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PokerPal - Description

My poker project will emulate Texas Hold-Em, but be geared towards beginners by providing recommendations to the user at any stage. Upon starting, the user can choose how many users are in the game, and how risky the CPU/AI players will be. At every point in the game, the user will be able to access a probability sheet, containing the likelihood of any given Texas Hold-Em hand (e.g. Straight, Flush, Full House) happening. Furthermore, they will be given a direct recommendation based on any level of risk-taking or risk-aversion.

On the other side, the opposing players will use a simple AI in order to make their decisions. If the user chooses for a player to be strongly risk-seeking, they might shove a large portion of the pot even on a poor hand, in order to scare away other players from betting and take home winnings. This will allow players to test their skills as they get better and better at the game, even in the online setting.

In terms of development, I will use CMU graphics and classes to represent the deck, cards, the AI, individual players, and more. This class structure will enable my code to be clean and readable, which I will further ensure using comments for each method and any confusing classes.

Similar Projects

Poker seems to be a relatively popular topic. Though my initial inspiration came from [poker now](#), the website which I usually go on to play poker recreationally with my friends, there seems to have been several similar projects in the past by 112 students.

1. [Poker now](#)
 - a. Very simple but straightforward design, provides statistics while you play the game
 - b. Indicates possible moves (ie, can you check this round) by highlighting/non-highlighting buttons
2. Aaryan Lalwani → AI-Poker
 - a. Impressive simple AI, similar flow-chart to the one I mapped in my head

- b. This project feels a little too controlled and step-by-step, in mine, I'd like to maintain a fast-paced pressured game (similar to real life)
- 3. Etan Cohn → Program Poker
 - a. Very intuitive for new players, includes probabilities for all potential hands using Monte-Carlo methods (something I planned on doing as well)
 - b. UI is a little unintuitive, likely would get bored if playing for long

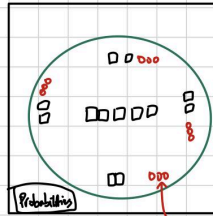
Version Control / Backup Plan

Every time a major feature is added (around 1-2 times a day), I backup my version to my computer locally. Around 3 times a week, I further upload the current version to a google drive as a backup.

Tech List

Just CMU graphics and online images for certain depictions.

Project Storyboards, Version 1 and Version 2 (see on next Page)



Basic display of game

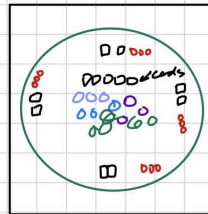
Pair	30%.
Two Pair	10%.
Straight	5%.
:	:

when the user clicks the button for probabilities, a table predicting the chances of each poker hand appears

On player turn, they have the option to bet, fold, or check.

Player 1 < you >
 Player 2 < AI >
 difficulty < easy >
 Player 3 < AI >
 difficulty < hard >

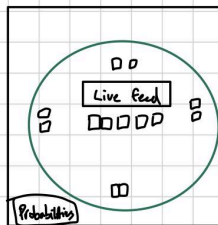
Initial selection screen for user and user's opponents



pot is "scattered", all cards have been revealed in the round

ROUND WON!
 Amount: \$55
 Yay!!

Version 1:



Basic game display

Pair	30%.
Two Pair	10%.
Straight	5%.
:	:

When activated, table of probabilities is shown. Simulated via Monte-Carlo.

'press f to fold, b to match bet'

On player turn, they have the option to bet, fold, or check.

Player 1 < you >
 Player 2 < AI >
 difficulty < easy >
 Player 3 < AI >
 difficulty < hard >

Initial selection screen for user and user's opponents

Instructions Screen	
b → bet T,b → game spd. f → fold	Texas Hold Em Hands Cheat Sheet <div>A A 2 3 5 Pair</div>

ROUND WON!
 Amount: \$55
 Yay!!

You win!!

Version 2: