

Elon University

WEBSITE APPLICATION USABILITY TEST REPORT

Interface Testing & Analysis

IME 6950: Interactive Media Capstone

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Executive Summary

The purpose of this study was to gather information about the user's perception of the rebranded EHIP interface, and ways it can be improved. The study's objectives included determining EHIP e-commerce functionality, efficiency and task completion rate, what features enhance the interface and which features of EHIP confuse and/or frustrate users. For this usability test, five (5) participants, who agreed that diversity and inclusion is important in healthcare education, were tested in-person with a maximum length of a 30-minute test session. As moderator, I administered a set of three (3) short scenarios with 1-3 tasks for each to test the e-commerce functionality, task completion rate and time on task of participants. The usability test revealed that the users had frustrations and concerns with the e-commerce feature functionality and task completion with the rebranded EHIP website. To combat these issues, it is recommended to enhance/change the checkout process, use a more coherent word to replace "Album" and make sure the search feature is effective.

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Introduction & Purpose of the Test

Elon Healthcare Inclusive Pictures (EHIP) is an online photo library website of diversity and inclusive hands-on demonstration photos for healthcare education. Students of color and those with disabilities are in need of pictures of technical hands-on demonstrations for textbooks and presentations that they can relate to when reading and completing assignments, listening to lectures and conducting their own research to reference target demographics they are studying.

The purpose of this study was to research how users navigate to find the desired imagery for a specific area of healthcare on the rebranded EHIP website. For this study, I aimed to assess five (5) participants who agreed that diversity and inclusion is important in healthcare education. **This study's objectives included:**

- Determine EHIP e-commerce functionality.
- Determine the efficiency and task completion rate of EHIP users.
- Determine which features of EHIP enhance the usability of the interface.
- Determine which features of EHIP, or lack thereof, confuse and/or frustrate users.

Method

Participants

A total of five (5) participants were recruited for this test study. Participants were between the ages of 24-43, and were a mixture of students (4) and non-student (1). All five (5) participants strongly agreed that diversity and inclusion is important, especially in healthcare education. One (1) participant strongly disagreed, three (3) participants disagreed and one (1) participant strongly agreed that search engines and picture databases are diverse and inclusive to ALL ethnicities. One (1) participant disagreed, three (3) participants stood neutral and one (1) participant agreed about feeling included within the healthcare system. Two (2) participants always, another two (2) participants rarely and one (1) participant sometimes includes an ethnicity in the phrase search when searching for pictures. To complete the scenarios and tasks, all participants used a desktop computer.

Settings

For this usability test, I conducted in-person tests in Long Building using the desktop computers, where I served as the moderator and note-taker. Participants received instruction of tasks and scenarios, and then I proceeded to observe and keep track of the participant(s) verbal and non-verbal actions and responses using a coding form (see Appendix E).

Procedure

Once all five (5) participants were recruited, the participants and I scheduled meeting days, times and testing setting to conduct tests. Each test session was a maximum length of 30 minutes.

Before the test began, participants were asked to read and sign a consent form (see Appendix A) granting their permission to participate in this study. Then, participants were asked to complete a pre-survey via Google Forms (see Appendix B) about the importance of diversity and inclusion, especially in healthcare education, and if they feel represented in pictures within online picture databases and the healthcare system. After the pre-survey was complete, as moderator, I read the orientation script (see Appendix C) to inform the participants why the test is being conducted, structure of test session, expectations of participants and how participants can assist me in collecting qualitative data for the test. Once participants gave verbal consent to code their actions, responses and behaviors, the test began.

I administered a set of three (3) short scenarios with 1-3 tasks for each (see Appendix D) to test the e-commerce functionality, task completion rate and time on task of participants. During each test session, I tracked the participants verbal and non-verbal actions and responses using a coding form (see Appendix E). After the test session was completed, participants were asked to complete a post-survey via Google Forms (see Appendix F) to rate their overall experience using the EHIP interface.

Results

The usability test revealed that participants had frustrations and concerns with the e-commerce functionality of the rebranded EHIP website. Participants thought through the actions they would take before beginning the tasks. They expressed concerns when adding pictures to the “Album” from the “Library,” searching for pictures using the search bar, downloading desired pictures to the computer and understanding the checkout process in order to download images. Based on my findings, I understand that users are not able to successfully complete tasks with the current rebranded interface. The e-commerce functionality and verbiage within the navigation can be misguiding to users and ultimately confuse users on how to download images from the website.

