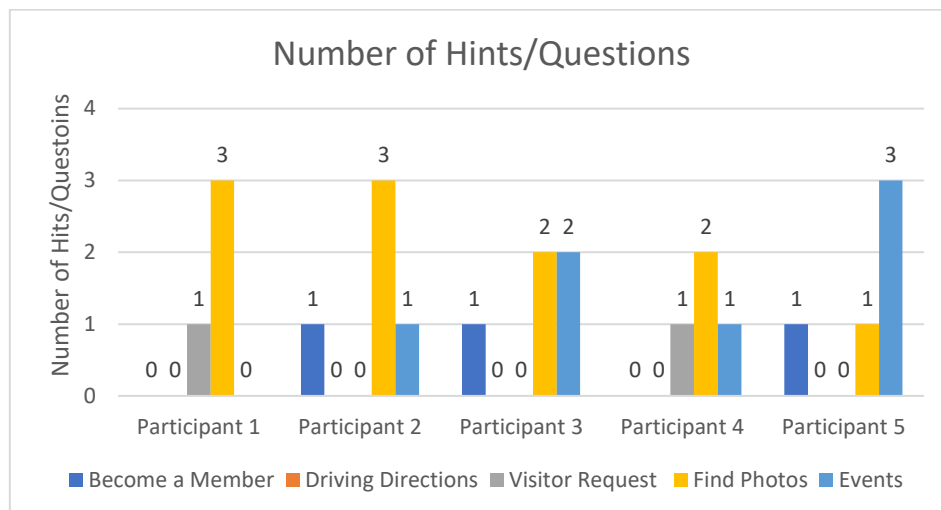


CHART 4: THE CHART INDICATES THE NUMBER OF QUESTIONS PARTICIPANTS ASKED OR THE NUMBER OF HINTS THAT WERE PROVIDED TO THEM.

The number of hints that were provided includes only the hints that were in form of prompts from the moderator during the task itself and excludes the ones that were from the observers after the session was over. It conflicted with the success percentage and the time taken, but we wanted to know if different prompts would lead to the successful completion of the task.

As seen in chart 4, the hints and questions asked was the highest for task 1 and there were absolutely no questions before they came to task 4 that just adds to the learning effect because after they found the 'Favorites' section they were able to identify the links to the next task.

System Usability Questions

The system usability question consisted of seven questions with answers marked on a Likert-Scale from "Strongly Agree" to "Strongly Disagree". Chart 5 illustrates the average score for each question as answered by participants. From the graph below we can see that although the participants did not find the website complex or inconsistent, the score for the positive questions were neutral. These questions indicate area where improvement is possible.

