

Evaluation Assignment 7

Usability Testing Plan

Team 3 : NRGR – App: PG&E Reducer

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Testing Information:

Eight usability testing sessions have been scheduled for this process.

Each session will be administered by the UX Consultant, **Soham Sheth**, and three or four members of Team 3.

Session times and development team members attending are as follows:

1. April 10th, 2023 6:00 PM to 7:00 PM (EST)
Developers: Nate Allsop, Peter LaMantia, Zayne Pepin
2. April 10th, 2023 7:00 PM to 8:00 PM (EST)
Developers: Nate Allsop, Peter LaMantia, Zayne Pepin
3. April 10th, 2023 8:00 AM to 9:00 PM (EST)
Developers: Nate Allsop, Peter LaMantia, Zayne Pepin
4. April 10th, 2023 9:00 PM to 10:00 PM (EST)
Developers: Nate Allsop, Peter LaMantia, Zayne Pepin
5. April 13th, 2023 6:00 PM to 7:00 PM (EST)
Developers: Patrick Seidel, Wes Alberg, Jack Snowden, Jack Hayes
6. April 13th, 2023 7:00 PM to 8:00 PM (EST)
Developers: Patrick Seidel, Wes Alberg, Jack Snowden, Jack Hayes
7. April 13th, 2022 8:00 PM to 9:00 PM (EST)
Developers: Patrick Seidel, Wes Alberg, Jack Snowden, Jack Hayes
8. April 13th, 2022 9:00 PM to 10:00 PM (EST)
Developers: Patrick Seidel, Wes Alberg, Jack Snowden, Jack Hayes

All sessions will be done remotely, making use of Zoom as the testing medium. Access to the application will not be given to participants until the time of the testing, at which time a link to the application will be distributed in the Zoom chat. The administrator, assisting development team members, and the participant are all required to have access to the following:

- A computer
- A strong internet connection
- Access to Zoom
- A working microphone and audio output method

The administrator and assisting development team members will further require access to the following:

- A copy of the bug report form that will be recorded on
- A copy of the testing challenges form that will be recorded on

Testing Process:

The testing process will then proceed as follows, in this order:

- 1) A Zoom meeting will be created, and a link will be provided to the participant one or two days prior to the scheduled testing session. The email will remind the participant that the testing session will be recorded.
- 2) The Zoom meeting link will be provided to all assisting development team members one or two days prior to the scheduled testing session. The email will remind each team member of the role they will be performing.
- 3) The administrator and assisting development team members will arrive at the testing session early to ensure the testing can begin as soon after the participant arrives as possible.
- 4) A pre-test check will be conducted by the administrator to ensure that recording is active, and that screen sharing is enabled.
- 5) Once the participant arrives, the administrator will greet them and explain to them the purpose and procedure of the testing
- 6) Verbal consent to participate will be collected from the participant by the administrator. From this point forward, remaining steps proceed assuming continuous consent. At any point, the participant may revoke consent and the testing session will be promptly ended.
- 7) A verbal pre-test questionnaire is then given, and responses are recorded.
- 8) Once completed, the participant will be given the link to the application. They will be asked to click the link and share their screen.
- 9) The following steps will be repeated for each scenario:
 - a) The administrator will read the current scenario to the participant.
 - b) The participant will then attempt to complete the scenario as described to the best of their ability, and will be encouraged to think aloud throughout.
 - c) A post-scenario series of questions will then be asked to the participant and responses will be recorded.
 - d)) If this was not the final scenario, the participant will then be instructed to close out of the application and click the link again to restart the application.
- 10) A verbal post-test questionnaire is then given, and responses are recorded.
- 11) The participant will be thanked for their time and participation
- 12) The session will be concluded.

