Team 4
Mark Farid
Arya Gosavi
Sleimon Naimi
Roopkiran Kaur
George Yousif

Blackjack

EECS 2311: Software Development Project

Iteration 0: Initial Planning + ITR1 Update

Blackjack Game Vision Statement

The Blackjack Web Application is a user-friendly platform where users can play the well-known card game blackjack in a digital setting. The program will be made with casual gamers and card game fans in mind, offering a smooth gaming experience with features that guarantee a responsive and error-free experience.

Crucial gaming features like dealing cards, score calculation, chip and money betting, and applying precise Blackjack rules will all be included in the program. In order to enhance the user experience, this program will also have improved features including customizable decks and tables, an interactive tutorial for novices, and a leaderboard that tracks and shows results in real time.

Casual players looking for enjoyment and a practical approach to play Blackjack without actual cards or opponents will be the main users of this application. In order to ensure accessibility and fun for all users, the secondary users include amateurs who want to hone their Blackjack strategy in a risk-free setting.

To provide safe access to the game, user authentication will be incorporated into the Blackjack Web Application's pre-release version. This feature will guarantee a smooth and customized gaming experience by enabling users to create unique profiles and monitor their progress. The application will also offer the essential elements, like a multiplayer option where players can compete in real time with friends, a single-player game with an AI dealer for casual play, and progress tracking with comprehensive statistics and achievements, to enhance the gaming experience.

Advanced features will be added to the application in future releases to improve the game experience. These could include enabling users to invite others to play directly and share their accomplishments on social media sites like Facebook and Instagram. utilizing AI to provide a tough and individualized experience by modifying its skill level in response to the player's performance. Increasing accessibility by releasing an iOS and Android mobile version of the game.

The goal of the Blackjack Web Application is to preserve the integrity of the traditional card game while providing a fun and unforgettable experience. The application serves a broad audience by bringing the traditional card game to a digital environment, including both casual players and fans of Blackjack. User reviews, retention rates, and engagement indicators like the quantity of games finished, active players, and leaderboard activity will all be used to gauge success.

Big User Stories for The Blackjack Game

User Account Management

As a user, I want to register, login and edit my profile.

Priority: High

Cost: 4 Days

Blackjack Gameplay Management

As a player, I want to play Blackjack with traditional rules.

Priority: High

Cost: 3 days

Leaderboard and Statistics

As a player, I want to view my personal statistics and a leaderboard.

Priority: Medium

Cost: 3 days

Multiplayer and Game Modes

As a player, I want to join multiplayer tables, chat and compete with others.

Priority: High

Cost: 5 days

Chips and Virtual Currency Management

As a player, I want to manage my virtual currency (chips), to place bets and track my balance.

Priority: Medium

Cost: 4 days

Security and Fair Play

As a player, I want to play in secure environment, where my data is protected and the game is fair.

Priority: High

Cost: 5 days

1: User Account Management

- The ability to register, log in, and edit profiles should be available to users. Password recovery, profile modification, and authentication should all be supported by the system.
- Priority: High
  Cost: 6 days

2: Blackjack Gameplay Management

- Users should be able to play Blackjack using the conventional rules, which include betting, card dealing, AI dealer for single-player mode, and winner determination.
- Priority: High
  Cost: 10 days

3: Leaderboard and Statistics

- The system ought to monitor game data and show player performance-based leaderboards. It should be possible for players to see and compare their own statistics.
- Priority: Medium
- Cost: 5 days

4: Multiplayer and Game Modes

- Real-time multiplayer gameplay should be supported by the system, enabling users to join tables, communicate with one another through chat, and engage in competition.
- Priority: High
  Cost: 12 days