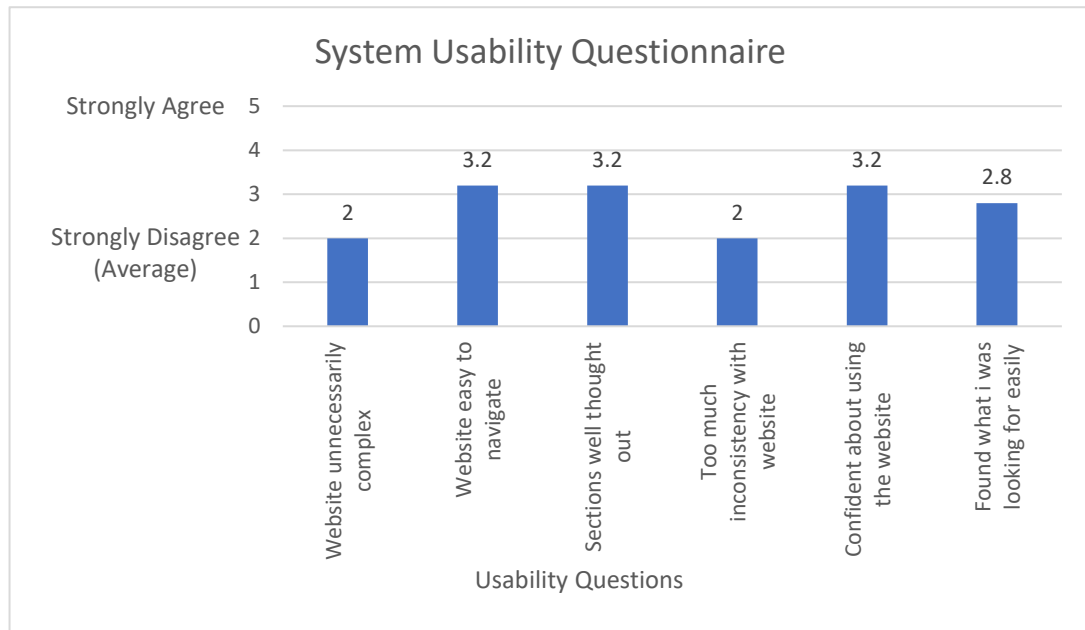


CHART 5: THE CHART INDICATES THE RESPONSE TO THE LIKERT-SCALE TO THE USABILITY QUESTIONS AS ANSWERED BY THE PARTICIPANTS

Qualitative Analysis

Task 1: Locate the information about becoming a member and fill out the Membership form.

State: The homepage of Bergen Swamp website will be opened again before continuing with this task.

Success Criteria: The user should be able to find the 'Become a Member' page, identify the two types of becoming a member and click on the option that they are comfortable with.

Participant Highlights

P1: She went through the website and found the 'About Us' section. She skimmed through the section and said that "That's all I would do to get details about the Society." She felt that information alone was sufficient in order to become a member of the society. The moderator asked her if this is where she would normally stop and she said she has completed the task.

P2: Immediately goes to the "Contact Us" section and tries to find any information about joining the society. Contemplates on sending a message to BSPS and later finds the "Become a Member" link in the Favorite tab.

P4: The donate button was confusing since it doesn't explicitly say that's what he is supposed to do in order to become a member. "I am assuming that I need to donate in order to become a member. I would typically open my PayPal account and donate. But..."

Oh... it says 0.00 dollars.” He goes back to the original page and sees “Oh so as a student I need to pay 5 dollars to become a member.”

P5: This participant also went to the ‘Contact Us’ section and tried filling the message form. When he typed his name in the Name section and submitted it, there was an error message that popped up “Numbers and special characters are not allowed”. Since we were not aware of this error previously, we asked the participant to proceed ignoring the error.

Task 2: Locate and view the photo gallery of Bergen Swamp society

State: The homepage of Bergen Swamp website will be opened again before continuing with this task.

Success criteria: the user should be able to find the photo gallery and click on them to view pictures

Participant Highlights

P1: The participant repeatedly clicked on the icons of the properties. She also tried clicking on the gallery on the homepage.

P2: Learnability is transferred from task 1 and was able to fill out the form immediately.

P3: This participant was able to find the gallery after discovering the ‘Favorite Links’ section. However, he was confused about which property were these photos from and who the photographer was.

P4: He failed to notice the favorite links section and the link to the photo gallery. He tried to click on the properties icons as well and declared that the gallery on the homepage are the pictures he was looking for. However, after he found the ‘Favorite Links’ section during the next task and identified the photo gallery.

Task 3: Locate the information about visiting Bergen Swamp and fill out the visitor request form.

State: The computer will be open with the Bergen Swamp website homepage.

Success Criteria: The user should have opened the ‘Our Visitor Policy’ page and later proceeded to the visitor request form. Participant must be able to fill out all the text boxes successfully before submission.

Participant Highlights

P1: Persistent clicking on the properties icon was observed when the participant is trying to find the visitor request form. She also scrolls down to the “Contact Us” section when she tries to send a message. Later she spots the link under the Favorite tab and finds the visitor request form.

Task 4: Locate the maps and find directions to get there.

State: The homepage of Bergen Swamp website will be opened again before continuing with this task.

Success Criteria: The user navigates to the calendar page and finds an event.

Participant Highlights

P1: She found the link to the Swamp on the visitor request form and said she would code the address onto the Maps in her smartphone to derive driving directions.

P3: Learning did not transfer, he also went to the visitor request page and said he would use his phone to get to the Swamp. After a prompt, he went back to the favorite section and found the driving directions. “These maps are nice, but these wouldn’t mean much to a person who doesn’t live around the Swamp/Rochester area. For instance, I would understand what any of it meant if I was new in this place.”

Task 5: Locate the Calendar and Events

State: The homepage of Bergen Swamp website will be opened again before continuing with this task.

Success Criteria: The user should be able to navigate to the calendar page and find the correct date.

