**Test Plan:**

**Shattered Rails**

**Version 1.0**

**04/01/24**

Ankith Goutham

Mahin Haque

Jayanth Nama

Lilac Sabri

# **Revision History**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date** | **Description** | **Author** | **Comments** |
| 04/01/24 | Version 1.0 | Ankith Goutham  Mahin Haque  Jayanth Nama  Lilac Sabri | First iteration for the Test Plan. |
| 04/14/24 | Version 1.1 | Ankith Goutham  Mahin Haque  Jayanth Nama  Lilac Sabri | Make corrections based on GTA feedback |
|  |  |  |  |
|  |  |  |  |

**Table of Contents**

[**Revision History** 2](#_Toc164030733)

[**1. Introduction** 5](#_Toc164030734)

[**2. Test Objectives** 6](#_Toc164030735)

[**3. Test Strategy** 6](#_Toc164030736)

[**4. Test Scope** 7](#_Toc164030737)

[**5. Test Deliverables** 7](#_Toc164030738)

[**6. Test Schedule** 8](#_Toc164030739)

[**7. Test Environment** 12](#_Toc164030740)

[**8. Test Entry and Exit Criteria** 13](#_Toc164030741)

[**9. Test Pass and Fail Criteria** 13](#_Toc164030742)

[**10. Test Suspension and Resumption Criteria** 13](#_Toc164030743)

[**12. Test Data and Defect Management** 14](#_Toc164030744)

[**13. Risk Analysis** 14](#_Toc164030745)

[**14. Roles and Responsibilities** 15](#_Toc164030746)

[**15. Functional Test Cases** 15](#_Toc164030747)

[**15.1 Unit Testing** 15](#_Toc164030748)

[**TC1 Viewing the Profile Page** 15](#_Toc164030749)

[**TC2 Accessing the behindTrail Function** 16](#_Toc164030750)

[**TC3 Accessing the frontTrain Function** 17](#_Toc164030751)

[**TC4 Accessing the rightCave Function** 17](#_Toc164030752)

[**TC5 Accessing leftTree Function** 18](#_Toc164030753)

[**TC6 Accessing the stayHelp Function** 19](#_Toc164030754)

[**TC7 Adjust Font Size Decrease** 20](#_Toc164030755)

[**TC8 Adjust Font Size Increase** 20](#_Toc164030756)

[**TC9 Adjust Text Font Style** 21](#_Toc164030757)

[**TC10 Adjust Text Font Color** 22](#_Toc164030758)

[**TC11 Exit Warning** 22](#_Toc164030759)

[**TC12 Adjust Background Color** 24](#_Toc164030760)

[**TC13 Adjust Text Speed** 24](#_Toc164030761)

[**TC14 User Password Recovery** 25](#_Toc164030762)

[**TC15 User Username Recovery** 26](#_Toc164030763)

[**TC16 Email Verification** 27](#_Toc164030764)

[**TC17 Text-to-Speech** 28](#_Toc164030765)

[**TC18 Settings Popup UI Customization** 29](#_Toc164030766)

[**15.2 Integration Testing** 31](#_Toc164030767)

[**TC19 User Login Authentication** 31](#_Toc164030768)

[**TC20 Responsiveness** 31](#_Toc164030769)

[**TC21 Progression Bar Updating** 32](#_Toc164030770)

[**TC22 Progress Should Not Overlap** 33](#_Toc164030771)

[**TC23 Attack Function in Game 1** 34](#_Toc164030772)

[**TC24 Attack Sound Effect in Game 1** 35](#_Toc164030773)

[**TC25 Attack Animation in Game 1** 36](#_Toc164030774)

[**TC26 Stay Still Function in Game 1** 36](#_Toc164030775)

[**TC27 Stay Still Sound Effect in Game 1** 37](#_Toc164030776)

[**TC28 Stay Still Animation in Game 1** 38](#_Toc164030777)

[**TC29 Spell Function in Game 2** 39](#_Toc164030778)

[**TC30 Spell Sound Effect in Game 2** 40](#_Toc164030779)

[**TC31 Spell Animation in Game 2** 40](#_Toc164030780)

[**TC32 Attack Function in Game 2** 41](#_Toc164030781)

[**TC33 Attack Sound Effect in Game 2** 42](#_Toc164030782)

[**TC34 Attack Animation in Game 2** 43](#_Toc164030783)

[**TC35 Defend Function in Game 2** 44](#_Toc164030784)

[**TC36 Defend Sound Effect in Game 2** 45](#_Toc164030785)

[**TC37 Defend Animation in Game 2** 46](#_Toc164030786)

[**TC38 Stay Still Function in Game 2** 46](#_Toc164030787)

[**TC39 Stay Still Sound Effect in Game 2** 47](#_Toc164030788)

[**TC40 Stay Still Animation in Game 2** 48](#_Toc164030789)

[**TC41 Run Function in Game 2** 49](#_Toc164030790)

[**TC42 Run Sound Effect in Game 2** 50](#_Toc164030791)

[**TC43 Run Animation in Game 2** 51](#_Toc164030792)

[**TC44 Persuade Function in Game 2** 52](#_Toc164030793)

[**TC45 Persuade Animation in Game 2** 53](#_Toc164030794)

[**TC46 Editing Username** 53](#_Toc164030795)

[**TC47 Successfully Changing Password on Profile Page** 54](#_Toc164030796)

[**TC48 Failing to Change Password on Profile Page** 55](#_Toc164030797)

[**15.3 System Testing (Functional)** 56](#_Toc164030798)

[**TC49 Reaching an Ending to a Path in Game 1** 56](#_Toc164030799)

[**TC50 Beating Both Soldier and King/Queen Fights** 57](#_Toc164030800)

[**TC51 Autosave to Last Checkpoint** 58](#_Toc164030801)

[**TC52 Progress Should Remain After Logout and then Logging Back in** 59](#_Toc164030802)

[**TC53 Game Over Popup** 60](#_Toc164030803)

[**16. Non-Functional Test Cases** 61](#_Toc164030804)

[**TC54 Performance** 61](#_Toc164030805)

[**TC55 Reliability** 61](#_Toc164030806)

[**TC56 Availability** 62](#_Toc164030807)

[**TC57 Security** 63](#_Toc164030808)

[**TC58 Portability** 63](#_Toc164030809)

[**17. Acceptance Testing** 64](#_Toc164030810)

# **1. Introduction**

The purpose of the Shattered Rails Test Plan is to provide information on the testing objectives and scope of tests for the Shattered Rails web application. It will also provide technical information on how to successfully execute test cases. This technical document is intended for current and future testers of the Shattered Rails application.

Additionally, a traceability matrix excel file will be created to show that the functional requirements and its associated use cases have been met based on the test cases outlined in this document.

# **2. Test Objectives**

The main objective of this document is focusing on validating the Functional Requirements outlined in the Software Requirements Specification (SRS). This will be done by creating test cases in this document which will confirm the functionalities and show error handling strategies.

Additionally, test cases will be created to validate the nonfunctional requirements such as performance, reliability, availability, security, maintainability, and portability. There will be a greater emphasis on testing the performance of the application and ensuring the security and reliability of the application.

# **3. Test Strategy**

The testing strategy for this application will be a combination of white box and black box testing with a greater emphasis on white box testing. Most of the test cases will be created by the developers of the application who have access to the source code and understand the code behind it making most of the test cases white box testing. User Acceptance Testing will be conducted which is a black box testing method.

The tests outlined in this document can be categorized into two categories, functional testing and nonfunctional testing. There are going to be four possible testing levels in this application being unit testing, integration testing, system testing, and acceptance testing.

Unit testing will focus on testing the smallest components of the application such as validating if an email is correct. Integration testing is testing the integrated units of an application. For example, a verification email being sent out successfully after registering is considered to be an integration test. System testing can be divided into two categories: functional system testing and nonfunctional system testing. An example of a functional system test could be registering and logging into the application. An example of a nonfunctional system test could be testing for if the password was encrypted after registering to verify the security nonfunctional requirement. The last level of testing is user acceptance testing where the developers reach out to the end user and receive feedback on the application. This feedback can be how they feel about the user interface or what features they liked or didn’t like.

The special tools used for testing this application are Jest and unittest module.

# **4. Test Scope**

The test cases outlined in this document will be testing all aspects of the Shattered Rails application including all of its features and pages. This will include registering, logging in, selecting a game, playing through a game, user interface customization, viewing profile, editing profile, and viewing the help page. Some of the functionalities will overlap between the two games, in this case unique tests will be created for both to test if it is working in the respective game.

For testing purposes, synthetic data will be used not using already existing data. Testing will be done using the unittest python module for server-side testing and the Jest framework to test JavaScript components. Four levels of testing will be done for this application being unit testing, integration testing, system testing, and acceptance testing.

Because of time and space constraints only the most critical unit tests and integration tests will be included, testing the most important functionalities in this document. The testing must be complete by a hard deadline of April 18, 2024. There will also be development limitations of there only being four developers on this project learning the necessary technologies required for this project during development.

# **5. Test Deliverables**

The Shattered Rails Test Plan is a document that provides a high-level view of the testing plan overall, and the test cases provided will show step by step, how to execute the said test case. Deliverables for this document will consist of 5 sections, with these being: plans, cases, scripts, data, and reports for all of the tests that were performed. Information from some of these sections will be represented in a tabular format, such as the test cases, and others will be written out for a textual representation, such as the reports. These reports will be generated only when a test case fails. In the report that the tester makes, will include a step-by-step explanation of the history of which actions were taken in order to achieve the failed test case state. After this, the report will say what the result of the test case failing was, and then all of this data will be sent to the team lead in order to restructure the code and test cases for 100% succession.

The test data that will be used will be random information that will be used to simulate the experience of a user. This includes a fake information for registration purposes such as name/email/passwords, and also fake information in the games such as the user’s name for the character and also the choices that the user decides to take inside either game.

This document also comes with an additional traceability matrix excel file, which serves as a guide/key for the requirements that have been successfully met, alongside any further identifying information.

# **6. Test Schedule**

The tests have been performed through the weeks of February 21st 2024, till April 1st 2024, in accordance with the schedule of development for Shattered Rails, which abides by the time set aside for software testing at the end of the development lifecycle that has been allotted for this project. Within the beginning of this time frame, there will not be as many tests performed as the tail end of this time frame, due to the ramping up of test activity when the project also is coming to completion.

The developers of the Shattered Rails applications will be the testers, whilst the GTA Sayma Sultana will be acting as the user for the portions that are covered by the acceptance testing components.

**Unit Test Schedule:**

|  |  |  |
| --- | --- | --- |
| **Function ID** | **Name** | **Schedule** |
| TC1 | Viewing the profile page | Feb 21-25, 2024 |
| TC2 | Accessing behindTrail function | Feb 26-March 3, 2024 |
| TC3 | Accessing the frontTrain function | Feb 26-March 3, 2024 |
| TC4 | Accessing rightCave function | Feb 26-March 3, 2024 |
| TC5 | Accessing leftTree function | Feb 26-March 3, 2024 |
| TC6 | Accessing stayHelp function | Feb 26-March 3, 2024 |
| TC7 | Adjust Font Size Decrease | March 4-10, 2024 |
| TC8 | Adjust Font Size Increase | March 4-10, 2024 |
| TC9 | Adjust Text Font Style | March 4-10, 2024 |
| TC10 | Adjust Text Font Color | March 4-10, 2024 |
| TC11 | Exit Warning | March 4-10, 2024 |
| TC12 | Adjust Background Color | March 11-13, 2024 |
| TC13 | Adjust Text Speed | March 11-13, 2024 |
| TC14 | User Password Recovery | March 11-13, 2024 |
| TC15 | User Username Recovery | March 11-13, 2024 |
| TC16 | Email Verification | March 11-13, 2024 |
| TC17 | Text-to-Speech Functionality | March 11-13, 2024 |
| TC18 | Settings Popup UI Customization | March 11-13, 2024 |

**Integration Test Schedule:**

|  |  |  |
| --- | --- | --- |
| **Function ID** | **Name** | **Schedule** |
| TC19 | User Login authentication | March 13-17, 2024 |
| TC20 | Responsiveness | March 15-17, 2024 |
| TC21 | Progression Bar Updating | March 18-20, 2024 |
| TC22 | Progress should not overlap | March 18-20, 2024 |
| TC23 | Attack function in game 1 | March 18-24, 2024 |
| TC24 | Attack sound effect in game 1 | March 18-24, 2024 |
| TC25 | Attack animation in game 1 | March 18-24, 2024 |
| TC26 | Spell function in game 2 | March 18-24, 2024 |
| TC27 | Spell sound effect in game 2 | March 18-24, 2024 |
| TC28 | Spell animation in game 2 | March 18-24, 2024 |
| TC29 | Editing username | March 25-26, 2024 |
| TC30 | Successfully changing a password on profile page | March 25-26, 2024 |
| TC31 | Failing to change a password on profile page | March 25-26, 2024 |
| TC32 | Reaching an ending to a path in game 1 | March 18-24, 2024 |
| TC33 | Beating both soldier and king/queen fights in game 2 | March 18-24, 2024 |
| TC34 | Autosave to last checkpoint | March 18-24, 2024 |
| TC35 | Progress should remain after logout and logging back in | March 18-24, 2024 |
| TC36 | Game Over Popup | March 18-24, 2024 |
| TC37 | Attack sound effect in game 2 | March 18-24, 2024 |
| TC38 | Attack animation in game 2 | March 18-24, 2024 |
| TC39 | Defend function in game 2 | March 18-24, 2024 |
| TC40 | Defend sound effect in game 2 | March 18-24, 2024 |
| TC41 | Defend animation in game 2 | March 18-24, 2024 |
| TC42 | Run function in game 2 | March 18-24, 2024 |
| TC43 | Run sound effect in game 2 | March 18-24, 2024 |
| TC44 | Run animation in game 2 | March 18-24, 2024 |
| TC45 | Persuade function in game 2 | March 18-24, 2024 |
| TC46 | Editing Username | March 27-30, 2024 |
| TC47 | Successfully Changing Password on Profile Page | March 27-30, 2024 |
| TC48 | Failing to Change a Password on Profile Page | March 27-30, 2024 |

**System Testing (Functional) Schedule:**

|  |  |  |
| --- | --- | --- |
| **Function ID** | **Name** | **Schedule** |
| TC49 | Reaching an Ending to a Path in Game 1 | March 18-24, 2024 |
| TC50 | Beating Both Soldier and King/Queen Fights | March 18-24, 2024 |
| TC51 | Autosave to Last Checkpoint | March 27-30, 2024 |
| TC52 | Progress Should Remain After Logout and Logging Back in | March 27-30, 2024 |
| TC53 | Game Over Popup | March 27-30, 2024 |

**Non-Functional Test Cases Schedule:**

|  |  |  |
| --- | --- | --- |
| **Function ID** | **Name** | **Schedule** |
| TC54 | Performance | March 31-April 1, 2024 |
| TC55 | Reliability | March 31-April 1, 2024 |
| TC56 | Availability | March 31-April 1, 2024 |
| TC57 | Security | March 31-April 1, 2024 |
| TC58 | Portability | March 31-April 1, 2024 |

# **7. Test Environment**

The environment in which the testing will be conducted is in VSCode. As our testing software are unittest, and jest, which work for python and JavaScript respectively, the one environment that can host both of these applications will be VSCode. The testing environment and the mindset going into the trials, is that of one experiencing from the viewer’s eyes. This allows the team to accurately detect any bugs/fixes needed, which will affect the user’s outcome and experience with the applications.

# **8. Test Entry and Exit Criteria**

The testing for a test case starts once the development of the said functionality is completed, in order to ensure swift feedback whilst testing. In order to enter a test, there must be a test created for the respective function in the game(s). This test will be triggered once in the game(s), the user selects any choice that has a corresponding test case attached to the function. Once the action has been completed, if the criteria of the test isn’t completed, there will be an error message indicating that there is an error in the function. The testing will then exit/be finished as soon as the test case passes successfully.

# **9. Test Pass and Fail Criteria**

The test will fail if the game doesn’t work as intended, including navigation, user interaction, the game, forgot username, forgot password, progression, UI customization, email verification, login, register and the save feature.

The test will also fail if error messages keep appearing, and the game doesn’t run smoothly with delays in response times. Additionally, if there are crashes, freezes or game-breaking glitches. Also, if there are security risks. This means if one user can easily enter another user’s account.

The test will pass if the user can perform all of the test cases above with no errors and matches the expected results of the given test case.

# **10. Test Suspension and Resumption Criteria**

The application will be suspended when it blocks other test cases, and the user can’t have a good user experience. Developers will look into the code on GitHub and resolve the issue and perform various tests to make sure that the user doesn’t experience the same issues. Then the resumption of the application will occur, where the application is resumed, and users can use the updated version.

**11. Test Design and Execution: Manual/Automated**

In the application there will be manual and automated testing. Manual testing will be testing that is done by the developer. Automated testing will be tests that are performed on the application through software testing tools. Automated testing will be performed through using the testing software of Jest and Unittest.

# **12. Test Data and Defect Management**

Test Data Management is a very crucial procedure to ensure that the testing process for Shattered Rails web application is effective and efficient. This method involves creating, organizing, and keeping up with necessary details to carry out these test cases. It includes creating synthetic data which are realistic but not real-life such as making fake user profiles or generating weird game choices and results – all will be used so as to thoroughly test out both functional/non-functional features of our application. The information is varied, encompassing all possible paths and extreme situations.

Defect Management is an organized method for discovering, writing down and keeping a record of problems detected while performing tests. These issues will be tracked until they are fixed using external tools like Jira. The system will allow testers to log defects with precise details, including severity levels and steps that led to the problem’s appearance. Screenshots can also be included if needed or relevant. The development team will get notified about these defects immediately for quick resolution. Management of the defect lifecycle will be done through stages such as identification, documentation, assignment of responsibility, resolution, and verification. There will be meetings held at regular intervals to go over the status of these defects where they are discussed based on their seriousness or level of impact and a plan for fixing them within project time frames is developed.

# **13. Risk Analysis**

Risk Analysis includes identifying potential risks and proposing mitigation strategies.

* Delay in Development: If there are any delays within the development schedule, it might push forward the testing timeline. Consequently, this could influence how well and comprehensive the testing is.
* Not enough Testing Coverage: Complex project can cause important test cases to be overlooked, creating defects that go unnoticed in production.
* Limits of Resources: The risk could be high because if only four developers are there to do both developing and testing jobs, they might get too tired or miss some faults because of their double responsibilities.

Mitigation strategies could include:

* Active Schedule Control: Use different techniques to adjust for shifts in the schedule and give focus to jobs according to project's most important path.
* Improved Test Planning: Use risk-based testing to decide which test cases need more focus, considering the influence and difficulty of each functionality for making sure vital areas are examined properly.
* Proper allocation of Resources and Training: Arrange routine meetings for developers about new technologies and set aside specific periods where they concentrate strictly on testing to minimize the chance of missing anything.

