

CS 5760

Usability Test Report

Esports MTStats



Summarized report of test sessions(held in-person) dated from April 7th to April 13th 2023.

This report follows the format of <https://cs4760.csl.mtu.edu/resources/UT2.pdf> as suggested in the assignment description.

Written By - Vrushali Shinde

Executive Summary

This report documents the findings of a usability test of the website application Esports MTStats. <https://ui-dev.cs.mtu.edu:8110/uskystats/> carried out in April 2023 by developer and team. The main purpose of the test was to assess the usability of the current website for users.

Positive aspects about application:

- **User Friendly.** Although test participants were not the players of Smash Bros, they were able to understand basic functionalities by the look and feel and name.
- **Smooth and easy to navigate.** Although the application was still under development, participants were able to perform the tests successfully without any error404.
- **Tolerant search.** Participants were calm and patient enough to understand and fill all inputs and thorough the application despite being first time users.

Improvement areas for <https://ui-dev.cs.mtu.edu:8110/uskystats/>:

- **Quality assurance.** The observed thing was when tapped on login instead of creating a new user button led us to the documentation page. Such issues make the users lose faith in using applications.
- **Undeveloped features deployment.** The forgot password feature was deployed for use when the functionality was not complete which in industry may led to huge havoc
- **More support for inexperienced users.** The test participants were none from the Smash Bros team. Hence, for them to understand the application completely was practically not possible in a day. Hence, voice assistant or help option should be available for such inexperienced users.

Based on the usability problems identified in this test, UI consultant recommends:

- Allocate more resources to quality assurance.
- Know exactly what the user is expecting and work according to that in the simplest way.
- To keep up with the pace and the advanced version of the application, if any new developer is about to enter the team, make sure the developer is aware of the purpose of the application so that later it will not turn into double work.

Vrushali Shinde

Michigan Technological University, April 2023

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Important Note.

This report describes a usability test conceived, carried out after reading and approving the consent by each participant under the guidance of Dr. Robert Pastel, Associate Professor, Computer Science Department, Michigan Technology University, Houghton, MI 49931.

Introduction

UI (User Interface) refers to the visual and interactive elements of a software or application that allow a user to interact with it. This includes buttons, menus, forms and other graphical elements that the user interacts with to use the software. User interface testing is essential to ensure that your software is visually appealing, functional, and provides a positive user experience.

Test goals for UI testing:

1. Ease of use:

Test example:

Conduct usability testing sessions with real users to assess how easy it is to navigate the interface, perform common tasks, and get feedback on overall satisfaction. exterior:

Make sure your user interface is visually appealing, consistent, and follows established design standards.

2. Functionality:

To make sure all his UI elements and interactions are working and working as intended.

Test example:

Conduct functional tests to ensure that buttons, forms, menus, and other UI elements perform the expected actions and provide correct results, such as: data validation and error handling.

3. Responsiveness:

To ensure that the user interface is responsive and adapts well to different screen sizes and devices.

Test Example:

Conduct responsive testing on various devices, such as desktops, laptops, tablets, and mobile phones, to verify that the UI is displayed correctly, and the interactions are functional across different screen sizes and resolutions.

4. Accessibility:

To ensure that the UI is accessible to all users, including those with disabilities, and complies with accessibility standards.

Test Example:

Conduct accessibility testing using tools like screen readers, keyboard-only navigation, and other assistive technologies to verify that the UI is usable and meets accessibility standards.

5. Localization:

To ensure that the UI is properly translated and localized for different languages and cultures.

Test Example:

Conduct localization testing to verify that the UI is correctly translated, displays correctly in different languages, and adheres to cultural norms, such as date formats, time zones, and currency symbols.

Test Plans: Plan 1

Before starting the session, participants were asked to read consent to agree for testing and then tell briefly their background information scoped to the technology and application.

- Introduction

Provide an overview of the Esports application. This test case was for testing of the export button in the profile page.

- Test Objectives

When clicked on the export button, the user should be able to have excel downloaded in the system and when opened, it should properly display the information.

- Scope

The scope of the testing effort is across all platforms (iOS, Windows, Android), and devices (smartphones, tablets, laptop).

- Test Schedule

This test was carried out on the following dates at the university library. Each session had a duration of an hour with one participant and 2-3 developers along with the UI consultant.

