

TEAM 7: ESPORTS MTSTATS

USABILITY TEST REPORT

DEVELOPERS TEAM

Aakash Gunda
Austin Keene
Colin Vandelden
Erik Van Der Grijn
Jamarri Jackson
Max Jorgenson

UX CONSULTANTS

Vishnu Rapuru
Vrushali Shinde

SCIENTIST

Kaitlyn Roose

— by
Vishnu Rapuru,
UX Consultant.

Introduction

This application is designed to cater to the needs of the Esports community, specifically for the game Super Smash Bros Ultimate. The main objective of the app is to provide a comprehensive suite of tools to both players and statisticians that allow them to efficiently track and analyze match results, tournament standings, and individual player performance.

The app offers a user-friendly interface that makes it easy for players to update their match results, view their stats, and access their match history. This feature enables them to monitor their progression and performance over time, identify areas of improvement, and set benchmarks for future games.

One of the key benefits of this app is that it provides a detailed analysis of each match, which is particularly valuable for statisticians. They can export the data as a spreadsheet and use it to evaluate player and team performance, identify trends and patterns, and provide recommendations for improvement.

In addition to the players and statisticians, the app also caters to the needs of the admin. The admin has the ability to create and manage events, control the team roster, and facilitate communication between team members. This feature allows for easy organization and coordination of events and ensures that all team members are on the same page.

Overall, this app is an all-in-one solution that provides a comprehensive set of features to enhance the Esports experience for players, statisticians, and admins alike.

Usability testing is a crucial process in the development of any software or application as it helps to identify any usability issues that might exist within the application. The purpose of the test scenarios for the Super Smash Bros Ultimate tracking application is to evaluate its ease of use, functionality, and effectiveness. By testing different scenarios, we can assess the usability of the application from the perspective of the user.

For instance, in the scenario where the user is asked to create a new match/game/event, we can assess the application's ability to guide users through the process and determine how intuitive the interface is. In the scenario where the user is asked to locate upcoming and past events, we can determine the effectiveness of the application's navigation system and how well it provides information to the user.

Through this process, we can obtain valuable feedback from the participants on their experiences with the application, which can help us identify areas for improvement. The feedback can be used to make necessary changes to enhance the user experience of the application. This will ensure that the application is easy to use and meets the needs of the users, whether they are team members, a statistician, or an admin. Ultimately, the goal is to develop an application that is both effective and user-friendly.

The performance metrics measured during the scenarios included time taken and assistance needed. Time taken refers to the duration it took for each participant to complete a round, while assistance needed was noted when a participant required a prompt or got stuck during the scenario.

Test Plans:

Testing Information:

There were eight usability testing sessions conducted with the UX Consultant, Vishnu Rapuru, and two or three members of Team 7 in attendance. The session times and development team members who attended each session are listed below.

1. April 7th, 2023 11:00 AM to 12:00 PM (EST)
Developers: Austin Keene, Jamarri Jackson.
2. April 10th, 2023 11:00 AM to 12:00 PM (EST)
Developers: Austin Keene, Jamarri Jackson, Max Jorgenson.
3. April 10th, 2023 12:00 PM to 1:00 PM (EST)
Developers: Austin Keene, Max Jorgenson.
4. April 11th, 2023 12:00 PM to 1:00 PM (EST)
Developers: Colin Vandelden, Erik Van Der Grijn.
5. April 11th, 2023 1:00 PM to 2:00 PM (EST)
Developers: Colin Vandelden, Erik Van Der Grijn.
6. April 11th, 2023 5:00 PM to 6:00 PM (EST)
Developers: Jamarri Jackson, Erik Van Der Grijn.
7. April 13th, 2023 12:00 PM to 1:00 PM (EST)
Developers: Colin Vandelden, Erik Van Der Grijn.
8. April 13th, 2023 1:00 PM to 2:00 PM (EST)
Developers: Colin Vandelden, Erik Van Der Grijn.

All testing sessions were conducted in a physical library room and were attended by the users listed in Appendix-A.

Testing Process:

The testing process was conducted in this order:

1. A confirmation email with the location and test-session timings, along with a calendar notification, is sent to the participant prior to one or two days before the test as a reminder.
2. The email and calendar reminder, specifying their roles, is sent to each assisting development team member.
3. The administrator and assisting development team members arrive early to the testing session to ensure it can begin as soon as the participant arrives.
4. The administrator conducts a pre-test check to ensure the app is ready for testing.
5. The administrator greets the participant upon arrival and explains the purpose and procedure of the testing.
6. The administrator collects verbal consent from the participant to participate in the testing session. The testing proceeds assuming continuous consent, but the participant can revoke their consent at any point.
7. The administrator provides a brief description of the application to the participant and records their responses to a verbal pre-test questionnaire.
8. The participant is given a link to the application through email and is asked to click the link and share their screen.
9. For each scenario:
 - A. The administrator reads the current scenario to the participant.
 - B. The participant attempts to complete the scenario to the best of their ability and is encouraged to think aloud throughout.
 - C. A post-scenario series of questions is asked to the participant, and their responses are recorded.
 - D. If this is not the final scenario, the participant is instructed to close out of the application and click the link again to restart the application.
10. The administrator provides a verbal post-test questionnaire to the participant and records their responses.
11. The participant is thanked for their time and participation, and the session is conclude.