# **14. Roles and Responsibilities**

|  |  |
| --- | --- |
| **Name** | **Functionalities to Test** |
| Ankith Goutham | Path/Choice system, Battle system(Game 1 + Game 2), Animations, Reaching an ending to a path in game 1 |
| Mahin Haque | Autosave, Completion Progress Bar, Sound Effects, Viewing Profile, Editing Profile, Editing Password, Registration Backend |
| Jayanth Nama | Login Authentication, Text-to-Speech, Settings UI Customization Pop-Up, Responsiveness for all pages, Game Over Popup |
| Lilac Sabri | User Username Recovery, User Password Recovery, Exit Warning, Adjust Font Size Decrease, Adjust Font Size Increase, Adjust Background Color, Adjust Text Font Style, Email Verification. |

# **15. Functional Test Cases**

## **15.1 Unit Testing**

### **TC1 Viewing the Profile Page**

|  |  |
| --- | --- |
| **ID** | TC1 |
| **Item to Test/Description** | Viewing the profile page |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. |
| **Test Steps** | Click on the “Profile” button. |
| **Expected Results** | The user will be redirected to the /profile page. |
| **Priority** | Medium |
| **Pass/Fail Criteria** | * Test will fail if:  1. The user is unable to register. 2. The user is unable to login. 3. Page does not redirect to /profile after clicking on the “Profile” button.  * Test will pass if:  1. The actual results match the expected results. |

### **TC2 Accessing the behindTrail Function**

|  |  |
| --- | --- |
| **ID** | TC2 |
| **Item to Test/Description** | Accessing behindTrail function |
| **Preconditions** | 1. Having a stable internet connection. 2. Registering an account with email verification. 3. Logging in. 4. Game 1 is selected. 5. User has reached the first path/story selection prompt. |
| **Test Steps** | Click on the “Go Behind” choice when prompted |
| **Expected Results** | The user in the game’s story will go behind, and the background of the website changes to an image of a trail in the forest, whilst an enemy encounter happens. |
| **Priority** | High |
| **Pass/Fail Criteria** | * Test will fail if:   1. The game does not take the user down the behind trail path, and instead takes the user down another path that’s not corresponding.   2. The game doesn’t take the user down any path and freezes. * Test will pass if:   1. The output story matches the expected results in the function that’s called. |

### **TC3 Accessing the frontTrain Function**

|  |  |
| --- | --- |
| **ID** | TC3 |
| **Item to Test/Description** | Accessing the frontTrain function |
| **Preconditions** | 1. Having a stable internet connection. 2. Registering an account with email verification. 3. Logging in. 4. Game 1 is selected. 5. User has reached the first path/story selection prompt. |
| **Test Steps** | Click on the “Go Forward” choice when prompted |
| **Expected Results** | The user will be lead down the story path for going forward to the train, whilst the background changes to a train. |
| **Priority** | High |
| **Pass/Fail Criteria** | * Test will fail if:  1. The game does not take the user down the front train path, and instead takes the user down another path that’s not corresponding. 2. The game doesn’t take the user down any path and freezes.  * Test will pass if:  1. The output story matches the expected results in the function that’s called. |

### **TC4 Accessing the rightCave Function**

|  |  |
| --- | --- |
| **ID** | TC4 |
| **Item to Test/Description** | Accessing rightCave function |
| **Preconditions** | 1. Having a stable internet connection. 2. Registering an account with email verification. 3. Logging in. 4. Game 1 is selected. 5. User has reached the first path/story selection prompt. |
| **Test Steps** | Click on the “Go Right” choice when prompted |
| **Expected Results** | The user will be lead down the story path for going right into the cave, a cave background image will appear. |
| **Priority** | High |
| **Pass/Fail Criteria** | * Test will fail if:  1. The game does not take the user down the right cave path, and instead takes the user down another path that’s not corresponding. 2. The game doesn’t take the user down any path and freezes.  * Test will pass if:  1. The output story matches the expected results in the function that’s called. |

### **TC5 Accessing leftTree Function**

|  |  |
| --- | --- |
| **ID** | TC5 |
| **Item to Test/Description** | Accessing leftTree function |
| **Preconditions** | 1. Having a stable internet connection. 2. Registering an account with email verification. 3. Logging in. 4. Game 1 is selected. 5. User has reached the first path/story selection prompt. |
| **Test Steps** | Click on the “Go Left” choice when prompted |
| **Expected Results** | The user will be lead down the story path for going left into the trees, the background image will change into trees. |
| **Priority** | High |
| **Pass/Fail Criteria** | * Test will fail if:  1. The game does not take the user down the left tree path, and instead takes the user down another path that’s not corresponding. 2. The game doesn’t take the user down any path and freezes.  * Test will pass if:  1. The output story matches the expected results in the function that’s called. |

### **TC6 Accessing the stayHelp Function**

|  |  |
| --- | --- |
| **ID** | TC6 |
| **Item to Test/Description** | Accessing stayHelp function |
| **Preconditions** | 1. Having a stable internet connection. 2. Registering an account with email verification. 3. Logging in. 4. Game 1 is selected. 5. User has reached the first path/story selection prompt. |
| **Test Steps** | Click on the “Stay” choice when prompted |
| **Expected Results** | The user will be lead down the story path for going staying for help, the background image will also change accordingly to a train/otherworldly appearance. |
| **Priority** | High |
| **Pass/Fail Criteria** | * Test will fail if:  1. The game does not take the user down the stay help path, and instead takes the user down another path that’s not corresponding. 2. The game doesn’t take the user down any path and freezes.  * Test will pass if:  1. The output story matches the expected results in the function that’s called. |

### **TC7 Adjust Font Size Decrease**

|  |  |
| --- | --- |
| **ID** | TC7 |
| **Item to Test/Description** | Adjust Font Size Decrease |
| **Preconditions** | 1. Having a stable internet connection. 2. Registering an account with email verification. 3. Logging in. 4. The game is functional. |
| **Test Steps** | Click on the “-” button |
| **Expected Results** | The font size in the terminal will decrease |
| **Priority** | Low |
| **Pass/Fail Criteria** | Test will fail if:   1. The user doesn’t have a stable internet connection. 2. The user is unable to register and verify their email. 3. The user is unable to login. 4. The user is unable to access the game. 5. The “-” doesn’t make the font in the terminal smaller.   Test will pass if:  1. Clicking on the “-” makes the text in the terminal smaller by increments each time it is clicked. |

### **TC8 Adjust Font Size Increase**

|  |  |
| --- | --- |
| **ID** | TC8 |
| **Item to Test/Description** | Adjust Font Size Increase |
| **Preconditions** | 1. Having a stable internet connection. 2. Registering an account with email verification. 3. Logging in. 4. The game text in the terminal is present. |
| **Test Steps** | User clicks on the “+” button |
| **Expected Results** | The font size in the terminal will increase |
| **Priority** | Low |
| **Pass/Fail Criteria** | Test will fail if:   1. The user doesn’t have a stable internet connection. 2. The user is unable to register and verify their email. 3. The user is unable to login. 4. The user is unable to access the game. 5. The “+” doesn’t make the font in the terminal smaller.   Test will pass if:  1. Clicking on the “-” makes the text in the terminal smaller by increments each time it is clicked. |

### **TC9 Adjust Text Font Style**

|  |  |
| --- | --- |
| **ID** | TC9 |
| **Item to Test/Description** | Adjust Text Font Style |
| **Preconditions** | 1. Having a stable internet connection. 2. Registering an account with email verification. 3. Logging in. 4. The game text in the terminal is present. |
| **Test Steps** | User clicks on the drop down labeled “change font family” and a drop down will appear from multiple font styles.  Once the user picks an option, the font family will change automatically in the terminal text. |
| **Expected Results** | Only the terminal font style will change |
| **Priority** | Low |
| **Pass/Fail Criteria** | Test will fail if:   1. The user doesn’t have a stable internet connection. 2. The user is unable to register and verify their email. 3. The user is unable to login. 4. The user is unable to access the game. 5. The font family dropdown doesn’t change the text in the terminal.   Test will pass if:  1. Clicking on the font family dropdown automatically updates the terminal font style once the user makes an option. |

### **TC10 Adjust Text Font Color**

|  |  |
| --- | --- |
| **ID** | TC10 |
| **Item to Test/Description** | Adjust Text Font Color |
| **Preconditions** | 1. Having a stable internet connection. 2. Registering an account with email verification. 3. Logging in. 4. The game text in the terminal is present. |
| **Test Steps** | User clicks on the button labeled “change font color.” |
| **Expected Results** | The color of the terminal font will change to the desired precise choice of the user, through a wide-spectrum color palate. |
| **Priority** | Low |
| **Pass/Fail Criteria** | Test will fail if:   1. The user doesn’t have a stable internet connection. 2. The user is unable to register and verify their email. 3. The user is unable to login. 4. The user is unable to access the game. 5. The “change font color” button doesn’t change the terminal font color.   Test will pass if:  1. Clicking on the “change font color” makes the text in the terminal change in color. |

### **TC11 Exit Warning**

|  |  |
| --- | --- |
| **ID** | TC11 |
| **Item to Test/Description** | Exit Warning |
| **Preconditions** | 1. Having a stable internet connection. 2. Registering an account with email verification. 3. Logging in. 4. The user is able to access the games. |
| **Test Steps** | 1. User clicks on the logout, and a exit warning pop-up will appear with the game in the background pausing. The exit warning pop-up will say: “Are you sure you want to logout?” 2. User can click no, and they will continue to the game. 3. User can click yes, and they will logout, navigating back to the login page. |
| **Expected Results** | Exit warning pop-up when the user clicks on logout. User can logout, or stay logged in, if they change their mind after clicking on the logout button. |
| **Priority** | Low |
| **Pass/Fail Criteria** | Test will fail if:   1. The user doesn’t have a stable internet connection. 2. The user is unable to register and verify their email. 3. The user is unable to login. 4. The user is unable to access the game. 5. The user gets logged out, without the exit warning pop-up showing up. 6. The game runs in the background when the exit warning pop-up appears. 7. The exit warning pop-up buttons are unclickable for one or both options or don’t lead to the correct page.   Test will pass if:   1. Clicking on the logout button will show a exit warning pop-up asking the user: “Are you sure you want to logout?” 2. The game will pause in the background when this pop-up appears. 3. The user has the option to click yes to logout of the game. 4. The user has the option to click no to resume the game. |