04/07/2023 12:00 PM
04/07/2023 1:00 PM
04/10/2023 1:00 PM
04/11/2023 11:00 AM
04/11/2023 4:00 PM
04/13/2023 11:00 AM
04/13/2023 4:00 PM
04/13/2023 5:00 PM

- Test Resources

The resources needed for testing are any electronic device with stable internet connection and login credentials.

- Test Deliverables

The test deliverable includes an observation as to how the participants react to the scenario and then noticing bugs in process and noting it down to fix it later.

- Test Techniques and Approaches

In-person usability testing carried out to make sure the best version of application gets deployed in the production as its first release.

- Test Environment

Friendly environment including the hardware(laptop/desktop), software(knowledge of Spring Boot would be preferred), and network configurations that will be used for testing.

- Test Data

Before entering the test scenario, pre test questions were asked to know just enough background of the participant, and then a consent form that they are okay to give their personal information.

Additionally, we also had few stats entered through the backend database so that the export excel will have some data to study and for overall smooth testing.

- Test Execution

The scenario was described to the participant. The participant is an authorized user who is using the app for the first time. The participant who wants to see the excel to analyze the records. The participant has the application access and valid username and password. The participant will click on the "Events" tab to see the "Export" button and then excel will get downloaded.

The expected task List for successful test execution: 1. Open the app and log in to your account. 2. Click on the event tab. 3. Click on the export button 4. After excel is downloaded, see to it that necessary information is as required

Observations were recorded in the form of bug report and challenges faced which will be described in the results section.

- Test Risks and Mitigation

No potential risk like time constraint, compatibility issues or internet connection loss was observed.

- Test Sign-off

The bugs if identified were handwritten or typed in and then the participant was thanked for contributing to the session and asked post test questions to sign off. Post that UI consultant and developers had a brief discussion on prioritizing the tasks and then working on it as soon as possible so that same bugs won't occur the next session

Plan 2

Before starting the session, participants were asked to read consent to agree for testing and then tell briefly their background information scoped to the technology and application.

- Introduction

Provide an overview of the Esports application. This test case was for Login and Logout testing with the forgot password option potentially. I.e. going through with any feature of application whilst logging out and logging back in randomly.

- Test Objectives

When using the application as a new user, log out, log in randomly there should be no whatsoever navigation problem or functionality break issues.

- Scope

The scope of the testing effort is across all platforms (iOS, Windows, Android), and devices (smartphones, tablets, laptop).

- Test Schedule

This test was carried out on the following dates at the university library. Each session had a duration of an hour with one participant and 2-3 developers along with the UI consultant.

04/07/2023 12:00 PM
04/07/2023 1:00 PM
04/10/2023 1:00 PM
04/11/2023 11:00 AM
04/11/2023 4:00 PM
04/13/2023 11:00 AM
04/13/2023 4:00 PM
04/13/2023 5:00 PM

- Test Resources

The resources needed for testing are any electronic device with stable internet connection and login credentials.

- Test Deliverables

The test deliverable includes an observation as to how the participants react to the scenario and then noticing bugs in process and noting it down to fix it later.

- Test Techniques and Approaches

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- Test Environment

Friendly environment including the hardware(laptop/desktop), software(knowledge of Spring Boot would be preferred), and network configurations that will be used for testing.

- Test Data

Before entering the test scenario, pre test questions were asked to know just enough background of the participant, and then a consent form that they are okay to give their personal information.

Additionally, we also had few stats entered through the backend database so that the export excel will have some data to study and for overall smooth testing.

- Test Execution

The scenario was described to the participant. The participant is an authorized user who is using the app for the first time. The participant will login and then navigate to all the tabs of the application and is trying to check multiple times login logout if it works smoothly. The participant also wants to reset the password, hence trying the Forgot Password? Option. The participant is trying to login in all the ways given by application. Additionally, User can try to create a new username and password to check the same.

The expected task List for successful test execution: 1. Open the app and log in to your account. 2. Navigate to all the function tabs of application and logout. 3. Reiterate the above steps multiple times and with all the ways 4. Try the Forgot Password option.

Observations were recorded in the form of bug report and challenges faced which will be described in the results section.

- Test Risks and Mitigation

No potential risk like time constraint, compatibility issues or internet connection loss was observed.

