Final Project: Sudoku

Administrative

- Team Name: Duck Potatoe
- Team Members: Rohan Bisht, Jacob Delgado, Hanlin Zhang
- GitHub URL: https://github.com/stupidprsn/UF_COP3502_Sudoku
- Link to Video: https://youtu.be/6mGiI4M-2SY
- Canvas Submitter: Hanlin Zhang

Reflection

Distribution of Responsibility and Roles: Who did what?

Rohan was responsible for implementing the Cell and Board classes, which formed the core of the gameplay. Jacob focused on creating the Sudoku generator script, covering the underlying logic for the game. Additionally, Jacob played a major role in playtesting the project, identifying and debugging several logical errors, such as inverted arrow controls and a flawed win condition. Hanlin was responsible for managing the Sudoku script, as well as the graphical user interface (GUI) and overall design. This included creating helper classes like TextManager, Button, and the various scenes. Hanlin also played a crucial role in the initial debugging process when the team first integrated their individual scripts. This involved resolving issues such as inverted column and row variables, refactoring code for better readability and consistency, and addressing other integration errors.

As a group, how was the overall experience for the project?

Overall, the project went smoothly. The work was completed within a few hours over the course of several days, with minimal issues. Strong communication and collaboration helped ensure we encountered few work-related challenges. We held a team meeting at the start to distribute tasks, and communication remained clear and effective throughout the project. Whenever issues arose, such as scope creep, we discussed them as a team, adjusted due dates as needed, and supported each other to keep the project on track. We also were proactive and left ample time for the debugging process.

Did you have any challenges? If so, describe.

One of the most significant challenges we faced was the difficulty of debugging the code, as much of it had to be written without the ability to test everything in isolation. Since we were working with incomplete components, we could only debug effectively by pushing our drafts to GitHub and reviewing the code in its entirety.

Another challenge was scheduling. Since everyone had exams at different times and varied work styles, it was difficult to set deadlines that worked for everyone. As a result, we fell behind on some of our initial targets. However, we addressed this by being understanding of each other's exam schedules and helping each other with coding tasks.

Additionally, the initial distribution of work wasn't perfectly balanced, and some team members ended up with more tasks than others. To resolve this, we redistributed the workload as the project progressed, ensuring a fairer and more manageable division of labor.

If you were to start once again as a group, any changes you would make to the project and/or workflow?

If we were to start again, we would allocate more time to planning and detailing the methodology of the project. Later in the development process, we realized that some methods took much longer to implement than we had anticipated, delaying our project. We would also spend more time reviewing the lab document in detail and planning areas that were not explicitly covered, such as the design and implementation of the GUI. A more thorough initial plan would help ensure smoother progress and better time management throughout the project.

Comment on what each of the members learned throughout this process.

Rohan: I found the most valuable aspect of this project was learning how to collaborate effectively within a team and use GitHub to solve a larger problem. Throughout the project, I learned how to distribute tasks and break down the problem into manageable pieces, which helped us build both our individual skills and our ability to work as a team.

Jacob: My most valuable takeaway was learning how to fully utilize GitHub and manage a group project. I integrated PyCharm with GitHub for the first time, which gave me a better understanding of GitHub's terminology and workflow.

Hanlin: For me, this project was an opportunity to strengthen teambuilding and collaboration skills. While we communicated well, I realized that setting multiple soft deadlines—rather than relying on one hard final deadline—could have helped us manage the workload better. I also gained valuable experience with Pygame. The freedom with the UI allowed me to take a few creative liberties with regards to design, allowing me to strengthen my design skills.

Works Cited

Freepik. *Sudoku free icon*. Flaticon. https://www.flaticon.com/free-icon/sudoku_5732078?term=sudoku&page=1&position=8&origin=tag&related_id=5732078

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