21 Bust / Blackjack Game

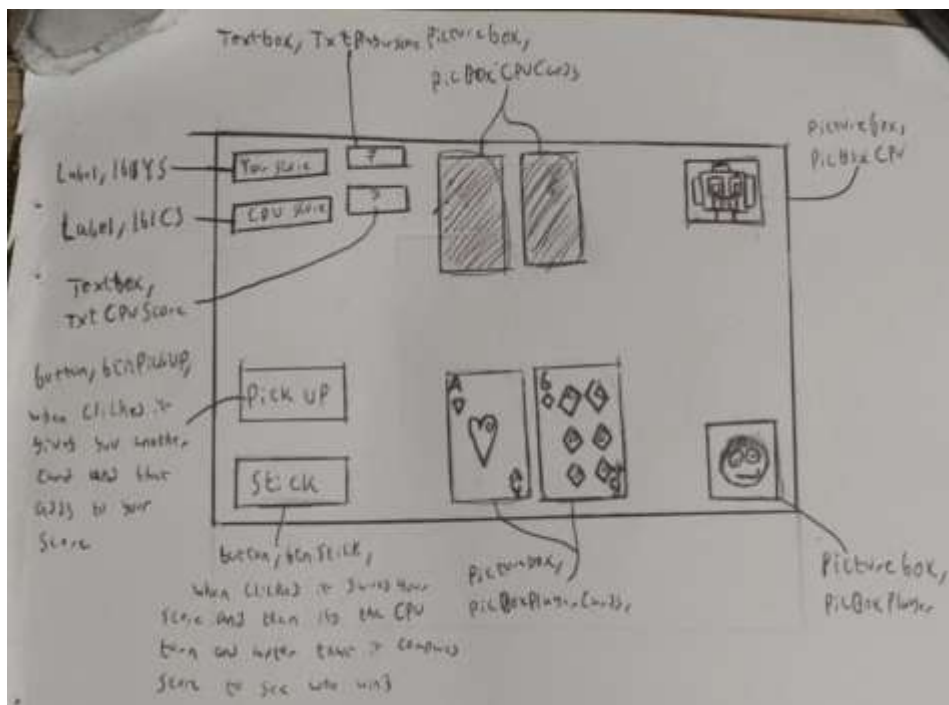15th December 2022

Background:

In September of 2022 I was set out to create a game using Visual Studios between September and December. I wanted to create a card as I thought it would be fun to make and play. I decided to make 21 Bust / Blackjack as I always played it with my grandad and thought it would be nice to show him that I could make that game myself.

Planning Stage:

Before I created the game, I first set out a list of idea for what the game can have which include:
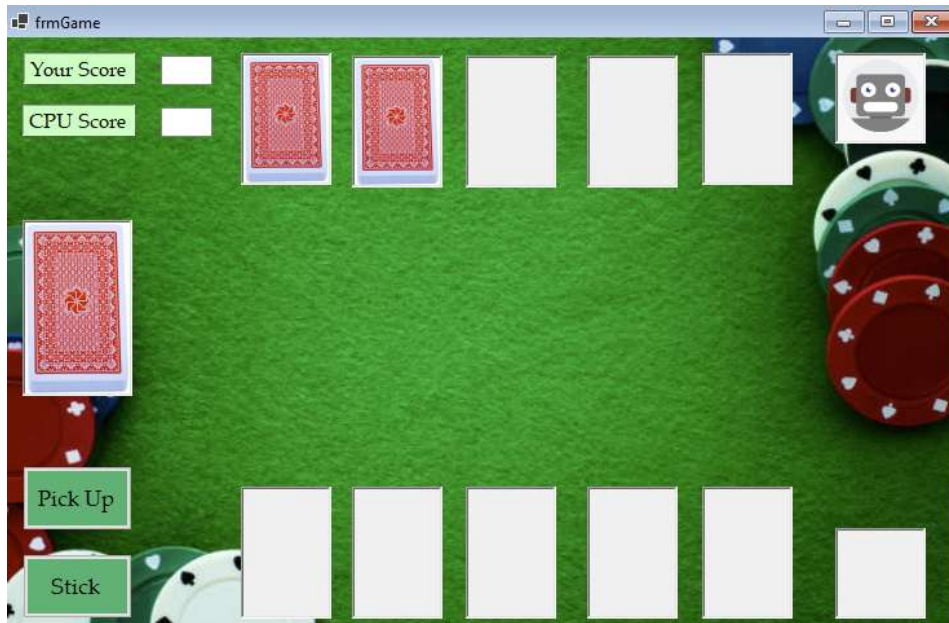
- 1 v 1 game of 21 Bust / Blackjack against a CPU
- Player Account
- Player Stats
- Leader Board
- How to play feature to help new players
- Main menu to host each page on
- Multiple Ways / Rules to Win

