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CS Senior Design II

Assignment 6

# Self Assessment

In the Fall semester, for my individual capstone assessment, I asserted that I would be working on the front-end of the Sudoku Solver program. This meant designing and developing a GUI with a list of functionalities that I wanted the GUI to have. Currently, I have satisfied all of my initial goals and have set out with more goals towards the implementation of my GUI design. I have implemented traversal with the option to use arrow keys and the left mouse click button; I have implemented user functionality to input, delete, and replace values within cells; I have added accessibility features such as a highlighted cell; and I have successfully integrated my GUI with my partner's board-solving implementation. I have now set out to add more accessibility features such as differentiating the colors of the user-inputted numbers and the solved board-outputted numbers.

At the start of this project, I had very little experience with designing and developing my own GUI. During my co-ops I had worked on enhancing existing code in frontend and backend implementations, but figuring out where to start with my own GUI was a new obstacle for me. I started with research and found that the simplest solution may be the best one. TkInter is the default GUI for Python and after researching its documentation, the details of implementation seemed very easy to me. Research alone was not enough to mend all of the issues with working on foreign technology, however, and I ran into a lot of issues in practice. With a lot of these issues, I relied on my own coding knowledge to debug my program and figure out all of the errors. There was another issue where I had architected my code incorrectly and found that I

needed to revamp a lot of my implementation in order to make future developments significantly easier. I resolved this issue by taking a step back and reevaluating my design at a higher level; by breaking my thoughts down from a higher level, I was able to quickly pivot and revamp my existing code to better fit my future plans with it.

Before the actual development of this program, my partner and I resolved to divide the work between us evenly. This resulted in us dividing the program into two parts; the frontend and the backend. By dividing up the work like this, we were both able to work efficiently and had equal responsibility for the program. Not only this, but we stressed communication so that we were constantly up-to-date with each other's progress and any changes that might affect future integration between the two implementations. These two factors greatly impacted our development efforts, and we were both able to produce a program that satisfied our aspirations for our project.

The only challenge we faced during our time working on this project was when we had to work remotely from mid-December to mid-January, which was caused by a change in location for my partner during the period of time from the end of the Fall semester to the start of the Spring semester. This issue was quickly resolved by our decision to have more frequent meetings during this time, which allowed us to continue being up-to-date with each other's development efforts. Our adaptability to this obstacle was essential to the success of our project, and I would say that we are both very happy with each other's work and the result of our efforts. I would assert that my teammate and I had equal weight in our contributions to this project; I am very happy with his work and with mine.