CMPUT 355 Assignment 4 Report

Eric Weber, Furmaan Sekhon, Houston Le, Jacques Leong-Sit

November 12, 2020

1

1.1 Question 1

Group Name: Blokus Pokus

1.2 Question 2

Member 1: Eric Weber 1580133

Member 2: Furmaan Sekhon 1570848

Member 3: Houston Le 1572112

Member 4: Jacques Leong-Sit 1571843

1.3 Question 3

Our group did most of the work together through screenshare/stream services. Any work that was done individually is listed here:

Eric Weber: Created all button images. Created all piece text files.

Furmaan Sekhon: Created initial game board setup.

Houston Le: Co-created piece.py file.

Jacques Leong-Sit: Co-created piece.py file.

1.4 Question 4

The checkered board implementation that we used is from: https://stackoverflow.com/questions/56984542/ there-an-effiecient-way-of-making-a-function-to-drag-and-drop-multiple-pngs

The rest of the code is ours.

GitHub Repo URL: https://github.com/EricWeber33/355Assignment4

1.5 Question 5

Our game is called 2-player Blokus. This is a slightly modified form of the game from the following URL: https://en.wikipedia.org/wiki/Blokus#: :text=Blokus%20(%2F%CB%88bl%C9%92,by%20Se

The rules in our game follow the Blokus Duo format in the wikipedia page except for the following:

1. The first piece must be placed in the top corners for player 1 or the bottom corners for player 2. 2. The score counts up based on cells occupied instead of counting down. 3. There are no bonus points for placing the monomino after all other pieces. 4. There are no bonus points for placing all the pieces.

1.6 Question 6

We originally wanted to make a visualizer and a player for this game. We were able to create a visualizer, but not a player. The visualizer took significantly longer than expected to create. The most satisfying part was successfully implementing the following feature: Hovering mouse over board now leaves a dynamically drawn/erased imprint of the currently selected piece. Bounds change based on piece height/width. The most disappointing part was spending 5 hours fixing bugs that arose from this very feature. If we were to continue working on this project, we would like to build a player.

1.7 Question 7

1.7.1 Jacques' younger brother

The right justification of the ghost pieces was difficult to use once the board was more crowded. He also discovered a bug that we then fixed.

1.7.2 Jacques' dad

Scrolling through the catalogue of pieces was not that intuitive.

1.7.3 Eric's younger brother:

Struggled with the ghost piece showing up where he wanted it.

1.7.4 Eric's dad (graphic designer)

It would be nice if the ghost piece gave some indicator for valid moves. Struggled with the ghost piece showing up where he wanted it. There should be some indicator of what corners you can place pieces in. The next and previous buttons do not have obvious function. When you start, it is not clear that you don't have to place the first piece that is shown. Scrolling on the mouse wheel for next/previous pieces would be more intuitive. The blue and red are similar tone, making it hard for colorblind people. There should be some indicator of invalid move. It would be nice to have a play again button.

2

Eric has a special connection to this game. He played lots during his childhood. Personally it seemed interesting. Being that most of the work was done together in group Discord screenshares, it is difficult to divide the work for our report. Instead, here is a breakdown of our hours. All hours were spent together except for the few individual pieces of work listed in question 3.

2.1 Sept 21st: - 1 hour

We discussed various ideas about the project, explored various games, and chose a game.

2.2 Oct 19th - 2 hours

We formulated a plan for the hierarchy of our program. Then we implemented init and rotate methods of piece class, created text files representing pieces, and implemented game board creation. This is the week where our work was not all together.

2.3 Oct 26th - 3 hours

We implemented the flip method of piece class, buttons with text on the board, and a mouse click event checker. Then we fixed our implementation so that there is a previous piece button as well.

2.4 Nov 2nd - 3.5 hours

We implement pieces showing up in the gamepad. The gamepad is on the right side of the screen, and includes all of the buttons and the piece window. We then fixed 2.5 hours worth of errors related to this. After that, we implemented the next and previous piece buttons, and the rotate and flip buttons.

2.5 Nov 9th (total 14.75 hours)

2.5.1 4 hours

We implemented the following feature: Hovering the mouse over the board now leaves a dynamically drawn/erased imprint of the currently selected piece. Bounds change based on piece height/width. This was quite tricky and took some time.

2.5.2 5 hours

We dealt with significant row/column dimension inconsistency errors that resulted in dramatic program restructuring. This was a particularly frustrating portion of the project. We then implemented the ability to place a piece on the board (with all legality restrictions).

2.5.3 1.75 hours

We implemented changing turns between the 2 players and fixed display issues that came with this. We then implemented end of game conditions.

2.5.4 2 hours

We implemented the end game screen with several diagnostics. We then implemented in game diagnostics.

2.5.5 3 hours

We tested the program with several outside test subjects. We also wrote this report.

Total: 25.25 hours