Evaluation Assignment 7
Usability Test Plan

Team 1
Programming Analogies

Kirk Thelen

CS5760

Usability Testing Schedule

Administrator	App	Location	Testing Date	Name	Email
Kirk Thelen	Programming Analogies	Rekhi 320	4/10/2023 5:00 PM	Gilbert Kennedy	gkennedy@mtu.edu
Kirk Thelen	Programming Analogies	Rekhi 320	4/12/2023 5:00 PM	Connor Hood	cmhood@mtu.edu
Kirk Thelen	Programming Analogies	Rekhi 320	4/14/2023 5:00 PM	Annika Price	annikapr@mtu.edu
Kirk Thelen	Programming Analogies	Rekhi 320	4/15/2023 2:00 PM	Robin Vanden Heuvel	gmvanden@mtu.edu
Kirk Thelen	Programming Analogies	Rekhi 320	4/15/2023 3:00 PM	Trevor Petrin	txpetrin@mtu.edu
Kirk Thelen	Programming Analogies	Rekhi 320	4/16/2023 1:00 PM	Nick Sandahl	nasandah@mtu.edu
Kirk Thelen	Programming Analogies	Rekhi 320	4/16/2023 2:00 PM	Adam Sandahl	ajsandah@mtu.edu
Kirk Thelen	Programming Analogies	Rekhi 320	4/16/2023 3:00 PM	Tyler Kalkman	tjkalkma@mtu.edu

Computer User Interface Usability Testing Consent Form

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 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 and the 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 tests are anonymous. No one will be able to identify you and your answers, and no one will know whether or not you participated in the study except for the instructor of the class who 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.

The testing may make use of video conferencing software which will record your tasks on the computer screen and from your webcam. The webcam recordings will not be shared,and you may mute the webcam at any time. Before sharing your screen, you should clear your desktop of any open apps except your browser. Also you should clear your desktop of any icons or widget that you wish not to be observed.

If you have any questions about the study, please contact Dr. Robert Pastel, Associate Professor, Computer Science Department, Michigan Technology University, Houghton, MI 49931.

Pre-test Demographic Survey and Questions

The following questions are all entirely optional and help us ensure that we are testing our application with a wide variety of potential users. Your responses will always remain anonymous and never be used to identify you. You are free to skip any questions you do not wish to answer.

Demographic Survey

1. What gender do you identify as?

☐ Man ☐ Woman ☐ Other: _____ ☐ Prefer not to say

2. What is your education level?

☐ 1st year ☐ 2nd year ☐ 3rd year ☐ 4th year+ ☐ Graduate

3. What is your level of programming experience?

☐ 0-1 year ☐ 2-3 years ☐ 4-5 years ☐ > 5 years

4. Have you ever thought about using analogies to explain programming concepts, or have you ever had a programming concept explained to you via an analogy? **(Check all that apply)**

☐ No, I have never considered using analogies for this purpose.

☐ I have considered using analogies for this purpose, but have not used them in this way.

☐ Yes, I have explained a programming concept via an analogy before.

☐ Yes, I have had a programming concept explained to me via an analogy before.

Questions

Please indicate your level of agreement to the following statements on a scale of 1 (Strongly Disagree) to 5 (Strongly Agree).

5. I am interested in the testing of this application.

◯ (1) Strongly Disagree ◯ (2) Disagree ◯ (3) Neutral ◯ (4) Agree ◯ (5) Strongly Agree

6. I understand the purpose of the application.

◯ (1) Strongly Disagree ◯ (2) Disagree ◯ (3) Neutral ◯ (4) Agree ◯ (5) Strongly Agree

7. I understand where this application may be used.

◯ (1) Strongly Disagree ◯ (2) Disagree ◯ (3) Neutral ◯ (4) Agree ◯ (5) Strongly Agree