### **TC12 Adjust Background Color**

|  |  |
| --- | --- |
| **ID** | TC12 |
| **Item to Test/Description** | Adjust Background Color |
| **Preconditions** | 1. Having a stable internet connection. 2. Registering an account with email verification. 3. Logging in. 4. The game text in the terminal is present. |
| **Test Steps** | User clicks on the “change terminal background color” labeled button, and a color pallet will appear.  Once the user picks an option, the terminal background color will be automatically appear. |
| **Expected Results** | Only the terminal background color will change. |
| **Priority** | Low |
| **Pass/Fail Criteria** | Test will fail if:   1. The user doesn’t have a stable internet connection. 2. The user is unable to register and verify their email. 3. The user is unable to login. 4. The user is unable to access the game. 5. The “change terminal background” button doesn’t make the terminal background color change.   Test will pass if:  1. Clicking on the “change terminal background color” changes the terminal’s background color, to the user’s desired choice. |

### **TC13 Adjust Text Speed**

|  |  |
| --- | --- |
| **ID** | TC13 |
| **Item to Test/Description** | Adjust Text Speed |
| **Preconditions** | 1. Having a stable internet connection. 2. Registering an account with email verification. 3. Logging in. 4. The game text in the terminal is present. |
| **Test Steps** | User clicks on the text speed drop down menu ranging from 0.2x(slowest) to 40x (fastest).  Once the user picks an option from the drop-down menu, the text speed will change according to the user’s preferences. |
| **Expected Results** | The terminal text speed will be faster or slower, depending on the user’s choice of speed. |
| **Priority** | Low |
| **Pass/Fail Criteria** | Test will fail if:   1. The user doesn’t have a stable internet connection. 2. The user is unable to register and verify their email. 3. The user is unable to login. 4. The user is unable to access the game. 5. The text speed drop down menu can’t be accessed. 6. The text-speed doesn’t update in the terminal.   Test will pass if:  Clicking on text-speed drop down menu updates the speed of the text in the terminal. |

### **TC14 User Password Recovery**

|  |  |
| --- | --- |
| **ID** | TC14 |
| **Item to Test/Description** | User Password Recovery |
| **Preconditions** | 1. Having a stable internet connection. 2. Already having an account registered with email verification. |
| **Test Steps** | 1. User clicks on the “forgot password?” button in the login page. 2. The user will then be taken to a new page, where they would input the email that is associated with their account. 3. The user would then get a link to the email that is associated to their account, and the user would click on that link through the email received. 4. After the link is clicked, that would take the user to a reset password page that is present in the application. 5. The user would then write their new password, and the user would confirm the new password and would click submit. 6. Once submit is clicked and the form was submitted successfully, the user would automatically be navigated back to the login page, where they can enter their new password. The user would then be able to access the game. |
| **Expected Results** | The user’s password will be reset. |
| **Priority** | High |
| **Pass/Fail Criteria** | Test will fail if:   1. The user doesn’t have a stable internet connection. 2. The user is unable to register and verify their email. 3. The user is unable to access the email that is associated with their account.   Test will pass if:  1. The user is able to reset their password.  2. The user is able to login after resetting their password.   1. The user gets an error message, that the email has not been sent. |

### **TC15 User Username Recovery**

|  |  |
| --- | --- |
| **ID** | TC15 |
| **Item to Test/Description** | User Username Recovery |
| **Preconditions** | 1. Having a stable internet connection.  2. Already having an account registered with email verification. |
| **Test Steps** | 1. User will navigate to the login page. 2. User will click on “forgot username?” button. 3. User will be navigated to a new page, that will prompt them to input the email that is associated with their account. 4. Once the user inputs the email, they will get a success message, that the email has been sent. 5. If the email doesn’t exist in the database, the user will get an error message saying “the email doesn’t exist.” 6. The user would get their username in their associated email. 7. The user would then navigate to the login page and input their username. 8. The user will be able to login. |
| **Expected Results** | The user will be able to retrieve their forgotten username. |
| **Priority** | High |
| **Pass/Fail Criteria** | Test will fail if:   1. The user doesn’t have a stable internet connection. 2. The user is unable to register and verify their email. 3. The user is unable to access the email that is associated with their account.   Test will pass if:  1. The user receives a success message and is able to view their username.   1. The user is able to login. |

### **TC16 Email Verification**

|  |  |
| --- | --- |
| **ID** | TC16 |
| **Item to Test/Description** | Email Verification |
| **Preconditions** | The user must have a stable internet connection. |
| **Test Steps** | 1. Once the user successfully submits the registration form, they will get a success message, that an email was sent for verification. The email will be the one that the user has put while filling out the registration form. 2. User will then click on the link in the email that they have received. 3. After the user clicks on the link, they will be navigated to a success page. 4. Then the user will be automatically navigated to the login page, where there user information will be stored. 5. The user is now able to login. |
| **Expected Results** | User will be verified and able to login. |
| **Priority** | High |
| **Pass/Fail Criteria** | Test will fail if:   1. The user doesn’t have a stable internet connection. 2. The user doesn’t have a valid or working email. 3. The user fails to click on the verification link within 10 minutes. 4. The user fails to receive the user verification email. 5. The user is unable to login after the email verification is completed.   Test will pass if:  1. The user has a working or valid email.  2. The user receives the email verification link.  3.The user is able to click on the verification link.  4. The user is able to login after completing the email verification process. |

### **TC17 Text-to-Speech**

|  |  |
| --- | --- |
| **ID** | TC17 |
| **Item to Test/Description** | Text-to-Speech |
| **Preconditions** | 1. User must have stable internet connection 2. User must be logged in 3. User must be on one of the game pages 4. User must have the Text-To-Speech function activated |
| **Test Steps** | 1. Navigate to the game pages. 2. Check the “speech” function for the function to turn on. 3. Adjust the text speed function and see if the text to speech reads at the same speed as the text is being displayed on the screen |
| **Expected Results** | The Speech will be read as the same speed the text is being displayed on the screen for the game |
| **Priority** | Medium |
| **Pass/Fail Criteria** | * Test will fail if:   The speech is not being read at the same speed as text being displayed in terminal when you adjust the text speed   * Test will pass if:   The speech is being read as the same speed as text being displayed |

### **TC18 Settings Popup UI Customization**

|  |  |
| --- | --- |
| **ID** | TC18 |
| **Item to Test/Description** | Settings Popup UI Customization |
| **Preconditions** | 1. User must have stable internet connection 2. User must click on the settings button in the menu bar |
| **Test Steps** | 1. Start the web application. 2. Click on the “settings” in menu bar. 3. Adjust the background UI and see if the page immediately changes the color. 4. Adjust the Font family and see if the page. changes the font style that is selected. 5. Adjust the Font size and see if the page changes to the font size that is selected. 6. Click on Save button and see if all the changes are being saved on the page and other pages in the application. 7. Click on Reset button and see if the changes go back to default |
| **Expected Results** | The UI will change when the user changes the background UI, font family, font size, and it will save when the user clicks on the save button throughout the whole website. Reset button will reset all changes made |
| **Priority** | Medium |
| **Pass/Fail Criteria** | * Test will fail if:  1. The background UI does not change when selected a different color 2. The background UI does not change throughout the whole website after clicking save 3. The Font family does not change when selected a different font style 4. The Font family does not change throughout the whole website after clicking save 5. The font size does not change when selected a different size 6. The font size does not change throughout the whole website after clicking save 7. The reset button does not reset all the changes made in that page 8. The reset button does not reset all the changes made throughout the website  * Test will pass if:  1. The background UI does change when selected a different color 2. The background UI does change throughout the whole website after clicking save 3. The Font family does change when selected a different font style 4. The Font family does change throughout the whole website after clicking save 5. The font size does change when selected a different size 6. The font size does change throughout the whole website after clicking save 7. The reset button does reset all the changes made in that page 8. The reset button does reset all the changes made throughout the website. |

## **15.2 Integration Testing**

### **TC19 User Login Authentication**

|  |  |
| --- | --- |
| **ID** | TC19 |
| **Item to Test/Description** | User Login authentication |
| **Preconditions** | Have a new account created for Shattered Rails. |
| **Test Steps** | 1. In the Login page, enter your “username” and “password” in the respective fields 2. Click the login button and see if the system logs you if given correct credentials 3. Given incorrect credentials, an error message will be prompted to show up on the screen |
| **Expected Results** | The system will identify the credentials given by the user and gives access to user for the game selection page |
| **Priority** | High |
| **Pass/Fail Criteria** | * Test will fail if:   User gives incorrect credentials for either username or password   * Test will pass if:   The system grants the user access to the game selection page. |

### **TC20 Responsiveness**

|  |  |
| --- | --- |
| **ID** | TC20 |
| **Item to Test/Description** | Responsiveness |
| **Preconditions** | 1. Have a new account created for Shattered Rails 2. Logged into Shattered Rails (optional) |
| **Test Steps** | 1. Minimize the page to see if the menu bar is being dissolved into a hamburger menu and if all the text is completely shown 2. The hamburger menu must have the menu bar items where the user can still go to different pages from there |
| **Expected Results** | 1. Menu bar will dissolve into a hamburger menu on all pages and still will contain menu bar items 2. The text on the page when minimized should still be visible completely |
| **Priority** | High |
| **Pass/Fail Criteria** | * Test will fail if:   1. Menu bar does not dissolve into hamburger menu when page is minimized  2. Menu bar items do not work when clicked on the hamburger menu  3. Text shown on the page is not completely shown as part of it is overlapping when page is minimized   * Test will pass if:   1. Menu bar does dissolve into hamburger menu when page is minimized  2. Menu bar items does work when clicked on the hamburger menu  3. Text shown on the page is completely shown when page is minimized |

### **TC21 Progression Bar Updating**

|  |  |
| --- | --- |
| **ID** | TC21 |
| **Item to Test/Description** | Progression Bar Updating |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the yellow glow labeled “Shattered Rails: Shattered Inceptions”. 4. Click on the start mission button. |
| **Test Steps** | 1. In the “Enter your name” field, type in “Alex”. 2. Wait for the text to finish outputting and then click the “Easy” button at the bottom of the page. 3. Click on the “Play Game” button. 4. Wait for the text to finish outputting and click on the button “Go forward”. 5. Wait for the text to finish outputting and click on the button “Check his pulse”. |
| **Expected Results** | 1. The number in the progression bar on the top left should say “20%”. 2. The bar should be filled in by 20% with a light green color. |
| **Priority** | Medium |
| **Pass/Fail Criteria** | * Test will fail if:  1. The user is unable to register. 2. The user is unable to login. 3. Clicking on the buttons isn’t responsive. 4. The number in the progression bar doesn’t update to the expected value. 5. The progression bar doesn’t update to the expected value.  * Test will pass if:   The expected results and actual results match. |

