**EECS 581: Software Engineering II**
**Project 3: Architecture**

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**Project Name**: Code-Sino

**Synopsis:**
We are creating a betting site using a combination of HTML5 and JavaScript. Our site will be similar sites Stake or 1win, containing games that you may find online or in Casinos.

**Architecture:**
Our site will contain 5 games, Baccarat, Picture Poker, Crash, Ride the bus, and Blackjack. Each game will be divided into its own separate page, however, your "Money" will be able to be used from game to game. The money earned can be used in our shop to unlock skins, abilities, and more.

      **Baccarat:** There are 3 bets the player can place, player, banker, and tie. Two initial cards are delt to the player and the banker, the score is calculated by doing a % 10 operation on the total score where faces are 10 and aces are 1. The player with the closest to 9 wins. There are cases where a third card will be delt to both the player and/or the banker. A natural is where either side have a 8 or 9, there will be no third card for either side and the game ends. If the player has a score of 0-5 they will get one more card, if they have 6-7 they stand. For the banker, if they have 0-3 they will get a 3$^{rd}$ card. If they have a 7, they stand. A 3 is a draw unless the player's 3$^{rd}$ card is an 8. if they have a 4, and the player's 3$^{rd}$ card is a 2-7, they hit, unless they stand. Banker score of 5, hit for a player 4-7, otherwise stand. Banker score of 6, hit for a player 6-7, otherwise stand. Payouts are 1:1 for player, .95:1 for banker, and 8:1 on a tie.

      **Picture Poker:** In Picture Poker, the hands from poker is used (Pair, Two-Pair, Three-of-a-Kind, Full House, etc.). The player and the dealer will be playing against each other, and the winner will take all the "money" after the round is complete. The player will be given five cards and can discard between 0 to 5 cards to try and get a poker hand. There will be six types of cards each with a different strength. If the player and dealer have the same poker hand, the strength of the card type will determine the winner. If the poker hand and card type are the same, then the "money" will be returned. The cycle repeats. This game is the picture poker from Super Mario 64.

      **Crash:** In crash, you choose an amount to place your bet with. Once you click the start button, the game begins, as the multiplier to the right of you starts to climb up. It's up to the player to decide when they want to "cash out", and have their money be multiplied

from a value between 0-100.00x. But, whenever the game starts, there is a predetermined value at which the multiplier will "crash" at, losing the player all the money that they bet winto the game.  The player also can set an "auto-cashout" value, where the money will cash out as soon as it hits the multiplier that they set the value to.

**Ride the Bus:** Ride the bus is a round-based card betting game where in the first round you guess if the card is black or red. The second round you guess if the card is higher or lower than the last. In the third, you guess if the card drawn is inside or outside the range created by the first 2 cards. Then finally you have to guess the fourth cards drawn suit. Multipliers for getting rounds correct will be 2,3,4, and 20 times the original buy in amount, and there will be an option to exit early for a reduced payout.

**Blackjack:** In Blackjack, players bet against the dealer, where the dealer will match the amount that the player bet on the table. In the initial stage, player will receive 2 random face-up poker cards, where card value from 2-10, face card are 10, Ace can be either 1 or 11.  The dealer will just have 1 face-up card. The next stage, player can "hit"(meaning getting another poker card) or stay ( not getting another poker card and pass to the dealer). When player stay, the dealer will start "hit" to beat the player poker value. In either scenario, if the player or dealer hit over 21 points, the other side win. If player hit 21 and dealer hit 21, then it will be a tie and no money will be lose. If the player have lower value than the dealer or vice versa, the other side win.

**UML Diagrams:**

## Project 3 Directory

default.html
home_style.css
home_func.js
README.md
Global Currency

## Project Documentation

## Images

### Baccarat
HTML
CSS
JavaScript

### Blackjack
HTML
CSS
JavaScript

### Crash
HTML
CSS
JavaScript

### Picture Poker
HTML
CSS
JavaScript

### Ride the Bus
HTML
CSS
JavaScript

## Baccarat (top-left frame)

**HTML**
Website Structure

**CSS**
Website Design

**JavaScript**
Functions
+ select_bet()
+ select_winner()

**Baccarat**
+ betting()
+ game_state()
+ play()
+ back_btn()

**Images Directory**
Images

## Blackjack (top-right frame)

**HTML**
Website Structure

**CSS**
Website Design

**JavaScript**
Functions
+ point_calculator()
+ dealer_function()
+ card_shuffle()

**Blackjack**
+ betting()
+ game_state()
+ play()
+ back_btn()

**Images Directory**
Images

## Crash (bottom-left frame)

**HTML**
Website Structure

**CSS**
Website Design
+ graph
+ multiplier

**JavaScript**
Functions
+ cash_out()
+ stop_value()
+ grow_graph()

**Crash**
+ betting()
+ game_state()
+ play()
+ back_btn()

**Images Directory**
Images

## Picture Poker (bottom-right frame)

**HTML**
Website Structure

**CSS**
Website Design

**JavaScript**
Functions
+ Stack_Data_Structure
+ AI

**Picture Poker**
+ betting()
+ game_state()
+ play()
+ back_btn()

**Images Directory**
Images

**HTML**

Website Structure

**CSS**

Website Design

**JavaScript**

Functions

+ game_mechanism()

**Ride the Bus**

+ betting()
+ game_state()
+ play()
+ back_btn()

**Images Directory**

Images