PART V

**TEST PLAN**

****

**California State University Northridge**

**Computer Science Department**

**Scorch3d Earth**

By: Matthew Hoggan

Hangul Lim

David Schaffer

Davit Stepanyan

Author: Matthew Hoggan

Creation Date: 4/11/2011

Last Revised: 5/11/2011

Version: 1772

Contents

[Section 1: Preface 3](#_Toc290371041)

[1.1 *Revision Notes*: 3](#_Toc290371042)

[1.2 *Purpose of Test Documentation*: 3](#_Toc290371043)

[Section 2: Introduction 3](#_Toc290371044)

[2.1 *Goals and Objectives*: 3](#_Toc290371045)

[2.2 *General Overview of Procedures*: 3](#_Toc290371046)

[Section 3: Workflow and Tasks 5](#_Toc290371047)

[3.1 *Divide Projects into Tasks*: 5](#_Toc290371048)

[3.2 *Assign Parts to Each Team Member*: 5](#_Toc290371049)

[3.3 *Team Members Draft Test Cases*: 6](#_Toc290371050)

[Section 4: Expected Outcomes 8](#_Toc290371051)

[4.1 *Desired Outcomes*: 8](#_Toc290371052)

[4.2 *Expected Outputs*: 8](#_Toc290371053)

[Section 5: Risk Analysis 9](#_Toc290371054)

[5.1 *Expected Risks*: 9](#_Toc290371055)

[Section 6: Test Cases 10](#_Toc290371056)

[6.1 *Test Case 1*:](#_Toc290371057) 1

[6.2 *Test Case 2*:](#_Toc290371057) 12

[6.3 *Test Case 3*:](#_Toc290371059) 13

[6.4 *Test Case 4*: 14](#_Toc290371060)

[6.5 *Test Case 5*: 15](#_Toc290371061)

[6.6 *Test Case 6*: 16](#_Toc290371062)

[6.7 *Test Case 7*: 17](#_Toc290371063)

[6.8 *Test Case 8*: 18](#_Toc290371064)

[6.9 *Test Case 9*: 19](#_Toc290371065)

[6.10 *Test Case 10*:](#_Toc290371065) 20

[6.10 *Test Case 11*:](#_Toc290371065) 21

[6.12 *Test Case 12*:](#_Toc290371065) 22

# Section 1: Preface

1.1 *Revision Notes*:

This is the first revision of this document.

1.2 *Purpose of Test Documentation*:

The purpose of this document is to establish a test plan for the artifacts which have been developed to-date, as well as future development which will take place over the next four weeks. Our group has already done some level of testing on our source code. We have run memory leak tests on our software, and have fixed the corresponding problems. This document will not address those tests. This document will discuss the tests to be performed on 4/12/2011, as well as during the week of 5/2/2011 to 5/6/2011 by our beta testers.

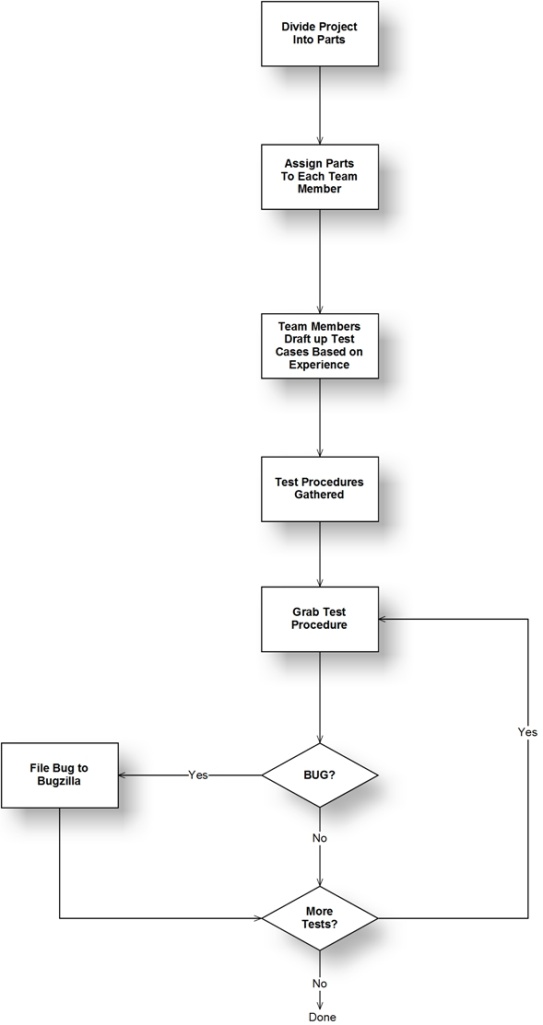
Section 2: Introduction

2.1 *Goals and Objectives*:

