

# **CPSC 224 Final Project**

## **PROJECT PLAN**

**9th November 2023**

**Poker - Texas Hold'Em**

**Eric Crandall Poker Face**



**(Will photoshop Crandall's face later)**  
**I've got a guy**

**Prepared by:**

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N/A

# 1 Project Overview

## 1.1 Project Summary

We're shooting to make a South Park themed GUI poker game, specifically the variant of Texas Hold'em. Texas Hold'em is a variant of poker where players have 2 card hands and 5 community cards. Players win by making the best 5 card combination of cards in their hand and the community cards. The game starts with a round of betting after hands are dealt, then the first three community cards are revealed (the flop) followed by another round of betting, then the 4th card (the turn) is revealed and another round of betting follows, then the 5th card (the river) is revealed and one final round of betting ensues. During any round of betting the first player has the option to bet their desired amount, fold, or "check" the bet, subsequent players have the option to call, raise or fold. If the first player checks, the next player is also allowed to check. If all players check, the betting round ends. When a player makes a bet, that bet goes into the pot and whichever player wins the round keeps the whole pot. A round ends when all but one player folds or immediately after the last round of betting (after the river is overturned). A game is over after a set # of rounds or when one player obtains all the available chips (all other players go bankrupt).

For our version of the game, the tentative plan for a two player form of texas holdem. On the start screen, players will be able to enter their names, get assigned an icon, select the number of starting chips/cash they wish to have, or select the number of rounds the number of rounds they wish to play (by default this will be as many rounds as it takes for one player to gain all the chips). A standard deck of 52 cards is used and will be shuffled after each round of play.