Pre-Test Questionnaire:

1. Are you interested in the testing of this application? (Yes/No)
2. Have you ever participated in a usability test before? (yes/no)
3. Please let us know which device you are using for the usability test:
 - A. Laptop
 - B. Mobile
 - C. Tablet
4. Have you ever used an application before, in which you enter your game scores? (yes/no)
5. How frequently do you use similar applications? (daily, weekly, monthly, rarely, never)
6. On a scale of 1-10, how comfortable are you with technology or browsing? (1 = not comfortable at all, 10 = very comfortable)
7. Do you have any visual or physical impairments that may affect your ability to use the application? (yes/no)

Test Scenario 1: Match/Game/Event entry tool

Test Scenario Name: Input Test

Test Goals for the Scenario:

- To evaluate the time required to create a match/game/event.
- Evaluate the ease of inputting match/game/event information.

Software or Equipment required: Laptop or desktop computer with mouse and internet connection.
Live link of the app to run in browser

Quantitative measurement list:

- Time taken to create a new match/game/event.
- Number of clicks required to create a new match/game/event.

Scenario Description: Welcome to our usability testing session. As a team manager, your task is to create a new match or game for your team using our app. You will be given access to the app via login credentials provided by the administrator. Once you log in, you will need to navigate to the "Match/Game Entry" tool in the app's navigation menu. From there, you will select the option to create a new match or game. You will need to provide the name of the event, the date and time it will take place, the location, and any other relevant details. Throughout the task, we encourage you to think out loud and share your thought process with us. Let's begin.

Task List:

1. Open the app and log in to your account.
2. Navigate to the match/game/event entry page.
3. Click on "Add Match/Add Game/Add Event" button.
4. If clicked on Add Event, fill out the required information, such as Event name, start date, and end date.
5. Or else If clicked on Add match, fill out the League, and Opposing school information.
6. Otherwise, If clicked on Add game, fill out the required information, such as Player name, stage, Player character, Opponent character, stocks taken, and stocks remaining.
7. Click on "Submit" button to save the new match/game/event.

Qualitative measurement list:

Participant's ease of use of the match/game/event entry tool.

Participant's understanding of the information required to create a new match/game/event. Potential observations of participant:

- Participant struggling to find the match/game/event entry tool:

During the scenario, the participant will encounter difficulty in finding the match/game/event entry tool. The participant might spend a significant amount of time searching for the tool in different sections of the app or may even ask the administrator for assistance. The administrator should take note of any frustration, hesitation or confusion displayed by the participant. Observations to make include where the participant clicks or taps, any specific wording or iconography they might be looking for, and how long it takes them to find the tool. This observation can help identify any issues with the app's navigation and menu structure.

- Participant confused about the information required to create a new match/game/event:

During the scenario, the participant will encounter confusion about what information is needed to create a new match/game/event. The participant might ask the administrator for clarification on what is required or might make assumptions about the type of information required, leading to errors or incomplete entries. The administrator should note any confusion or hesitancy displayed by the participant when entering the information. Observations to make include what specific pieces of information the participant is unclear about, how long it takes them to enter the information, and if they make any mistakes in the process. This observation can help identify any issues with the app's data entry process or the clarity of the information required for a match/game/event entry.

Test Set up Details:

The test will be conducted in-person in a quiet room with no distractions. The participant will use their own laptop or desktop computer with a mouse to access the app.

Test Scenario 2: Listing Events by: upcoming, current, past

Test Scenario Name: Navigation Test

Test Goals for the scenario: Evaluate the ease of navigation within the app's events section on Home page.

Software or equipment required: Smartphone or desktop computer, link to application. Quantitative measurement list:

- Time to locate upcoming events.
- Time to locate current events.
- Time to locate past events.

Scenario description: Hello, in this scenario, you will be using the app to find out about events. You will be asked to locate information about upcoming events, current events, and events that have already happened in the past. To do this, you will need to navigate to the app's events section. Once you are there, you will be asked to find the upcoming events and the past events. The goal of this test is to see if you can easily find the relevant information about events in the app. Please let me know if you have any questions before we begin.

Task list:

- Open the app's events page and home page.
- Locate the upcoming events and note the time it took to find them.
- Locate the past events and note the time it took to find them. Qualitative measurement list:
- Ease of use,
- Satisfaction with navigation,
- Attention or focus required to use.

Potential observations of participant:

- Mouse or finger movement: Observe the participant's mouse or finger movement as they navigate through the app. This can give an indication of how easily they can find and interact with different elements on the app.
- Facial expressions: Watch the participant's facial expressions as they use the app. This can give insight into their emotions and reactions to different parts of the app.
- Verbal comments: Listen to the participant's verbal comments as they use the app. This can give an indication of their thoughts and opinions on different elements of the app, as well as any frustrations or confusion they may experience.

Test Set up Details:

The test will be conducted in-person in a quiet room with no distractions. The participant will use their own laptop or desktop computer with a mouse to access the app.

