Jeffrey Wedding

Computer Science (B.S)

<u>Project Advisor</u>: Dr. Sean Hayes

<u>Expected Graduation Date</u>: December 2024

<u>Problem Statement</u>: The ideal state of affairs involves the development of a checkers game that combines classic gameplay with modern features, ensuring a fun experience for players of all experience levels. The problem at hand lies in the absence of a modern checkers game that embraces technology and multiplayer elements. This is important because it deprives checkers players of an enriched gaming experience. Current offerings are often not able to fully engage modern audiences. To address this issue, I will develop a feature-rich checkers game that integrates classic gameplay with modern features. This entails creating a user-friendly interface and multiplayer functionalities. This solution allows friends and enthusiasts to connect over a shared passion for checkers. In conclusion, I will address the issue of the absence of a modern checkers game that embraces technology and multiplayer elements by developing a feature-rich checkers game that integrates classic gameplay with modern features.

<u>Project Description</u>: My project is a game of checkers that will be played between two players on different computers. There will be a waiting room where players will be placed until their opponent has joined. The game will begin once both players have joined the room. There will be a chat room available for players to communicate with each other. When selecting (clicking on) a piece to move, only spaces that are open will be available for selection. The program will prompt users to perform a double or triple jump if possible. If a player's piece reaches the opponent's

side of the board, it will turn into a "king" piece. A message will come across the screen when one player has won the game. Once this occurs the game will end, and players will have the option to play again.

Proposed Implementation Language: Python

Libraries, Packages, Development Kits, etc: Pygame, NumPy

Additional Software: Visual Studio Code, GitHub

Personal Motivation: This project with grow my knowledge of software development, particularly in Python, JavaScript, and HTML. This project will also improve my knowledge of user interface programming, as the program needs to be very user interface friendly. Furthermore, I will gain experience planning, constructing, and defending a program.

Outline of Future Research Efforts: I need to learn how to connect two players on different computers. I also need to learn how to code in JavaScript and how to get Python, JavaScript, and HTML to work together.

Schedule:

- Game code will be completed by the end of February 2024
- Networking side will be completed by end of March 2024
- Testing will be completed by mid-April 2024
- Program will be defended by December 2024