Brett Plemons

IT 312 Software Development with C++.NET

2-3 Journal: Progress on Final Project

04 September 2023

For the final project, I decided to create the "Liar's Dice" game. To do so, I read the final project outline and what was required and read the rules provided for the "Liar's Dice" game. From there, I decided to map out what the programmable parts of the application were. The outline I came up with is as follows:

1. Setup the project
   1. Initialize a new C++ executable project.
   2. Initialize a README.md that contains the game's rules and how to use the application.
   3. Create a `rules.txt` file to hold all the displayable rules.
2. Game Initialization
   1. Display the directions to the players from the `rules.txt` file.
   2. Prompt the user to input the number of players.
      1. Validate input; must be greater than 2.
3. Player Class
   1. Create a Player class with properties for:
      1. Player Name/ID
      2. Dice Array (5 dice by default)
4. Dice Rolling
   1. Function to roll all dice for all players at the beginning of the game.
      1. Use a random number generator to roll each die for each player.
      2. Store these dice in each Player object.
5. Gameplay Loop
   1. Loop through each player's turn until the game ends.
      1. Current player's guess input
      2. Option to call the previous player a liar.
      3. Validate that the guess meets the game rules.
6. Game Rules Verification
   1. Function to verify if the guess made is correct.
      1. When a player calls "Liar," reveal all dice and check the last guess.
7. Win/Loss Logic
   1. Determine the winner of the round based on the previous guess and the player who called "Liar."
   2. Display a message announcing the winner.
8. User Interface
   1. Display the current player's dice.
   2. Display the last guess.
   3. Display options to make a guess or call a "Liar."
9. Main Function
   1. Put all the pieces together.
      1. Initialize the game.
      2. Run the gameplay loop.
      3. Determine the winner.
      4. End game or restart
10. Extras (Not required, stretch goals)
    1. Add logging to keep a history of all guesses.
    2. Allow players to enter their names.
    3. Implement a point system for multiple rounds.
    4. Create a computer player for solo play.
       1. Create different levels of computer difficulty.
    5. Allow players to be in other locations (gRPC or Server/Client logic).