Post-Test Questionnaire:

1. How easy or difficult was it for you to create a new match/game/event?
2. Were there any steps in the process that were confusing or unclear to you?
3. Is there anything you would suggest to improve the match/game/event entry tool?
4. Did you encounter any errors or technical issues while using the match/game/event entry tool?
5. How long did it take you to complete the task of creating a new match/game/event?
6. Were the instructions and labels on the app clear and easy to understand?
7. Was there any missing or redundant information required when creating a new match/game/event?
8. Did you feel confident that you provided all the necessary details when creating the new match/game/event?
9. Did you find the process of creating a new match/game/event intuitive or confusing?
10. Were there any features or functionality that you expected to see in the match/game/event entry tool but were missing?
11. Did you encounter any issues or challenges when inputting information into the various fields?
12. Was the match/game/event entry tool visually appealing and easy to navigate?
13. How easy was it to locate the upcoming events?
14. How easy was it to locate the past events?
15. Did you experience any difficulties during the navigation process?
16. Was there anything about the navigation that you found particularly frustrating or satisfying?
17. Were the labels for the different sections (upcoming events, current events, past events) clear and easy to understand?
18. Did you have to spend a lot of time searching or scrolling to find the information you were looking for?
19. Was the information about each event (date, time, location, etc.) presented in a clear and organized way?
20. Were there any features or information that you were expecting to find in the events section that were missing or hard to locate?
21. Do you have any suggestions for how the events section could be improved to make it more user-friendly or informative?
22. How would you rate the overall usability and user-friendliness of the events section on a scale of 1 to 10?

Results

Time Taken:

Participants	Scenario 1 (Time in secs)	Scenario 2 (Time in secs)
Participant 1	150	60
Participant 2	90	40
Participant 3	40	30
Participant 4	60	20
Participant 5	30	30
Participant 6	40	40
Participant 7	30	30
Participant 8	40	20
Mean	60	33.75

Figure 1: Time taken to complete each scenario in seconds

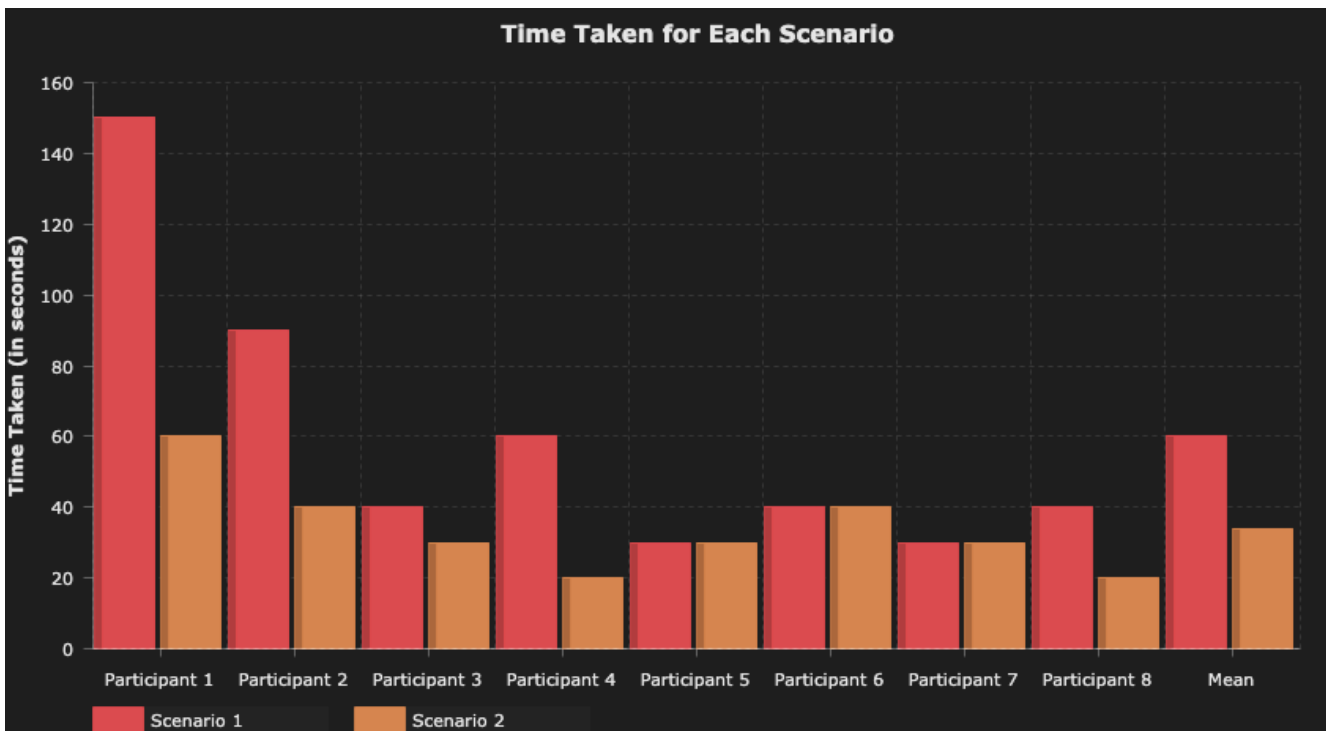


Figure 2: A bar graph to show the Time Taken in seconds

The data presented in figures 1 and 2 reveals that users spent more time completing the first scenario as they needed time to become familiar with the application. However, the time taken to complete scenario-2 significantly reduced after finishing scenario-1, as the steps involved were

quite similar. The number of steps involved in each scenario was reasonable, and users were able to complete both scenarios within a reasonable amount of time.