-
- Test Sign-off

The bugs if identified were handwritten or typed in and then the participant was thanked for contributing to the session and asked post test questions to sign off. Post that UI consultant and developers had a brief discussion on prioritizing the tasks and then working on it as soon as possible so that the same bugs won't occur the next session.

Results

The snippets are taken from the presentation I made for class.

- Hardware - Laptop with touchpad
- Software knowledge - Not much idea about Spring Boot, but having knowledge of other programming language like python
- Conducted a pre-testing questionnaire in person
- Ran through 2 scenarios with descriptions
- Measured time taken to complete each scenario
- Took notes on overall testing observations
- Asked questions regarding each scenario
- Conducted a post-testing questionnaire in person

Pre-Test Questionnaire:

Reviews of all days are combined since the answers are the same.

Pre-Testing Results

Please indicate your level of agreement to the following statement: I am very interested in the testing of this application Strongly agree	Have you ever used an application before, in which you enter your game scores No
Have you ever participated in a usability test before No	How frequently do you use similar applications No

The summed up pre testing questionnaire implies that the participants were not aware of Spring Boot and had never participated in usability testing before and they had no idea about this application or used similar types but they all were definitely very much eager for

the testing for the first time.

Bug Report:

Bug Report

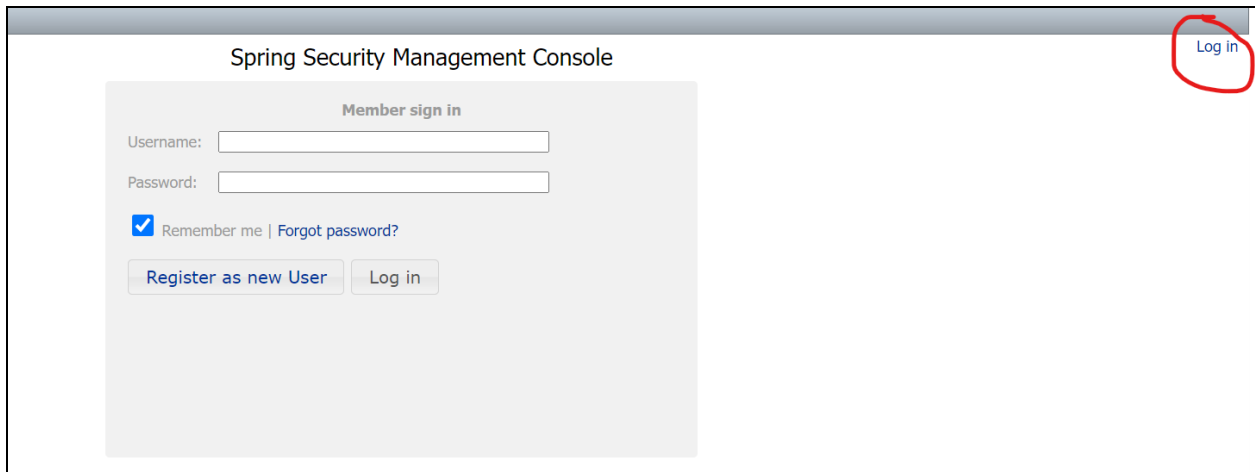
Bug Number	Bug Name	Bug Description	Severity
1	Excel has dd/yy	The excel had date mentioned as dd/yy and not the actual	Needs attention (solved)
2	Uploading Picture	The picture in profile page was unable to upload	Needs attention (in-progress)
3	Styling issues	The result is declared as boolean value, the heading was not bold	Needs attention (solved)

The summarized bug report is seen above. The bug report has 3 main bugs identified mainly from the test sessions. The first bug says that when participating while performing the export button testing scenario, the excel got downloaded successfully. When opened excel has dd/yy written instead of the actual date there. This thing created confusion and also other minute details like the spacing issues between cells and then the understanding of the excel was a little tough since the participants were not the smash bros player. However, with the help of developers the issue was fixed.

The second bug was regarding uploading the picture. The participants when testing for scenario two i.e. navigate through all the possible features of the application while logging in and out in between; the upload picture feature in profile page didn't work as expected. The bug was identified and the root cause seemed to be that the uploaded picture is in a different location on the server and the retrieving image is from a different location. The developers at present are trying to fix that bug.