There are two main objectives in our test plan. Our first objective is to achieve the minimum number of bugs that is present to ensure that the game does not crash during game play or result in any form of anomaly that makes game play annoying for users. The second objective of our testing will be to make sure that the controls and flow of the game coincide with our user’s wants and needs.

2.2 *General Overview of Procedures*:

The general workflow for our testing will consist of the following procedures, as seen in the flow chart below. It should be noted that 100% of our test cases will be black box tests on the system. The reason for this is lack of funds to buy an adequate static analyzer, as well as, our agile/team approach to software development. The next segment of this document will address each stage in the workflow depicted on the next page.



Section 3: Workflow and Tasks

3.1 *Divide Projects into Tasks*:

Based on the design and architecture of our program (please see Part IV of this notebook) it was conducive for us to divide the program into parts and then assign each part to the member that had the most experience in programming that portion of the project. Said member would then draft up test cases for how that portion of the software should behave and interact with not only the portion of code he was assigned but also with any data passed to it from the other portions of the game.

3.2 *Assign Parts to Each Team Member*:

The following table depicts the portions of the code base assigned to each team member.

|  |  |
| --- | --- |
| Portion | Member |
| Main Menu and Ready Menu | Matthew Hoggan |
| Shop Menu | Hangul Lim |
| Game State | David Schaffer |
| Saving settings and final documents | Davit Stepanyan |

## 

## 3.3 *Team Members Draft Test Cases*:

These test cases will be discussed later in the document. However, each member was requested to fill out a form that had the following appearance per test case. Additionally, each member was asked to

|  |
| --- |
| * *PROJECT*   *"Scorch3d Earth"* |
| * *DATE*   *04.26.2011* |
|  |
| * *TEST CASE* |
| * *REVISION NUMBER*   *1760* |
| * *TYPE OF SOFTWARE TESTING*   *Functional* |
| * *TESTER*   *Davit Stepanyan(CSUN Comp 491/Spring 2011)* |

|  |
| --- |
| * *TEST STEPS*  1. *…* 2. *…* 3. *…*  * *EXPECTED RESULT*   *…*   * *ACTUAL RESULT*   *…*     * *COMMENTS*   *…*   * *PASSED/FAIL* |

3.2

Once all test cases have been generated, each team member will precisely explain his own test cases to the rest of the team members. By doing so, each test case will be evaluated by other team members which will increase the productivity of our testing. If any bug is recognized during our testing procedures these will be noted in the form above and then documented in our bug tracking software, “Bugzilla”. This bug tracker can be found on the web at.

<http://99.116.251.16/bugzilla/enter_bug.cgi>

Section 4: Expected Outcomes

4.1 *Desired Outcomes*:

After conducting our tests we hope to find no additional bugs, outside of our presently known bugs. The reason for this expected outcome is based on our early efforts to work as a team through the early development cycles of our product. Unfortunately, as we broke up to tackle more tasks, a few known bugs have crept into our program and we are currently working around them. These bugs have already been documented, and at the moment only pose a minor threat to the completion of the project.

4.2 *Expected Outputs*:

The expected outputs, in the case of a bug are to identify the portion of the project that produces the bug (down to the exact module). After identifying the module, this bug will be documented in our bug tracking system, and handled accordingly.

Section 5: Risk Analysis

5.1 *Expected Risks*:

The risks in this type of testing are: 1) bias; and 2) the depth of the testing. The bias factor results from each of our connection to the code. In other words, if a tester is the one who wrote the code, he will be tend not to see the potential error in the code. The depth of testing will be limited due to time constraints. Therefore, we don’t feel the quality or quantity of testing will be sufficient to guarantee our expected outcomes.

5.2 *Risk Mitigation*:

In order to mitigate our risk we have requested that several of our friends, outside of the project, who also are avid video game players, test and validate our game. These tests will not only be based on specification but also on personal likes and dislikes. These “bugs”, if you would like to call them that, will be reported to “Bugzilla” and a developer will be assigned to the bug.