5: Chips and Virtual Currency Management

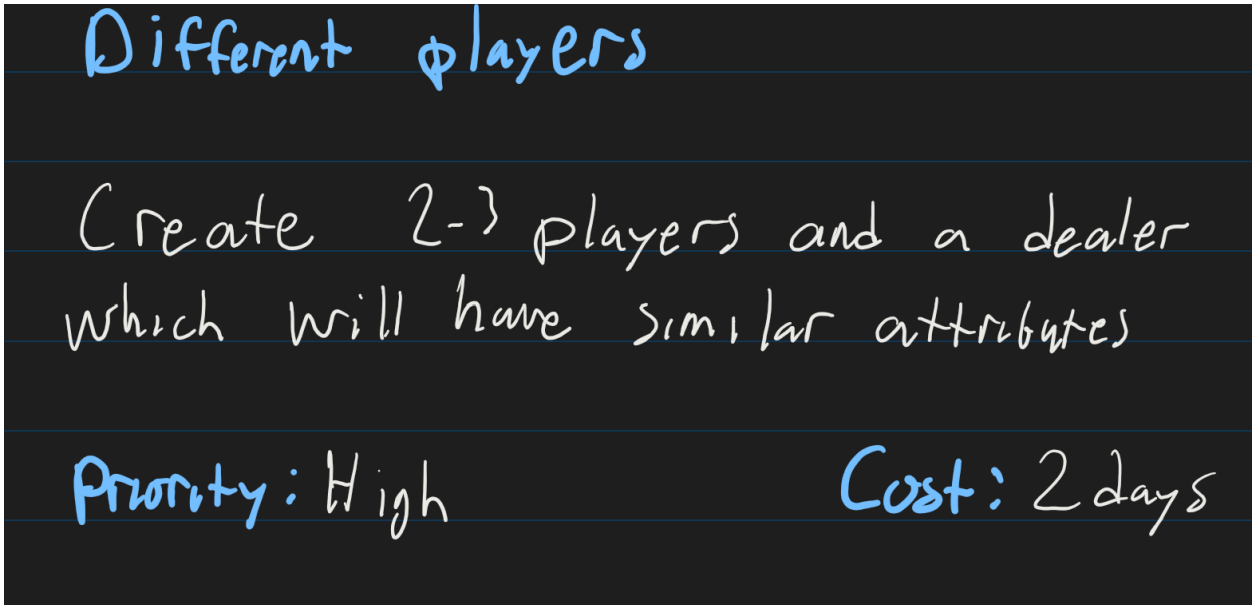
- To wager, players should have virtual currency, such as chips. The system ought to monitor chip balances, permit transactions, and provide daily incentives.
- Priority: Medium
- Cost: 7 days