## 2 Project Requirements

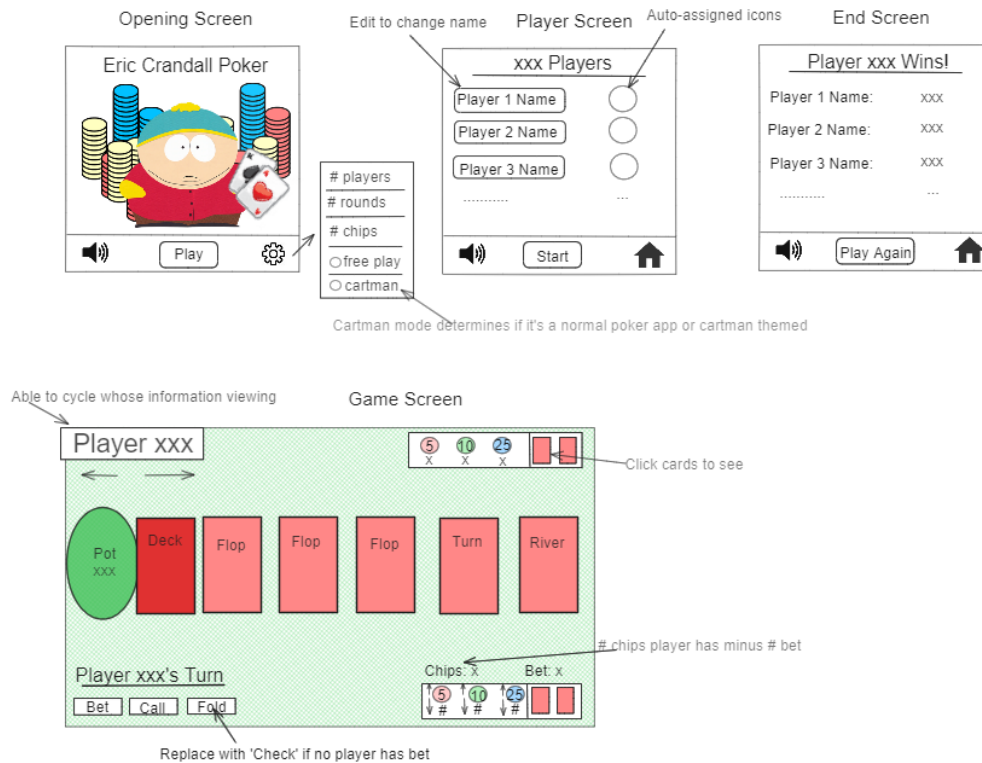
### 2.1 Major Features

**Table 1: Major Features**

<i>Feature</i>	<i>Description</i>
<i>Bet/Raise/Call/Etc</i>	Add dynamic buttons for all of your available options during your turn. These buttons will allow a player to bet, raise, call, check or fold.
<i>Community Cards (Flop/Turn/River)</i>	5 total community cards. The first three (flop) are shown after an initial round of betting. The next two are revealed one at a time. After each card is shown, a round of betting should ensue.
<i>Automatic Scoring/Hand detection</i>	After betting is finished and the river is shown, automatically determine who has the better hand
<i>Standard Deck of Cards</i>	A deck of 52 cards (by default) with 4 different suits, each suit has 13 cards each with different face values (2-10 + J + Q + K + A).
<i>Mucking Cards Peek at Cards (If time allows)</i>	Allow the winner to choose whether or not they show their hand to their opponent. A button that when held will temporarily show your hand on screen.

