

Usability Test Plan

Team-6: Micro:bit

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Consent Form:

Summary: The test imposes minimal risk, no harm should come to you performing the test, the results of the usability test are anonymized, and if at any time you wish to terminate the testing, you may.

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 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 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 computers 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.

Test Scenario – 1: User Experience

Test Goal:

The purpose of the test is to find out if users can quickly access and comprehend the information contained in each menu section.

Software or Equipment required:

1. Laptop/ Smart Phone.
2. Micro: bit
3. Internet

Quantitative Measurement:

- Time taken to connect to Bluetooth.
- Time taken navigating sections.
- Checking for any redundancy.
- Calculating time taken to display graph after connection.

Task List:

- Access the website.
- Use Micro: bit to connect Bluetooth.
- Select the experiment data to be displayed.
- Play/Pause data view.
- Disconnect the micro: bit.

Qualitative Measurement:

1. Is it easy to navigate and connect.
2. How many times the application crashed.
3. Can user delete the data if the displayed graph shows wrong values.
4. Is it easy to download graphs.

Post Scenario-1 interview:

1. Please indicate your level of agreement to the follow statement:

Overall, this application was easy to perform the task.

1. Strongly agree.
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree.

2. Please indicate your level of agreement to the follow statement:

I enjoy using this application.

1. Very much
2. A little bit
3. Neutral
4. Not very much
5. Not at all

3. Please indicate your level of agreement to the follow statement:

I would use this application again.

1. Strongly agree.
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree.

Test Scenario – 2:

Same as Scenario-1 but here user uses different functionalities of application they are ‘Help, Download, Rename Device’.

Software or Equipment required:

1. Laptop/Smart Phone.
2. 2 or more Micro: bits.
3. Internet.

Quantitative Measurement:

- Time taken to connect multiple micro: bits.
- Time taken to download.
- Time taken to solve issue using Help button.
- Is it able to rename the device.

Task List:

- Access the website.
- Use Micro: bit to connect Bluetooth.
- Select the experiment data to be displayed.
- Play/Pause data view.
- Rename the device.
- Download the graph.
- Use Help Button in case of confusion.

Qualitative Measurement:

1. Is it easy to navigate and connect multiple devices.
2. How many times the application crashed.
3. Are the graphs clear for the user when multiple micro: bits connected.
4. Is it easy to download graphs and rename device.

Post Scenario-1 interview:

1. Please indicate your level of agreement to the follow statement:

Overall, this application was easy to perform the task.

1. Strongly agree.
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree.

2. Please indicate your level of agreement to the following statement:

I enjoy using this application.

1. Very Much
2. Agree
3. Neutral
4. Disagree
5. Strongly Agree

3. Please indicate your level of agreement to the following statement:

I would use this application again.

1. Strongly agree.
2. Agree
3. Neutral
4. Disagree
5. Strongly disagree.

Bug Report Form:

<u>Bug Number</u>	<u>Bug Name</u>	<u>Bug Location</u>	<u>Bug Description</u>

Testing Challenges:

<u>Testing Challenge Number</u>	<u>Name</u>	<u>Description</u>