Final Game Submission

Finalized Game Document, Github Code Submission, Demo Video

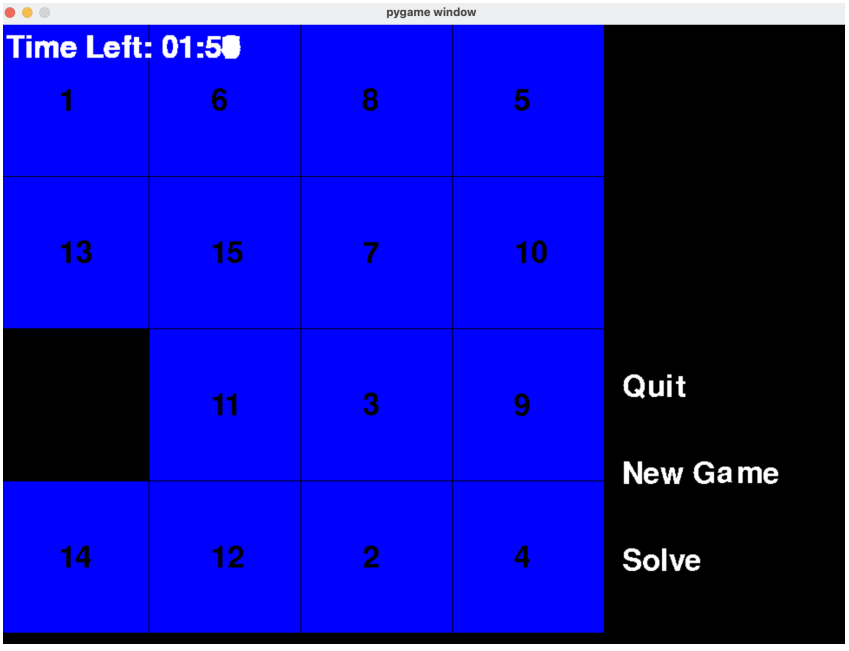
Due: Wednesday May 3 23:59:59 EST
Submission: Submit this document as a pdf on Canvas and include the link to your github**.** Also include this document as your main README on your project's github homepage.
Congratulations! You have made it to the final submission for your 2D Game Engine project! This final submission will include a finalized game document, the source code and resources for the game itself, and a 30+ second video demoing the game. The requirements are as follows:

https://github.com/bhelms23/cpsc4160_FinalProj

The Game Document

Part 1: Introduction

What is the name of your game?
The name of my game is SliderPY



Include instructions on how to download, run, and play the game.

What software versions are needed to run your game?

e.g. python, pygame, other libraries, etc.

Install Python, import the pygame library, run the code

List the game controls.

Use the mouse to select the different grid sizes on the menu screen, once the game has started use the arrow keys to solve the puzzle.

Part 2: Game Design

Describe your game and its design! Here are some questions you may answer (highly recommended questions are marked with an asterisk)

Mechanics/Technology

What is the gameplay loop of your game?*

All of the functions are within one slider.py file, the gameplay loop is at the end of the document and acts as the main function

What are the core mechanics of your game, and how do they contribute to the gameplay loop?*

The core mechanics are the home screen functionality and the timer function which is to control how fast you are to complete the puzzle. There is also a draw() function that updates the screen and is called within the gameplay loop.

What is your game's gimmick and how does it contribute to your game?*

The two gimmicks that I have that are used are the timer as well as the level selection criteria that allow the player to select the level of difficulty of the puzzle.

How does your game differ from other games in the same genre?*

There are many slide puzzle games in the genre but none that I found have a time frame in which you have to complete the puzzle before you lose. I also use the arrow keys to auto-move the pieces without you being able to select which piece you move. This makes the game much more challenging.

Story

With it being a puzzle game there is not a Story line it is more of a brain teaser.

Player Experience

What emotions do you want the player to experience while playing your game?

This game is very frustrating and challenging but if you are able to complete all three levels is a great feeling of accomplishment.

What kind of challenges will the player face, and how will they be overcome?*

The first level can be pretty easy if done correctly, but as you progress it becomes harder. A lot of times the player will end up getting stuck with one piece of the puzzle being in the wrong place. As they begin to play they will learn that there is certain patterns to avoid these roadblocks.

What kind of rewards will the player receive for progressing through the game?*

There aren't any reward systems set in place for the game other than the reward of self-gratification.

What kind of feedback will the player receive while playing the game?*

Maybe if you added some sort of points system that give you extra time when you have one in the correct space or have some way of saving the fastest time. Other than that they will only receive feedback when they win or lose.

What kind of audio and visual elements will enhance the player's experience?*

The user interface provides some cool colors but other than that is a little clunky. If you cleaned up that and maybe changed the color of the square when it is in the correct space, that could enhance the experience. As far as audio there is none, but you could add a sound for incorrect move or a sound when a piece moves. You could also add some functionality that allows them to change their sound theme and even the color theme as many games do.

Part 3: Game Design Changes

Tell the story of your game's design and how it has changed over time. You may copy and paste from your project proposal and milestone, but be sure to include updated details. Answer these questions:

- What was the original design and concept when you proposed the game?
- How and why did the design change over time?
- What was your original plan for the game mechanics? How and why have they changed?
- What was your original plan for the game gimmick? How and why has it changed?

The original design was to use an MVC design however I scrapped that early in the process when I ran into some slight issues so I decided since the game was fairly simple in terms of efficiency to scrap that and just use one file containing helper functions that act as the model and view. The original plan for mechanics was exactly as the final product with the two main gimmicks being a timer functionality and level selection in terms of how big the grid is. The only thing that I wasn't able to implement was a high score function that saved the fastest time completed. I think that would have been fairly simple to implement but I had some challenges implementing the timer feature and valued that higher than the completion bonuses.

Part 4: Game Development & Documentation

Outline your game's codebase. You may do this with a visual diagram or a descriptive list.

FUNCTIONS:

- goHome(): sends the player to the home screen and resets the game
- starting_board(): sets the starting grid
- make_zero(): sets the board back to zero (restarts)
- find_empty(): finds the empty spaces
- boundaries(): creates the grid boundaries
- function(move): creates the move functionality
- draw(): draws the grid and acts similar to the view
- the main game loop handles everything else

Answer these questions:

Are there any major bugs or flaws in your game we should be aware of? (Undocumented issues/bugs will result in a score deduction)
No there aren't any major issues, other than if you don't move a piece the timer will delay and overlay.
What tools did you use to facilitate collaboration or code versioning (e.g. git/github, VSCode Liveshare, etc.)

Github and VSCode

Part 5: Group Member Roles, Tasks, and Performance

Refer back to your previous timelines and division of labor from your Project Proposal and Milestones.

No team Members
https://clemson.ca1.qualtrics.com/jfe/form/SV_5nLjKrnMZuA3xS6

Source Code

Provide your final source code on github.
Include your Game Document in your github's README. Be sure to include instructions on your main github page on how to download, run, and play your game. Provide software versions (python, pygame, any additional libraries).

Demo Video

Create a 30+ second demo video of your game. Your video should include the main game loop, gameplay mechanics, and your game gimmick. Link to this video on your github repository and include a link in your Game Document Canvas submission.

Final Class Session

You will demo your game on the final day of classes to myself and your classmates. We'll have an open demo session for the duration of the final period (Thursday, 5/4 3:00-5:30 pm). If you have multiple teammates, have the game ready to run on each laptop. Don't forget to bring your laptop chargers.