

### **Importance and Background:**

Being able to think creatively and analytically is a major part of being a software engineer, but also a useful skill in life. There are ways to help improve your thinking and one of them can be by playing chess. Chess offers a great lesson in improving problem solving skills, teaches you how to use tools in your resources to solve a problem, and allows for creativity for finding more than one way to solve a problem. All of this also applies to software engineering. This project will be based on building a chess game.

### **Programming Language, Tools, IDE, API, Modules/Libraries:**

The programming language I will be using to create this game is Python. I will be using PyCharm as my IDE (Integrated Development Environment). The chess game will use the GUI (Graphical User Interface) tool. As of now, no APIs will be needed for this game. However, as I begin the project, this could change. The libraries used will be pygame and python-chess library. The chess module in Python will be used in creating this game.

### **Timeline/Milestones:**

I estimate it will take about two months to complete. Within the first week, my goal is to gather and finalize the requirements. The second week will be the design phase. I plan to create the system design structure model during this week. By the third week, I plan to start working on coding the chess boards, chess pieces, and

users. By the fourth week, I plan to start designing the algorithm of how the chess game will work. By the fifth week, I plan to code the actual game with the algorithms involved. By the sixth week, I should be running tests again to make sure everything is running properly. At the seventh week mark, I hope to be finalizing my code and cleaning up any possible errors in preparation for it to be complete. By the eighth week, I plan on submitting my completed project.