**G4T6: TEST PLAN**

**Planning Process**

Once the deployment is done for every iteration, testing for every possible case will be conducted to ensure there is no bug occurs. Revisiting of all the past functionalities should be considered as well in order to ensure all the current functionalities are bug-free and met at the least requirements.

**Functionality Requirements Analysis**

Every member in the team is to read through and fully understand the functionality requirements together during the planning process for the next iteration. The team will need to discuss all the main test cases and search for any corner cases.

**Creation of Test Cases**

The project manager will generate the test cases based on the team discussion after the meeting, and the members who are involved in coding are required to contribute by updating test cases during the coding time. Every test case will be containing the functionality name, description, input requirement, test procedure, expected results as well as actual results and the final results of pass or fail.

Before the completion of relevant functionalities and the web application (SMUA) is deployed on OpenShift, test cases should be done established and consolidated. The details such as the functionality name, descriptions, input requirements, test procedures, and expected results should be filled during the creation time.

**System Testing**

Upon deploying the web application (SMUA), the project manager will begin testing the system and record down the actual results and final results (pass or fail) in the test cases. Upon completion. The project manager will deliver the testing results to the members who coded for the particular functionalities. During the testing phase, any test cases that are missed out previously can still be created by both project manager and coders.

**Metrics Updating**

Updating of debug metrics are to be done by the project manager after testing, as well as after debugging. The project manager will record down the bugs that are needed to be resolved and the final results for each bug whether it is resolved or not. The project manager should also record down and deliver the final bug metrics scores and action plans. Planning for the next step according to the action plan should be followed up by the project manager as well. During this point of time, the project manager will be in charging to set the severity level for each bug, whereas the other team member will be discussing if any particular bug needs to be resolved.

**Regression Testing**

Testing of all the previous functionalities will be done at the end of every iteration. Every previous functionality will be revisited and to ensure that they are able to support the new functions that were just completed and integrated.

**ITERATION PROCESS**

**Iteration 1 (14 – 26 Sep 15):**

**(Project manager: Jeremy)**

Generate test cases and conduct testing for: Login/Logout and Bootstrap

* Prepare every necessary documentations
* Discuss functionalities and design a prototype of Class Diagrams, Sequence Diagrams and Logical Diagrams
* Login/Logout (coded by: Jason & Yong Siang)
* Bootstrap (zip input stream file and test connection) (Coded by: Jason & Yong Siang)
* Bootstrap (cvs reader, read files) (coded by: Shuwei & Wu Wei)
* End of iteration review

**Iteration 2 (26 Sep – 12 Oct 15):**

**(Project manager: Wu Wei)**

Generate test cases and conduct testing for: Bootstrap, Basic App Usage Report, Top-k App Usage Report, Smartphone Overuse Report

* Bootstrap (validations for locations and location-lookup.csv) (Coded by: Jason & Yong Siang)
* Bootstrap (validations for demographics, app, app-lookup,csv) (Coded by: Shuwei & Wu Wei)
* Bootstrap (creating and loading SQL tables) (Coded by: Shuwei & Wu Wei)
* Basic App Usage Report (breakdown by usage time category) (Coded by: Jason & Yong Siang)
* Basic App Usage Report (breakdown by usage time category and demographics) (Coded by: Jason & Yong Siang)
* Basic App Usage Report (breakdown by app category) (Coded by: Jason & Yong Siang)
* Basic App Usage Report (diurnal pattern of app usage time) (Coded by: Jason & Yong Siang)
* Top-k App Usage Report (breakdown by Top-k most used apps) (Coded by: Shuwei & Jeremy)
* Top-k App Usage Report (breakdown by Top-k students with most app usage (given an app category) (Coded by: Shuwei & Jeremy)
* Top-k App Usage Report (Top-k schools with most app usage) (Coded by: Shuwei & Jeremy)
* Smartphone Overuse Report (Daily smartphone usage duration metrics) (Coded by: Shuwei & Jeremy)
* Smartphone Overuse Report (Daily gaming duration metrics) (Coded by: Shuwei & Jeremy)
* Smartphone Overuse Report (Frequency of smartphone accesses metrics) (Coded by: Shuwei & Jeremy)
* Discuss functionalities and update the design of Class Diagrams, Sequence Diagrams and Logical Diagrams
* Test and review previous functionalities after integration
* Preparation for supervisor meeting
* End of iteration review

**Iteration 3 (12 – 26 Oct 15):**

**(Project manager: Jason)**

Generate test cases and conduct testing for: Loading Location Data, Deletion of Data and Dual Interfaces

* Dual Interfaces (JSON API for Login, Basic App Usage Report, Top-K App Usage Report, Smartphone Overuse Report) (Coded by: Jeremy, Yong Siang)
* Dual Interfaces (JSON API for Bootstrap) (Coded by: Jason, Wu Wei)
* Loading Location Data (Upload file) (Coded by: Shuwei & Wu Wei)
* Loading Location Data (Add file to database) (Coded by: Shuwei & Wu Wei)
* Loading Location Data (Develop validation for location.csv) (Coded by: Shuwei & Wu Wei)
* Loading Location Data (Develop validation for location-lookup.csv) (Coded by: Shuwei & Wu Wei)
* Loading Location Data (Develop functionality to upload additional location data) (Coded by: Shuwei & Wu Wei)
* Deletion of Data (Develop deletion of data using location-delete.csv) (Coded by: Shuwei & Wu Wei)
* Deletion of Data (Develop web UI for deletion of Data Coding) (Coded by: Shuwei & Wu Wei)
* Research on Heatmap related to required functionalities
* Discuss functionalities and update the design of Class Diagrams, Sequence Diagrams and Logical Diagrams
* Test and review previous functionalities after integration
* Preparation for supervisor meeting
* End of iteration review

**Iteration 4 (26 Oct – 7 Nov 15):**

**(Project Manager: Yong Siang)**

Generate test cases and conduct testing for: Heatmap for app usage report, Social activeness report and Dual Interface (JSON API for Heatmap for app usage report and Social activeness report)

* Heatmap for app usage report (Coded by: Jeremy & Wu Wei)
* Social activeness report (Coded by: Jason & Shuwei)
* Discuss functionalities and update the design of Class Diagrams, Sequence Diagrams and Logical Diagrams
* Test and review previous functionalities after integration
* Preparation for supervisor meeting
* Discuss & prepare for User Acceptance Test (UAT)
* End of iteration review

**Iteration 5 (7 Nov 15 – End of Project):**

**(Project Manager: Shuwei)**

* Discuss & prepare for final presentation