CMSC 447
Software User Manual (SUM)

Name	Role	Signature

1 Scope

1.1 Identification

This document describes the testing of a web application that simulates a customizable Conway's Game of Life. This application will run on the current version of chrome, 73.0.3683.103 and the current version of Firefox ESR 67.0+.

1.2 System overview

The purpose of this system is to provide users a customizable version of Conway's game of life in the form of a web application. Additionally, the system shall provide the user with a means of customizing the appearance, speed, and functionality of Conway's Game of Life. This system will be developed and tested over a three-month period by a group of six. The operation of the system shall be accessible for the software sponsor, acquirer and user, Geoff Weiss, and Russell Cain. The development team does not have access to a support agency. This system is operable on any computer installed with the current releases of Chrome and Firefox ESR (defined in paragraph 1.1) and will be developed on the UMBC campus.

1.3 Document overview

This document describes the nature and requirements of a web-based, customizable Conway's Game of Life application. This application will not record or store any personal information about the user; it will store information about the user's sessions with the application. The system will not have any protection or privacy regarding the user's game information.

2 Software summary

2.1 Software organization and overview of operation

Component	Purpose	Inputs	Outputs	Limit	Error Rate
Grid	Displays game state	Preset/Draw	Grid Displayed	300x300	0
Cells	Display cell state	NA	Live, uninhabited, previously inhabited (dead)	NA	0
Skips Box	Display the number skips for a given iteration	Number	NA	0-100 Frames skipped	0
Play Button	Starts the game when clicked	Pause/Play	Pause/Play	NA	0
Speed Slider	Changes the speed of the game when adjusted	Slider	Game Speed	1FPS - 60FPS (0-100%)	0
Rule Dropdown Menu	Allows the user to modify the rules for each neighbor	Nothing, Kill, Grow	NA	NA	0
Color Selectors	Allows the user to change the color of the cells and grid	Color selected (Hex code)	Color of live and dead cells. Color of grid	0x000000 - 0xFFFFFF	0
Grid Wrapping Box	Allows the user to toggle the grid wrapping boxing	On/Off	None	NA	0
Submit Button	Allows the user to submit changes	NA	NA	NA	0

Shape Selector	Allows the user to change the cell shape	Circle/Square/Triangle	Shape of live cells on grid	Circle/Square/Triangle	0
Grid Size Boxes	Allows user to adjust the size of the grid	X [Integer], Y [Integer]	Grid size, total cell counter	300 for each box	0
Speed Display	Allows the user to adjust the speed of the game	Position of Slider	Speed of visual updates	1-60fps	0
Live Cell Count	Displays the number of live cells	Board State	Number	Live cell <= total Cells	0

3 Access to the software

3.1 First-time user of the software

3.1.1 Installation and setup

The user must have the current version of Firefox ESR and/or Google Chrome installed to access the web application from the browser.

3.2 Initiating a session

STEP 1: Launch the browser using Google Chrome or Firefox ESR.
STEP 2: Go to: https://git-gud-cmsc-447.github.io/conways-game-of-life/
STEP 3: Choose the starting display settings and rules.
STEP 4: Choose a starting pattern.
STEP 5: Click play to begin the simulation.

4 Processing reference guide

4.1 Controls

Command	Action
mouseDown	Draw live cells
ctrlKey + mouseDown	Erase live cells
altKey + mouseDown	Place an always alive cell
shiftKey + mouseDown	Place an always dead cell

4.2 Recovery from errors, malfunctions, and emergencies

Refresh the browser to recover from errors.

4.3 Quick-reference guide

Ctrl-Click to erase where your cursor is with an optional hold.

5 Notes

5.1 Abbreviations

Firefox ESR - Firefox Extended Support Release

UML - Uniform Modeling Language

WASM - WebAssembly

JS - Javascript