### **TC22 Progress Should Not Overlap**

|  |  |
| --- | --- |
| **ID** | TC22 |
| **Item to Test/Description** | Progress should not overlap |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the yellow glow labeled “Shattered Rails: Shattered Inceptions”. 4. Click on the start mission button. |
| **Test Steps** | 1. In the “Enter your name” field, type in “Alex”. 2. Wait for the text to finish outputting and then click the “Easy” button at the bottom of the page. 3. Click on the “Play Game” button. 4. Wait for the text to finish outputting and click on the button “Go forward”. 5. Wait for the text to finish outputting and click on the button “Check his pulse”. 6. Click on the “Restart” button. 7. Repeat steps 4-5. |
| **Expected Results** | 1. The progress bar in the top left shows “20%” as the percentage of the game completed. 2. The progress bar should be filled in by 20% with a light green color. |
| **Priority** | Low |
| **Pass/Fail Criteria** | * Test will fail if:  1. The user fails to register. 2. The user fails to login. 3. The buttons in the game are not responsive. 4. The number in the progress bar doesn’t match the expected result. 5. The progression bar visual is not filled with a light green color by exactly 20%  * Test will pass if:   The expected results and the actual results match. |

### **TC23 Attack Function in Game 1**

|  |  |
| --- | --- |
| **ID** | TC23 |
| **Item to Test/Description** | Attack function in game 1 |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the yellow glow labeled “Shattered Rails: Shattered Inceptions”. 4. Click on the start mission button. |
| **Test Steps** | 1. In the “Enter your name” field, type in “Alex”. 2. Wait for the text to finish outputting and then click the “Easy” button at the bottom of the page. 3. Click on the “Play Game” button. 4. Wait for the text to finish outputting and then click on the “Go behind” button. 5. Wait for the text to finish outputting and click on the “Attack” button. |
| **Expected Results** | Output text should say how much damage the user has done to the enemy, and what the enemy’s HP ( Health Points) are after the attack. |
| **Priority** | High |
| **Pass/Fail Criteria** | * Test will fail if:  1. The user is unable to register. 2. The user is unable to login. 3. The buttons are unresponsive. 4. The calculated damage/enemy HP is wrong, for example if the user does 10 damage to the enemy which has 20 HP, but the output text says the enemy’s HP is still 20.  * Test will pass if:   The actual results match the expected results. |

### **TC24 Attack Sound Effect in Game 1**

|  |  |
| --- | --- |
| **ID** | TC24 |
| **Item to Test/Description** | Attack sound effect in game 1 |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the yellow glow labeled “Shattered Rails: Shattered Inceptions”. 4. Click on the start mission button. 5. Ensure device volume is set to 100%. |
| **Test Steps** | 1. In the “Enter your name” field, type in “Alex”. 2. Wait for the text to finish outputting and then click the “Easy” button at the bottom of the page. 3. Click on the “Play Game” button. 4. Wait for the text to finish outputting and then click on the “Go behind” button. 5. Wait for the text to finish outputting and click on the “Attack” button. |
| **Expected Results** | A sound effect of a sword swinging should be played. |
| **Priority** | Low |
| **Pass/Fail Criteria** | * Test will fail if:  1. The user is unable to register. 2. The user is unable to login. 3. The buttons are unresponsive. 4. No sound effects are played.  * Test will pass if:   The actual results match the expected results. |

### **TC25 Attack Animation in Game 1**

|  |  |
| --- | --- |
| **ID** | TC25 |
| **Item to Test/Description** | Attack animation in game 1 |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the yellow glow labeled “Shattered Rails: Shattered Inceptions”. 4. Click on the start mission button. |
| **Test Steps** | 1. In the “Enter your name” field, type in “Alex”. 2. Wait for the text to finish outputting and then click the “Easy” button at the bottom of the page. 3. Click on the “Play Game” button. 4. Wait for the text to finish outputting and then click on the “Go behind” button. 5. Wait for the text to finish outputting and click on the “Attack” button. |
| **Expected Results** | An animation of a sword swinging should be played. |
| **Priority** | Low |
| **Pass/Fail Criteria** | * Test will fail if:  1. The user is unable to register. 2. The user is unable to login. 3. The buttons are unresponsive. 4. No animation is played  * Test will pass if:   The actual results match the expected results. |

### **TC26 Stay Still Function in Game 1**

|  |  |
| --- | --- |
| **ID** | TC26 |
| **Item to Test/Description** | Stay Still function in game 1 |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the yellow glow labeled “Shattered Rails: Shattered Inceptions”. 4. Click on the start mission button. |
| **Test Steps** | 1. In the “Enter your name” field, type in “Alex”. 2. Wait for the text to finish outputting and then click the “Easy” button at the bottom of the page. 3. Click on the “Play Game” button. 4. Wait for the text to finish outputting and then click on the “Go behind” button. 5. Wait for the text to finish outputting and click on the “Stay Still” button. |
| **Expected Results** | Output text should say that the user stood still. |
| **Priority** | High |
| **Pass/Fail Criteria** | * Test will fail if:   1. The user is unable to register.   2. The user is unable to login.   3. The buttons are unresponsive.   4. The output text doesn’t say that the user chose to stay still. * Test will pass if:   The actual results match the expected results. |

### **TC27 Stay Still Sound Effect in Game 1**

|  |  |
| --- | --- |
| **ID** | TC27 |
| **Item to Test/Description** | Stay Still sound effect in game 1 |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the yellow glow labeled “Shattered Rails: Shattered Inceptions”. 4. Click on the start mission button. 5. Ensure device volume is set to 100%. |
| **Test Steps** | 1. In the “Enter your name” field, type in “Alex”. 2. Wait for the text to finish outputting and then click the “Easy” button at the bottom of the page. 3. Click on the “Play Game” button. 4. Wait for the text to finish outputting and then click on the “Go behind” button. 5. Wait for the text to finish outputting and click on the “Stay Still” button. |
| **Expected Results** | A sound effect of wind should be played. |
| **Priority** | Low |
| **Pass/Fail Criteria** | * Test will fail if:   1. The user is unable to register.   2. The user is unable to login.   3. The buttons are unresponsive.   4. No sound effects are played. * Test will pass if:   The actual results match the expected results. |

### **TC28 Stay Still Animation in Game 1**

|  |  |
| --- | --- |
| **ID** | TC28 |
| **Item to Test/Description** | Stay Still animation in game 1 |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the yellow glow labeled “Shattered Rails: Shattered Inceptions”. 4. Click on the start mission button. |
| **Test Steps** | 1. In the “Enter your name” field, type in “Alex”. 2. Wait for the text to finish outputting and then click the “Easy” button at the bottom of the page. 3. Click on the “Play Game” button. 4. Wait for the text to finish outputting and then click on the “Go behind” button. 5. Wait for the text to finish outputting and click on the “Stay Still” button. |
| **Expected Results** | An animation of a brain thinking should be played. |
| **Priority** | Low |
| **Pass/Fail Criteria** | * Test will fail if:   1. The user is unable to register.   2. The user is unable to login.   3. The buttons are unresponsive.   4. No animation is played * Test will pass if:   The actual results match the expected results. |

### **TC29 Spell Function in Game 2**

|  |  |
| --- | --- |
| **ID** | TC29 |
| **Item to Test/Description** | Spell function in game 2 |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the light blue glow labeled “Shattered Rails: The Requiem of Shattering”. 4. Click on the start mission button. 5. Ensure device volume is set to 100%. |
| **Test Steps** | 1. In the “Enter your Name” field, type in “Nick”. 2. Click on the “Easy” button when prompted to select a difficulty. 3. Click on the “Magician” button when prompted to select a class. 4. Click on the “Play Game” button. 5. Click on the “Swag King Cash Barti” button when prompted to select a boss to fight. 6. Click on the “Spell” button when prompted to select an attack. |
| **Expected Results** | Output text should say how much damage the user has done to the enemy, and what the enemy’s HP (Health Points) are after the attack. |
| **Priority** | High |
| **Pass/Fail Criteria** | * Test will fail if:  1. The user is unable to register. 2. The user is unable to login. 3. The buttons are unresponsive. 4. The calculated damage/enemy HP is wrong, for example if the user does 10 damage to the enemy which has 20 HP, but the output text says the enemy’s HP is still 20.  * Test will pass if:   The actual results match the expected results. |

### **TC30 Spell Sound Effect in Game 2**

|  |  |
| --- | --- |
| **ID** | TC30 |
| **Item to Test/Description** | Spell sound effect in game 2 |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the light blue glow labeled “Shattered Rails: The Requiem of Shattering”. 4. Click on the start mission button. 5. Ensure device volume is set to 100%. |
| **Test Steps** | 1. In the “Enter your Name” field, type in “Nick”. 2. Click on the “Easy” button when prompted to select a difficulty. 3. Click on the “Magician” button when prompted to select a class. 4. Click on the “Play Game” button. 5. Click on the “Swag King Cash Barti” button when prompted to select a boss to fight. 6. Click on the “Spell” button when prompted to select an attack. |
| **Expected Results** | A sound effect that sounds magical should play. |
| **Priority** | Low |
| **Pass/Fail Criteria** | * Test will fail if:  1. The user is unable to register. 2. The user is unable to login. 3. The buttons are unresponsive. 4. No sound effects are played.  * Test will pass if:   The actual results match the expected results. |