Consent Form : Computer User Interface Usability Testing

Google Form :

https://docs.google.com/forms/d/1QJQTiEB3qmg7dkcRy_ii35tBVDOE1irfyvI1wOaJIRc/edit

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 Questionnaire:

https://docs.google.com/forms/d/14XDOis9NIm9BaxS_VY17WYs6rKyt5ykWxoseiPcq7Z0/edit

1. How interested are you in using an application like this?

- (a) Very Interested
- (b) Interested
- (c) Neutral
- (d) Disinterested
- (e) Strongly Disinterested

2. I believe myself to be proficient at using a computer.

- (a) Strongly agree
- (b) Agree
- (c) Neutral
- (d) Disagree
- (e) Strongly disagree

3. Which browser are you going to use?

- (a) Chrome
- (b) Firefox
- (c) Microsoft Edge
- (d) Safari

4. Have you ever used a similar application in the past?

- (a) Yes
- (b) No

5. Have you ever participated in Usability Testing?

- (a) Yes
- (b) No

Test Scenario 1

Sr. No.	Outline	Outline Description
1.	Test Scenario Name :	Day based testing scenario
2.	Test Goals :	User should be able to properly visualize the daily usage on hour basis when clicked on 1D tab
3.	Required Equipment :	Zoom Conferencing Software, Web browser, Internet connection
4.	Quantitative Measurement :	(a) What mistakes do the participants make? (b) Are the participants able to successfully complete the scenario and record, understand their usage ?
5.	Scenario Description :	This website will be used to check the hourly usage of gas and electricity. You should login with the provided credentials and record your usage according to your usage based on hours.
6.	Task List :	(a) Login using the given credentials. (b) Check electricity usage for entire day using graphs (c) Repeat the scenario for person 1-4 (Electricity Average) (d) Check and understand the environmental impact. (e) Repeat the steps from (b) to (d) for Gas usage instead of electricity usage. (f) Check and understand the Gas averages, Energy Tips (g) Logout
7.	Qualitative Measurements :	(a) How quickly the participant becomes familiar with the graphs. (b) How quickly participant understand the usages (c) Difficulties participant faces while using the webpage
8.	Potential observations of participant:	(a) Participant may struggle to understand the graph visualization Observations to make is whether participants can understand the graph and the units used so that next time the appropriate amount of electricity and gas is used. I.e. the purpose of this application is understood by the participant

9.	Questionnaire:	(a) Did you face difficulty with anything? (b) Did you feel that the navigation is intuitive? (c) Do you have any suggestions?
10.	Test Setup Details :	The participants will need to open the website in their browser, using this link: https://pge-app.sachinf.com/ and share their screen on Zoom

Test Scenario 2

Sr. No.	Outline	Outline Description
1.	Test Scenario Name :	Month based testing scenario
2.	Test Goals :	User should be able to properly visualize the daily usage on day basis when clicked on 1M tab
3.	Required Equipment :	Zoom Conferencing Software, Web browser, Internet connection
4.	Quantitative Measurement :	(a) What mistakes do the participants make? (b) Are the participants able to successfully complete the scenario and record their usage ?
5.	Scenario Description :	This website will be used to check the daily usage of gas and electricity. You should login with the provided credentials and record and understand your usage according to your usage based on day.
6.	Task List :	(a) Login using the given credentials. (b) Check electricity usage for entire month using graphs (c) Repeat the scenario for person 1-4 (Electricity Average) (d) Check and understand the environmental impact (e) Repeat the steps from (b) to (d) for Gas usage instead of electricity usage. (f) Check and understand the Gas averages, Energy Tips (g)Logout
7.	Qualitative Measurements :	(a) How quickly the participant becomes familiar with the graphs. (b) How quickly participant understand the usages (c)Difficulties participant faces while using the webpage
8.	Potential observations of participant:	(a) Participant may struggle to understand the graph visualization Observations to make is whether participants can understand the graph and the units used so that next time the appropriate amount of electricity and gas is used. I.e. the purpose of this application is understood by the participant

9.	Questionnaire:	(a) Did you face difficulty with anything? (b) Did you feel that the navigation is intuitive? (c) Do you have any suggestions?
10.	Test Setup Details :	The participants will need to open the website in their browser, using this link: https://pge-app.sachinf.com/ and share their screen on Zoom