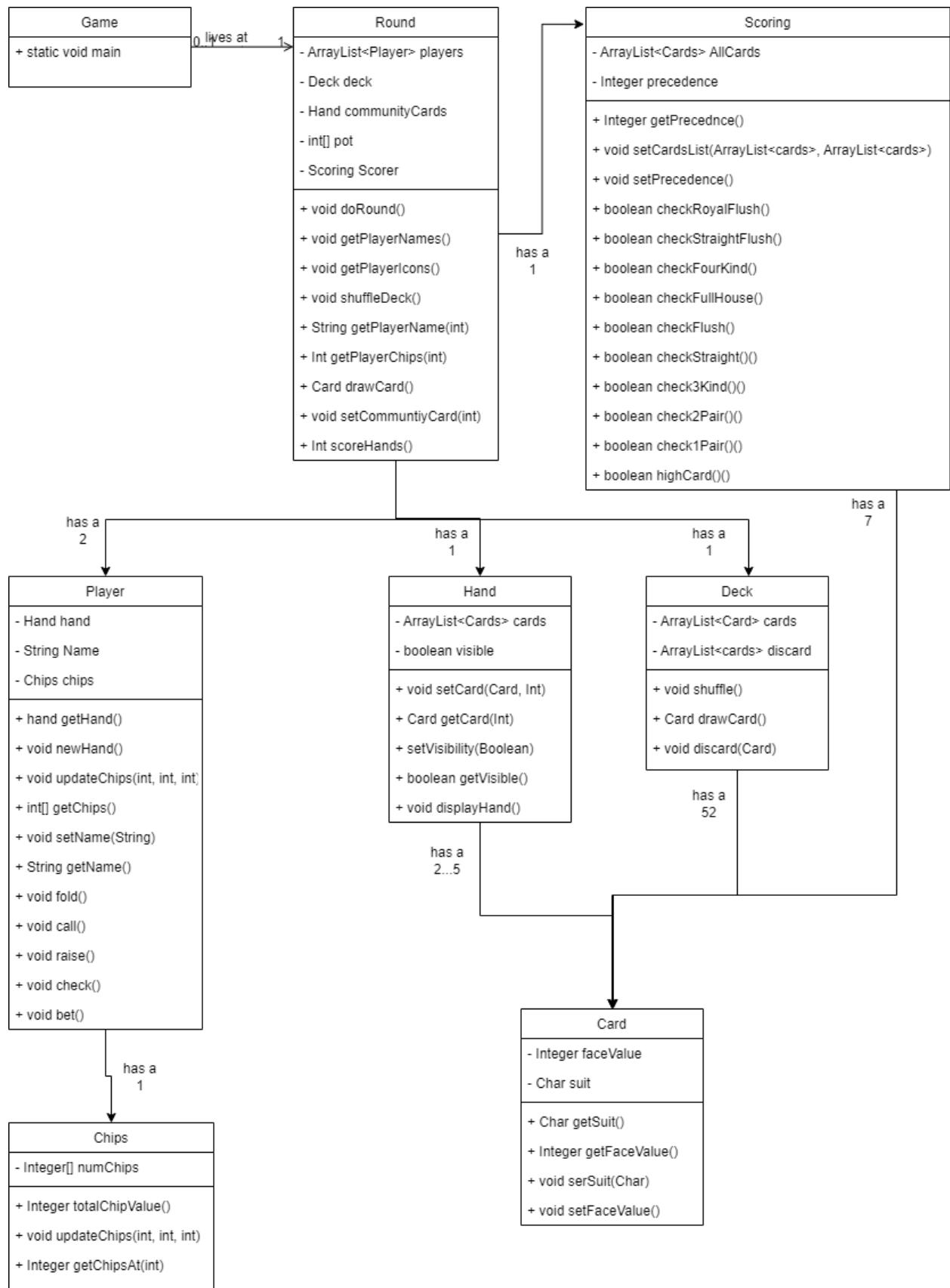
### 3 Project Game Design

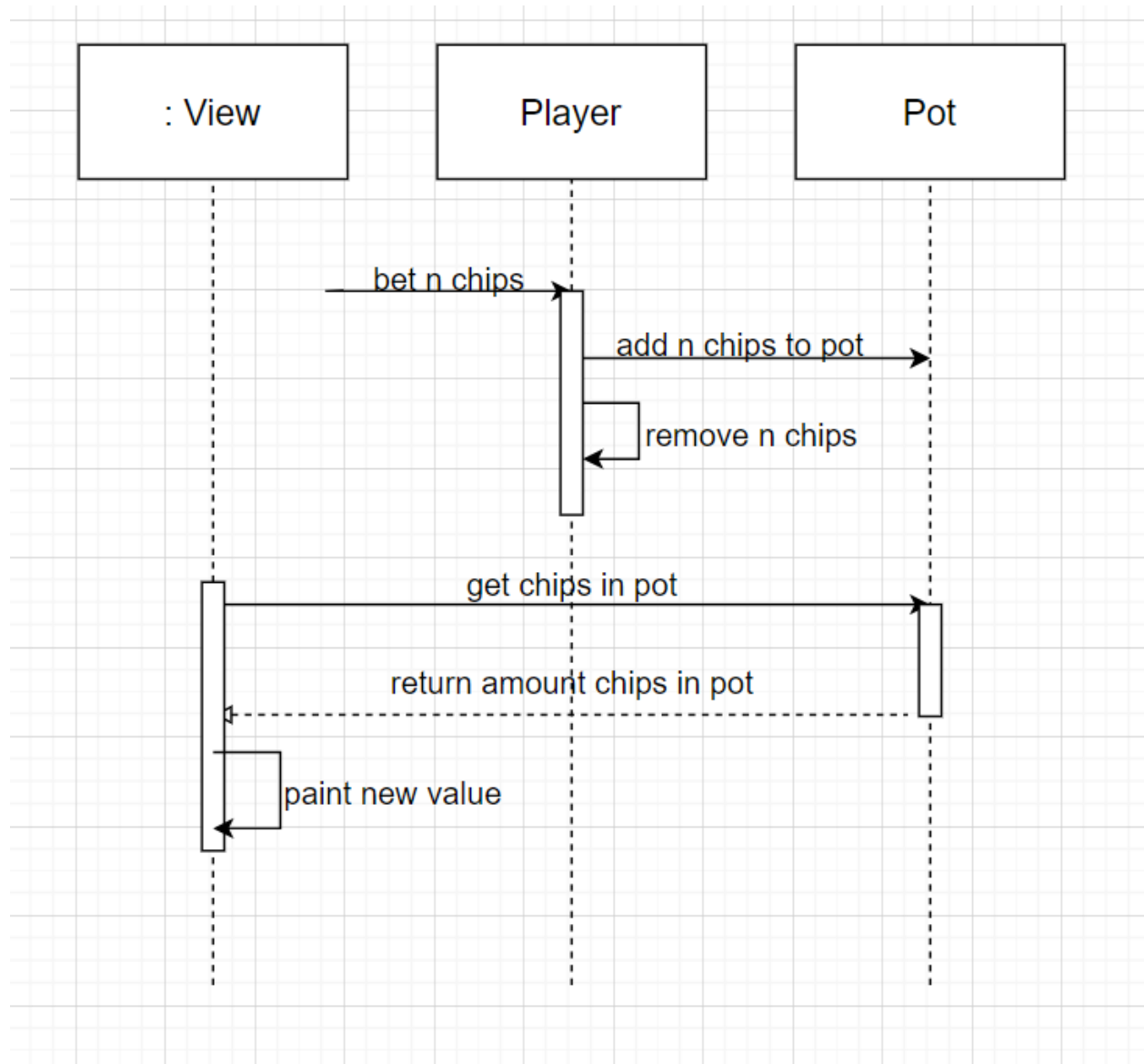
#### 3.1 Initial User Interface Design

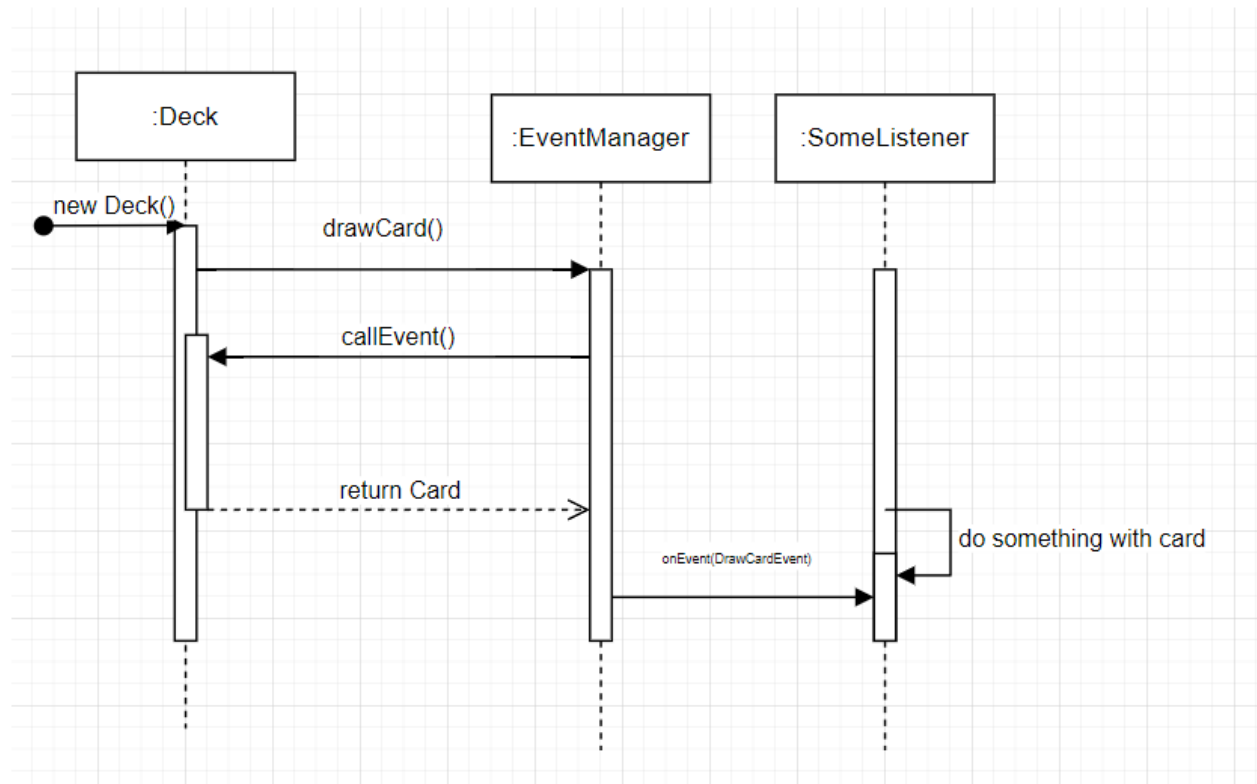


#### 3.2 Initial Software Architecture

Provide a description of the initial architecture of your application, focusing on the major components of your system and how they will interact. This should include a UML class diagram and 2-3 sequence diagrams of the various modules in the system interacting.







