Criterion A: Planning

Description of the scenario

My client, Mr. xx, has approached me with a game idea of his. He is fond of the tile sliding game, where the aim is to complete a picture or some other sequence by sliding a set of tiles in a grid, but wished that he would be able to use his own pictures, such as photos of his family or vacations. He was looking for a "laid back experience, something that is accessible to [him]". He added that once he "gets stuck", he would like to have an option to see hints, or have the computer finish solving the puzzle. However, he also emphasized that he is quite competitive, and would want a high score system and if possible, a way to compete against others.

Rationale for the solution

The received description of the program required defined the approach needed for this specific project. I chose the Godot game engine to implement the game in, due to my previous, although severly limited, experience with it. Its scripting language, GDscript, closely resembles Python and offers a rich object oriented approach to programming in a coherent package. Additionally, exporting the final product as an executable for most platforms (Windows, Mac, Linux, Android, iOS) is a streamlined process. Furthermore, the engine was known historically for its 2D graphics capabilities, something that would be required for the visual representation.

The final product would be restricted to the local device, due to the client not being able to operate a server for it and also due to security concerns. However, it will be made possible to utilize third-party cloud providers to synchronize certain aspects between devices if Mr. xx chooses to.

Success criteria

1. Controls are accessible on all possible devices.

2. Uploading custom images is straightforward.

3. Includes robust hint system and auto-solve algorithm.

4. Difficulty level can be set.

5. High score history and menu.

6. Includes some form of multiplayer

   Possible methods:

   (a) local (same device)

   (b) through third-party provider (not real time)

7. Customizable user interface (UI).