### **TC31 Spell Animation in Game 2**

|  |  |
| --- | --- |
| **ID** | TC31 |
| **Item to Test/Description** | Spell animation in game 2 |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the light blue glow labeled “Shattered Rails: The Requiem of Shattering”. 4. Click on the start mission button. |
| **Test Steps** | 1. In the “Enter your Name” field, type in “Nick”. 2. Click on the “Easy” button when prompted to select a difficulty. 3. Click on the “Magician” button when prompted to select a class. 4. Click on the “Play Game” button. 5. Click on the “Swag King Cash Barti” button when prompted to select a boss to fight. 6. Click on the “Spell” button when prompted to select an attack. |
| **Expected Results** | A magical animation should play. |
| **Priority** | Low |
| **Pass/Fail Criteria** | * Test will fail if:  1. The user is unable to register. 2. The user is unable to login. 3. The buttons are unresponsive. 4. No animation is played.  * Test will pass if:   The actual results match the expected results. |

### **TC32 Attack Function in Game 2**

|  |  |
| --- | --- |
| **ID** | TC32 |
| **Item to Test/Description** | Attack function in game 2 |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the light blue glow labeled “Shattered Rails: The Requiem of Shattering”. 4. Click on the start mission button. 5. Ensure device volume is set to 100%. |
| **Test Steps** | 1. In the “Enter your Name” field, type in “Nick”. 2. Click on the “Easy” button when prompted to select a difficulty. 3. Click on the “Magician” button when prompted to select a class. 4. Click on the “Play Game” button. 5. Click on the “Swag King Cash Barti” button when prompted to select a boss to fight. 6. Click on the “Attack” button when prompted to select an attack. |
| **Expected Results** | Output text should say how much damage the user has done to the enemy, and what the enemy’s HP (Health Points) are after the attack. |
| **Priority** | High |
| **Pass/Fail Criteria** | * Test will fail if:   1. The user is unable to register.   2. The user is unable to login.   3. The buttons are unresponsive.   4. The calculated damage/enemy HP is wrong, for example if the user does 10 damage to the enemy which has 20 HP, but the output text says the enemy’s HP is still 20. * Test will pass if:   The actual results match the expected results. |

### **TC33 Attack Sound Effect in Game 2**

|  |  |
| --- | --- |
| **ID** | TC33 |
| **Item to Test/Description** | Attack sound effect in game 2 |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the light blue glow labeled “Shattered Rails: The Requiem of Shattering”. 4. Click on the start mission button. 5. Ensure device volume is set to 100%. |
| **Test Steps** | 6.In the “Enter your Name” field, type in “Nick”.   1. Click on the “Easy” button when prompted to select a difficulty. 2. Click on the “Magician” button when prompted to select a class. 3. Click on the “Play Game” button. 4. Click on the “Swag King Cash Barti” button when prompted to select a boss to fight. 5. Click on the “Attack” button when prompted to select an attack. |
| **Expected Results** | A sound effect pf a sword swinging should play. |
| **Priority** | Low |
| **Pass/Fail Criteria** | * Test will fail if:   1. The user is unable to register.   2. The user is unable to login.   3. The buttons are unresponsive.   4. No sound effects are played. * Test will pass if:   The actual results match the expected results. |

### **TC34 Attack Animation in Game 2**

|  |  |
| --- | --- |
| **ID** | TC34 |
| **Item to Test/Description** | Attack animation in game 2 |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the light blue glow labeled “Shattered Rails: The Requiem of Shattering”. 4. Click on the start mission button. |
| **Test Steps** | 1. In the “Enter your Name” field, type in “Nick”. 2. Click on the “Easy” button when prompted to select a difficulty. 3. Click on the “Magician” button when prompted to select a class. 4. Click on the “Play Game” button. 5. Click on the “Swag King Cash Barti” button when prompted to select a boss to fight. 6. Click on the “Attack” button when prompted to select an attack. |
| **Expected Results** | A sword swinging animation should play. |
| **Priority** | Low |
| **Pass/Fail Criteria** | * Test will fail if:   1. The user is unable to register.   2. The user is unable to login.   3. The buttons are unresponsive.   4. No animation is played. * Test will pass if:   The actual results match the expected results. |

### **TC35 Defend Function in Game 2**

|  |  |
| --- | --- |
| **ID** | TC35 |
| **Item to Test/Description** | Defend function in game 2 |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the light blue glow labeled “Shattered Rails: The Requiem of Shattering”. 4. Click on the start mission button. 5. Ensure device volume is set to 100%. |
| **Test Steps** | 1. In the “Enter your Name” field, type in “Nick”. 2. Click on the “Easy” button when prompted to select a difficulty. 3. Click on the “Magician” button when prompted to select a class. 4. Click on the “Play Game” button. 5. Click on the “Swag King Cash Barti” button when prompted to select a boss to fight. 6. Click on the “Defend” button when prompted to select an attack. |
| **Expected Results** | Output text should say how much damage the user has either taken or evaded, alongside with the current user HP. |
| **Priority** | High |
| **Pass/Fail Criteria** | * Test will fail if:   1. The user is unable to register.   2. The user is unable to login.   3. The buttons are unresponsive.   4. The calculated damage/enemy HP is wrong, for example if the user escapes an attack but there is still damage deducted from the user’s HP. * Test will pass if:   The actual results match the expected results. |

### **TC36 Defend Sound Effect in Game 2**

|  |  |
| --- | --- |
| **ID** | TC36 |
| **Item to Test/Description** | Defend sound effect in game 2 |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the light blue glow labeled “Shattered Rails: The Requiem of Shattering”. 4. Click on the start mission button. 5. Ensure device volume is set to 100%. |
| **Test Steps** | 1. In the “Enter your Name” field, type in “Nick”. 2. Click on the “Easy” button when prompted to select a difficulty. 3. Click on the “Magician” button when prompted to select a class. 4. Click on the “Play Game” button. 5. Click on the “Swag King Cash Barti” button when prompted to select a boss to fight. 6. Click on the “Defend” button when prompted to select an attack. |
| **Expected Results** | A sound effect that sounds like a clink should play. |
| **Priority** | Low |
| **Pass/Fail Criteria** | * Test will fail if:   1. The user is unable to register.   2. The user is unable to login.   3. The buttons are unresponsive.   4. No sound effects are played. * Test will pass if:   The actual results match the expected results. |

### **TC37 Defend Animation in Game 2**

|  |  |
| --- | --- |
| **ID** | TC37 |
| **Item to Test/Description** | Defend animation in game 2 |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the light blue glow labeled “Shattered Rails: The Requiem of Shattering”. 4. Click on the start mission button. |
| **Test Steps** | 1. In the “Enter your Name” field, type in “Nick”. 2. Click on the “Easy” button when prompted to select a difficulty. 3. Click on the “Magician” button when prompted to select a class. 4. Click on the “Play Game” button. 5. Click on the “Swag King Cash Barti” button when prompted to select a boss to fight. 6. Click on the “Defend” button when prompted to select an attack. |
| **Expected Results** | A shield animation should play. |
| **Priority** | Low |
| **Pass/Fail Criteria** | * Test will fail if:   1. The user is unable to register.   2. The user is unable to login.   3. The buttons are unresponsive.   4. No animation is played. * Test will pass if:   The actual results match the expected results. |

### **TC38 Stay Still Function in Game 2**

|  |  |
| --- | --- |
| **ID** | TC38 |
| **Item to Test/Description** | Stay Still function in game 2 |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the light blue glow labeled “Shattered Rails: The Requiem of Shattering”. 4. Click on the start mission button. 5. Ensure device volume is set to 100%. |
| **Test Steps** | 1. In the “Enter your Name” field, type in “Nick”. 2. Click on the “Easy” button when prompted to select a difficulty. 3. Click on the “Magician” button when prompted to select a class. 4. Click on the “Play Game” button. 5. Click on the “Swag King Cash Barti” button when prompted to select a boss to fight. 6. Click on the “Stay Still” button when prompted to select an attack. |
| **Expected Results** | Output text should say that the user chose to stay still, and the user’s current MP. |
| **Priority** | High |
| **Pass/Fail Criteria** | * Test will fail if:   1. The user is unable to register.   2. The user is unable to login.   3. The buttons are unresponsive.   4. The calculated MP is wrong, for example, say the user has 5MP and uses the stay still command, if the text says it’s still 5MP instead of the expected 10MP from staying still and gaining 5MP. * Test will pass if:  1. The actual results match the expected results. |

### **TC39 Stay Still Sound Effect in Game 2**

|  |  |
| --- | --- |
| **ID** | TC39 |
| **Item to Test/Description** | Stay Still sound effect in game 2 |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the light blue glow labeled “Shattered Rails: The Requiem of Shattering”. 4. Click on the start mission button. 5. Ensure device volume is set to 100%. |
| **Test Steps** | 1. In the “Enter your Name” field, type in “Nick”. 2. Click on the “Easy” button when prompted to select a difficulty. 3. Click on the “Magician” button when prompted to select a class. 4. Click on the “Play Game” button. 5. Click on the “Swag King Cash Barti” button when prompted to select a boss to fight. 6. Click on the “Stay Still” button when prompted to select an attack. |
| **Expected Results** | A sound effect that sounds like wind should play. |
| **Priority** | Low |
| **Pass/Fail Criteria** | * Test will fail if:  1. The user is unable to register. 2. The user is unable to login. 3. The buttons are unresponsive. 4. No sound effects are played.  * Test will pass if:  1. The actual results match the expected results. |

### **TC40 Stay Still Animation in Game 2**

|  |  |
| --- | --- |
| **ID** | TC40 |
| **Item to Test/Description** | Stay Still animation in game 2 |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the light blue glow labeled “Shattered Rails: The Requiem of Shattering”. 4. Click on the start mission button. |
| **Test Steps** | 1. In the “Enter your Name” field, type in “Nick”. 2. Click on the “Easy” button when prompted to select a difficulty. 3. Click on the “Magician” button when prompted to select a class. 4. Click on the “Play Game” button. 5. Click on the “Swag King Cash Barti” button when prompted to select a boss to fight. 6. Click on the “Stay Still” button when prompted to select an attack. |
| **Expected Results** | A brain animation should play. |
| **Priority** | Low |
| **Pass/Fail Criteria** | * Test will fail if:  1. The user is unable to register. 2. The user is unable to login. 3. The buttons are unresponsive. 4. No animation is played.  * Test will pass if:  1. The actual results match the expected results. |