Doubts Raised:

Participants	Scenario 1 (Doubts)	Scenario 2 (Doubts)
Participant 1	1	0
Participant 2	1	0
Participant 3	0	0
Participant 4	0	0
Participant 5	1	0
Participant 6	2	1
Participant 7	0	0
Participant 8	0	0

Figure 3: Number of Doubts Raised by each participant in both the scenarios

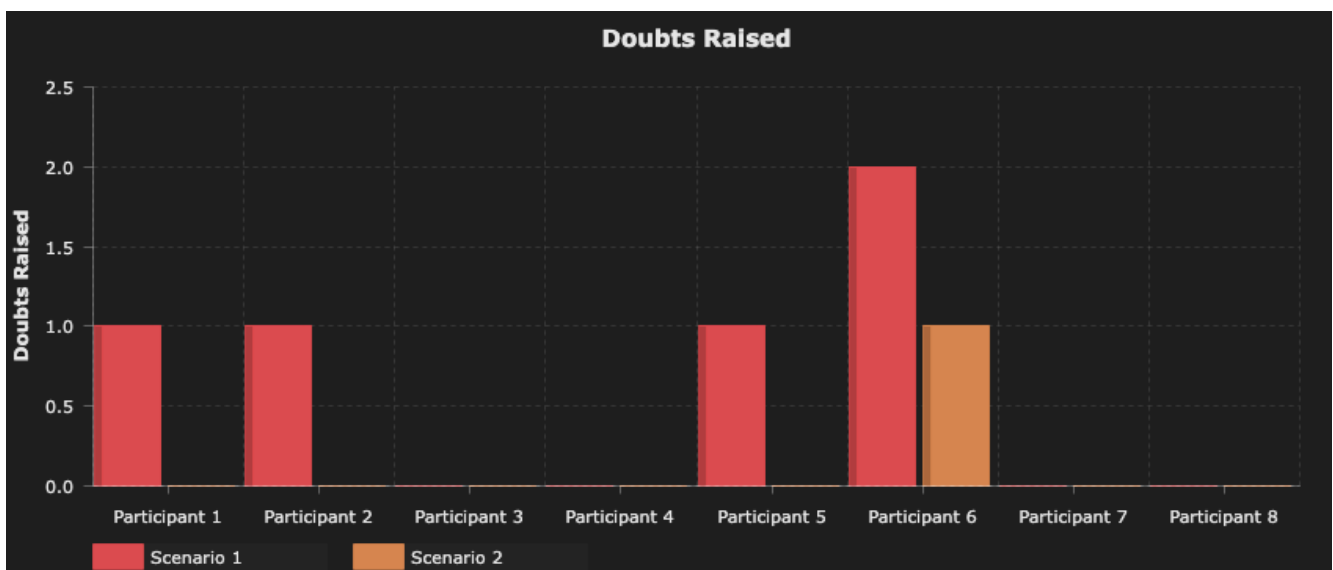


Figure 4: Bar graph to show Doubts raised in each scenario

From the Figure 3, 4: Out of the 8 participants, 5 raised doubts during Scenario 1, while only 1 participant raised doubts during Scenario 2. Participant 6 raised the highest number of doubts, with 2 doubts in Scenario 1 and 1 doubt in Scenario 2. Participants 3, 4, 7, and 8 did not raise any doubts in either scenario.

Bugs Identified:

Participants	Scenario 1 (Bugs)	Scenario 2 (Bugs)
Participant 1	1	0
Participant 2	0	0
Participant 3	1	1
Participant 4	1	0
Participant 5	1	1
Participant 6	1	0
Participant 7	1	1
Participant 8	0	0

