**CONTRACT REVISION, CS 4500**

Latin Squares

Amal Presingu (Team Leader)

Omar Shabazz

Tan Nguyen

Caleb Kimberlin

Jude Ohene Boateng

(3/3/2022)

## SOFTWARE DETAILS

The game begins with an explanation of Euler Squares, also known as Latin Squares. These cards can be separated into imaginary suits. Instead of the typical card deck, we can create new designs for the cards. The objective is to arrange the suits and symbols into sequential order through 4 rows, 4 columns, and 2 diagonals. This is achieved by swapping the places of 2 cards. To swap the cards, the player will click both cards (this may be changed to enter the positions of the cards later in development). After pressing a key to exit the explanation, the player can choose between 3 levels: easy, medium, hard (this will also depend on time restrictions and progress). Each level will display a matching grid with the degree of difficulty. After successfully completing the game, a celebratory win screen will be displayed. This win screen will show a local leaderboard based on the attempts that it takes to complete the game. Sounds and menu options will be added as well.

8th graders will take a keen interest in the game. It is conceptually similar to Sudoku, in the form of a more challenging brain exercise. It will feel rewarding after completion, and classmates can also compete against each other on the leaderboard.

We plan on using Unity to develop the game. Through Unity, we will make use of scripts and asset features. The final deliverable will be an executable file from the Unity build. The user can run this file to open up the game.

Video Link: https://www.youtube.com/watch?v=qu04xLNrk94

## DELIVERABLES

Contract Revision - March 4

- Revising over software details
- Looking at deliverables and organizing information/requirements

High-Level Design - March 11

- Start off with a tasklist and slowly organize tasks into categories/workflow
- Create level 0 data flow diagram, and see if level 1 DFD is necessary for our game

Detailed Design - March 25

- Structure charts are optimal, as we're combining graphics and scripting
- These should be more detailed than our high-level designs

User's Manual - April 8

- Addresses what the project will deliver, along with how the middle school teacher can administer the game for students
- Configure a PDF file for simple viewing

Programmer's Guide - April 15

- Cover page
- Programmer requirements/what does the programmer need to make the game work?
- High-level design (data flow diagram)
- Extra detailed design (pseudocode, data structures, etc.)

- Installation instructions for player/instructor

Test Plan - April 22

- Cover page
- Introduction with main points/ideas
- Assess what needs to be tested and how it will be tested
- Signatures of members who work on test cases
- Add latest version of User Manual

Demo Video - May 3

- Between 7 and 10 minutes long
- Demonstrate the working game along with information about successes, obstacles, etc.

Final Programmer's Guide & Executable Program - May 11

- Add User Manual and Test Plan to Programmer's Guide
- Submit final version of Programmer's Guide along with executable file/link