SER 215 - Final Project Requirements Statement - Kevin Hale, Kyler Smith, Gaurauv Deshpande, Adrian Vasquez, Tresor Cyubahiro.

**Uno - Specifications:**

* Develop a turn based game of Uno controlled by a multi-threaded server.
  + Server program to control turns and allowing only valid card plays.
* Computer players (optional)
* Card colors (optional) (not really though)
* Max or min numbers of players

**Cards:**

* There are 108 cards in a deck of Uno.
  + 4 Wild cards
    - Change the color of the discard pile to any color
  + 4 Wild Draw 4 cards
    - Same as Wild but also forces the next player draw 4 (unless another draw 4 wild is played, then the following player draws 8)
  + 8 Skip cards (2 of each color)
    - Skips the player that the dealer chooses
  + 8 Draw 2 cards (2 of each color)
    - Forces the next player to draw 2 cards (unless another draw 2 is played, then the following players draws 4 unless he also has a draw 2, etc)
  + 8 Reverse Cards (2 of each color)
    - Reverse the turn sequence of the game
  + 4 ‘0’ cards (1 of each color)
  + 18 normal red cards (1-9 twice)
  + 18 normal yellow cards (1-9 twice)
  + 18 normal green cards (1-9 twice)
  + 18 normal blue cards (1-9 twice)

**How to play:**

* 2 - 10 players, every player is given 7 cards to start.
* The rest of the cards are placed in the ‘draw’ pile.
* There is a designated ‘discard’ pile.
* The first player is whoever is left to the dealer, gameplay starts in a clockwise direction.
* You have to match, either by number, color or the action.
  + Wildcards can be played regardless.
* If the player has no matches or they choose not to play any cards, they must draw.
  + If the drawn card can be played, play it.
  + If it can’t, it is the next person’s turn.
* On the first turn, the top card on the draw pile is turned over to the discard pile and must be played.
  + If it is an action card, the action must be carried out.
  + If it is a wildcard, put it into the deck and reshuffle it.
* 2 Player rules are slightly different.
  + Reverse acts like a skip.
  + If a draw 2 or wild draw 4 is played, opponent must draw and then play immediately resumes back on your turn.

**How the game ends:**

* The first player to get rid of all their cards wins!

**Additional Features (Optional):**

* Allow players to choose names
* Allow for ‘round’ play to play multiple games with same group
* Play again or quit option
* Allow for player stats by showing overall wins and losses, win ratio, game length ratio etc.
  + Leaderboards, stat resetting, etc.
* A timer to show how long each game has been played
  + Additional game mode of timed play where both each turn is timed and the overall game is timed to make a much more quick game
* In game chatting system to brag and boast of Uno skills over other players.
* Big UNO button for clicking when one player has only ‘un’ card

**Human-Computer Interface**

* Main interface is a round tabletop with an area in the center for the draw pile and discard pile, each with a number to the side showing number of cards in each stack.
* Only show the player's card face up on the table, bottom of the screen.
* Only show the other player’s name with the number of cards in their hand, next to their name
* There will be a timer next to the big UNO button with the current game time.
* The player will choose which card to play, then select a confirmation box to lock in the choice.