

Team Hydroflasksk
SoftDev1 Pd1
P02 -- Design Document
2020-01-??

| | | |
|----|----------------|------------------------------------------------------------------|
| PM | Kiran Vuksanaj | kiran-vuksanaj@github |
| | Tiffany Cao | TiffanyCao@github |
| | Amanda Zheng | Mandy-Zheng@github |
| | Jackie Lin | jlin00@github |

Project Name - The Black Diamond Casino

Ideation Engine ID 61 / 25b: *Casino Game*

Frontend Framework of Choice: [Bootstrap](#)

We decided to use bootstrap mainly because we all have more experience in bootstrap and also we vibe with the aesthetics and grid system of bootstrap more than foundation. Moreover, bootstrap has more readily available features.



Basic Description

Our project will recreate a casino. We will have lottery tickets, Texas Hold'em, Wheel of Fortune, Blackjack, a dice game, Chinese Poker, and the seven slot machine (and more in our extra features if we have time). When a player makes an account, they will get a chance to spin the Wheel of Fortune so each player will get a starting amount of money from the Wheel. They can spin the Wheel once a day which will act as a way for players to continue using our website even if they lose all their money. The player plays these games by paying a small price and winning prizes. For lottery, the user can buy a ticket and scratch it to see their results. For Texas Hold'em, live updates between devices in one game will be required; bets and checks in each round will occur on a turn-by-turn basis, and once a player selects a bet it will update on all other players' screens, and bet options will change accordingly.

Project Timeline

Minimum Viable Product

- User login and signup
- User profile
- Wheel of Fortune
- Dice Game
- Blackjack
- Seven Slot Machine
- Store (lottery tickets)

Ideal Product

- Texas Hold'em

- Chinese Poker
- Roulette
- Store (boosts)

Extra Features

- Live updating of poker games
- Animation (Wheel of Fortune, Roulette, Dice...etc)
- Deal with players deserting multiplayer games
- Adding friends and creating private games (invite-only)
- Chatting within multiplayer games

Component Description

Front End

- Login
 - Enter username + password (stored in DB)
 - Wrong password redirects back to start with printed error message
- Sign up
 - Enter password and username
 - Check DB for existing username. If the username already exists, prompt the user for a new, different username
- User Profile
 - Users will be able to reset their profile
 - Users will be able to upload their own profile picture
 - Users can view their purchased boosts
 - Users can change their username and password
- Player Store
 - Players can buy “boosts” for the game, e.g:
 - Respin Wheel of Fortune
 - Multiplier for Wheel of Fortune prizes
 - Buy lottery tickets
 - Randomize lottery ticket
 - Tickets covered by gray block
 - Draggable coin used to erase gray block and show results (Javascript)
 - Boost lottery-winning chances
- Wheel of Fortune
 - User can spin the wheel of fortune every 24 hours
 - Clicking on icon will show wheel and spin button (Javascript)
 - Spins and lands on a prize that the player can get
- Games
 - Texas Hold'em (multiplayer)
 - Landing page for game will list currently starting games, and clicking on one will add a user to the game
 - Users in a game at one time receive live updates as each turn is completed (Javascript)

- Timer displayed on user end to limit time to make a turn. If time is up, the user is kicked out of the game and the rest of the players earn the money the user has bet.
- Dice Game
 - Player bets either small or big and then clicks to roll two dice
 - If player gets it correct, player wins
 - If player gets it wrong, player loses
- Blackjack
 - Player plays with Computer as Dealer and gets cards per turn
 - Rules follows as normal blackjack and winnings and losing update accordingly
- Slot Machine
 - You can click the machine to spin the slots and see whether they all match and you win or if they don't and you lose
 - Might use Javascript to add special effects
- Chinese Poker (multiplayer)
 - Four players in each game, each player is dealt 13 cards
 - Betting takes place, with a set minimum amount of money. All players have to match the bet amount or raise.
 - Players take turns playing combos, code needed to ensure that combos are valid
 - The player who has no cards left wins
 - Timer displayed on user end to limit time to make a turn. If time is up, the user is kicked out of the game and the rest of the players earn the money the user has bet.
- Roulette
 - Player bets on which slot on a wheel the ball will land on, pays a betting fee
 - The more risky the bet, the higher the multiplier on the reward

