CMSC 447

Software Test Report (STR)

Name	Role	Signature
Mohamed Alkindi	Point of Contact, Documentation Writer	
Eoin Fitzpatrick	Software Developer, Documentation Writer, Program Tester	
Alex Flaherty	Lead Software Developer, Documentation Writer, Program Tester	
Evan Hart	Documentation Writer	
Gabriel Kilungya	Documentation Writer, Program Tester	
Hannah Russell	Documentation Writer, Program Tester	

1 Scope

1.1 Identification

Team Rocket's Game of Life, Team 3

Version 1, first release

Identifications:

Virus: Infectious system designed for gameplay interactions

Neighbor: The closest squares around the current square

Seed: Number used to generate pseudorandom board layouts

.exe: Windows OS executable program

GUI: Graphical user interface

Left click: User mouse left-click button

Right click: User mouse right-click button

1.2 System overview

The purpose of this software is to provide the user with an enhanced experience with Conway's Game of Life. This extension of the game adds features such as generating viruses, alongside living cells and seeing how each living cell and virus thrive or die together in each generation. In addition, users can randomly generate board configurations, change the game speed, and load or save board configurations.

The game comes packed into a single .exe which can be run on windows environments. The user is able to run the application on Windows systems installed with .NET framework 4+.

Team Rocket's Game of Life is sponsored by Ms. Dorothy Kirlew. This project is intended to be used by the public, and is currently being developed by Team Rocket. The open source code is available on github at the link https://github.com/hrussell898/CMSC447.

1.3 Document overview

This document contains a summary of all the test results, whether they were successful or not on the current version of the Team Rocket's Game of Life.

There are no security or privacy considerations.

2 Referenced documents

SRS: Software Requirements Specification, STD: Software Test Description

3 Overview of test results

3.1 Overall assessment of the software tested

a. From the Test Results obtained from the **Section 5 – Requirements traceability**, in the STD document. Our rendition of Conway's Game of Life is successful and meets all the requirements given to us.

b. Identify any remaining deficiencies, limitations, or constraints that were detected by the testing performed. Problem/change reports may be used to provide deficiency information.
   1) Testing edge cases, like uploading the wrong file format should have yielded an error window message but when uploading another executable file, it resulted in the game force closing.
   2) Adjusting the speed of the game, to go faster than 1 second, proved difficult

c. For each remaining deficiency, limitation, or constraint, describe:
   1) Its impact on software and system performance, including identification of requirements not met.

   Issue 1: Caused the game to force close after attempting to load it
      1. Did not meet **Requirement 2.2.1.9** in **Section 2.2**, see the Software Requirements Specifications Document.

   Issue 2: Caused the game to run but the entire GUI would freeze and there would be no way to exit or stop the game unless by force closing the application.
      1. Did not meet **Requirement 2.2.1.7** in **Section 2.2**, see the Software Requirements Specifications Document.

   2) The impact on software and system design to correct it

   Issue 1: Modifying .exe file to the checks of invalid files loaded

   Issue 2: Add multi-threading for individual tasks

   3) A recommended solution/approach for correcting it

   Issue 1: Is to check for whether the file being loaded is an .exe and to output appropriate message.

   Issue 2: To implement multi-threading, where one thread handles the GUI, another thread responding to events, in this case, mouse clicks, and another thread handling the speed adjustment of the game.

3.2 Impact of test environment

Testing environment and operational environment are the same.

3.3 Recommended improvements

Incorporate multi-threading to optimize the operation of the game, so that when increasing the speed of the game to under a second, the game will not freeze and cause other functionalities to stop working.

4 Detailed test results

This section shall be divided into the following paragraphs to describe the detailed results for each test. Note: The word "test" means a related collection of test cases.

4.1 Project-unique identifier of a test

Referencing **Section 4 - Test Descriptions**, from Software Test Description, these are the Test cases we ran:

- Section 4.1 - Ready State Inspection Test
- Section 4.2 - Populate the Board
- Section 4.3 - Running State Inspection Test
- Section 4.4 - Loading and Saving Inspection Test
- Section 4.5 - Seeding/Randomization Inspection Test
- Section 4.6 - Board Sizing Inspection Test

4.1.1 Summary of test results

Test Case ID	Test Type	Completion status
4.1	Ready State Inspect (Launch Game)	All Results as expected
4.2	Populate the Board (Left Click in Live Cells & Right Click in Viruses)	All Results as expected
4.3	Running State (Step through and Run the Game)	All Results as expected
4.4	Load a saved file & save current state of Game	All Results as expected
4.5	Auto populate the Game with Seed and Random generation	All Results as expected
4.6	Check for Valid and Invalid Inputs	All Results as expected

4.1.2 Problems encountered

No problems were encountered when running these test cases. All test results came out as expected

5 Test Log

This section shall present, possibly in a figure or appendix, a chronological record of the test events covered by this report. This test log shall include:

Date	Test Case ID	Location	Tester(s)
04/28/19 05/01/19 05/01/19	4.1	Remote (Personal PC)	Gabriel Kilungya Hannah Russell Eoin Fitzpatrick
04/28/19 05/01/19 05/01/19	4.2	Remote (Personal PC)	Gabriel Kilungya Hannah Russell Eoin Fitzpatrick
05/02/19 05/02/19 05/02/19	4.3	Remote (Personal PC)	Gabriel Kilungya Hannah Russell Eoin Fitzpatrick
05/08/19 05/08/19 05/08/19	4.4	Remote (Personal PC)	Gabriel Kilungya Hannah Russell Eoin Fitzpatrick
05/08/19 05/08/19 05/08/19	4.5	Remote (Personal PC)	Gabriel Kilungya Hannah Russell Eoin Fitzpatrick
05/05/19 05/07/19 05/08/19	4.6	Remote (Personal PC)	Gabriel Kilungya Hannah Russell Eoin Fitzpatrick