Test Scenario 3

Sr. No.	Outline	Outline Description
1.	Test Scenario Name :	Year based testing scenario
2.	Test Goals :	User should be able to properly visualize the usage on monthly basis when clicked on 1Y tab
3.	Required Equipment :	Zoom Conferencing Software, Web browser, Internet connection
4.	Quantitative Measurement :	(a) What mistakes do the participants make? (b) Are the participants able to successfully complete the scenario and record, understand their usage ?
5.	Scenario Description :	This website will be used to check the monthly usage of gas and electricity. You should login with the provided credentials and record your usage according to your usage based on month.
6.	Task List :	(a) Login using the given credentials. (b) Check electricity usage for entire day using graphs (c) Repeat the scenario for person 1-4 (Electricity Average) (d) Check and understand the environmental impact (e) Repeat the steps from (b) to (d) for Gas usage instead of electricity usage. (f)Logout
7.	Qualitative Measurements :	(a) How quickly the participant becomes familiar with the graphs. (b) How quickly participant understand the usages (c)Difficulties participant faces while using the webpage
8.	Potential observations of participant:	(a) Participant may struggle to understand the graph visualization Observations to make is whether participants can understand the graph and the units used so that next time the appropriate amount of electricity and gas is used. I.e. the purpose of this application is understood by the participant
9.	Questionnaire:	(a) Did you face difficulty with anything?

		(b) Did you feel that the navigation is intuitive? (c) Do you have any suggestions?
10.	Test Setup Details :	The participants will need to open the website in their browser, using this link: https://pge-app.sachinf.com/ and share their screen on Zoom

Test Scenario 4

Sr. No.	Outline	Outline Description
1.	Test Scenario Name :	Threshold energy saving using threshold slider
2.	Test Goals :	Users should properly be able to use Threshold Slider.
3.	Required Equipment :	Zoom Conferencing Software, Web browser, Internet connection
4.	Quantitative Measurement :	(a) What mistakes do the participants make? (b) Are the participants able to successfully complete the scenario and record, understand their usage ?
5.	Scenario Description :	The users should be able to do the analysis of threshold energy using threshold sliders for day, month and year for gas and electricity.
6.	Task List :	(a) Login using the given credentials. (b) Check electricity usage using graphs using threshold sliders for day, month and year. (c) Repeat the scenario for gas usage for day, month and year. (d)Logout
7.	Qualitative Measurements :	(a) How quickly the participant becomes familiar with the graphs with the help of a threshold slider ? (b) How quickly participant understand the usages (c)Difficulties participant faces while using the slider
8.	Potential observations of participant:	Participants may struggle to understand the graph visualization using threshold sliders. Observations to make is whether participants can understand the graph and the units used so that next time the appropriate amount of electricity and gas is used. I.e. the purpose of this application is understood by the participant
9.	Questionnaire:	(a) Did you face difficulty with anything? (b) Did you feel that the navigation is intuitive? (c) Do you have any suggestions?

10.	Test Setup Details :	The participants will need to open the website in their browser, using this link: https://pge-app.sachinf.com/ and share their screen on Zoom
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Post-Test Questionnaire: Link:

https://docs.google.com/forms/d/1g68C2-Ke9v7EiFTo98-HFqIPwixj-tehEz24B_HMNWU/edit

1. Overall, this application was easy to perform tasks in.

- (a) Agree
- (b) Neutral
- (c) Disagree

2. The navigation across different pages is available and easy

- (a) Agree
- (b) Neutral
- (c) Disagree

3. Overall performance of the application is good

- (a) Agree
- (b) Neutral
- (c) Disagree

4. I am satisfied with the performance of the app.

- (a) Agree
- (b) Neutral
- (c) Disagree

5. I would use this application again.

- (a) Agree
- (b) Neutral
- (c) Disagree