GambleMania
for UTM CSCI 352

Collin Winstead, Diego Arriaga

Abstract

This app allows the user to play three standard casino games: blackjack, three-card poker, and roulette. The player will play against an AI dealer in the blackjack and three-card poker games. In roulette, the program will randomly generate values from the roulette wheel. None of the games in our app will not require any real money to play; all money is virtual and has no monetary value. Users will have their own accounts which will contain login information and the account's balance. This information will be managed with a database.

1. Introduction

Our project is called GambleMania. It will allow you to play the typical casino games of blackjack, three-card poker, and roulette. The player's balance will be saved in a database along with their login information. We decided to do this project because we thought it would be fun and require a good bit of research and work to finish. As for why we chose the games previously mentioned, it's because they are all fairly simple games to learn and play (probably by design). Because they are fairly simple, they should be relatively easy to program. Our target audience is adults 18 years old and older because the games featured in out app are all typically played in casinos. We expect our audience to use our app simply for fun or to practice blackjack or three-card poker. We did not include roulette in this list because roulette is based solely on randomness, so you can't really practice it.

1.1. Background

Minimally, we expect the user to know how to play blackjack, three-card poker, and roulette. However, we could implement a tutorial as a stretch goal to remove this requirement.

1.2. Impacts

Although our project is very small and limited, if distributed the project could possibly have a cultural impact by getting more people into the games of blackjack, three-card poker, and roulette. It could also potentially be used for data research and game theory by simulating thousands or millions of blackjack, three-card poker, and roulette games.

1.3. Challenges

We foresee the most challenging part of this project as the way the AI dealer will work in the blackjack and three-card poker games. These games have certain rules that need to be checked. For example, in the blackjack game, the dealer must stand on 17. In three-card poker, the player's hand must be checked against the dealer's hand. We think these kinds of obstacles will be our biggest hurdles.

2. Scope

This project will be completed when we have implemented a navigable main menu and the games of blackjack, three-card poker, and roulette. The main menu should minimally allow the user to navigate between games by clicking a button (one for each game) and return to desktop by clicking an exit button. The user must be able to play an accurate game of blackjack with the rules of dealer stands on 17 and blackjack pays 3:2. The user must be able to play an accurate game of three-card poker. A fully functioning roulette table must be implemented. Finally, each of the 56 individual cards in a standard deck of playing cards must be designed.

As mentioned earlier in this paper, there are a few stretch goals we can potentially meet should we be able to do so:

1) Create a tutorial for each game for users who do not know how to play.
2) Add more games to the app.
3) Make the main menu and game environments look better.
4) Create a Texas Hold'em style poker game that can be played over a network connection.

Use Case ID	Use Case Name	Game	Primary Actor	Complexity	Priority
1	Log In	N/A	User	Easy	1
2	Sign Up	N/A	User	Med	1
3	Bet	Blackjack	User	Easy	1
4	Hit/Stand	Blackjack	User	Med	1
5	Double Down	Blackjack	User	Easy	1
6	Split	Blackjack	User	Med	1
7	Ante/Pair-Plus Bet	Three-Card Poker	User	Easy	1
8	Match Ante Bet	Three-Card Poker	User	Easy	1
9	Fold Your Hand	Three-Card Poker	User	Med	1
10	Place Bets on the Table	Roulette	User	Hard	1
11	Spin the Wheel	Roulette	User	Easy	1
12	Watch a tutorial	All	User	Easy	2
13	Navigate the Main Menu	N/A	User	Easy	1
14	Exit the Program	N/A	User	Easy	1

TABLE 1. USE CASES

2.1. Requirements

As mentioned in the Scope section, there are many basic requirements that need to be completed in order for this project to be done. There are also a few stretch goals that we could implement should we get done early. The basis of the basic requirements stems from the rules of play for each of the three basic games we will be implementing. There are also requirements that involve the UI design, some of which are simply required for a functional app and others are for a good-looking app. The non-functional requirements are based on how the user will interact with our app. These requirements are not necessarily required for the app to function, but are important for the users of our app.