### **TC41 Run Function in Game 2**

|  |  |
| --- | --- |
| **ID** | TC41 |
| **Item to Test/Description** | Run function in game 2 |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the light blue glow labeled “Shattered Rails: The Requiem of Shattering”. 4. Click on the start mission button. 5. Ensure device volume is set to 100%. |
| **Test Steps** | 1. In the “Enter your Name” field, type in “Nick”. 2. Click on the “Easy” button when prompted to select a difficulty. 3. Click on the “Magician” button when prompted to select a class. 4. Click on the “Play Game” button. 5. Click on the “Swag King Cash Barti” button when prompted to select a boss to fight. 6. Click on the “Run” button when prompted to select an attack. |
| **Expected Results** | Output text should say that the user chose to run fast away, and it should take the user back to the boss selection prompt. |
| **Priority** | High |
| **Pass/Fail Criteria** | * Test will fail if:  1. The user is unable to register. 2. The user is unable to login. 3. The buttons are unresponsive. 4. The run function isn’t called, or if something else is called instead of the run function  * Test will pass if:  1. The actual results match the expected results. |

### **TC42 Run Sound Effect in Game 2**

|  |  |
| --- | --- |
| **ID** | TC42 |
| **Item to Test/Description** | Run sound effect in game 2 |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the light blue glow labeled “Shattered Rails: The Requiem of Shattering”. 4. Click on the start mission button. 5. Ensure device volume is set to 100%. |
| **Test Steps** | 1. In the “Enter your Name” field, type in “Nick”. 2. Click on the “Easy” button when prompted to select a difficulty. 3. Click on the “Magician” button when prompted to select a class. 4. Click on the “Play Game” button. 5. Click on the “Swag King Cash Barti” button when prompted to select a boss to fight. 6. Click on the “Run” button when prompted to select an attack. |
| **Expected Results** | A sound effect that sounds like running should play. |
| **Priority** | Low |
| **Pass/Fail Criteria** | * Test will fail if:  1. The user is unable to register. 2. The user is unable to login. 3. The buttons are unresponsive. 4. No sound effects are played.  * Test will pass if:  1. The actual results match the expected results. |

### **TC43 Run Animation in Game 2**

|  |  |
| --- | --- |
| **ID** | TC43 |
| **Item to Test/Description** | Run animation in game 2 |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the light blue glow labeled “Shattered Rails: The Requiem of Shattering”. 4. Click on the start mission button. |
| **Test Steps** | 1. In the “Enter your Name” field, type in “Nick”. 2. Click on the “Easy” button when prompted to select a difficulty. 3. Click on the “Magician” button when prompted to select a class. 4. Click on the “Play Game” button. 5. Click on the “Swag King Cash Barti” button when prompted to select a boss to fight. 6. Click on the “Run” button when prompted to select an attack. |
| **Expected Results** | A running animation should play. |
| **Priority** | Low |
| **Pass/Fail Criteria** | * Test will fail if:  1. The user is unable to register. 2. The user is unable to login. 3. The buttons are unresponsive. 4. No animation is played.  * Test will pass if:  1. The actual results match the expected results. |

### **TC44 Persuade Function in Game 2**

|  |  |
| --- | --- |
| **ID** | TC44 |
| **Item to Test/Description** | Persuade function in game 2 |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the light blue glow labeled “Shattered Rails: The Requiem of Shattering”. 4. Click on the start mission button. 5. Ensure device volume is set to 100%. |
| **Test Steps** | 1. In the “Enter your Name” field, type in “Nick”. 2. Click on the “Easy” button when prompted to select a difficulty. 3. Click on the “Magician” button when prompted to select a class. 4. Click on the “Play Game” button. 5. Click on the “Swag King Cash Barti” button when prompted to select a boss to fight. 6. Click on the “Persuade” button when prompted to select an attack. |
| **Expected Results** | Output text should prompt the user to choose between 3 negotiation tactics, and once one is clicked, there is a random chance it works. If it works, it means that the battle is over and the next battle occurs. If the persuasion fails, then the battle keeps continuing. |
| **Priority** | High |
| **Pass/Fail Criteria** | * Test will fail if:  1. The user is unable to register. 2. The user is unable to login. 3. The buttons are unresponsive. 4. The persuade function isn’t called, or if something else is called instead of the persuade function. 5. If the user wins the persuasion but still the fight keeps going.  * Test will pass if:  1. The actual results match the expected results. |

### **TC45 Persuade Animation in Game 2**

|  |  |
| --- | --- |
| **ID** | TC45 |
| **Item to Test/Description** | Persuade animation in game 2 |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the light blue glow labeled “Shattered Rails: The Requiem of Shattering”. 4. Click on the start mission button. |
| **Test Steps** | 1. In the “Enter your Name” field, type in “Nick”. 2. Click on the “Easy” button when prompted to select a difficulty. 3. Click on the “Magician” button when prompted to select a class. 4. Click on the “Play Game” button. 5. Click on the “Swag King Cash Barti” button when prompted to select a boss to fight. 6. Click on the “Persuade” button when prompted to select an attack. |
| **Expected Results** | A talking animation should play. |
| **Priority** | Low |
| **Pass/Fail Criteria** | * Test will fail if:  1. The user is unable to register. 2. The user is unable to login. 3. The buttons are unresponsive. 4. No animation is played.  * Test will pass if:  1. The actual results match the expected results. |

### **TC46 Editing Username**

|  |  |
| --- | --- |
| **ID** | TC46 |
| **Item to Test/Description** | Editing username |
| **Preconditions** | 1. Have a new account created for Shattered Rails.  * Email: “alex@gmail.com” * Username: [alex27@gmail.com](mailto:alex27@gmail.com) * Password: “Alex123$” * Confirm Password: “Alex123$”  1. Logged into Shattered Rails.  * Username: “alex27” * Password: “Alex123$”  1. Click on the “Profile” button. |
| **Test Steps** | 1. In the “Username” field, delete “alex27” and type in “alex28”. 2. Click on the green “Update” button. |
| **Expected Results** | 1. A green text displaying “Profile was successfully updated” should be shown. 2. On the top of the page, it should say “Welcome to your profile, alex28”. |
| **Priority** | Medium |
| **Pass/Fail Criteria** | * Test will fail if:  1. The user is unable to register. 2. The user is unable to login. 3. The buttons are unresponsive. 4. If both expected results are not met.  * Test will pass if:  1. If both expected results are met. 2. Actual results match expected results |

### **TC47 Successfully Changing Password on Profile Page**

|  |  |
| --- | --- |
| **ID** | TC47 |
| **Item to Test/Description** | Successfully changing a password on profile page |
| **Preconditions** | 1. Have a new account created for Shattered Rails.  * Email: “alex@gmail.com” * Username: [alex27@gmail.com](mailto:alex27@gmail.com) * Password: “Alex123$” * Confirm Password: “Alex123$”  1. Logged into Shattered Rails.  * Username: “alex27” * Password: “Alex123$”  1. Click on the “Profile” button. |
| **Test Steps** | 1. Click on the “Edit Password” button on the left sidebar. 2. In the following fields enter:  * Current Password: “Alex123$” * New Password: “Alex456$” * Confirm New Password: “Alex456$”  1. Click on the green “Update” button. |
| **Expected Results** | A green text with the message “Password was successfully updated” will be displayed. |
| **Priority** | Medium |
| **Pass/Fail Criteria** | * Test will fail if:  1. The user is unable to register. 2. The user is unable to login. 3. Clicking on the buttons doesn’t do anything. 4. The correct message fails to display.  * Test will pass if:  1. The actual results match the expected results. |

### **TC48 Failing to Change Password on Profile Page**

|  |  |
| --- | --- |
| **ID** | TC48 |
| **Item to Test/Description** | Failing to change a password on profile page |
| **Preconditions** | 1. Have a new account created for Shattered Rails.  * Email: “alex@gmail.com” * Username: [alex27@gmail.com](mailto:alex27@gmail.com) * Password: “Alex123$” * Confirm Password: “Alex123$”  1. Logged into Shattered Rails.  * Username: “alex27” * Password: “Alex123$”  1. Click on the “Profile” button. |
| **Test Steps** | 1. Click on the “Edit Password” button on the left sidebar. 2. In the following fields enter:  * Current Password: “Alex” * New Password: “Alex456$” * Confirm New Password: “Alex456$”  1. Click on the green “Update” button. |
| **Expected Results** | A red text with the message “Invalid current password. Please try again” will be displayed. |
| **Priority** | Low |
| **Pass/Fail Criteria** | * Test will fail if:  1. The user is unable to register. 2. The user is unable to login. 3. Clicking on the buttons doesn’t do anything. 4. No message is displayed.  * Test will pass if:  1. The expected results and the actual results match. |

## **15.3 System Testing (Functional)**

### **TC49 Reaching an Ending to a Path in Game 1**

|  |  |
| --- | --- |
| **ID** | TC49 |
| **Item to Test/Description** | Reaching an ending to a path in game 1 |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the yellow glow labeled “Shattered Rails: Shattered Inceptions”. 4. Click on the “Start Mission” button. |
| **Test Steps** | 1. In the “Enter your Name” field, type in “Alex”. 2. Wait for the text to finish outputting and then click the “Easy” button at the bottom of the page. 3. Click on the “Play Game” button. 4. Wait for the text to finish outputting and then click on the “Go Left” button. 5. Wait for the text to finish outputting and then click on the “Go Right” button |
| **Expected Results** | The user should reach an ending in which they’ll be shown which ending number/type of ending it is, alongside the game prompting the user to go down a different path |
| **Priority** | High |
| **Pass/Fail Criteria** | * Test will fail if:  1. The user is unable to register. 2. The user is unable to login. 3. Clicking on the buttons doesn’t do anything. 4. If the expected result doesn’t happen after following all the steps.  * Test will pass if:  1. The expected results and the actual results match. |