NOTE: The second bug also enabled the team to know two more things. One is that the forgotten password functionality is not working at all and the reason identified was that security in spring was not allowing to send the otp properly to the user email id to reset the password. The developers are working on fixing it. Also, the spring boot has its own login feature which was visible at the right top corner and when the participant tried using it, it was not working properly. The developers are trying to identify from where it came so that

they can disable it and then there will be just one way to login to the application.



The third bug identified was the styling issues in exported excel. The headings were not bold and the win between two teams is declared as true or false. I.e. boolean value. The other styling issues are fixed; however the boolean value still exists which is in progress.

Below is the sample snippet of excel which got downloaded from the tool.

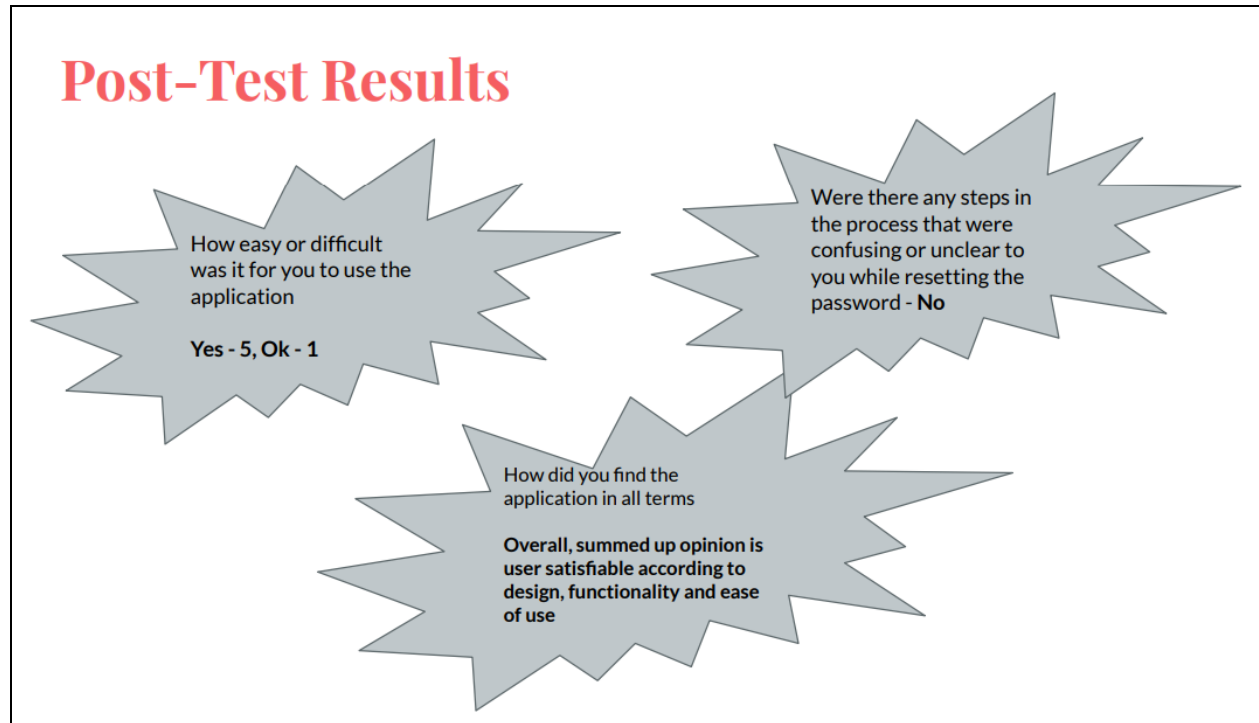
Event	Start Date	End Date							
Test Event	04/19/23	04/26/23							
Crews									
League		Opponent	Win						
asdf		asdf	FALSE						
Round		Map	Player Name	Character	Opponent Name	Opponent Character	Stocks Taken	Stocks Left	
	1	Hollow Bastion	Jammie		Jigglypuff		Pikachu	1	2
Round		Map	Player Name	Character	Opponent Name	Opponent Character	Stocks Taken	Stocks Left	
Singles									
Round		Map	Player	Opponent Name	Character	Enemy	Enemy Character	Stocks Taken	Stocks Left
		Hollow Bastion	Jammie	Ness	Kirby			1	1
Round		Map	Player	Opponent Name	Character	Enemy	Enemy Character	Stocks Taken	Stocks Left
		Pokemon Stadium 2	Jammie	Dr. Mario	Kirby			1	1
Round		Map	Player	Opponent Name	Character	Enemy	Enemy Character	Stocks Taken	Stocks Left
		Lylat Cruise	Jammie	Jigglypuff	Ness			2	0
		Kalos Pokemon League	Jammie	Captain Falcon	Kirby			3	1
Round		Map	Player	Opponent Name	Character	Enemy	Enemy Character	Stocks Taken	Stocks Left
		Battlefield	Jammie	Falco	Jigglypuff			3	2