Figure 5: Bugs Reported by each participant for both the scenarios

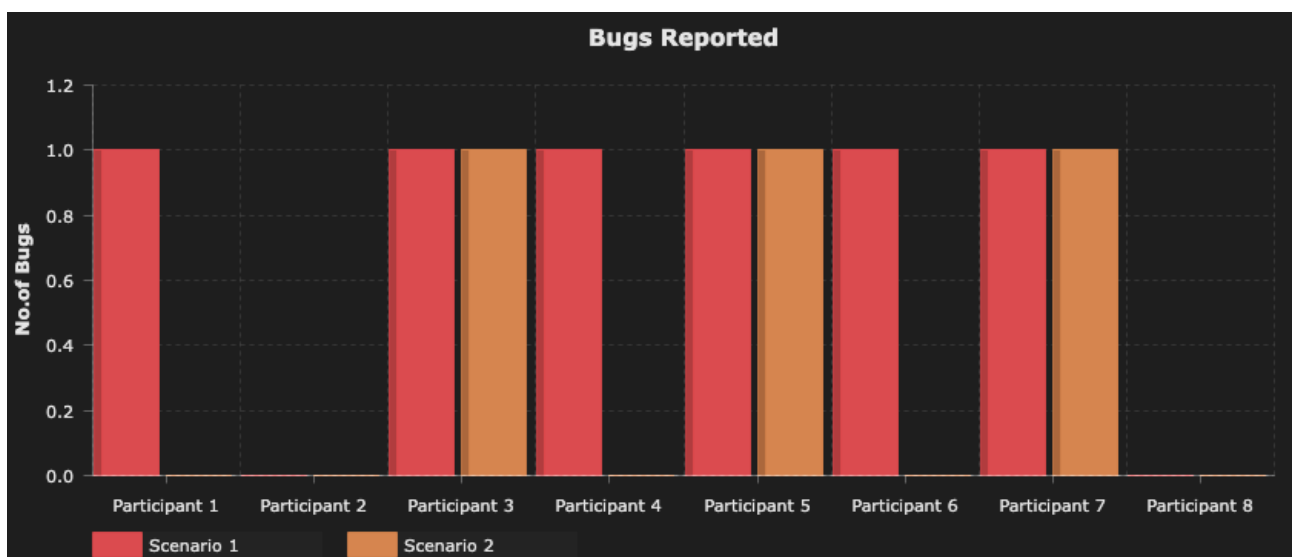


Figure 6: Bar graph to show number of bugs reported

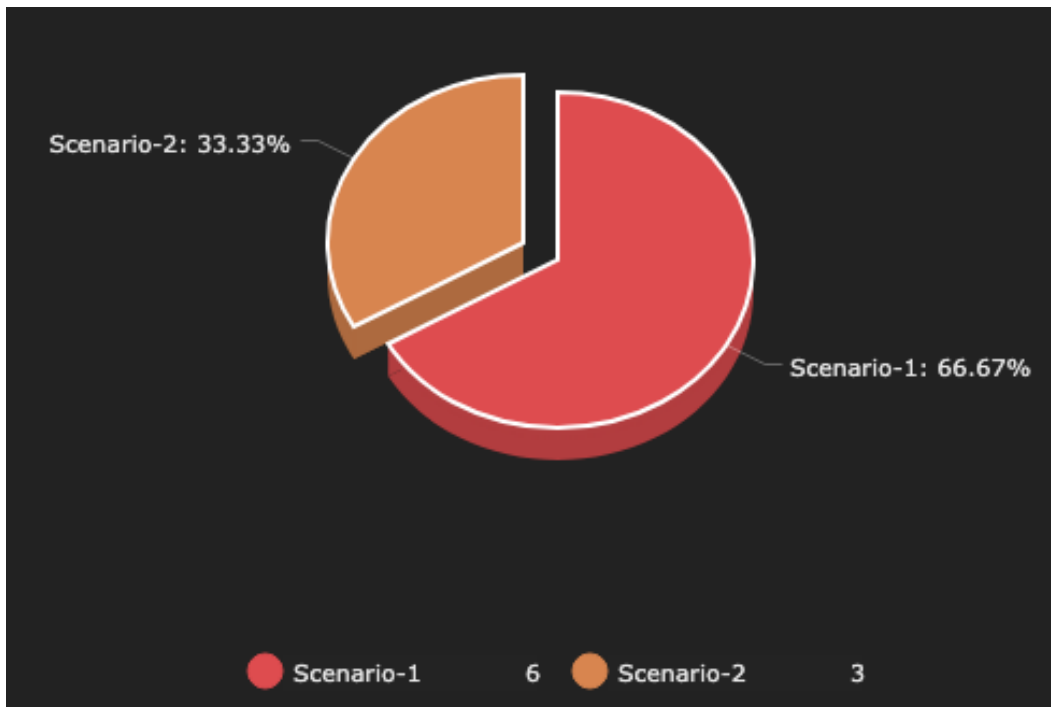


Figure 7: Pie chart to show number of bugs reported in each scenario

In Scenario 1, a total of 6 bugs were reported, while in Scenario 2, a total of 3 bugs were reported. Participants 1, 3, 4, 5, 6, and 7 reported at least 1 bug in Scenario 1, whereas in Scenario 2, only Participants 3, 5, 6, and 7 reported at least 1 bug.

Pre-Test Results:

Question 1: Have you ever participated in a usability test before? (yes/no)

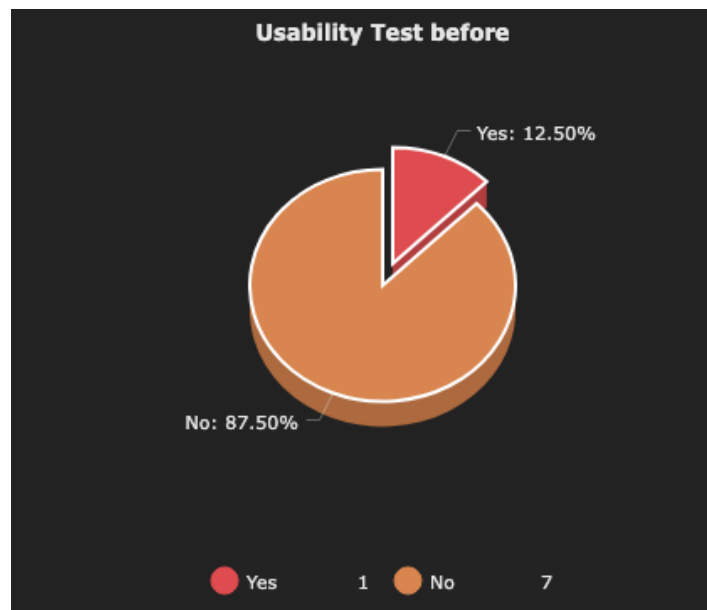


Figure 8: Pie chart to show the users participated in Usability Testing before

Question 2: On a scale of 1-10, how comfortable are you with technology or browsing? (1 = not comfortable at all, 10 = very comfortable)

