Connect 5

Software Requirements Specification

Author: Sheng Wei Zhu
               April 23, 2019
               Version: 1.0
               Game Version: 0.6

Abstract: This document describes the Connect 5 game. It does so by presenting multiple
               pictures as well as floating text boxes which describes the picture. The game will
               implement a working server that allows the game to be played across computers.

Table Of Contents

1 Introduction

Connect5 is a spin of game of Connect4. Unlike Connect4 the goal is not connecting the pieces,
though doing so will help. The main goal is to score more points than your opponent. This
project's highlight is the multiplier aspect, which allow users to play across computers.

1.a Definitions and Abbreviations

Connect 4 – having 4 tokens of the same color in either a row, column, or diagonal.

Connect 5 – having 5 tokens of the same color in either a row, column, or diagonal.

IP(Internet Protocol) – Rules governing the data that is sent over the internet.

IP Address (Internet Protocol Address) – A numerical value assigned to every computer that uses the Internet Protocol for communication.

Port Number – A number that specifies the location data should be sent to. For example, if the server is listening(waiting for data) on port 8100, the client or user should then send data to port 8100.

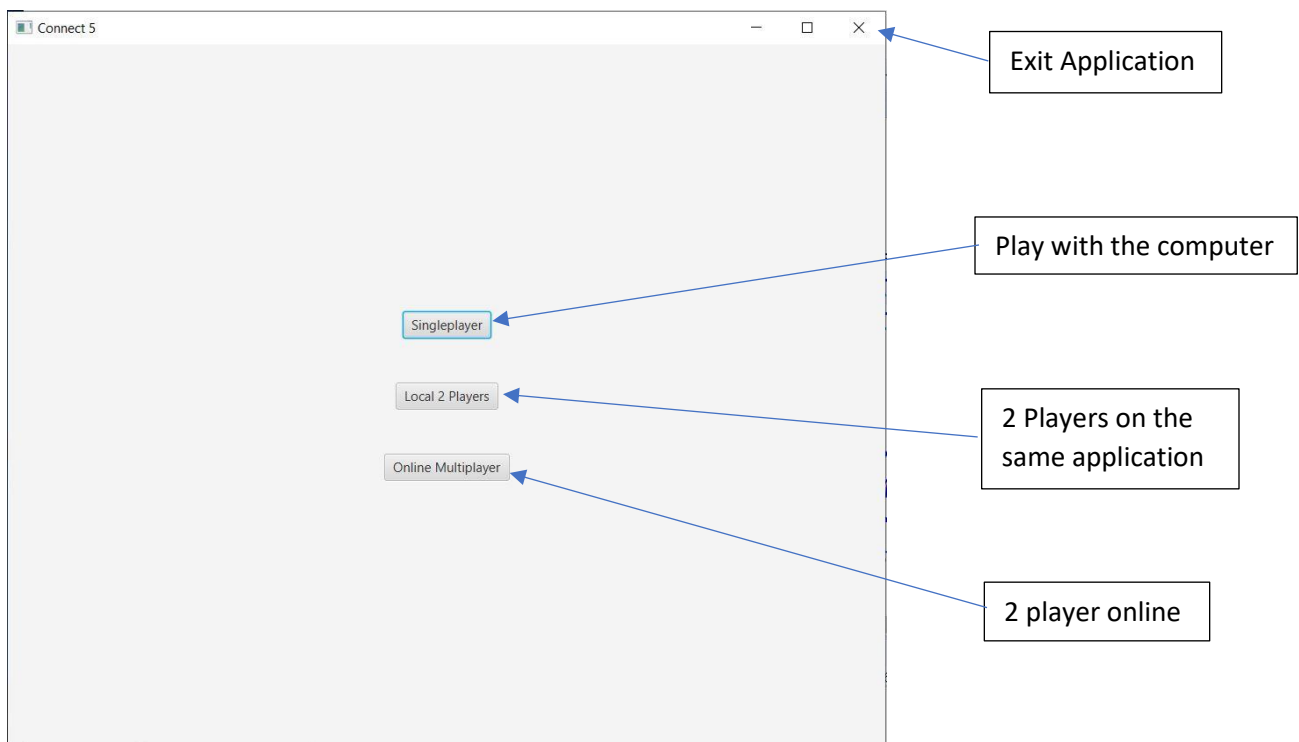Token – game pieces used to play the game (either red or black).

1.b How to play

To start select a token and then select a column. That token would then fall, either to the very bottom or top the next available slot. To obtain points place tokens with numbers on them. This will give you the number of points corresponding to that number. If you connect 4 tokens, the points on the four tokens would be counted again(it doubles). A connect 5 can be viewed as two connect 4s. The middle three tokens triple in value, while the two tokens at the ends stays doubled. The game ends when someone connect 5 or if the board is full. The player with the most points wins(if the points are the same it's a tie).
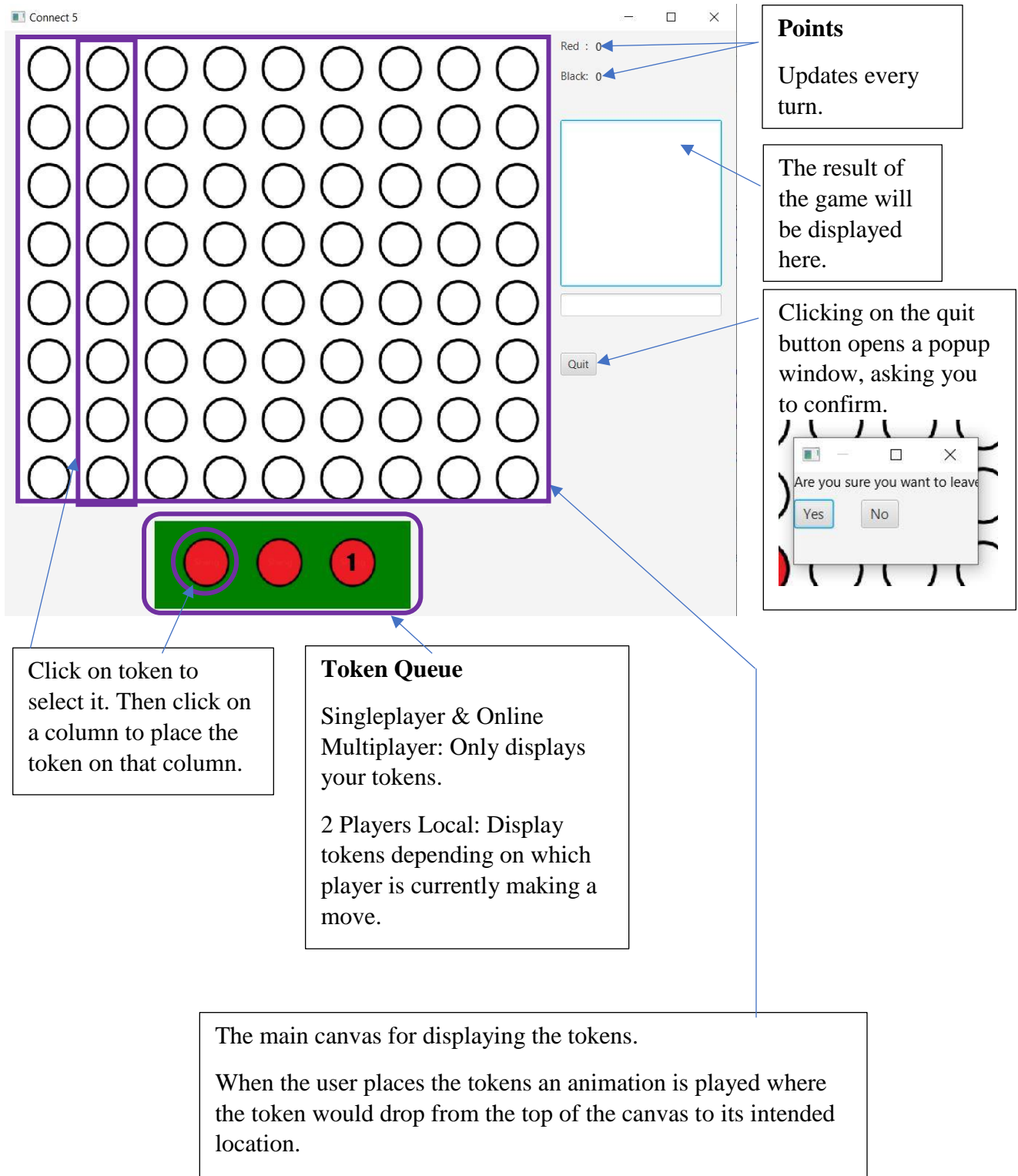
2 Content

The content of the game will be shown using screen shots and floating texts.