Initial Sketches:

Before I started making the game in Visual Studios, I first drew out sketches of each form and annotated them, so that once it came to developing them, I knew how to lay it out and what each feature will need to do.

Development Stage:

I implemented all my sketches into Visual Studio to create each layout of each form. Once I had the layout made, I was able to start programming each feature such as giving each picture box a still image or a global image that updates based on the global variable that was chosen when selecting an image in the New Player Form. I gave each button a function for when it was clicked on such as the pick-up button giving you another card or the stick button to end your turn and let the CPU / Dealer take their turn.
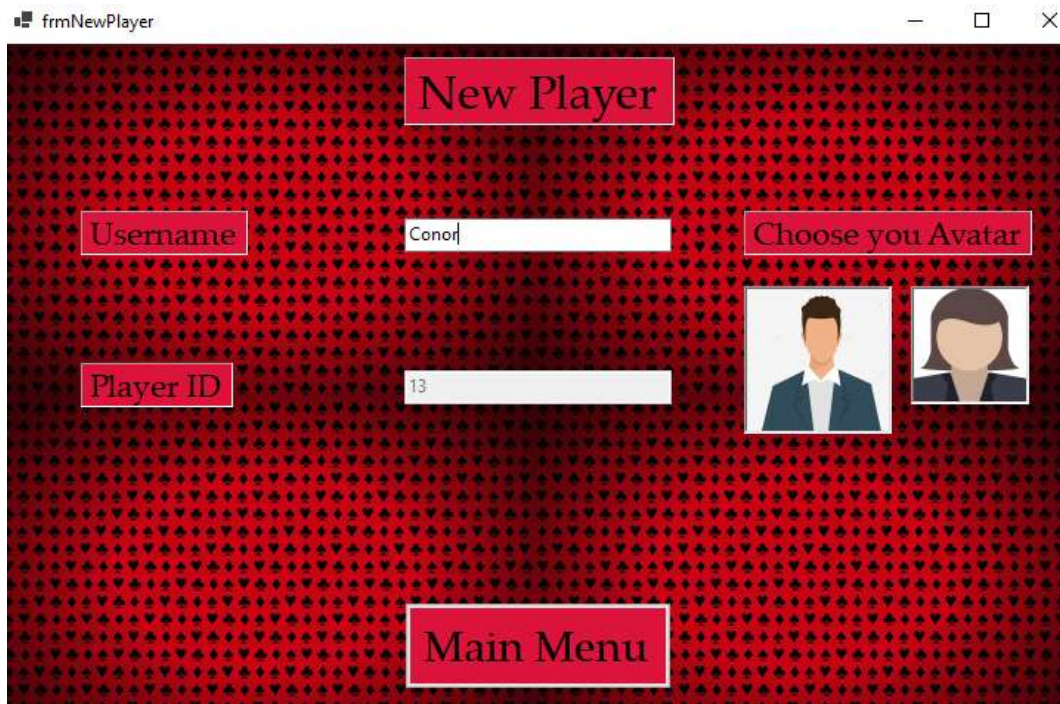
Testing Stage:

