**Unit Testing Test Skeleton**

[TestGame]

Public class newTest

{

[SetUp]

public void loadGame()

{

// Loads the game to play and test

}

Public void startGame()

{

//Starts the game to be played and tested by the user

}

Public void test1()

{

//Test the mechanics of the math game under a light load

}

Public void test2()

{

//Test the mechanics of the math game under a heavy load

}

Public void unload()

{

//Clean up the test and finish running

}

}

[TestSite]

Public class newSiteTest

{

Public void loadSite()

{

//Load the website for various testing

}

Public void pageTest()

{

//Test the various page hyperlinks and reroutes of the site

}

Public void objectTest()

{

//Test all of the internal of the site such as login, embedded game function, donations, and ticket purchases

}

Public void stressTest()

{

//Test the sites performance under a high load force

}

Public void unload()

{

//Clean up the test and finish up

}

}

**Integration Testing**

|  |  |  |  |
| --- | --- | --- | --- |
| Test Case ID | Test Case Objective | Test Case Description | Expected Result |
| 1 | Check the connection between the login and each role page. | For each role such as teacher, student, parent test the interaction between logging in and attempting to reach the desired page. | Each login will take the user to there designated page based of credentials and what role they have in the data base. |
| 2 | Check the link between the main page and the game. | Try to access the game from the main page. | The main page will direct you to the game and allow you to play. |
| 3 | Check the link between the main page and the ticket purchase module. | Try to purchase tickets from main page. | Successfully purchase a ticket using the main page link. |

Each of these test use the unit tests as a foundation. It is important that in the unit test we ensure that each piece of the website works efficiently on its own. During the integration test we will test that the pieces of the website also work well together. We must test that the objects of the site provide the proper overall functionality that is needed compared to their individual functionality. For example testing that the user login and the view score objects work well together. It is important that based off the permissions of the logged in user, they will potentially have access to either view their own high score or there students high score. It is important that all of the objects of the website are not only able to work alone, but that they can also work together as a conglomerate.

**Regression Testing**

If changes are made to the code of our website then there are only a few test we will have to run again. If there has been no alterations to the code of the game, then we will not need to run any of the game tests. For the site in specific, we can run the object test again, this test will test all of the internals of the website and make sure that they are working properly. Secondly, we can run the page test again to make sure that the pages and all of their hyperlinks are still functioning properly. It is not necessary to stress test the site again because we are not creating a whole new site when modifications are made, furthermore we will obviously have to test the new addition or alteration to make sure it functions properly upon integration into the site.

**Full System Test Procedure**

The full system test procedure will test all of the modules and functions of the application together. For this we can run all of the unit test individually, then run our integration tests, and finally run a full system simulation to test the full experience of our website and its integrated functions. The main purpose here is to test that all of the necessary requirements of the client have been met. We need to compare what our product does to the log of what the client desires for the site. This test will perform sequential checks to assure that all the criteria for the product are met. We will need to ensure that our game works properly, the site has a functioning login system with roles, users can leave reviews, users can buy tickets, and so on and so forth. This test is essentially a way to make sure the product is up to the standards of the client.