Participant Highlights

P3: Found the calendar link again in the ‘Favorite Links’ section but was unable to identify events on the first go. Since he was looking for dates to volunteer assuming he was already a member, he was looking for a member login page or more information that is exclusive for the members. He went to Contact US page once again and said he would write them a message informing BSPS that he is free to volunteer and he would like to know when he can come by. He came back to the calendar page and tried to find the events, which he was able to do after a hint.

False Signifiers

Three out of the five participants clicked on the images in “Our Upstate New York Properties” since they looked like icons.

P1: “I have to hover over the icons to know which ones are clickable”

Dilemma of the ‘Favorite Links’ section

Every participant was asked if ‘Favorite Links’ is a section they would frequent if they see it in a website. If they did find the name confusing they were asked to suggest a name for the grouping of the links.

P1: Our first participant concluded that ‘Favorite’ is not a tab she would click on normally and the label confused her. She suggested that we could rename it as “Resources”

P2: This participant stumbled upon the section when completing the 1st task and he was also confused with the label. He suggested that the important functionalities such as “Become a Member” and “Visitor Policy” could be added on the main menu and move the “Maps” to the “Contact Us” section.

P3: This participant suggested the same as the previous participant and said that the number of redundant links could be reduced such as “Become a Member” link being repeated in both the top menu and in the ‘Favorite Links’ section.

P4: This participant suggested that the links could have been easier to spot if they were moved to the top of the page right after the homepage so that the user could easily identify their purpose of visiting the site.

P5: This participant found the Favorite Links section to be useful and rated it high on the SUS scale as well.

Recommendations

Based on the study conducted and the results gathered, the Bergen Swamp Usability Testing team would like to make the following suggestions:

- To replace the property icons with pictures or linking those icons to Maps/Photos.
- Segregating the photos in the photo gallery as to which properties was featured in the photograph.
- Making the “Become a Member”, “Visitor Request” more prominent in the main tab.
- Including the ‘Visitor Policy’ data in the ‘Visitor Request’ form or having the link to ‘Visitor Request’ form in the ‘Visitor Policy’ page.
- Adding more information about becoming a Member and what each membership type entails.
- Adding more information about the Swamp itself.
- Renaming the Favorite Links section as “Resources” or “Links” or moving it higher up on the homepage where it is easily visible.
- Moving the membership details to the ‘About us’ or to the ‘Contact Us’ section.

Further Research

While this study mainly focused on the students who were interested in visiting the Swamp, this study could have been conducted with participants who were elderly or from the Scholarly community, specifically those interested in Botany and Zoology. Looking at our demographic participant audience, we have participants who were mainly from a technical background that aided them in easy navigation the website.

Screening Questions

Contact Information

1. First Name

2. Last Name

3. Email

4. Contact Number

5. Age

- ☐ 18-29
- ☐ 30-49
- ☐ 50+

6. Occupation

- ☐ Student
- ☐ Educator
- ☐ Corporate Professional
- ☐ Retired

Survey Questions

Answer as many questions as possible. You may skip the question if it does not apply to you.

7. How much free time do you feel you have in a week?

	More than 25 hours	20 – 25 hours	15 – 20 hours	10 - 15 hours	Less than 10 hours
Free Time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. In a week, how much time do you spend outside?

	More than 20 hours	10 – 20 hours	6 – 10 hours	2 - 6 hours	Less than 2 hours
Free Time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

9. Are you interested in outdoor activities?

- ☐ Yes
- ☐ No

10. What activities do you usually indulge in when you are outdoors? (Check all that apply)

- ☐ Hiking
- ☐ Playing a Sport
- ☐ Camping
- ☐ Bird Watching
- ☐ Canoeing
- ☐ Fishing
- ☐ Photography
- ☐ Skiing
- ☐ Horseback Riding
- ☐ Others: _____

11. If you are interested in photography, are any of the following are your subjects of interest? (Check all that apply)

- ☐ Not Interested
- ☐ Nature
- ☐ Portrait
- ☐ Abstract
- ☐ Nighttime
- ☐ Sports
- ☐ Others: _____

12. When you are out on a holiday, what are you most interested in doing?

	Never	Least Likely	Sometimes	Most Likely	Always
Visiting Museums	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Learn more about local culture	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Visit a beach	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Dine in local restaurants	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Hike around a scenic route	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Adventure Activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Participate in local festivals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Relax in a resort	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. Do you have any interest in conducting research on flora and/or fauna?