Once I made my game, I started testing it in order to find any errors or bugs that needed fix. For example, in these two screenshots above both of them are the same 5 card trick however the first one doesn't work as at the time there was an error with multiple win conditions cancelling each other out. When I first made the win conditions, I was originally using if statements to compare the score of the player and CPU card hand but that led to issues like a 5-card trick losing if the dealer had a high score even though the 5-card trick should beat that. In order to fix the win condition, I error I change my code from if statements to switch cases and assigned the correct win condition logic to it and it fix the win condition code which you can see in the bottom screenshot.
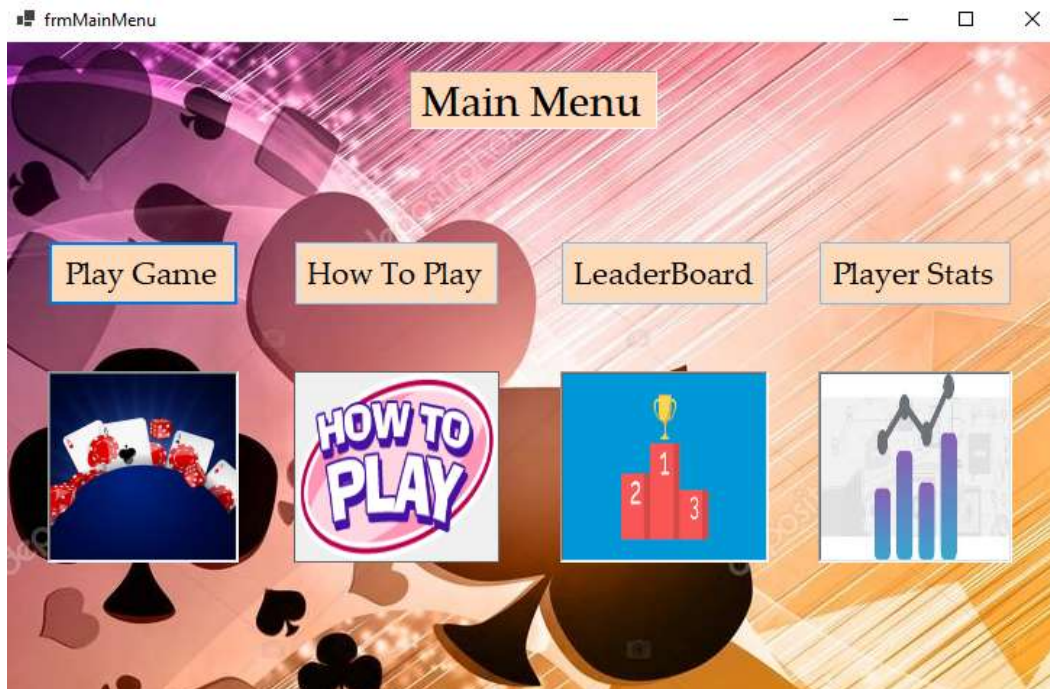
Other Forms:

Every time you run the project it creates a new player each time, this can be saw in this screenshot by the id being 13. I coded the project to create a new id each time you run it by making the new id being plus 1 from the last id. On the New player screen you can type your name and select either the male or female profile picture and then once you click the main menu you button it will save your new player details in global variable which will be able to be accessed across the project.

The main menu form lets you access the rest of the forms of the project such as the game, how to play, leader board, and player stats form.

How To Play

The goal of 21 bust is to be the player the closest to 21 without going it and going bust.

If you go over 21 you bust and lose.

You start with 2 cards and you can pick up more cards to increase your score but when you are happy with your score you can stick.

If both players have the same score or both bust then you lose.

If you have 5 cards with a score of 21 or less you win even if the other player has a higher score than you or has 21

Main Menu

The how to play form lets new player see the rules of the game to show them how to play and what the win conditions are so that they can use this information to help plan on how they are going to win when playing the game.

Player Stats

Username   Sally

Player ID   24

Games Played   12

Games Won   2

Games Lost   10

Your Avatar

Main Menu

The player stats form shows the player all the data that is saved when using the project such as their name, the profile picture they selected, their id, the number of games played, won, and lost.