2.a Main Menu Scene

2.b Game Scene

Points

Updates every turn.

The result of the game will be displayed here.

Clicking on the quit button opens a popup window, asking you to confirm.

Click on token to select it. Then click on a column to place the token on that column.

Token Queue

Singleplayer & Online Multiplayer: Only displays your tokens.

2 Players Local: Display tokens depending on which player is currently making a move.

The main canvas for displaying the tokens.

When the user places the tokens an animation is played where the token would drop from the top of the canvas to its intended location.

2.c End Game

In this case the game ended because there was a connect 5. And according to the score red wins this game.

A connect 5 is the same as two connect 4s. In this case the 2 and 1 is counted three times. The 3 is counted two times.

Tokens with points, that is not a connect 4, are counted once towards the final score.
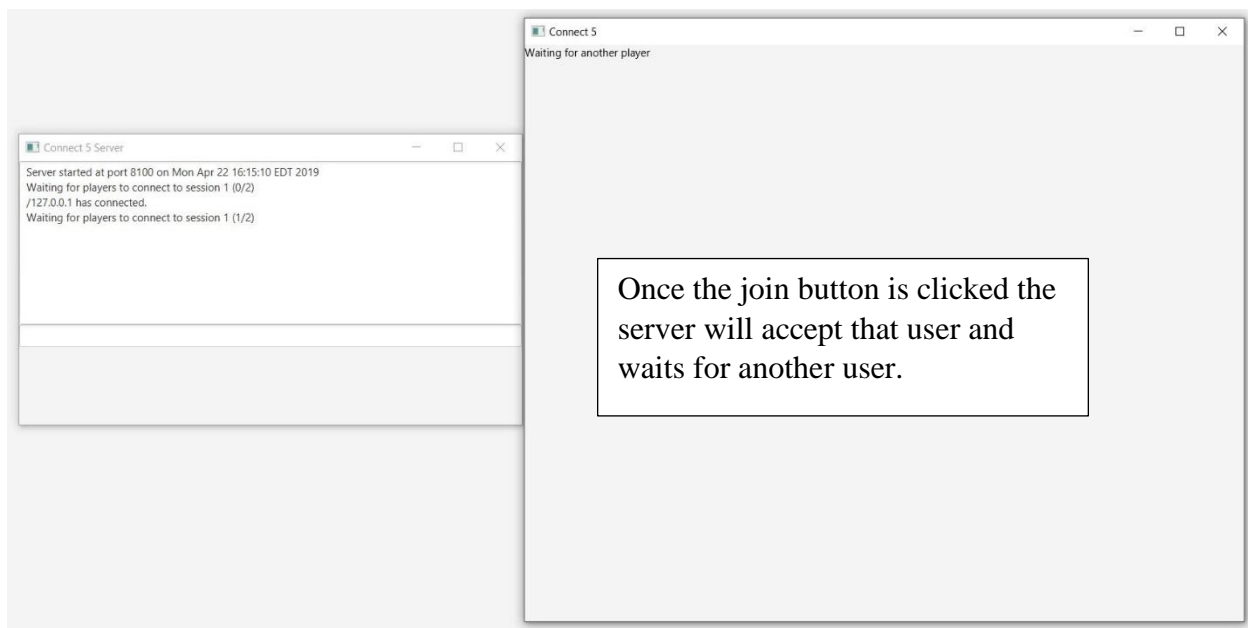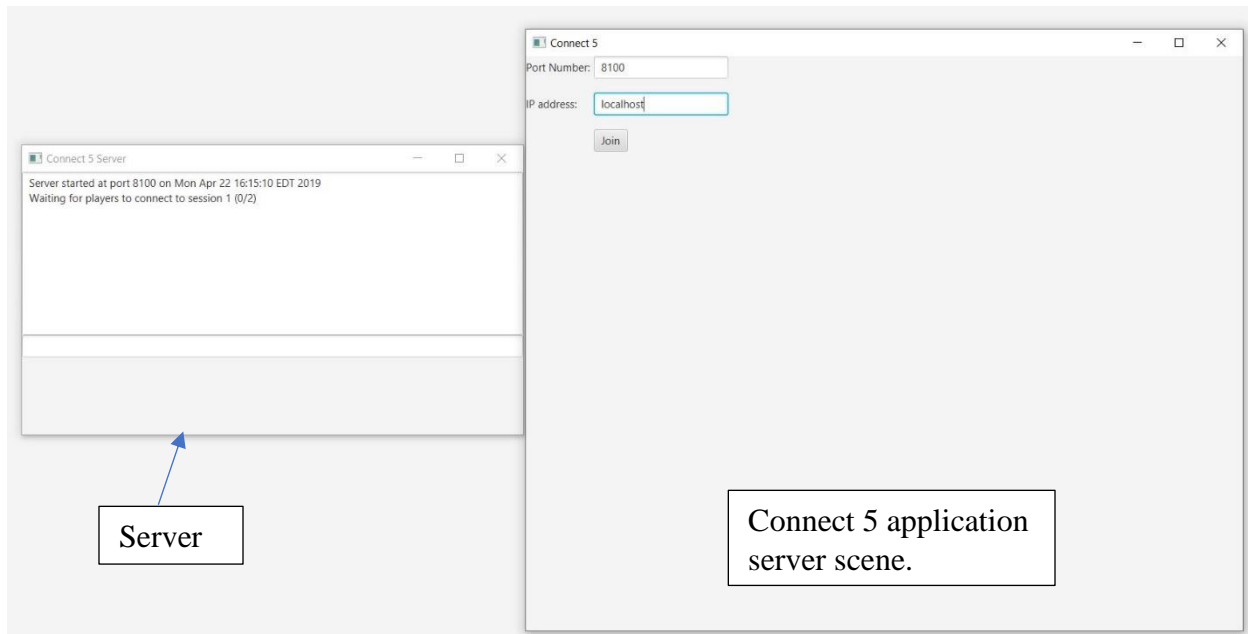
If there is a connect 4, the points are counted again towards the final score. In other words the points double.
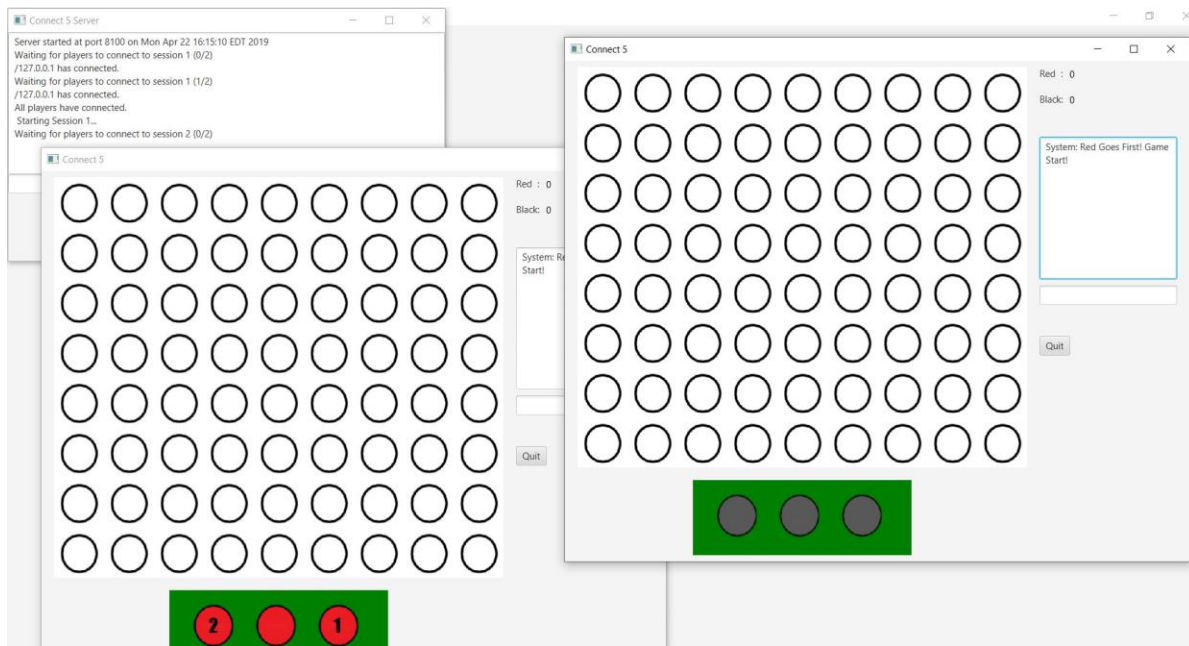
3 Server

