

Crimson

Testing Summary

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Crimson is a massive multiplayer game where players compete for resources in the city of Chicago. The game allows users to create their own profile, forage for resources and battle with other users who are foraging at the same location as them. For testing the functioning of the game we decided to use Black-Box and White-Box testing. We also performed the code inspection on every module of the code.

Black-Box Testing:

In black box testing, we checked the functioning of each function module to check for correctness. The sequence of events that occur during the execution of the function are displayed in these cases. A few test cases we implemented are as follows:

| | |
|----------------------------|---|
| Case name | Check-In |
| Test Procedure | The user selects the location to check in by tapping on the list item |
| Feature pass/fail criteria | The test passes if the user gets a toast saying he has successfully checked in and the test fails if he doesn't receive a toast |
| Event | GPS sensor tries to get current location from the Satellite |
| Means of control | The check-in takes place only after the user has logged in and is hence user specific. |
| Data | Location coordinates. |
| Result | Success |

| | |
|----------------------------|---|
| Case name | Check Artifacts |
| Test Procedure | The user selects to check artifacts at the place he just checked-in by tapping on the 'Check Artifacts' button. |
| Feature pass/fail criteria | The test passes if the user gets a list of artifacts available at the place he/she checked in as well as the list of artifacts he/she owns. And the test fails if user is not displayed with either of the list |
| Event | The user clicks on the Check Artifacts button |
| Means of control | The check for artifacts takes place only after the user has checked-in to a location and is hence user and location specific. |
| Data | Location Artifacts, User Artifacts |
| Result | Success |

White-box Testing:

The white box test cases are created to verify the outputs given by the code during execution. The actual values of particular variables in a normal case is considered here by comparing the expected variable values with the normal values. Following are a few samples of the test cases we implemented

| | | | | |
|-----------|--|---------------------|----------------|--------------|
| Case name | ForageCompletion | | | |
| Location | /Crimson/src/com/example/crimson/Forage.java | | | |
| Method | Multiple methods | | | |
| Event | When location resources are exhausted | | | |
| Variables | | | | |
| | Test no. | Name | Expected Value | Actual Value |
| | 1 | isforagingcompleted | true | true |
| | 2 | isforagingcompleted | false | false |
| Result | Test fails occasionally due to lack of connection with back-end server | | | |

| | | | | |
|-----------|--|------------------|----------------|--------------|
| Case name | Display artifacts owned by user | | | |
| Location | /Crimson/src/com/example/crimson/CheckArtifacts.java | | | |
| Method | loadUserArtifacts() | | | |
| Event | Program tries to fetch list of artifacts (by artifactID) owned by current user | | | |
| Variables | | | | |
| | Test No. | Name | Expected Value | Actual Value |
| | 1 | List<Integer> al | [2,4,5] | [2,4,5] |
| | 2 | List<Integer> al | [1,3,6,9] | [1,3,6,9] |
| Result | Success | | | |

Code Inspection:

Every module of the code was tested by the member who created it and inspected by the other three members. This was done to create an unbiased and impartial perspective on every test case and its result. Most of the comments by the inspectors related to ways in which the performance could have been increased and implementation of good coding practices.