CMSC 447

Software Requirements Specification (SRS)

Name	Role	Signature

3.1

3.1

1 Scope

1.1 Identification

Team Rocket's Game of Life, Team 3

Version 0.0.1, Release N/a

Identifications:

Virus: infectious system designed for gameplay interactions

Neighbor: the closest squares around the current square

Abbreviations:

N/a

1.2 System overview

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. Currently, Team Rocket has no support agencies.

- ALpha Version 0.0.1 of Team Rocket's Game of Life has just begun development.
- To be continued.

1.3 Document overview

Open source project. This document provides development details, workflow pathways, and various design methodologies for Team Rocket's Game of Life.

2 Referenced documents

TODO:

3 Requirements

3.1 Required states and modes

If the CSCI is required to operate in more than one state or mode having requirements distinct from other states or modes, this paragraph shall identify and define each state and mode. Examples of states and modes include: idle, ready, active, post- use analysis, training, degraded, emergency, backup, wartime, peacetime. The distinction between states and modes is arbitrary. A CSCI may be described in terms of states only, modes only, states within modes, modes within states, or any other scheme that is useful. If no states or modes are required, this paragraph shall so state, without the need to create artificial distinctions. If states and/or modes are required, each requirement or group of requirements in this specification shall be correlated to the states and modes. The correlation may be indicated by a table or other method in this paragraph, in an appendix referenced from this paragraph, or by annotation of the requirements in the paragraphs where they appear.

-

3.2 CSCI capability requirements

3.2.1 (CSCI capability)

-The program shall have a step option that allows the user to control when they want to proceed to the next step.

-The program shall have a continuous play option.

-The user shall be able to adjust the speed of the continuous play feature.

3.3 CSCI internal interface requirements

All internal interface requirements are left up to the design.

3.4 CSCI internal data requirements

All decisions about internal data are left up to the design.

3.5 CSCI environment requirements

- A computer with Windows operating system.
- The resolution should scale with the size of the game board.
- A pointing device such as a mouse, touch screen, keyboard.

3.6 Computer resource requirements

This paragraph shall be divided into the following subparagraphs.

3.6.1 Computer hardware requirements

- An input interface from a pointing device.
- Secondary storage in order to save current stage.

3.6.2 Computer hardware resource utilization requirements

- the operating system’s requirements are sufficient to accommodate the project’s resource needs in a multitasking environment.

3.6.3 Computer software requirements

- Given a recent window distribution's ability to accommodate the python executable, the distribution must provide the project's required facilities.

3.7 Software quality factors

The CSCI shall perform all required functions detailed in this document.

3.8 Design and implementation constraints

The CSCI shall be compiled into a Windows runnable executable file.

3.9 Other requirements

This paragraph shall specify additional CSCI requirements, if any, not covered in the previous paragraphs.

3.10 Packaging requirements

Not Applicable for this Project. This section will be removed after reviewing this entire document.

3.11 Precedence and criticality of requirements

This paragraph shall specify, if applicable, the order of precedence, criticality, or assigned weights indicating the relative importance of the requirements in this specification. Examples include identifying those requirements deemed critical to safety, to security, or to privacy for purposes of singling them out for special treatment. If all requirements have equal weight, this paragraph shall so state.

All requirements for Team Rocket's Game of Life have equal weight

4 Qualification provisions

This section shall define a set of qualification methods and shall specify for each requirement in Section 3 the method(s) to be used to ensure that the requirement has been met. A table may be used to present this information, or each requirement in Section 3 may be annotated with the method(s) to be used. Qualification methods may include:

a. Demonstration: The operation of the CSCI, or a part of the CSCI, that relies on observable functional operation not requiring the use of instrumentation, special test equipment, or subsequent analysis.

   Through our auto-generation mechanism, we will observe the concept of Conway's Game of Life in action

b. Test: The operation of the CSCI, or a part of the CSCI, using instrumentation or other special test equipment to collect data for later analysis.

   Instead of auto-generating the board, the user will select a cell and see how it interacts with its eight neighbors, with a step function which will start a new generation of cells. We will see if the step process works the same as automating the game.

c. Analysis: The processing of accumulated data obtained from other qualification methods. Examples are reduction, interpretation, or extrapolation of test results.

   We will analyze the data as the cells, live, die and multiply. As well as the cells interaction with viruses that have the option to run simultaneously.

d. Inspection: The visual examination of CSCI code, documentation, etc.

   Details will be provided when we start implementing the code.

e. Special qualification methods: Any special qualification methods for the CSCI, such as special tools, techniques, procedures, facilities, and acceptance limits.