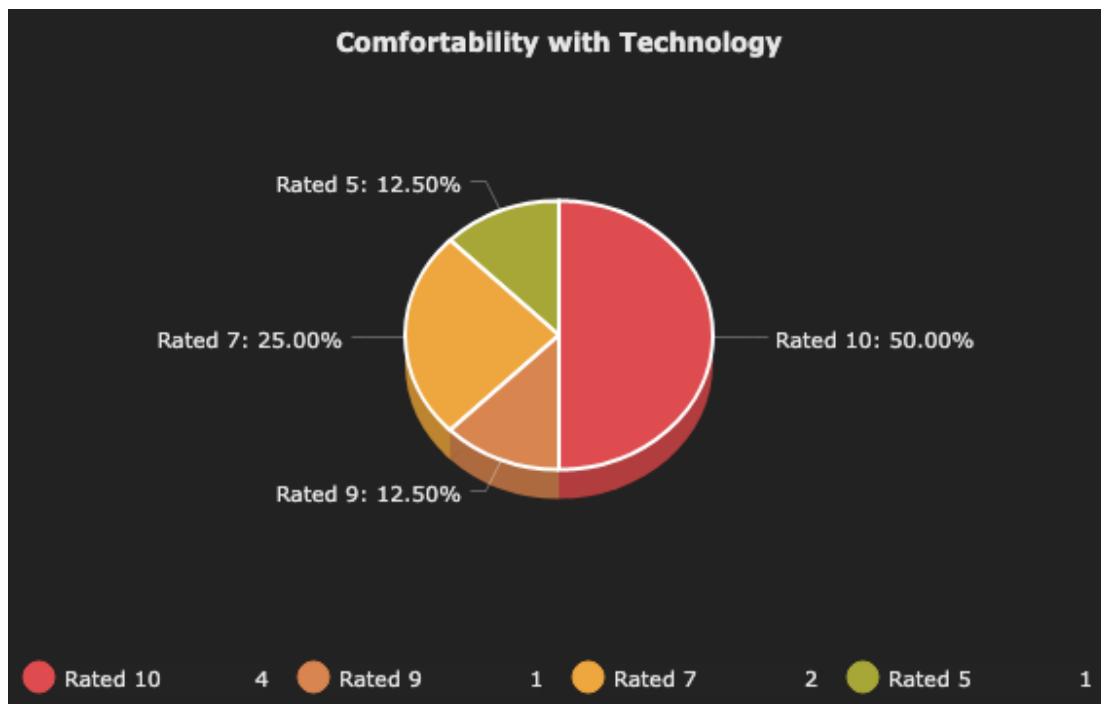


Figure 9: Pie chart to show User comfortability with Technology

Question 3: Have you ever used an application before, in which you enter your game scores? (yes/no)

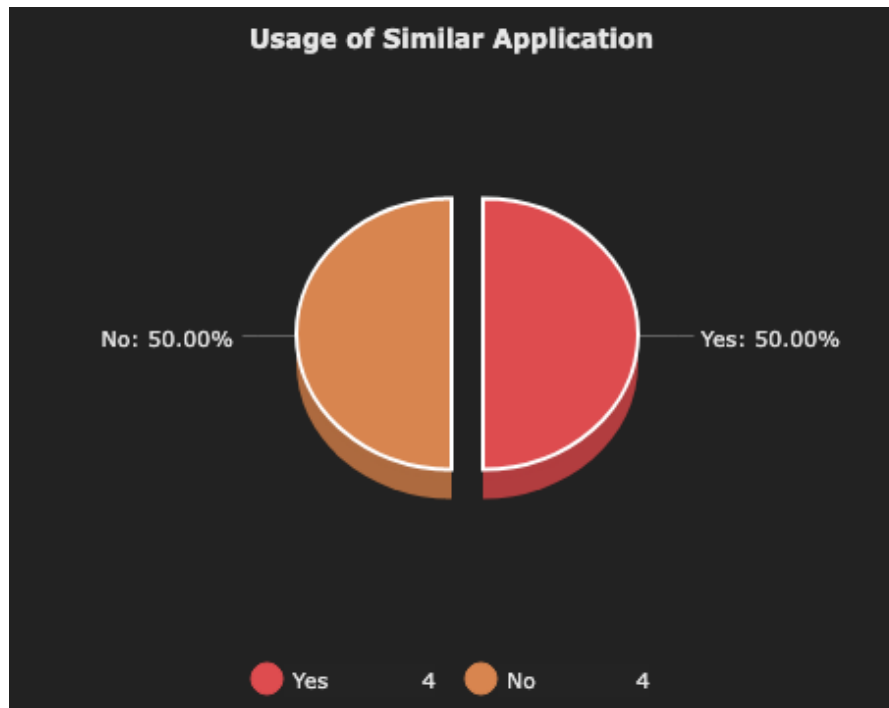


Figure 10: Pie Chart to show users using Similar Applications

Question 4: Please let us know which device you are using for the usability test: Laptop, Mobile, Tablet.

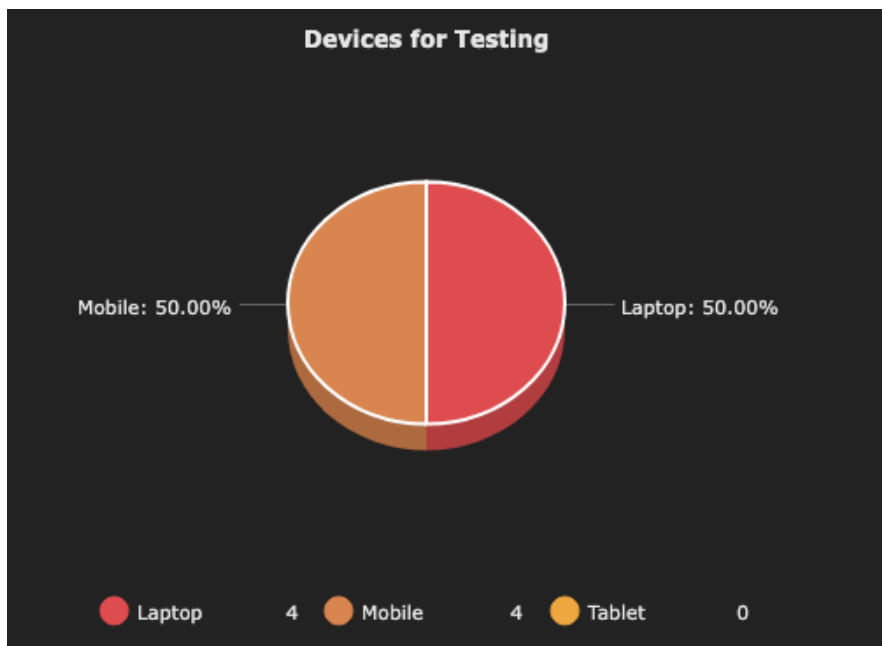


Figure 11: Pie Chart to show users Device used for Testing

Post-Test Results:

Question 1: Were the instructions and labels on the app clear and easy to understand?