Below are the specific results of the testing, which includes the time and task completion rate of all the scenarios and tasks.

Compilation of Scenarios Completion

User	1	2	3	4	5
Time	10:00	15:00	13:00	10:00	5:00

Average Completion Rate of Scenarios

Mean	Median	Mode	Min	Max	Standard Deviation
10:36	10:00	10:00	5:00	15:00	3.7815

Mean Time: 10:36

What These Results Could Mean

After the survey and testing sessions were completed, the users stated the following:

- 4 participants were somewhat satisfied with the interface
- 1 participant was okay with the interface
- See Appendix F for scale reference

These results show that most participants from the testing were overall somewhat satisfied with the interface based on the answers to the post-survey (see Appendix F).

Findings & Recommendations

EHIP is not an effective online photo database to search and download desired images to devices. Based on the testing results, EHIP can improve the e-commerce functionality and verbiage to improve users' experience.

Enhance/Change the Checkout Process

When completing Scenario 1 and 2 (see Appendix D), participants experienced issues with downloading images to the computer. They did know you had to complete the checkout process in order to download images. To help increase the user experience, it was recommended to add a guide on how to download pictures, a notifier telling users that they must complete the checkout process to download images and/or enabling the requirement to create an account and/or put in your billing address to download images.

Use Another Word Than “Album”

When completing Scenario 1 and 2 (see Appendix D), participants expressed not understanding what the “Album” tab served as. The “Album” serves as the “Cart” to give the site a less e-commerce feel because the images are essentially free. Yet, it can be concluded that users did not realize that they were adding images to their “Album” when checking out. From feedback, it has been recommended to change “Album” to another word that will be more coherent to users that will help them comprehend adding images to their album in order to complete the checkout process.

Be Sure the Search Feature is Effective

When completing all scenarios (See Appendix D), participants noticed that when using the search bar, there were images in the search results that did not correlate to what was being in listed in the “Library,” and were unable to add them to their “Album.” The search bar is ineffective because users would not be able to complete the checkout process and download images that appear in the search results. With that being said, it is recommended to find a connection between the search results and “Library” so that users can access the same images when using both features.

Appendices

Appendix A

1. Purpose of the Study: Elon Healthcare Inclusive Pictures (EHIP) is an online photo library website of diversity and inclusive hands-on demonstration photos for healthcare education. The purpose of this study is to gather information about the user's perception of the EHIP interface, and ways it can be improved. The study is a component of the Interactive Media Capstone (IME6950) graduate course and will therefore reflect a number of different research questions being examined by the graduate student working on this project. This component of the project is designed to give practical experience to students in usability tests for web interfaces. This project will look into the uses and effects of diversity and inclusive web interfaces on users.
2. Procedures to be followed: You will be asked to first interact with the interface and then answer a few questions raised by the principal investigator or fill out a questionnaire.
3. Discomforts and Risks: There are no risks in participating in this research beyond those experienced in everyday life.
4. Benefits: There are two potential benefits to participation: (a) You might learn more about yourself by participating in this study. You might have a better understanding of how important diversity and inclusion in healthcare education is to you; and (b) This research might provide a better understanding of how the use of interfaces affect users in general. This information could help plan programs and make healthcare education better.
5. Duration: It will take about 30 minutes to complete the study.
6. Statement of Confidentiality: Only the principal investigator will know your identity. All data related to this study will only be accessible to the principal investigator and will be kept in their secured computer.
7. Right to Ask Questions: You can ask questions about this research. Contact Shaina Catchings by emailing scatchings@elon.edu with questions. You can also email this address if you have concerns about this research, or if you feel that you have encountered any problem in the study.

- 8. Compensation: There is no compensation involved in this study.
- 9. Voluntary Participation: You do not have to participate in this research. You can end your participation at any time by telling the principal investigator. You do not have to answer any questions you do not want to answer. Refusal to take part in or withdrawing from this study will involve no penalty or loss of benefits you would receive otherwise.

You must be 18 years of age or older to consent to participate in this research study. If you consent to participate in this research study and to the terms above, please sign your name and indicate the date below.

Participant Signature _____ Date _____

Investigator Signature _____ Date _____

I understand and consent to the use and release of the recording by this project. I understand that the information and recording is 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 **Shaina Catchings** without further permission.

Participant Signature _____ Date _____

Investigator Signature _____ Date _____

Appendix B

For the following statements, please rate your agreement.

