Test Plan

This document states in detail the Test Plan and Test Cases for Team XRAYS.

The testing methodology that Team XRAYS will be following that of the Iterative Waterfall Process. After the end of every major pair programming session (where features are being added or revised), a Unit Testing will be performed to ensure that the feature does not just compile but also produces the expected results. Integration Testing will be performed in the latter iterations once more than two features can be tested together. This Integration Testing will test the feature worked on as well as making sure using other features previously created does not break the system.

At the end of every iteration, a Regression Test will be performed. A Regression Test will consist of a thorough run of every test case for the entire system. This is performed to confirm that all features are working perfectly and producing the desired results.

# Methodology

## Unit Testing

Test cases for each feature will be created in order to ensure that the feature created follows wiki and produced the desired output. It will be a thorough test of each feature and only one feature will be tested.

The participants of each unit testing will be the pair in the iteration who did not code the feature in order to ensure that the feature is tested properly.

Unit Testing will be done after finishing the code for the feature and making sure that the feature is can be compiled. The actual output of the features that will undergo unit testing does not have to be known yet.

After unit testing, there will be a debugging session if the logged bugs exceed the score of 10.

## Integration Testing

Integration testing will be performed after coding a feature to make sure that the newly created feature does not break any other previously coded parts of the system.

The participants for the integration testing will be any of the pairs or the project manager of the iteration.

Integration testing will be performed after solving all the bugs from unit testing of the feature.

After integration testing, there will be a debugging session to fix bugs if the bug metrics exceed 10.

## Regression Testing

Regression testing will be performed at the end of each iteration or before a milestone like the In-Class Demo or User Acceptance Test. This type of testing will act as the final check to ensure that all features coded are working perfectly and producing the expected results.

The participants for the regression testing will be any of the pairs or the project manager of the iteration.

The bugs found in regression testing will be placed under the bugs metric.

# Test Cases

The following section will denote the Regression Tests that were performed at the end of each iteration. It is to be noted that all features existed in the system only by Iteration 5. Therefore, full Regression Testing was only done from Iteration 5 onwards.

## Iteration 1

No testing was done during this iteration as no programming was performed.

## Iteration 2

Implementation of both Login and Bootstrap has commenced. However, both features are being programmed in silos and have not been integrated. Therefore, no Integration or Regression Tests were performed.

## Iteration 3

Regression Testing was performed on 5th October

|  |  |  |
| --- | --- | --- |
| **Test Case** | **Status** | **Description** |
| Login | Fail | Unable to login even with correct username and password |
| Admin gets stuck at a blank authenticate.jsp |
| Bootstrap | Fail | Unable to create folder when deployed to AWS |

## Iteration 4

Regression Testing was not performed because features were not completed in this iteration.

## Iteration 5

Regression Testing was performed on 22nd October

|  |  |  |
| --- | --- | --- |
| **Test Case** | **Status** | **Description** |
| AGD | Pass |  |
| BLR Breakdown | Pass |  |
| Bootstrap | Fail | Error messages are not shown properly |
| Heatmap | Fail | Considers location updates outside the 15 minutes query window |
| Results don’t show mac address count of 0 and corresponding crowd density of 0 |
| Login | Pass |  |
| Top K Companions | Pass |  |
| Top K Next Places | Pass |  |
| Top K Popular Places | Pass |  |

## Iteration 6

Regression Testing was performed on 3nd November

|  |  |  |
| --- | --- | --- |
| **Test Case** | **Status** | **Description** |
| AGD | Fail | Email should be shown for agd for 18 but 19 only one didn’t come up |
| BLR Breakdown | Fail | Stuck at controller |
| Bootstrap | Fail | Password is not validated correctly |
| location csv does not check for invalid timestamp |
| Heatmap | Fail | Page displays error when date: 2017-02-32T12:45:00 or when floor is invalid when submitting json request (class cast exception) |
| Heatmap graphical cant be read, it doesn’t work. |
| Login | Fail | User account unable to login |
| Top K Companions | Fail | Emails of some companions are not shown |
| Top K Next Places | Pass |  |
| Top K Popular Places | Pass |  |

## Iteration 7

Regression Testing was performed on 18th November

|  |  |  |
| --- | --- | --- |
| **Test Case** | **Status** | **Description** |
| AGD | Pass |  |
| BLR Breakdown | Pass |  |
| Bootstrap | Pass |  |
| Heatmap | Pass |  |
| Login | Pass |  |
| Top K Companions | Pass |  |
| Top K Next Places | Pass |  |
| Top K Popular Places | Pass |  |