Section 6: Test Cases

Format

|  |
| --- |
| * *PROJECT*   *"Scorch3d Earth"* |
| * *DATE*   *04.26.2011* |
|  |
| * *TEST CASE* |
| * *REVISION NUMBER*   *1760* |
| * *TYPE OF SOFTWARE TESTING*   *Functional* |
| * *TESTER*   *Davit Stepanyan(CSUN Comp 491/Spring 2011)* |

|  |
| --- |
| * *TEST STEPS*  1. *…* 2. *…* 3. *…*  * *EXPECTED RESULT*   *…*   * *ACTUAL RESULT*   *…*     * *COMMENTS*   *…*   * *PASSED/FAIL* |

6.1

|  |
| --- |
| * *PROJECT*   *"Scorch3d Earth"* |
| * *DATE*   *04.26.2011* |
|  |
| * *TEST CASE*   *1* |
| * *REVISION NUMBER*   *1760* |
| * *TYPE OF SOFTWARE TESTING*   *Functional* |
| * *TESTER*   *Davit Stepanyan(CSUN Comp 491/Spring 2011)* |

|  |
| --- |
| * *TEST STEPS*  1. *Launch ScorchedEarth.exe executable* 2. *Press "Start" button* 3. *Press "Human" button* 4. *Press "Next" button (until it becomes "Done")* 5. *Press "Done" button* 6. *Click on each item*  * *EXPECTED RESULT*   *It should display information about particular item.*   * *ACTUAL RESULT*   *It displayed information about particular item.*   * *COMMENTS*   *No bug is found.*   * *PASSED* |

6.2

|  |
| --- |
| * *PROJECT*   *"Scorch3d Earth"* |
| * *DATE*   *04.26.2011* |
|  |
| * *TEST CASE*   *2* |
| * *REVISION NUMBER*   *1760* |
| * *TYPE OF SOFTWARE TESTING*   *Functional* |
| * *TESTER*   *Davit Stepanyan(CSUN Comp 491/Spring 2011)* |

|  |
| --- |
| * *TEST STEPS*  1. *Launch ScorchedEarth.exe executable* 2. *Press "Start" button* 3. *Press "Human" button* 4. *Press "Next" button (until it becomes "Done")* 5. *Press "Done" button* 6. *Click on each item* 7. *Press "Buy" button*  * *EXPECTED RESULT*   *It should display pressed item in the table on right.*   * *ACTUAL RESULT*   *It displayed pressed item in the table on right.*   * *COMMENTS*   *No bug is found.*   * *PASSED* |

6.3

|  |
| --- |
| * *PROJECT*   *"Scorch3d Earth"* |
| * *DATE*   *04.26.2011* |
|  |
| * *TEST CASE*   *3* |
| * *REVISION NUMBER*   *1760* |
| * *TYPE OF SOFTWARE TESTING*   *Functional* |
| * *TESTER*   *Davit Stepanyan(CSUN Comp 491/Spring 2011)* |

|  |
| --- |
| * *TEST STEPS*  1. *Launch ScorchedEarth.exe executable* 2. *Press "Start" button* 3. *Press "Human" button* 4. *Press "Next" button (until it becomes "Done")* 5. *Press "Done" button* 6. *Click on each item* 7. *Press "Buy" button* 8. *Now click on each item on right* 9. *Press "Sell" button*  * *EXPECTED RESULT*   *It should remove selected item from a table on right.*   * *ACTUAL RESULT*   *It removed selected item from a table on right.*   * *COMMENTS*   *No bug is found.*   * *PASSED* |

6.4

|  |
| --- |
| * *PROJECT*   *"Scorch3d Earth"* |
| * *DATE*   *04.26.2011* |
|  |
| * *TEST CASE*   *4* |
| * *REVISION NUMBER*   *1760* |
| * *TYPE OF SOFTWARE TESTING*   *Functional* |
| * *TESTER*   *Davit Stepanyan(CSUN Comp 491/Spring 2011)* |

|  |
| --- |
| * *TEST STEPS*  1. *Launch ScorchedEarth.exe executable* 2. *Press "Start" button* 3. *Press "Human" button* 4. *Press "Next" button (until it becomes "Done")* 5. *Press "Done" button* 6. *Click on at least two items* 7. *Press "Buy" button* 8. *(steps from 1 to 7 must be repeated for each player)* 9. *Press "Finish Shopping" button* 10. *Press "I" key in the middle of game* 11. *Change the weapon* 12. *Fire*  * *EXPECTED RESULT*   *It should use the item that was switched.*   * *ACTUAL RESULT*   *It used the item that was switched.*     * *COMMENTS*   *No bug is found.*   * *PASSED* |