1. Diversity and inclusion are important.
 - a. Strongly Agree
 - b. Agree
 - c. Neutral
 - d. Disagree
 - e. Strongly Disagree
2. Search engines and picture databases are diverse and inclusive to ALL ethnicities.
 - a. Strongly Agree
 - b. Agree
 - c. Neutral
 - d. Disagree
 - e. Strongly Disagree
3. I feel included within the healthcare system (e.g., healthcare education, medical facilities, healthcare campaigns, etc.).
 - a. Strongly Agree
 - b. Agree
 - c. Neutral
 - d. Disagree
 - e. Strongly Disagree
4. When searching for pictures, how often do you include an ethnicity in the phrase search (e.g., African American, Asian, Hispanic, etc.)?
 - a. Always
 - b. Very Often
 - c. Sometimes
 - d. Rarely
 - e. Never

5. On a scale of 1-5 (1 being not important and 5 being very important), how important is diversity and inclusion in healthcare education?

1	2	3	4	5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

6. What is your age?

Appendix C

Hi, [*participant's name*]. My name is **Shaina Catchings**, and I am going to be conducting this usability test session with you today.

First, I would like to thank you for your time and participation in this research study. Now, I will explain why this research is being done. Elon Healthcare Inclusive Pictures (EHIP) is an online photo library website of diversity and inclusive hands-on demonstration photos for healthcare education. I would like to learn more about a user's perception of the EHIP interface, and ways it can be improved. In this test session, I will provide you 3 scenarios with 1-3 tasks to follow in order for the scenario to be completed. Afterwards, I will follow-up with questions about your usage, frustrations, likes, dislikes, and more regarding the EHIP website.

I want to know exactly what you think about the EHIP interface in order to improve it. So, please do not hold back as all feedback, positive and negative, will be helpful towards this study.

As we go along, if you have any questions, comments or concerns, please do not be afraid to ask or state them. In the end, all of the information you provide will help with the improvements of the interface.

With your permission, I would like to document our session. This documentation will only be used for the collection of qualitative data purposes. It will not be seen by anyone else except the people working on this project.

If you agree to these terms and conditions, I am now going to ask you to verbally consent. Please say, "I, [*participant's name*], consent to **Shaina Catchings** documenting our test session, but that it will only be seen by the people working on the project." Thank you.

Do you have any questions before we begin? Okay, let's begin!

Appendix D

Scenario 1: Pretend like you presenting a workshop about Manual Muscle Tests. How would you select pictures for your presentation?

Task 1: Create an account.

Task 2: Search the Library, and add 3 desired pictures to your Album.

Task 3: Download 1 of the 3 pictures and log out of your account.

Scenario 2: Pretend like you are searching for a new healthcare resource for technical hands-on demonstrations, and have come across Elon Healthcare Inclusive Pictures' website.

Task 1: Explore the EHIP website.

Scenario 3: Now that you have explored the Elon Healthcare Inclusive Pictures' website, pretend you have found a picture you would like to use in a physical therapy report. How would download the picture?

Task 1: Find a picture and download it to your computer.

Appendix E

Usability Test Observation Coding Form

Date: _____ Participant ID: _____ Task #: _____

Start Time: _____ End Time: _____

Verbal Behaviors

Notes

- Strongly positive comment _____
- Other positive comment _____
- Strongly negative comment _____
- Other negative comment _____
- Suggestion for improvement _____
- Question _____
- Variation from expectation _____
- Stated confusion _____
- Stated frustration _____
- Other: _____

Non-verbal Behaviors

Notes

- Frowning/Grimacing/Unhappy _____
- Smiling/Laughing/Happy _____
- Surprised/Unexpected _____
- Furrowed brow/Concentration _____
- Evidence of Impatience _____
- Leaning in close to screen _____
- Variation from expectation _____
- Fidgeting in chair _____
- Random mouse movement _____
- Groaning/Deep sigh _____
- Rubbing head/eyes/neck _____
- Other: _____

Task Completion Status:

Notes:

Incomplete:

- Participant gave up
- Task "called" by moderator
- Thought complete, but not

Complete:

- Fully complete
- Complete with assistance
- Partial completion

Appendix F

Following the completion of scenarios and task, we asked the following questions:

1. Overall, how would you rate your experience with the interface?

1 2 3 4 5

Dissatisfied Satisfied

2. Please provide any final feedback about the EHIP web interface.