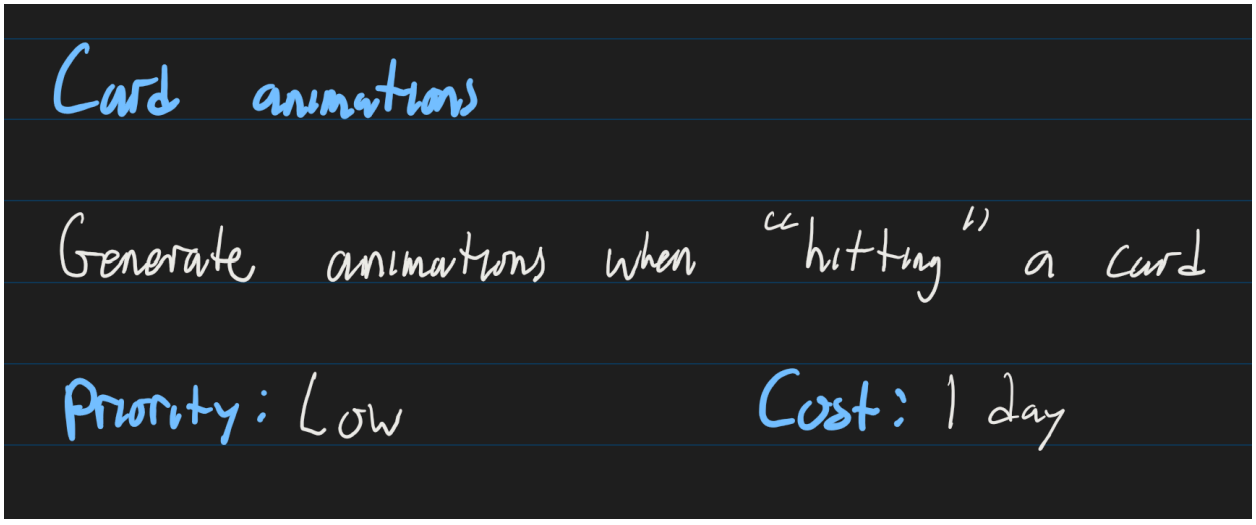
6: Security and Fair Play

- To guarantee fair play, stop cheating, and safeguard user data, the system should have security features.
- Priority: High
  Cost: 8 days

Link to the interview:
https://www.youtube.com/watch?v=wNUMdIqBrlw

Iteration 1 Detailed User Stories





Different hands

Organize the game to count hands and calculate who won each round.

Priority: High Cost: 2 days

Betting

Create opportunity to bet high or low in each round

Priority: Medium Cost: 3 days

Cards and deck

Organize the deck to be shuffled when starting a round.

Priority: High Cost: 1 day

UPDATE FOR ITR1

Features that have been implemented:

- Blackjack core gameplay (Blackjack Gameplay Management) **(Big User Story)**:
    - Hit
    - Stand
    - Surrender
    - Double down
    - Betting
    - Insurance
    - Card dealing
    - An autonomous dealer
    - Winner determination
- Statistics **(Big User Story)**:
    - All relevant stats such as wins, losses, pushes and chips have been implemented
- Chips and Virtual Currency Management **(Big User Story)**:
    - A virtual currency in the form of chips have been implemented
    - Transactions in the form of bets, surrenders and insurance have been implemented
- User and Account Management **(Big User Story)**
    - You can create a username and password that stores your stats in the database
- Betting **(ITR1 Story)**:
    - Can bet high or low each round
- Different Hands **(ITR1 Story)**:
    - Can see and calculate the value of different hands to determine who wins the round
- Card and deck **(ITR1 Story)**:
    - The deck can be shuffled and is shuffled before each game
    - When the deck runs out of cards, the deck is refilled from the discarded deck and reshuffled

Features that haven’t been implemented and why it hasn’t:

- Multiple(Different) Players **(ITR1 Story)**:
    - This will be done once the online multiplayer is implemented
- Card Animations **(ITR1 Story)**:
    - The GUI library we’re using doesn’t support this type of animation

The rest of the Big User Stories are on track to be done by the end of Iteration 3.

Iteration 2 Detailed User Stories

Split Feature

- Able to split hands
- This will double the bet and give the player two chances to win but with double the cost

Creating a User Profile

- Able to set a username and password
- Saves your data from previous playthroughs
- Your username is your unique identifier for the friend feature

Friend Feature

- Can add your friends by their username to eventually play with in online multiplayer

Create a Build

- An easier way to access the game, just by clicking an exe file instead of compiling and running in an IDE

Fully Functional Server Database

- A database that is connected to a server rather than a txt file such as the case in Iteration 1
- Stores chip count, username, password, and win/loss stats

UPDATE FOR ITR2

Features that have been implemented:

Security and Fair Play **(Big User Story)**

- With our login system stored safely in a server database, you can be sure your progress, stats and account is protected

User Profile **(ITR2 Story)**

- Able to set your username and password
- Data is saved through playthroughs, can be loaded in at different times so you can pick up where you left off

Fully Functional Server Database **(ITR2 Story)**

- The database is connected to an online server
- Stores chip count, username, password, and win/loss stats
- Prevent data tampering

Build **(ITR2 Story)**

- Game can be run from an EXE file

Features that haven't been implemented:

Split **(ITR2 Story)**

- Had trouble with the code
- Midterm week + illnesses slowed team down

Multiplayer **(Big User Story)**

- Will be done by the end of Iteration 3

Friend System **(ITR2 Story)**

- Related to the Multiplayer story
- Done by the end of Iteration 3