2.1.1. Functional.
- A button that exits the program in the main menu and in each of the games.
- Buttons to navigate from the main menu to each of the games.
- A back button in each game that navigates the user back to the main menu.
- Game logic for each game.
- A Microsoft Access database that stores user login information and user balances.

2.1.2. Non-Functional.
- User login data and balance is hashed.
- The app should be responsive and perform well without any major dips in framerate.
- When the user's balance is modified, it should be updated in the database as soon as possible.
- The app should be flexible enough so that it is possible to scale it up in the future.

2.2. Use Cases

This section defines and ranks the use cases for our project. A table of use cases is shown in Table 1.

2.3. Interface Mockups

Figure 1. Login/sign-up GUI mockup

Welcome to GambleMania!
Please log in or sign up.

Log In	Sign Up
Username:	**Username:**
Password:	**Password:**
	Confirm Password:
Submit	Submit

Figure 2. Main menu GUI mockup

LOG OUT

GambleMania

Welcome, <username here>.
Please select a game below to play.

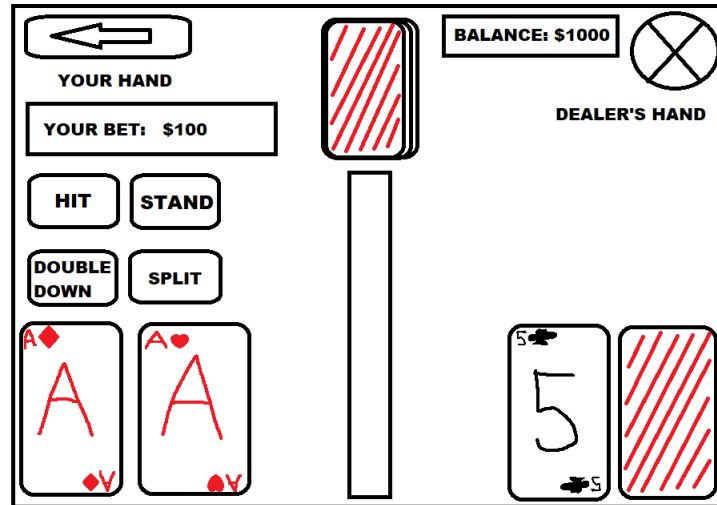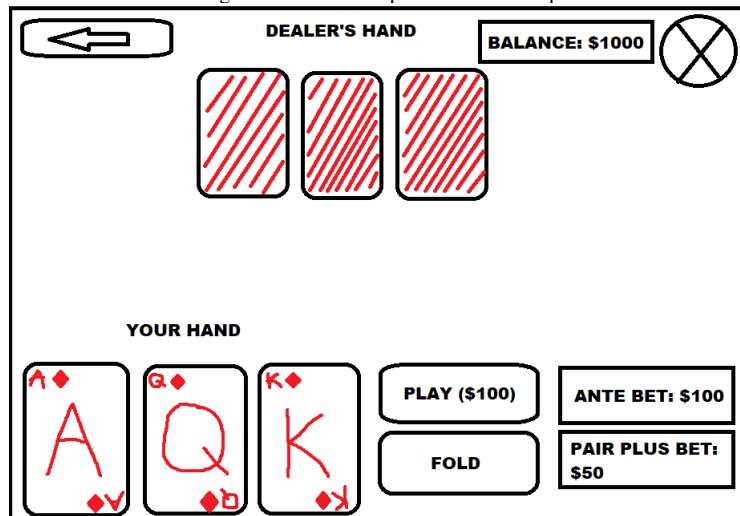BLACKJACK   THREE-CARD POKER   ROULETTE

Figure 3. Blackjack GUI mockup

Figure 4. Three-card poker GUI mockup

Figure 5. Roulette GUI mockup