Back End

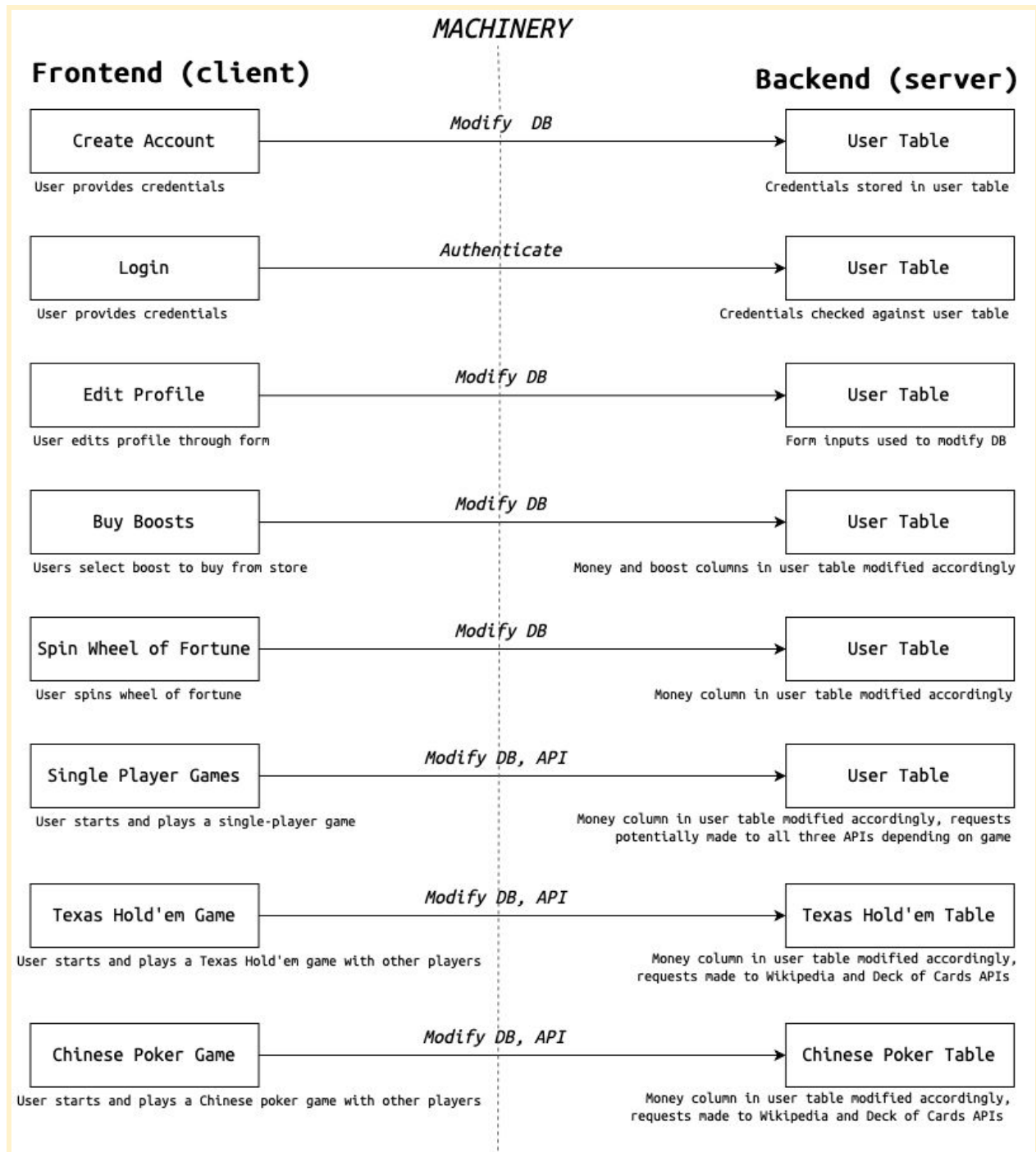
- User table is used for login; it also keeps track of the player's money, profile picture, boosts and time left the wheel of fortune
 - Username, password, money, Wheel of Fortune timer, profile picture
- Texas Hold'em table used to keep track of current cards held by players, users in a game, bets placed on each turn
- Chinese poker
- Queues for the live Texas Hold'em poker game and the Chinese poker (multiplayer) that puts people in queue until there are four people available

