Project Proposal: Blackjack Game

1a. Introduction

Blackjack, also often known as 21, is one of the most popular card games played in casinos. My goal for this project is to develop a digital version of blackjack that simulates the traditional game and also enhances player engagement through intuitive design and interactive features. This project will serve as a platform to showcase my programming skills, particularly in JavaScript and p5.js, while also exploring creative design elements.

1b. Rules

The goal of Blackjack is to beat the dealer's hand without going over 21.

In blackjack, every player is competing against the dealer–not each other. In a given round, the player's ultimate goal is to get a hand that's higher than the dealer's (without being higher than 21, or "busting"). Only by beating the dealer can a player win their bet. Players determine the value of their hand by tallying up the point values of their cards:

- **2 through 10:** The number listed on the card (e.g., 2 is worth 2 points)
- **Jack, Queen, King:** 10 points
- **Ace:** 1 or 11 points (the player gets to choose)
- An Ace and a 10, Jack, Queen, or King equals 21 points and is known as a Blackjack

2. Artistic Vision

The artistic vision for this blackjack game revolves around creating an immersive and visually appealing experience.

Visual Style: The game will adopt a minimalist aesthetic with a color palette that includes shades of green, black, and red, similar to traditional blackjack tables. Cards will be clearly readable.

User Interface: The interface will be user-friendly and accessible to both experienced players and newcomers. It will feature a clean layout with intuitive controls for actions such as 'hit', 'stand', 'double down', and 'split'. Feedback mechanisms, such as subtle sounds and animation cues, will inform players of game progress and outcomes.

Atmosphere: To further enhance the casino experience, background jazz music and a soft chatter sound track will be optional for users.

3. Technical Specifications and Challenges

Technologies Used:

- **JavaScript**: For game logic and interactions.
- **p5.js**: For drawing the game elements and animations on the web canvas.
- **HTML/CSS**: For structuring and styling the game's interface.

Game Components:

- **Game Logic**: Handling the rules of blackjack, including card values, the dealing process, and determining win/loss scenarios.
- **User Interface**: Developing the visual components and ensuring responsive controls.
- **Sound and Animation**: Integrating audio-visual elements to make the game engaging.

Technical Challenges and Solutions:

- **Randomization and Deck Management**: Ensuring that card dealing is fair and unpredictable. This will be addressed using algorithms for shuffling and managing the deck.
- **Game State Management**: Handling different states of the game, such as initial deal, player interaction, dealer's play, and end of round. This will involve maintaining a state function within the game logic to transition smoothly between different stages.

4. Conclusion

The development of this blackjack game will not only demonstrate my technical abilities in web development and programming but also my creativity in digital design. By overcoming the outlined technical challenges, the final product will offer an engaging and visually appealing experience that represents the game of blackjack. This project is expected to enhance my portfolio and provide a solid foundation for further development in game design and interactive media.

5. References

- Basic Blackjack rules and strategies from [Official Casino Guides].
- JavaScript and p5.js documentation from p5js.org.

6. Sketch