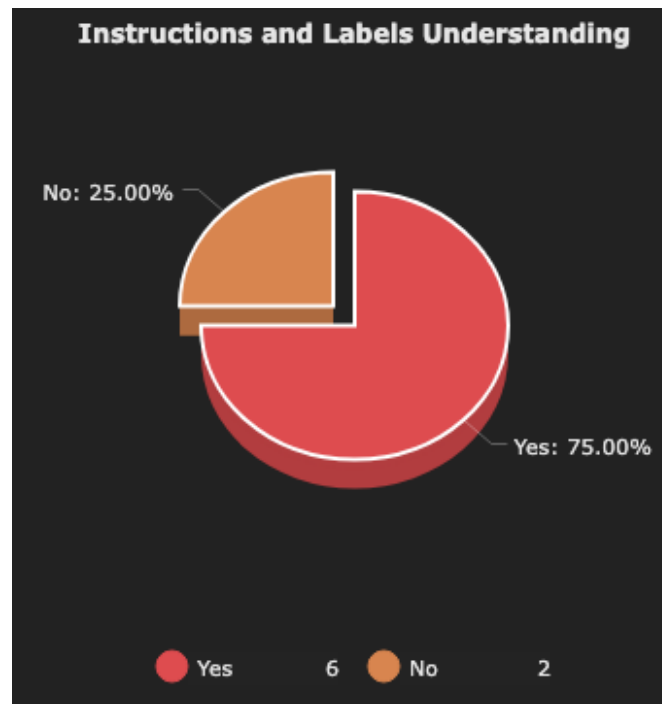


Figure 12: Pie Chart to show the users Understanding the Instructions and Labels in the application

Question 2: Do you have any suggestions for how the events section could be improved to make it more user-friendly or informative?

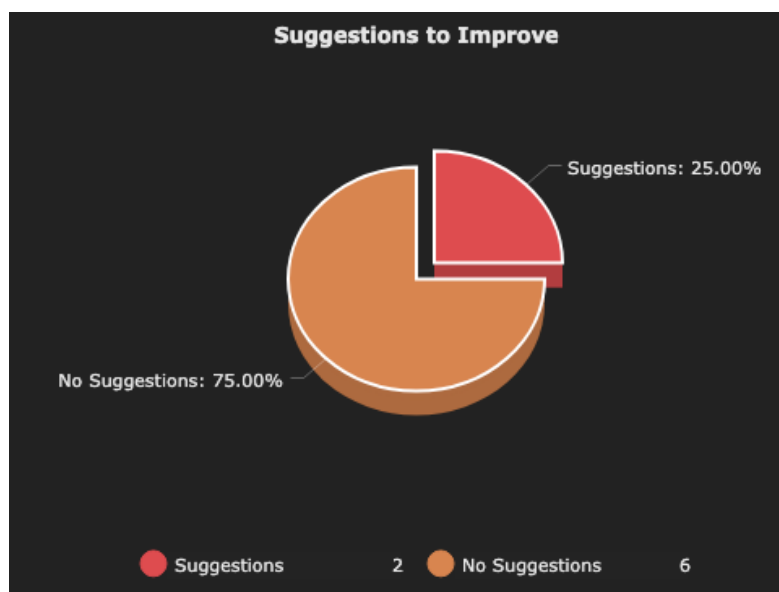


Figure 13: Pie chart to show the number of users suggested Improvements

Question 3: Did you experience any difficulties during the navigation process?(yes/no)

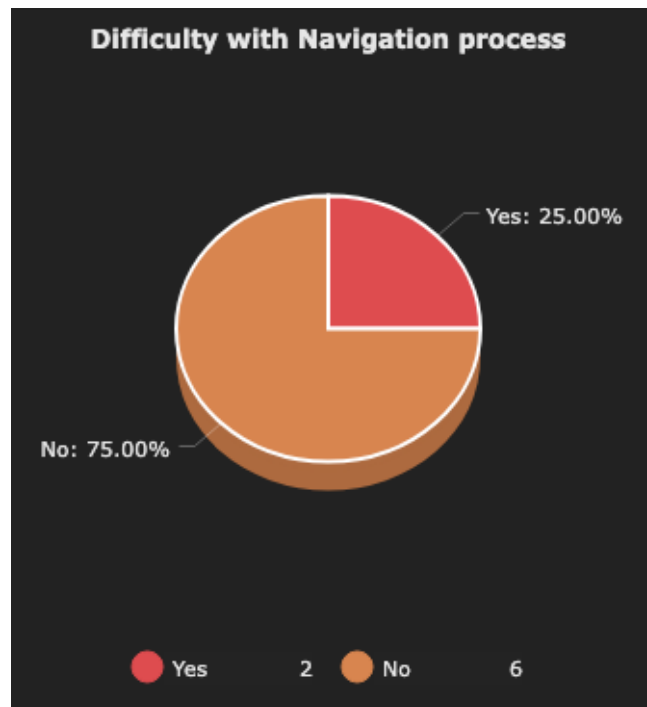


Figure 14: Pie chart to show the users faced Difficulty with Navigation

Question 4: How would you rate the overall usability and user-friendliness of the events section on a scale of 1 to 10?