6.5

|  |
| --- |
| * *PROJECT*   *"Scorch3d Earth"* |
| * *DATE*   *04.26.2011* |
|  |
| * *TEST CASE*   *5* |
| * *REVISION NUMBER*   *1760* |
| * *TYPE OF SOFTWARE TESTING*   *Functional* |
| * *TESTER*   *Davit Stepanyan(CSUN Comp 491/Spring 2011)* |

|  |
| --- |
| * *TEST STEPS*  1. *Launch ScorchedEarth.exe executable* 2. *Press "Start" button* 3. *Press "Human" button* 4. *Press "Next" button (until it becomes "Done")* 5. *Press "Done" button* 6. *Press "Finish Shopping" button* 7. *(steps from 1 to 6 must be repeated for each player)* 8. *Press 'a', 's', 'd', and 'w' keys in the middle of game* 9. *Hold down any 2* 10. *Release one key*  * *EXPECTED RESULT*   *Camera should move at accelerated speed.*   * *ACTUAL RESULT*   *It moved but not at accelerated speed.*     * *COMMENTS*   *Acceleration of the camera must be fixed such that it accelerates in the scenarios such as the one above.*   * *PASSED* |

6.6

|  |
| --- |
| * *PROJECT*   *"Scorch3d Earth"* |
| * *DATE*   *04.26.2011* |
|  |
| * *TEST CASE*   *6* |
| * *REVISION NUMBER*   *1760* |
| * *TYPE OF SOFTWARE TESTING*   *Functional* |
| * *TESTER*   *Davit Stepanyan(CSUN Comp 491/Spring 2011)* |

|  |
| --- |
| * *TEST STEPS*  1. *Launch ScorchedEarth.exe executable* 2. *Press "Start" button* 3. *Press "Human" button* 4. *Press "Next" button (until it becomes "Done")* 5. *Press "Done" button* 6. *Press "Finish Shopping" button* 7. *(steps from 1 to 6 must be repeated for each player)* 8. *Fire a projectile at critical points such as near the borders.*  * *EXPECTED RESULT*   *It should fire properly at any point.*   * *ACTUAL RESULT*   *It fires but on edges sometimes program crashes.*     * *COMMENTS*   *On edges program does not function normally.*   * *PASSED* |

6.7

|  |
| --- |
| * *PROJECT*   *"Scorch3d Earth"* |
| * *DATE*   *04.26.2011* |
|  |
| * *TEST CASE*   *7* |
| * *REVISION NUMBER*   *1760* |
| * *TYPE OF SOFTWARE TESTING*   *Functional* |
| * *TESTER*   *Davit Stepanyan(CSUN Comp 491/Spring 2011)* |

|  |
| --- |
| * *TEST STEPS*  1. *Launch ScorchedEarth.exe executable* 2. *Press any button such as "Start" but do not release* 3. *Move to another button* 4. *Release over there*  * *EXPECTED RESULT*   *No button should be selected.*   * *ACTUAL RESULT*   *No button was selected.*     * *COMMENTS*   *No bug is found*   * *PASSED* |

6.8

|  |
| --- |
| * *PROJECT*   *"Scorch3d Earth"* |
| * *DATE*   *04.26.2011* |
|  |
| * *TEST CASE*   *8* |
| * *REVISION NUMBER*   *1760* |
| * *TYPE OF SOFTWARE TESTING*   *Functional* |
| * *TESTER*   *Davit Stepanyan(CSUN Comp 491/Spring 2011)* |

|  |
| --- |
| * *TEST STEPS*  1. *Launch ScorchedEarth.exe executable* 2. *Press up/down button in "# of players" or "# of rounds" and do not release for 5 seconds*  * *EXPECTED RESULT*   *Number of players or rounds, depends which button was chosen, should be increased/decreased by one.*   * *ACTUAL RESULT*   *Number of players or rounds, depends which button was chosen, was increased/decreased by one.*     * *COMMENTS*   *No bug is found*   * *PASSED* |