## 4 Project Schedule

Provide a description of the major scheduling dates of your project. For each schedule milestone dates, clearly describe the milestone (e.g., what features will be implemented) and when the milestone must occur by. Include the project plan, code complete, presentation, and final report dates.

**Table 3: Major Scheduling Milestones**

<i>Milestone</i>	<i>Description</i>	<i>Target Completion Date</i>
<i>Start Screen and Play Screen</i>	Working UI for start screen with buttons for settings, play and an audio toggle. Play screen with most elements shown (likely not functional)	12th November
<i>The Deck, Hands, and Scoring</i>	We'll want to have completed the code for the deck, players hands, and the scoring algorithm for hand precedence.	19th November
<i>Bet/call/raise/fold Dealer/community cards</i>	Bets/calls/raises/folding as well as community cards should be fully implemented. This would mean all our major features should be finished. The game should be possible to play with another player at this time, though some minor features may not be finished.	29th of November (Wednesday after Thanksgiving)
<i>Polish and End Screen</i>	Polish any features that were not finished in milestone 3 as well as add an end screen.	3rd December

		(Day before code is due to be completed)
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## Appendix

Provide additional supplemental information in an appendix as necessary.

Poker Rules:

<https://poker.com/poker-games/texas-holdem-rules-an-idiots-guide/>

Screen sources:

[https://en.m.wikipedia.org/wiki/File:Speaker\\_Icon.svg](https://en.m.wikipedia.org/wiki/File:Speaker_Icon.svg)

[https://en.wikipedia.org/wiki/Eric\\_Cartman](https://en.wikipedia.org/wiki/Eric_Cartman)

[https://clipart.coolclips.com/480/vectors/tf05035/CoolClips\\_busi0379.png](https://clipart.coolclips.com/480/vectors/tf05035/CoolClips_busi0379.png)

<b>ROYAL FLUSH</b> This hand contains five cards in sequence, all of the same suit.	A♥ K♥ Q♥ J♥ 10♥
<b>STRAIGHT FLUSH</b> This hand contains five cards in sequence, all of the same suit.	8♣ 7♣ 6♣ 5♣ 4♣
<b>4 OF A KIND</b> This hand contains all four cards of one rank and any other unmatched card.	5♦ 5♠ 5♥ 5♣ 3♥
<b>FULL HOUSE</b> This hand contains three matching cards of one rank and two matching cards of another rank.	K♥ K♦ K♠ 5♥ 5♣
<b>FLUSH</b> This hand contains all five cards are of the same suit, but not in sequence.	K♠ J♠ 9♠ 7♠ 3♠
<b>STRAIGHT</b> This hand contains five cards of sequential rank in at least two different suits.	Q♠ J♦ 10♣ 9♠ 8♥
<b>3 OF A KIND</b> This hand contains three cards of the same rank, with two cards not of this rank nor the same as each other.	Q♠ Q♥ Q♦ 5♠ 9♣
<b>2 PAIR</b> This hand contains two cards of the same rank, plus two cards of another rank.	K♥ K♠ J♦ J♦ 9♦
<b>1 PAIR</b> This hand contains two cards of one rank, plus three cards which are not of this rank nor the same.	A♠ A♦ 9♥ 6♠ 4♦
<b>HIGH CARD</b> made of any five cards not meeting any of the above requirements.	A♦ 7♥ 5♣ 3♦ 2♠

[https://www.iconfinder.com/icons/274869/ace\\_of\\_hearts\\_casino\\_kingof\\_spades\\_playing\\_cards\\_poker\\_icon](https://www.iconfinder.com/icons/274869/ace_of_hearts_casino_kingof_spades_playing_cards_poker_icon)