Team Hydroflaskskskk
SoftDev1 Pd1
P02 -- Design Document
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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

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

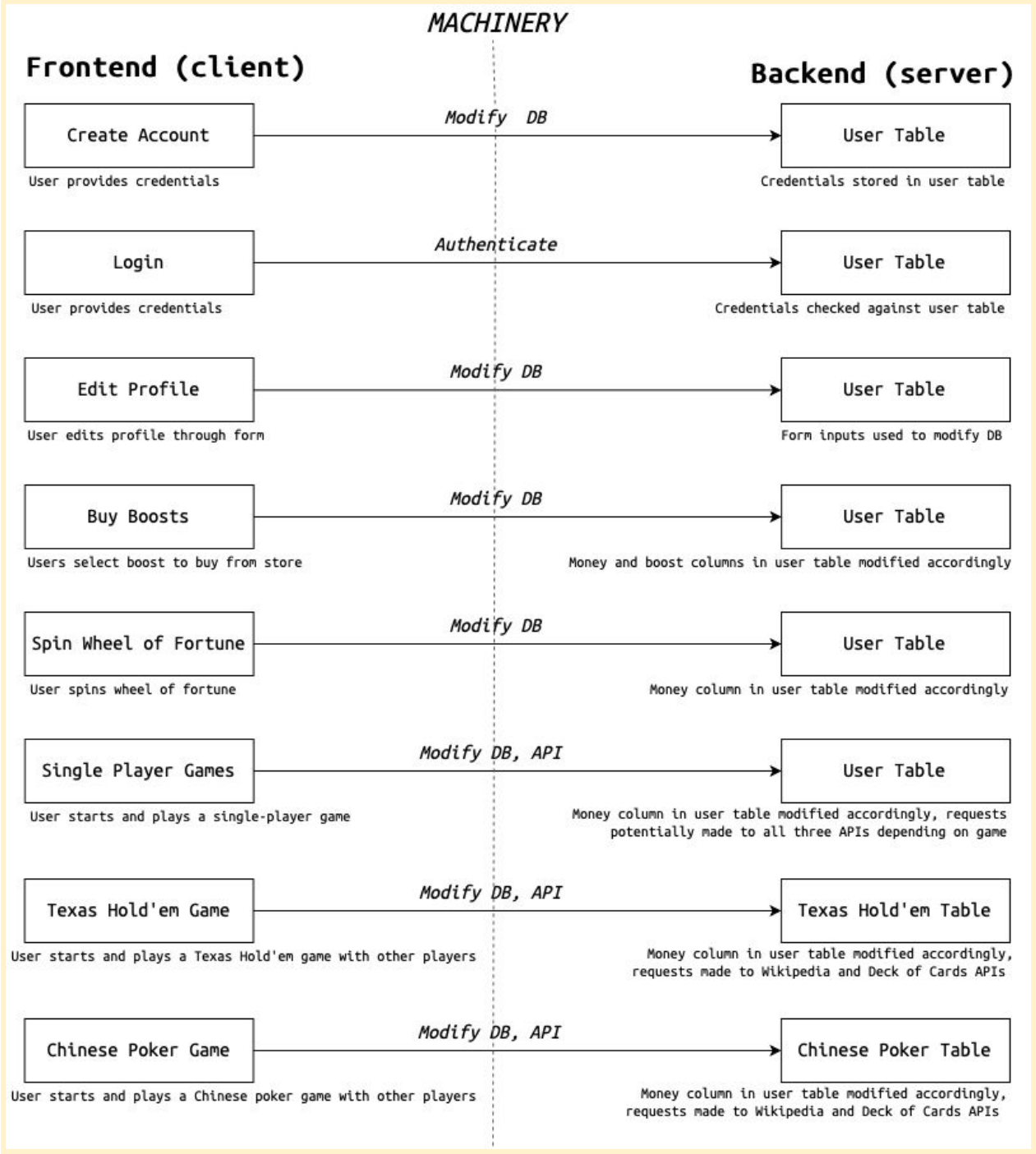
Back End

- 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

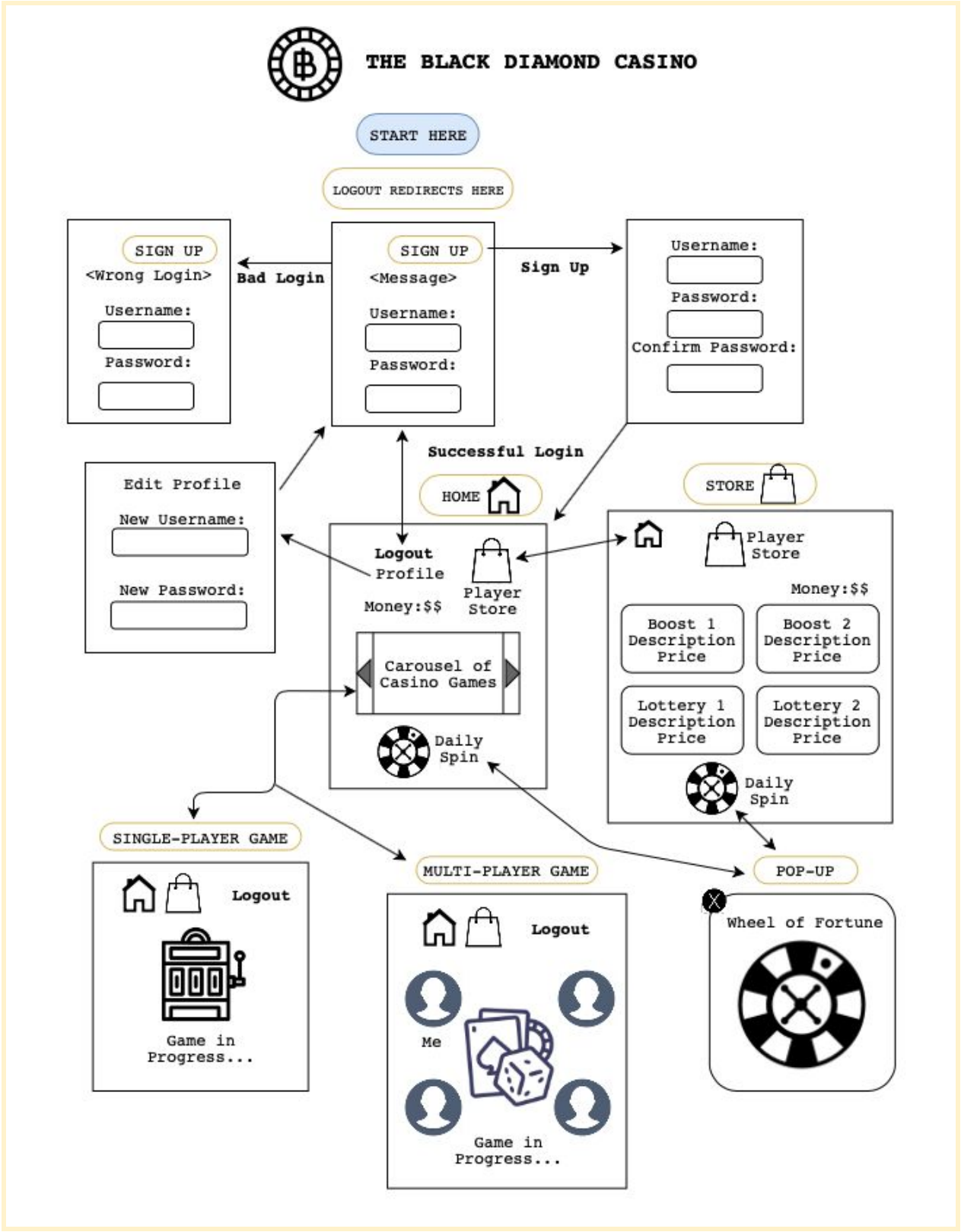
API

- 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


THE BLACK DIAMOND CASINO
START HERE
LOGOUT REDIRECTS HERE
SIGN UP
<Wrong Login>
Username:
Password:
Bad Login
SIGN UP
<Message>
Username:
Password:
Sign Up
Username:
Password:
Confirm Password:
Successful Login
Edit Profile
New Username:
New Password:
HOME
Logout
Profile
Player Store
Money:$$
Carousel of Casino Games
Daily Spin
STORE
Player Store
Money:$$
Boost 1 Description Price
Boost 2 Description Price
Lottery 1 Description Price
Lottery 2 Description Price
Daily Spin
SINGLE-PLAYER GAME
Logout
Game in Progress...
MULTI-PLAYER GAME
Logout
Me
Game in Progress...
POP-UP
Wheel of Fortune

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