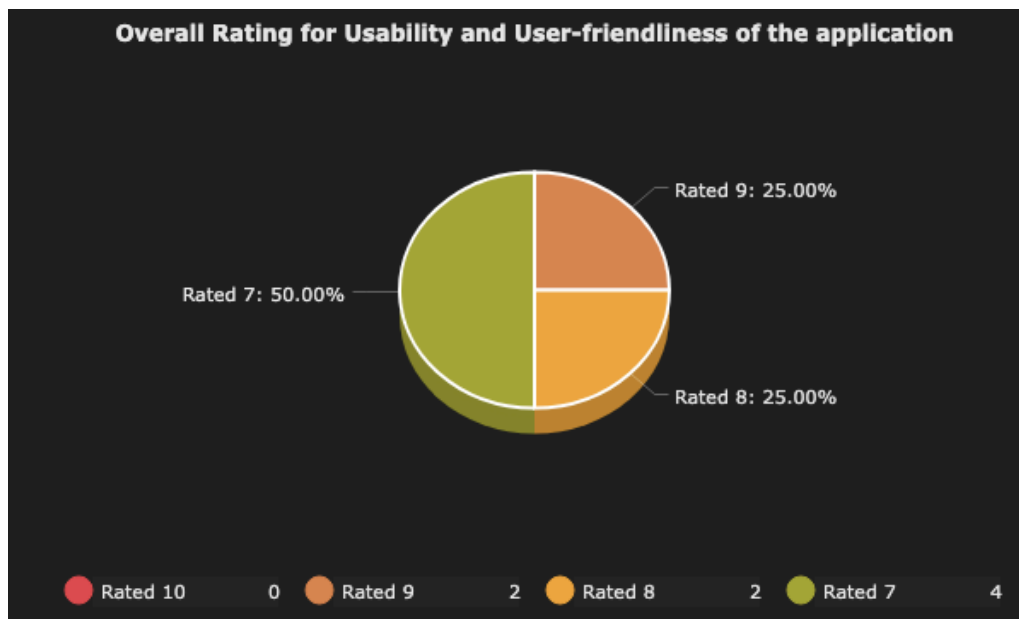


Figure 15: Pie Chart to show the users overall usability experience with the application

Conclusions

Usability Recommendations:

- **To make upcoming and past events labels noticeable:**

The design of the event component should have a clear visual distinction between past and upcoming events. For example, the label "Upcoming" or "Past" should be clearly visible on each event card, and they should be styled differently. This could include using different colors, font styles, or icons to help users quickly identify whether an event is upcoming or in the past.

- **People name should be highlighted in event component:**

The names of the people associated with the event (such as players, organizers, or attendees) should be highlighted in some way within the event component. This could involve using a different color or font style for the names, or placing them in a separate section of the component to draw more attention to them. Highlighting the people associated with an event can help users quickly identify who is involved and make it easier to find events that they are interested in.

- **Add pictures or avatars for the players:**

The event component should include profile pictures or avatars for the players involved in the event. This could involve displaying a small thumbnail image of each player's profile picture next to their name or in a separate section of the event component. Adding pictures or avatars can help users quickly identify who is involved in an event and make it more visually appealing. It can also help users feel more connected to the other players and create a sense of community around the event.

All participants were able to complete the tasks in each scenario without encountering any significant issues. While there were some minor bugs or errors, the basic functionalities of the application were working well. Feedback from the participants was positive, as they found the application to be user-friendly and easy to navigate.

Appendix - A:

Participants Attendance:

Participant	Date and Time	Location	Attendance
Meg Sebastian	07 April, 2023 11:00 AM	Library room 112	Yes
Evelina Cremeens	10 April, 2023 11:00 AM	Library room 302	Yes
Eli Pinnoo	10 April, 2023 12:00 PM	Library room 302	Yes
John Putnam	11 April, 2023 12:00 PM	Library room 302	Yes
Ameer Hannaoui	11 April, 2023 01:00 PM	Library room 302	Yes
Jun Wang	11 April, 2023 05:00 PM	Library room 302	Yes
Kaira Stricklin	13 April, 2023 12:00 PM	Library room 302	Yes
Seth Collins	13 April, 2023 1:00 PM	Library room 302	Yes

Appendix - B:

Bug Report:

Bug Number	Bug Name	Priority	Bug Description
1	Sidebar Home and Logo	Moderate	The user is experiencing confusion when attempting to navigate to the home screen in the mobile application. They are uncertain whether the logo is clickable or if there is a home button available in the sidebar.
2	Text displayed out of components	High	In the mobile view, there seems to be inconsistency in the alignment of text or information within the UI components. Some of them are properly aligned, while others appear to be out of the component.
3	Previous Matches are not editable	Moderate	When a new match is added to an event in the event section, the previously added matches become uneditable.
4	Couldn't run on Chromebook	Low	The application did not run when accessed through a Chrome browser on a Chromebook.

Appendix - C:

Testing Challenges:

Challenge Number	Challenge Name	Challenge Description

The usability testing sessions did not reveal any challenges related to the testing process or the usability of the application.