Test Scenario 01

1. **Scenario Name:** Registration and Login
2. **Scenario Goals**: To assess the ability of a user to (1) create a new account and (2) log in to the application using the account.
3. **Scenario Description:** In this scenario, the user should be able to register for a new account and then log in to the application using the account that they registered.
4. **Task List:**
    i. The user will start the task on the home page
    ii. The user should navigate to the login page by clicking on the “Login” button
    iii. The user should navigate to the registration page by clicking on the “Register” button
    iv. The user should fill out the create account page
    v. The user should enter the credentials of the account they just created into the login fields and click “Login”
5. **Quantitative Measurement List:**
    i. Was the user able to find the login page without assistance? ☐ Yes ☐ No
    ii. Was the user able to register for an account without assistance? ☐ Yes ☐ No
    iii. Was the user able to log in to the application using the account they registered? ☐ Yes ☐ No
    iv. User asked a clarifying question around what an element of the user interface does: ☐ Yes ☐ No
    v. The user made _____ errors (an error is defined as making a click or input that does not contribute to the completion of the scenario)
6. **Potential Observations:**
    i. User’s body language is best described as: _____
    ii. Record any other thoughts or emotions that a user vocalized:
    _____
    _____
7. **Test Setup Details:** None

Test Scenario 02

1. **Scenario Name:** Analogy Comparison
2. **Scenario Goals**: To assess the ability of a user to compare two analogies found in a list.
3. **Scenario Description:** In this scenario, the user should be able to select two analogies and compare their details. Afterward, the user should close the analogy comparison to return the application's view back to how it was when the user started the scenario.
4. **Task List:**
    i. The user will start the task on the home page
    ii. The user should pick any analogy in the list and click the "Compare" button
    iii. The user should pick any other analogy in the list and click the "Compare" button
    iv. The user should close both analogies by clicking on the red "X" button in the top right corner of each comparison window.
5. **Quantitative Measurement List:**
    i. Was the user able to compare two analogies without assistance? ☐ Yes ☐ No
    ii. Was the user able to close the comparison windows without assistance? ☐ Yes ☐ No
    iii. User asked a clarifying question around what an element of the user interface does: ☐ Yes ☐ No
    iv. The user made _____ errors (an error is defined as making a click or input that does not contribute to the completion of the scenario)
6. **Potential Observations:**
    i. User's body language is best described as: _____
    ii. Record any other thoughts or emotions that a user vocalized:
    _____
    _____
7. **Test Setup Details:** None

Test Scenario 03

1. **Scenario Name:** Analogy Search and Review
2. **Scenario Goals**: To assess the ability of a user to search for a specific analogy, view the analogy, rate and favorite the analogy, and then return to the search results.
3. **Scenario Description:** In this scenario, the user wants to look for misconceptions related to “variables.” The user should find the misconceptions related to variables and select one of them to review. The user should then rate the analogy and add it to their favorites before returning to the analogy search results.
4. **Task List:**
    i. The user will start the task on the home page
    ii. The user should type “variable” or “variables” into the search field.
    iii. The user should select any analogy in search results.
    iv. The user should click either the “Thumbs Up” button or the “Thumbs Down” button to rate the analogy.
    v. The user should click on the “Heart” button to favorite the analogy.
    vi. The user should return to the analogy search results using the back button in the browser.
5. **Quantitative Measurement List:**
    i. Was the user able to search for an analogy without assistance? ☐ Yes ☐ No
    ii. Was the user able to select an analogy without assistance? ☐ Yes ☐ No
    iii. Was the user able to rate and favorite an analogy without assistance? ☐ Yes ☐ No
    iv. Was the user able to return to the search results without assistance? ☐ Yes ☐ No
    v. User asked a clarifying question around what an element of the user interface does: ☐ Yes ☐ No
    vi. The user made _____ errors (an error is defined as making a click or input that does not contribute to the completion of the scenario)
6. **Potential Observations**
    i. User’s body language is best described as: _____
    ii. Record any other thoughts or emotions that a user vocalized:
    _____
    _____
7. **Test Setup Details:** None

Test Scenario 04

1. **Scenario Name:** Analogy Creation
2. **Scenario Goals**: To assess the ability of a user to create a new analogy.
3. **Scenario Description:** In this scenario, the user wants to create an analogy. The user will be provided with a print out of an analogy to enter into the fields (the user will not be expected to create their own original analogy). The user should be able to figure out how to input the analogy correctly based on the information provided.
4. **Task List:**
    i. The user will start the task on the home page
    ii. The user should click on the “Create” button
    iii. The user should fill out all required fields based on the analogy information they are provided.
    iv. The user should click “Create Analogy”
5. **Quantitative Measurement List:**
    i. Was the user able to navigate to the “Create Analogy” page without assistance? ☐ Yes ☐ No
    ii. Did the user understand how to input the analogy into the form using only the information provided on the page as assistance (i.e., the user did not ask questions about how to input the data)? ☐ Yes ☐ No
    iii. Did the user utilize the help information available on the “Create Analogy” page (i.e., the small ‘?’ circles that indicate what to enter in each field)? ☐ Yes ☐ No
    iv. Was the user able to create an analogy? ☐ Yes ☐ No
    v. User asked a clarifying question around what an element of the user interface does: ☐ Yes ☐ No
    vi. The user made _____ errors (an error is defined as making a click or input that does not contribute to the completion of the scenario)
6. **Potential Observations**
    i. User’s body language is best described as: _____
    ii. Record any other thoughts or emotions that a user vocalized:
    _____
    _____
7. **Test Setup Details:** None