The extension of this downloaded file is '.xlsx'

Post-Test Questionnaire:

After each test session, the participants were asked if they have any more suggestions or questions regarding the application overall and that was noted. Further the participants were thanked for their contribution to the same. Also a couple to three questions were asked as to overall observe if they are satisfied with application. Here are the summarized

results for the same.



After letting the participants be dismissed from the test session, the UI consultant and the developers had a brief discussion to prioritize the tasks or bugs or suggestions so that work on the same can be started and it can be fixed for the next released version.

Conclusions

Participant's Recommendation

- Titles can be bold

The participants had a suggestion of making the headings of excel bold and that make excel more interactive.

- Toaster

The participants when logged in or logged out or any feature if executed successfully or had any error wanted to see that. Instead we had to inspect the browser and see in the console the error.

- Condensed

The participants suggested that the application can be made more spacious and less crowded since every information especially on the events page can be overwhelming at once.

- Instead of plain display - newsflash

The participants were suggesting to make the application more attractive from the game perspective and that it is simple, authentic but plain. Maybe a newsflash or two for upcoming events, instead of player names, maybe anime characters etc.

- Help option

The most up-top challenge we had was that the participants for the session were not aware of the smash bros game and so they didn't have any idea about the statistics entered in the application. Hence, we had to describe it which is fair but even though we describe, until they play or have handson; for them to understand 100% is not practically possible. Hence, they suggested having a help option and then maybe a normal person story in the help option to depict the application. Reading which they can use without not so much assistance.

Apart from these bugs and recommendations and challenges, the one more highlight was spring boot behavior.

Spring boot made it tough to implement the forgot password option since it had its own security concern which was not allowing us to write a function to send one time code to the user for resetting the password.

Another thing which was already mentioned was its own login option.

All the bugs and reports are at present attempted to be solved by the developers with the help of scientists, end user requirements and UI consultant.

Appendix A: Undergraduate team members attendance for testing

Date	Time	Team Member Name	Attended (Yes/No)
04/07/2023	12:00 PM	Max Jorgensen < mjjorgen@mtu.edu >, Austin Keene < arkeene@mtu.edu >, Colin Van Delden < cmvandel@mtu.edu >	All attended
04/07/2023	1:00 PM	Max Jorgensen < mjjorgen@mtu.edu >, Aakash Gunda < gunda@mtu.edu >	All attended
04/10/2023	1:00 PM	Max Jorgensen < mjjorgen@mtu.edu >, Aakash Gunda < gunda@mtu.edu >	All attended
04/11/2023	11:00 AM	Colin Van Delden < cmvandel@mtu.edu > , Aakash Gunda < gunda@mtu.edu >	All attended
04/11/2023	4:00 PM	Max Jorgensen < mjjorgen@mtu.edu >, Erik van der Grijn < evanderg@mtu.edu > Jamarri Jackson < jjjackso@mtu.edu >	All attended
04/13/2023	11:00 AM	Aakash Gunda < gunda@mtu.edu >,	All attended

		Colin Van Delden < cmvandel@mtu.edu >	
04/13/2023	4:00 PM	Austin Keene < arkeene@mtu.edu >, Jamarri Jackson < jjjackso@mtu.edu > Erik van der Grijn < evanderg@mtu.edu >	All attended
04/13/2023	5:00 PM	Austin Keene < arkeene@mtu.edu >, Jamarri Jackson < jjjackso@mtu.edu > Erik van der Grijn < evanderg@mtu.edu >	All attended

Credit Notes

Thank you to

Professor: Prof. Robert Pastel

Scientist: Kaitlyn Roose – Director of Esports

Developers: Max Jorgensen, Colin Van Delden, Austin Keene, Aakash Gunda, Jamarri Jackson, Ellyse Angus, Erik van der Grijn

Another UI consultant: Vishnu Rapuru

Special thanks to all the participants for co-operating

Disclaimer: This report is written for educational purposes only.