The server is a separate JavaFX application different from the Connect 5 JavaFX application; it needs to be ran separately. The server application would show the IP address of the users that joined as well as the number of games sessions it ran. For a game session to start, 2 players would need to connect to the server.

3.a Server Setup

To open the server run the Server class in the server package. This will open up the server application shown below. The default port for the server is set to 8100. To connect to the server on the same computer enter 8100 for the port and localhost for the IP address. To allow others on different computers to join the server open port 8100 if it is not already. To do so, research how to port forward. Once port 8100 is opened type in "what is my IP address" on google, and take note of it. Others can now join by typing 8100 for the port and the IP address you got from google for the IP address.

Server

Connect 5 application server scene.

Once the join button is clicked the server will accept that user and waits for another user.

3.b Multiplayer

When both player joins the server, the game will automatically start. The server will randomly assign who goes first(red player) and notifies that player. The server application will then wait for more players to start another session. This means that multiple games can be played at the same time from a single server. The server will send moves made by a player to the other player.

3.c Chat System
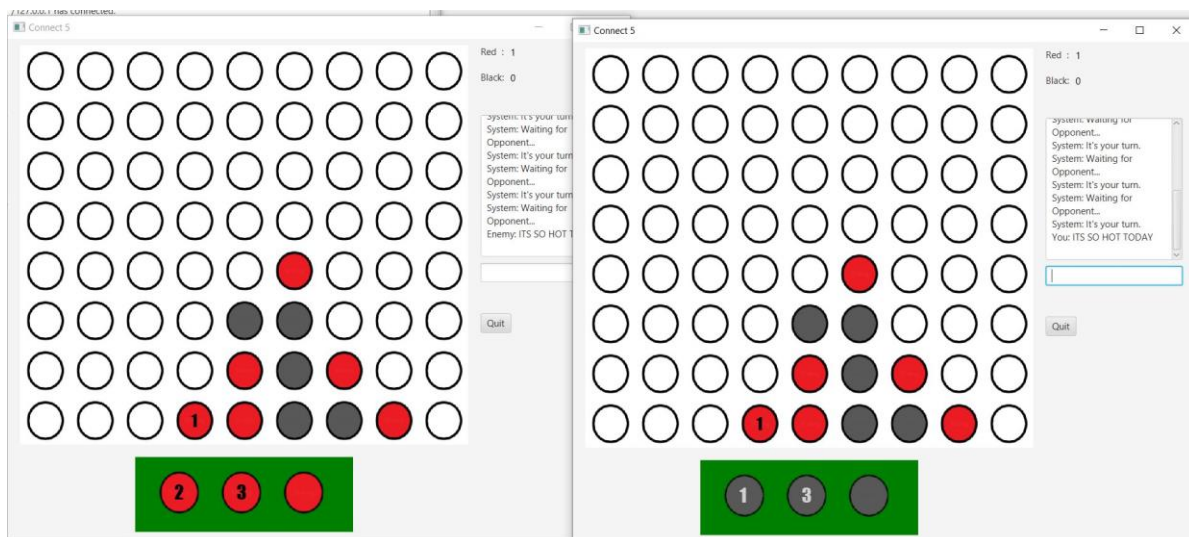
While playing the game, the text area on the right side will continuously get filled up by messages from the game. On the bottom of the text area is a text field where the user can type a message to send to the other player. To send the message press enter after typing the message. The server will then receive that message, displays it on its own text area, and then sends that same message to the other player.