- ☐ Yes
- ☐ No
- ☐ Maybe

14. What are the main resources you use for research? Separate the resources with comma (,)

15. Are you a member of a nature preserve society or organization? If yes specify the organization (Split multiple organization with a comma (,))

16. Do you think you will be joining a preserve society or organization in the future?

- ☐ Yes
- ☐ No
- ☐ Maybe

Test Instruments

Informed Consent

INTRODUCTION

Thank you for volunteering to be part of this usability study. In this usability study, we are evaluating use of the Bergen Swamp Preservation Society Website.

WHAT IS INVOLVED IN THE STUDY?

This study will take no more than forty-five (45) minutes to complete. During the study, you will be asked to use the Bergen Swamp Preservation Society website. You will be given several tasks to complete. At the conclusion of this session, you will be given a brief survey questionnaire relating to your experiences during the study session. I will remain in the room with you throughout the duration of this session. This information, including the video tape, may be used to improve the website. It may also be shared with others for educational purposes. Although it may not appear as such, this is not a test of you or your abilities. We are interested to learn how students like you interact with the website, whether or not the website aid you in your studies, and your opinion of it.

The investigators may stop the study or take you out of the study at any time they judge it is in your best interest. They may also remove you from the study for various other reasons. They can do this without your consent. You can stop participating at any time without loss of benefits.

RISKS

There are no anticipated risks related to participating in this study.

BENEFITS TO TAKING PART IN THE STUDY?

There are no anticipated direct benefits to you for participating in this study. The study will be used to help improve website use.

CONFIDENTIALITY

Your name will not be used when data from this study are published. Every effort will be made to keep your research records and other personal information confidential.

You will be assigned a participant number. Only the participant number will be recorded on the test instruments. No personally identifiable information will be recorded on the test instruments nor stored within the software you use today. Participant identities will not be made part of any published findings resulting from this study. We will hold as confidential your personal information (such as name and phone number) and use it only for data analysis purposes, to link data to the subject. The only connection between your participation in this study and the study itself will be this signed consent form.

INCENTIVES

At the conclusion of the study session, you will be given a \$20 Amazon gift card.

YOUR RIGHTS AS A RESEARCH PARTICIPANT

Participation in this study is voluntary. You have the right not to participate at all or to leave the study at any time. Deciding not to participate or choosing to leave the study will not result in any penalty or loss of benefits to which you are entitled, and it will not harm your relationship with RIT.

CONTACT

If you have any questions about the study or the procedures, you may contact the usability team, via e-mail at hcin630.usabilitytesting@gmail.com

Consent of Subject (or Legally Authorized Representative)

Signature of Subject or
Representative

Date

Moderator's Signature

Think Aloud

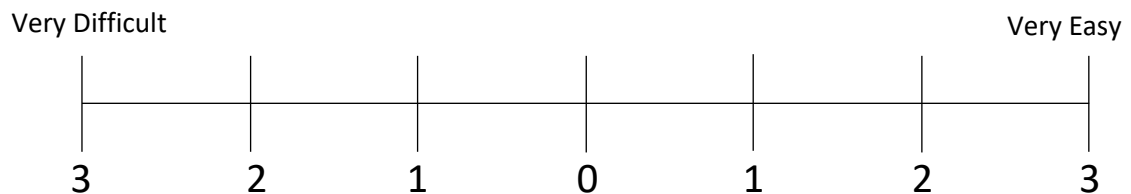
As you use the system today, I'd like you to think out loud. Remember, we are evaluating the website, not you, so please describe your thought process as much as you can. Let's try a quick exercise to practice thinking out loud.

Scenario 1

Bergen Swamp Preservation Society is an environmental land trust and is considered as one of New York's living museum. You have already heard of Bergen Swamp Preservation Society and you like the work the preserve is doing. Find out details on how to join the society.

Please remember to think out loud as you use the system and let me know when you are done.

How easy or difficult was it to complete that task?

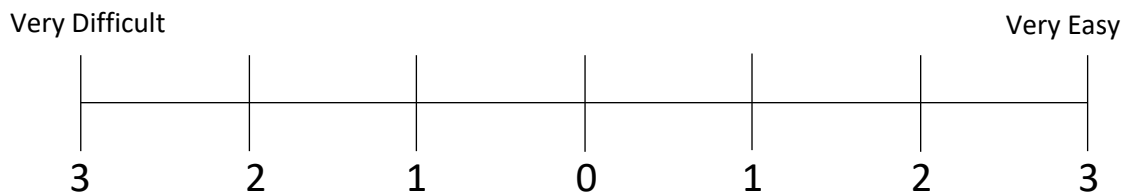


Scenario 2

You want to take pictures of different types of swamp plants for your photo collection. You want to go to a swamp closest to you but you don't know the directions to get there. You decide to look at the website to find driving directions.