Test Scenario 05

1. **Scenario Name:** Analogy Editing/Deletion
2. **Scenario Goals**: To assess the ability of a user to edit or delete a previously created analogy.
3. **Scenario Description:** In this scenario, the user wants to delete the analogy that they created in the previous scenario. If the user was unable to create an analogy in the previous scenario, then the Administrator of the test should create a new analogy for them.
4. **Task List:**
    i. The user will start the task on the home page
    ii. The user should click on their username in the top right corner of the application
    iii. The user should click on their previously created analogy from the “Created Analogies” list on the left side of the screen
    iv. The user should click “Delete Analogy”
5. **Quantitative Measurement List:**
    i. Was the user able to navigate to the “Account” page without assistance? ☐ Yes ☐ No
    ii. Was the user able to access the edit/delete functionality of the previously created analogy without assistance? ☐ Yes ☐ No
    iii. Was the user able to delete an analogy? ☐ Yes ☐ No
    iv. User asked a clarifying question around what an element of the user interface does: ☐ Yes ☐ No
    v. The user made _____ errors (an error is defined as making a click or input that does not contribute to the completion of the scenario)
6. **Potential Observations**
    i. User’s body language is best described as: _____
    ii. Record any other thoughts or emotions that a user vocalized:
    _____
    _____
7. **Test Setup Details:** None

Post-test Survey and Questions

The following questions are all entirely optional. Your responses will always remain anonymous and never be used to identify you. You are free to skip any questions you do not wish to answer.

Questions

Please indicate your level of agreement to the following statements on a scale of 1 (Strongly Disagree) to 5 (Strongly Agree).

1. I believe that the application is easy to understand and use.

◯ (1) Strongly Disagree ◯ (2) Disagree ◯ (3) Neutral ◯ (4) Agree ◯ (5) Strongly Agree

2. I feel like the application has a useful interface for explaining and comparing programming analogies.

◯ (1) Strongly Disagree ◯ (2) Disagree ◯ (3) Neutral ◯ (4) Agree ◯ (5) Strongly Agree

3. I believe that I could use the application to perform these tasks again without any further assistance.

◯ (1) Strongly Disagree ◯ (2) Disagree ◯ (3) Neutral ◯ (4) Agree ◯ (5) Strongly Agree

4. I never felt confused, lost, or otherwise uncertain about how to perform a task.

◯ (1) Strongly Disagree ◯ (2) Disagree ◯ (3) Neutral ◯ (4) Agree ◯ (5) Strongly Agree

5. All of the functions of the website that I interacted with performed as expected, e.g., everything that I clicked on did what was expected and nothing that I clicked on did something unexpected.

◯ (1) Strongly Disagree ◯ (2) Disagree ◯ (3) Neutral ◯ (4) Agree ◯ (5) Strongly Agree

Post-test Interview

The following questions are all entirely optional. Your responses will always remain anonymous and never be used to identify you. You are free to skip any questions you do not wish to answer.

1. What, if anything, about the application did you feel made it easy to perform the tasks? (e.g., certain aspects of the design or functionality)

2. What, if anything, about the application did you feel made it difficult to perform the tasks?

3. Was there any specific task that you felt was particularly difficult to perform with the application in its current state?

4. Do you believe that this application accomplishes its goal? (i.e., do you think this application could be a useful tool for explaining programming concepts via analogy?)

5. Do you have any questions about the application or any other suggestions on what should change to improve it?

Testing Challenges

Testing challenges are difficulties that you or the participant might have had with the testing environment not involving the application. For example, a testing challenge might be a participant having difficulty sharing their screen using Zoom.

Challenge Number	Application Page	Challenge Name	Challenge Description

Bug Report Form

A form used to indicate functional software problems.

Bug Number	Reported By	Application Page	Replication Instructions	Expected Behavior	Actual Behavior (Bug)