   TBD

5 Requirements traceability

This paragraph shall contain:

a. Traceability from each CSCI requirement in this specification to the system (or subsystem, if applicable) requirements it addresses. (Alternatively, this traceability may be provided by annotating each requirement in Section 3.)
   Note: Each level of system refinement may result in requirements not directly traceable to higher-level requirements. For example, a system architectural design that creates multiple CSCIs may result in requirements about how the CSCIs will interface, even though these interfaces are not covered in system requirements. Such requirements may be traced to a general requirement such as "system implementation" or to the system design decisions that resulted in their generation.

   The game will have an option to play in two ways, continuous or step-by-step. In the continuous option, the user will have the ability to adjust speed of propagation (generation or degeneration) of cells. The interface will be left to the internal design of the system and details provided at a later point. The game will run on Windows OS, Scalable and have Mouse & keyboard peripherals to operate it. Will feature a save mode to save the current state to continue game at a later time. Python programming language is our preferred choice of language with it's powerful GUI options, such as Tkinter.

b. Traceability from each system (or subsystem, if applicable) requirement allocated to this CSCI to the CSCI requirements that address it. All system (subsystem) requirements allocated to this CSCI shall be accounted for. Those that trace to CSCI requirements contained in Interface Requirements Specifications (IRSs) shall reference those IRSs.

   Details will be provided when the design is under way.

6 Notes

This section shall contain any general information that aids in understanding this document (e.g., background information, glossary, rationale). This section shall include an alphabetical listing of all acronyms, abbreviations, and their meanings as used in this document and a list of any terms and definitions needed to understand this document.

This current document, is just an outline on what the design of our project will be. This section is subject to change as we move forward.

A. Appendixes

Appendixes may be used to provide information published separately for convenience in document maintenance (e.g., charts, classified data). As applicable, each appendix shall be referenced in the main body of the document where the data would normally have been provided. Appendixes may be bound as separate documents for ease in handling. Appendixes shall be lettered alphabetically (A, B, etc.).

As of now, TBD, if an appendix is needed for documents related to the SRS but separate.

DESCRIPTION/PURPOSE

The Software Design Description (SDD) describes the design of a Computer Software Configuration Item (CSCI). It describes the CSCI-wide design decisions, the CSCI architectural design, and the detailed design needed to implement the software. The SDD may be supplemented by Interface Design Descriptions (IDDs) and Database Design Descriptions (DBDDs).

APPLICATION/INTERRELATIONSHIP

Portions of this plan may be bound separately if this approach enhances their usability. Examples include plans for software configuration management and software quality assurance.

The Contract Data Requirements List (CDRL) should specify whether deliverable data are to be delivered on paper or electronic media; are to be in a given electronic form (such as ASCII, CALS, or compatible with a specified word processor or other support software); may be delivered in developer format rather than in the format specified herein; and may reside in a computer-aided software engineering (CASE) or other automated tool rather than in the form of a traditional document.

PREPARATION INSTRUCTIONS

General instructions.

a. Automated techniques. Use of automated techniques is encouraged. The term "document" in this means a collection of data regardless of its medium.

b. Alternate presentation styles. Diagrams, tables, matrices, and other presentation styles are acceptable substitutes for text when data required can be made more readable using these styles.

c. Title page or identifier. The document shall include a title page containing, as applicable: document number; volume number; version/revision indicator; security markings or other restrictions on the handling of the document; date; document title; name, abbreviation, and any other identifier for the system, subsystem, or item to which the document applies; contract number; CDRL item number; organization for which the document has been prepared; name and address of the preparing organization; and distribution statement. For data in a database or other alternative form, this information shall be included on external and internal labels or by equivalent identification methods.

d. Table of contents. The document shall contain a table of contents providing the number, title, and page number of each titled paragraph, figure, table, and appendix. For data in a database or other alternative form, this information shall consist of an internal or external table of contents containing pointers to, or instructions for accessing, each paragraph, figure, table, and appendix or their equivalents.

e. Page numbering/labeling. Each page shall contain a unique page number and display the document number, including version, volume, and date, as applicable. For data in a database or other alternative form, files, screens, or other entities shall be assigned names or numbers in such a way that desired data can be indexed and accessed.

f. Response to tailoring instructions. If a paragraph is tailored out of this document, the resulting document shall contain the corresponding paragraph number and title, followed by "This paragraph has been tailored out." For data in a database or other alternative form, this representation need occur only in the table of contents or equivalent.

g. Multiple paragraphs and subparagraphs. Any section, paragraph, or subparagraph in this DID may be written as multiple paragraphs or subparagraphs to enhance readability.

h. Standard data descriptions. If a data description required by this document has been published in a standard data element dictionary specified in the contract, reference to an entry in that dictionary is preferred over including the description itself.

i. Substitution of existing documents. Commercial or other existing documents, including other project plans, may be substituted for all or part of the document if they contain the required data.