API

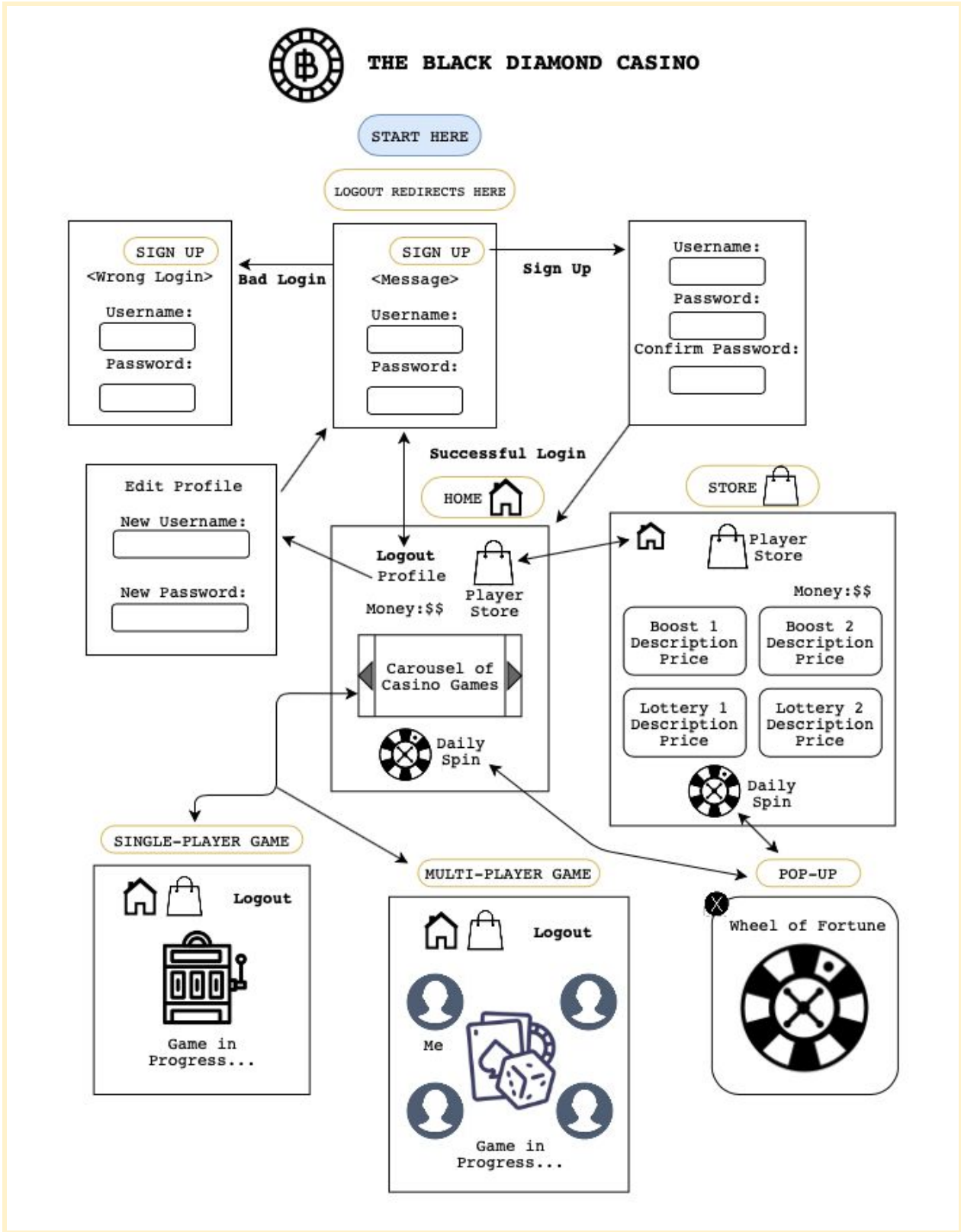
- Deck of Cards API
 - Images of cards for display on the screen
 - Shuffles cards and keeps track of what cards should not reappear for any given game
- Diceful API
 - Used for Dice Game, simulates throwing of dice
 - Images of dice for display on the screen

- Wikipedia API
 - Used for explaining game rules

Component Map



Site Map



Database Design

USER TABLE

| | | | | | |
|----------|----------|-------|---------|---------|--------|
| username | password | pfp | money | time | boosts |
| TEXT | TEXT | TEXT* | INTEGER | INTEGER | TEXT** |

*pfp contains link to user's profile picture

**comma-separated list of boosts owned by user

TEXAS HOLD'EM TABLE

| | | | | | | | | |
|---------|---------|-------|-------|---------|---------|---------|---------|----------|
| game_id | player* | card1 | card2 | [card3] | [card4] | [card5] | bet | folded** |
| INTEGER | TEXT | TEXT | TEXT | TEXT | TEXT | TEXT | INTEGER | INTEGER |

*if player is **board** (keyword), then cards instead represent cards on the table, and bet represents the total pot; all users except **board** have nothing in the cards 3-5 columns

**if the player quits game by folding

CHINESE POKER TABLE

| | | | | | | |
|---------|---------|---------|---------|---------|--------|---------|
| game_id | player1 | player2 | player3 | player4 | played | up |
| INTEGER | TEXT* | TEXT* | TEXT* | TEXT* | TEXT** | TEXT*** |

*each player has a comma-separated list of the cards they hold, first item in the list is their pre-game bets

**stores the latest set of cards put down by a player

***contains name of player who is up next

Card Formatting

C-club, S-spade, D-diamond, H-heart

11-jack, 12-queen, 13-king, 1-ace

Card examples: S1 - ace of spades; C8 - 8 of clubs; D12 - queen of diamonds

Role Assignment

| | |
|-------|----------------------------------------------------------------------------------------------------|
| KV | Royal Flush (PM) Texas Hold'em Blackjack |
| TCao | Ace of Spades Dice Game Slot Machine Wikipedia Descriptions |
| JL | Jack-of-All-Trades Chinese Poker Roulette User Profile |
| Mandy | Queen Fortunata Wheel of Fortune Store (lottery tickets, boosts) Sign-in and login |