Please remember to think out loud as you use the system and let me know when you are done.

How easy or difficult was it to complete that task?

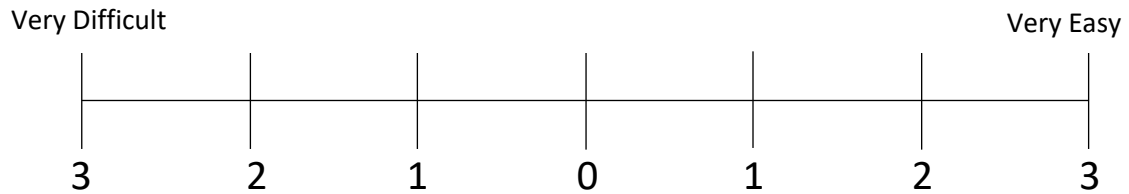


Scenario 3

You and 5 of your friends want to plan a trip to Bergen Swamp.

Please remember to think out loud as you use the system and let me know when you are done.

How easy or difficult was it to complete that task?

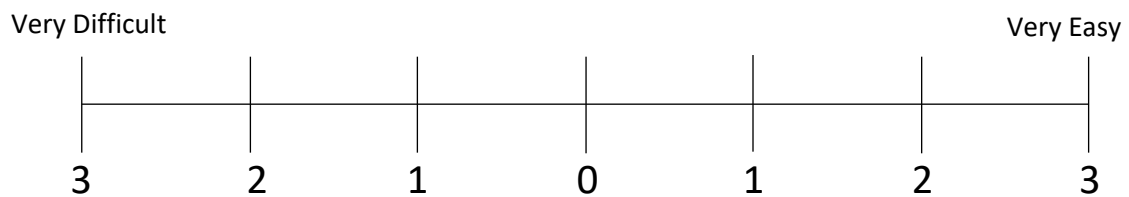


Scenario 4

You visited Bergen Swamp during the weekend and saw a lot of interesting flowers there. You want to show these plants to your friends but did not take any pictures during your visit there. You decide to check the website for finding images.

Please remember to think out loud as you use the system and let me know when you are done.

How easy or difficult was it to complete that task?

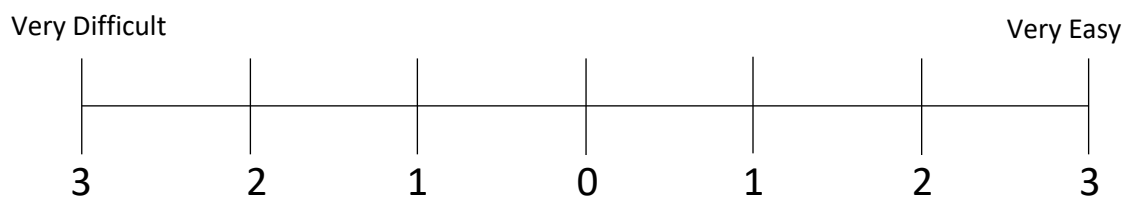


Scenario 5

You are a member of Bergen Swamp Preservation Society and have free time coming up in the month of May. Find dates in the month of May, when the society might need help.

Please remember to think out loud as you use the system and let me know when you are done.

How easy or difficult was it to complete that task?



Post Session Questionnaire

- What type of information would you like to see on a website such as this?
 - ☐ Research information
 - ☐ Links to other websites
 - ☐ Information about cultural importance
 - ☐ Others: _____
- Do you have any suggestions to help increase awareness of the Bergen Swamp Preservation Society?
- Are there any factors that would make you interested in becoming a member of Bergen Swamp Preservation Society?
- Are there any factors that would make you interested in visiting a place like Bergen Swamp?

System Usability Questionnaire

	Strongly Agree		Strongly Disagree		
1. I found the website unnecessarily complex					
2. I thought the website was easy to navigate					
3. I found the sections of the website well thought out.					
4. I thought there was too much inconsistency with the website.					
5. I would imagine that the website would be easy to navigate for most people.					
6. I felt confident using the website.					
7. I was able to find what I was looking for easily.					