### **TC50 Beating Both Soldier and King/Queen Fights**

|  |  |
| --- | --- |
| **ID** | TC50 |
| **Item to Test/Description** | Beating both soldier and king/queen fights game 2 |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the light blue glow labeled “Shattered Rails: The Requiem of Shattering”. 4. Click on the start mission button. |
| **Test Steps** | 1. In the “Enter your Name” field, type in “Nick”. 2. Click on the “Easy” button when prompted to select a difficulty. 3. Click on the “Magician” button when prompted to select a class. 4. Click on the “Play Game” button. 5. Click on the “Swag King Cash Barti” button when prompted to select a boss to fight. 6. Click on the “Spell” button when prompted to select an attack. 7. Click on the “Stay Still” button when prompted to select an attack. 8. Repeat steps 6 and 7 till the enemy’s HP reaches 0. 9. Click on the “Continue” button when prompted to continue. 10. Click on the “Send To Sky!” button when prompted to select a reply. 11. Repeat steps 6 and 7 till the enemy’s HP reaches 0 |
| **Expected Results** | The user should go face 2 battles, one against a soldier, and the next one against the king/queen that has been selected |
| **Priority** | High |
| **Pass/Fail Criteria** | * Test will fail if:  1. The user is unable to register. 2. The user is unable to login. 3. The buttons are unresponsive. 4. The soldier fight doesn’t show up. 5. The king/queen fight doesn’t show up.  * Test will pass if:  1. The actual results match the expected results. |

### **TC51 Autosave to Last Checkpoint**

|  |  |
| --- | --- |
| **ID** | TC51 |
| **Item to Test/Description** | Autosave to last checkpoint |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the yellow glow labeled “Shattered Rails: Shattered Inceptions”. 4. Click on the “Start Mission” button. |
| **Test Steps** | 1. In the “Enter your Name” field, type in “Alex”. 2. Wait for the text to finish outputting and then click the “Easy” button at the bottom of the page. 3. Click on the “Play Game” button. 4. Wait for the text to finish outputting and then click on the “Go Left” button. 5. Wait for the text to finish outputting and then click on the “Logout” button on the top right. 6. Repeat steps 2-4 of the Preconditions. |
| **Expected Results** | The text being outputted in the terminal should start with “You decide to go left” and end with “do you want to go left or right”. |
| **Priority** | Medium |
| **Pass/Fail Criteria** | * Test will fail if:  1. The user is unable to register. 2. The user is unable to login. 3. Clicking on the buttons doesn’t do anything. 4. If the expected result doesn’t happen after following all the steps.  * Test will pass if:  1. The expected results and the actual results match. |

### **TC52 Progress Should Remain After Logout and then Logging Back in**

|  |  |
| --- | --- |
| **ID** | TC52 |
| **Item to Test/Description** | Progress should remain after logout and then logging back in |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. 3. Click on the box with the yellow glow labeled “Shattered Rails: Shattered Inceptions”. 4. Click on the “Start Mission” button. |
| **Test Steps** | 1. In the “Enter your Name” field, type in “Jones”. 2. Wait for the text to finish outputting and then click the “Easy” button at the bottom of the page. 3. Click on the “Play Game” button. 4. Wait for the text to finish outputting and click on the “Go behind” button. 5. You will be thrown into a battle scenario, repeatedly press the “Attack” button prompt until you see “Congrats you beat the enemy…”. 6. Logout from the Shattered Rails application by clicking the “Logout” button on the top right. 7. Repeat steps 2-4 of the Preconditions. |
| **Expected Results** | 1. The number in the progression bar in the top left should read “30%”. 2. The progression bar visual should be filled in by 30% with a light green color. |
| **Priority** | Low |
| **Pass/Fail Criteria** | * Test will fail if:  1. The user is unable to register. 2. The user is unable to login. 3. Clicking on buttons is unresponsive. 4. Progress doesn’t save. 5. The expected results and the actual results don’t match.  * Test will pass if:  1. The actual results match the expected results. |

### **TC53 Game Over Popup**

|  |  |
| --- | --- |
| **ID** | TC53 |
| **Item to Test/Description** | Game Over Popup |
| **Preconditions** | 1. Have a new account created for Shattered Rails 2. Logged into Shattered Rails 3. Click on the box with the yellow glow labeled “Shattered Rails: Shattered Inceptions” 4. Click on the “Start Mission” button 5. Finish the Entire Game |
| **Test Steps** | 1. Start playing the game and complete the game with your own’s choices at each decision 2. See if there is a game over popup that shows the user that they have reached the end of the game |
| **Expected Results** | A game over popup should appear once reached the end of the game prompting user to restart game |
| **Priority** | Low |
| **Pass/Fail Criteria** | * Test will fail if:   1. The game over popup does not show up after the game is completed  2. The popup does not allow user to restart the game   * Test will pass if:   1. The game over popup shows up immediately after completion of the game  2. The popup allows user to restart the game |

# **16. Non-Functional Test Cases**

### **TC54 Performance**

|  |  |
| --- | --- |
| **ID** | TC54 |
| **Item to Test/Description** | Performance |
| **Preconditions** | 1. Have a new account created for Shattered Rails. 2. Logged into Shattered Rails. |
| **Test Steps** | Click on the "Game 1” card on the game selection page. |
| **Expected Results** | The user will be redirected to the start game 1 page in less than 2 seconds. |
| **Priority** | Medium |
| **Pass/Fail Criteria** | * Test will fail if:  1. The user is unable to go to the start game 1 page in less than 2 seconds.  * Test will pass if:  1. The actual results match the expected results. |

### **TC55 Reliability**

|  |  |
| --- | --- |
| **ID** | TC55 |
| **Item to Test/Description** | Reliability |
| **Preconditions** | * Have a new account created for Shattered Rails. Logged into Shattered Rails. * Click on the box with the yellow glow labeled “Shattered Rails: Shattered Inceptions”. * Click on the “Start Mission” button. |
| **Test Steps** | * In the “Enter your Name” field, type in “Alex”. * Wait for the text to finish outputting and then click the “Easy” button at the bottom of the page. * Click on the “Play Game” button. * Wait for the text to finish outputting and then click on the “Go Left” button. * Wait for the text to finish outputting and then click on the “Go Right” button |
| **Expected Results** | The user should reach an ending in which they’ll be shown which ending number/type of ending it is, alongside the game prompting the user to go down a different path, without there being any errors or freezing in the game occurring |
| **Priority** | Medium |
| **Pass/Fail Criteria** | * Test will fail if:   The game freezes at any point/doesn’t work as expected.  Test will pass if:  The actual results match the expected results. |

### **TC56 Availability**

|  |  |
| --- | --- |
| **ID** | TC56 |
| **Item to Test/Description** | Availability |
| **Preconditions** | * Have a new account created for Shattered Rails. Logged into Shattered Rails. * Click on the box with the yellow glow labeled “Shattered Rails: Shattered Inceptions”. * Click on the “Start Mission” button. |
| **Test Steps** | * In the “Enter your Name” field, type in “Alex”. * Wait for the text to finish outputting and then click the “Easy” button at the bottom of the page. * Click on the “Play Game” button. * Wait for the text to finish outputting and then click on the “Go Left” button. * Wait for the text to finish outputting and then click on the “Go Right” button |
| **Expected Results** | The user should be able to play the game at any time without network errors. |
| **Priority** | Medium |
| **Pass/Fail Criteria** | * Test will fail if:   The website doesn’t respond at any time, and the website is down for more than 1 hour   * Test will pass if:   The actual results match the expected results. |

### **TC57 Security**

|  |  |
| --- | --- |
| **ID** | TC57 |
| **Item to Test/Description** | Security |
| **Preconditions** | 1. The user must have a stable internet connection. 2. The user must have accessed the Shattered Rails website. 3. The user must have clicked the register button. |
| **Test Steps** | 1. The user must input a password that has at least eight characters, one capital letter, and one special character. 2. The user must have clicked the link in their email inbox from the shattered rails official gmail. |
| **Expected Results** | User will be verified and able to login. |
| **Priority** | High |
| **Pass/Fail Criteria** | * Test will fail if:  1. The user inputs a password that is not acceptable by the security standards 2. The user doesn’t receive the email in their inbox from the shattered rails email. 3. The user can access the website without first clicking the link in their inbox.  * Test will pass if:   The actual results match the expected results. |

### **TC58 Portability**

|  |  |
| --- | --- |
| **ID** | TC58 |
| **Item to Test/Description** | Portability |
| **Preconditions** | * Have a new account created for Shattered Rails. Logged into Shattered Rails. * Click on the box with the yellow glow labeled “Shattered Rails: Shattered Inceptions”. * Click on the “Start Mission” button. |
| **Test Steps** | * In the “Enter your Name” field, type in “Alex”. * Wait for the text to finish outputting and then click the “Easy” button at the bottom of the page. * Click on the “Play Game” button. * Wait for the text to finish outputting and then click on the “Go Left” button. * Wait for the text to finish outputting and then click on the “Go Right” button. * Log out of the game and log back in with another laptop of different screen size. |
| **Expected Results** | The user should be able to play the game without the UI being compromised by any means, the text/website should look evenly spaced out and professional at all times. The game and it’s layout should look the same on both screens that were tested on. |
| **Priority** | Medium |
| **Pass/Fail Criteria** | * Test will fail if:   The website’s UI and responsiveness gets affected by screen size.   * Test will pass if:   The actual results match the expected results. |

# **17. Acceptance Testing**

For the User Acceptance Testing for this application, GTA Sayma Sultana will be used to simulate an end user for this application. Her feedback will be shown below describing the aspects of the application she liked and the areas where it could be improved. An email will be sent to her email () and the email and the reply to the email will be shown below. GTA Sayma will also be checking for if all of the functional and nonfuncti1onal requirements for this application have been met or not.