6.9

|  |
| --- |
| * *PROJECT*   *"Scorch3d Earth"* |
| * *DATE*   *04.26.2011* |
|  |
| * *TEST CASE*   *9* |
| * *REVISION NUMBER*   *1760* |
| * *TYPE OF SOFTWARE TESTING*   *Functional* |
| * *TESTER*   *Davit Stepanyan(CSUN Comp 491/Spring 2011)* |

|  |
| --- |
| * *TEST STEPS*  1. *Launch the ScorchedEarth.exe executable* 2. *Press "Start" button* 3. *Press "Human" button* 4. *Click inside the text field* 5. *Type "Hello"* 6. *Press space bar* 7. *Type "Word"*      * *EXPECTED RESULT*   *"Hello World" should be written I a text field.*   * *ACTUAL RESULT*   *It shows "HelloWorld"*   * *COMMENTS*   *Use of space bar must be fixed*   * *PASSED* |

6.10

|  |
| --- |
| * *PROJECT*   *"Scorch3d Earth"* |
| * *DATE*   *04.26.2011* |
|  |
| * *TEST CASE*   *10* |
| * *REVISION NUMBER*   *1760* |
| * *TYPE OF SOFTWARE TESTING*   *Functional* |
| * *TESTER*   *Davit Stepanyan(CSUN Comp 491/Spring 2011)* |

|  |
| --- |
| * *TEST STEPS*  1. *Launch the ScorchedEarth.exe executable* 2. *Change number of players to 5* 3. *Change number of rounds to 3* 4. *Press "Landscape" button* 5. *Change "Smoothness" to 2* 6. *Change "Hill Height" to 4* 7. *Change "Terrain Selection" to "Lava"* 8. *Press "Save Settings" button*      * *EXPECTED RESULT*   *It should create a SavingOption.doc which will contain all the information including number of players, number of rounds, "Hill Height", Terrain Selection", and Smoothness".*   * *ACTUAL RESULT*   *It created a SavingOption.doc which will contain all the information including number of players, number of rounds, "Hill Height", Terrain Selection", and Smoothness".*   * *COMMENTS*   *No bug is found.*   * *PASSED* |

6.11

|  |
| --- |
| * *PROJECT*   *"Scorch3d Earth"* |
| * *DATE*   *04.26.2011* |
|  |
| * *TEST CASE*   *11* |
| * *REVISION NUMBER*   *1760* |
| * *TYPE OF SOFTWARE TESTING*   *Functional* |
| * *TESTER*   *Davit Stepanyan(CSUN Comp 491/Spring 2011)* |

|  |
| --- |
| * *TEST STEPS*  1. *Launch the ScorchedEarth.exe executable* 2. *Press "Retrieve Previous Game" button*  * *EXPECTED RESULT*   *It should change number of players to 5, number of rounds, to 3, and under Landscape it should change "Smoothness" to 2, "Hill Height" to 4, and "Terrain Selection" to "Lava".*   * *ACTUAL RESULT*   *It changed "Smoothness" to 2, "Hill Height" to 4, and "Terrain Selection" to "Lava". However, it didn’t change number of players and number of rounds.*   * *COMMENTS*   *Changing the number of players and number of rounds must be fixed.*   * *PASSED* |

6.12

|  |
| --- |
| * *PROJECT*   *"Scorch3d Earth"* |
| * *DATE*   *04.26.2011* |
|  |
| * *TEST CASE*   *12* |
| * *REVISION NUMBER*   *1760* |
| * *TYPE OF SOFTWARE TESTING*   *Functional* |
| * *TESTER*   *Davit Stepanyan(CSUN Comp 491/Spring 2011)* |

|  |
| --- |
| * *TEST STEPS*  1. *Launch the ScorchedEarth.exe executable* 2. *Press "Start" button* 3. *Press "Human" button* 4. *Click inside the text field* 5. *Type "Hello"* 6. *Press space bar* 7. *Type "Word"*      * *EXPECTED RESULT*   *"Hello World" should be written I a text field.*   * *ACTUAL RESULT*   *It shows "HelloWorld"*   * *COMMENTS*   *Use of space bar must be fixed*   * *PASSED* |