Team Hydroflaskskskk
SoftDev1 Pd1
P02 -- Design Document
2020-01-16

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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, roulette and the 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, checks and bets will occur on a turn by turn basis, with a timer indicating how long they have to make a move to avoid being kicked from the game. A corresponding timer will display on waiting user's screens, and at the end of each turn, refreshing the screen will allow them to receive updated information- a stretch goal will be to streamline this process with AJAX updating.

Project Timeline

Minimum Viable Product

- User login and signup
- User profile
- Wheel of Fortune
- Dice Game
- Seven Slot Machine

- Roulette

Ideal Product

- Blackjack
- Texas Hold'em, turn based with refreshing
- Store (with lottery tickets)

Extra Features

- Store (with boosts)
- Chinese Poker
- 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 can change their username and password
  - Users can view their money and purchased lottery tickets
- Player Store
  - Players can buy lottery tickets
    - Differently priced, with different ways of "winning"
    - Tickets covered by gray block
    - Draggable coin used to erase gray block and show results (Javascript)
- 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
    - 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

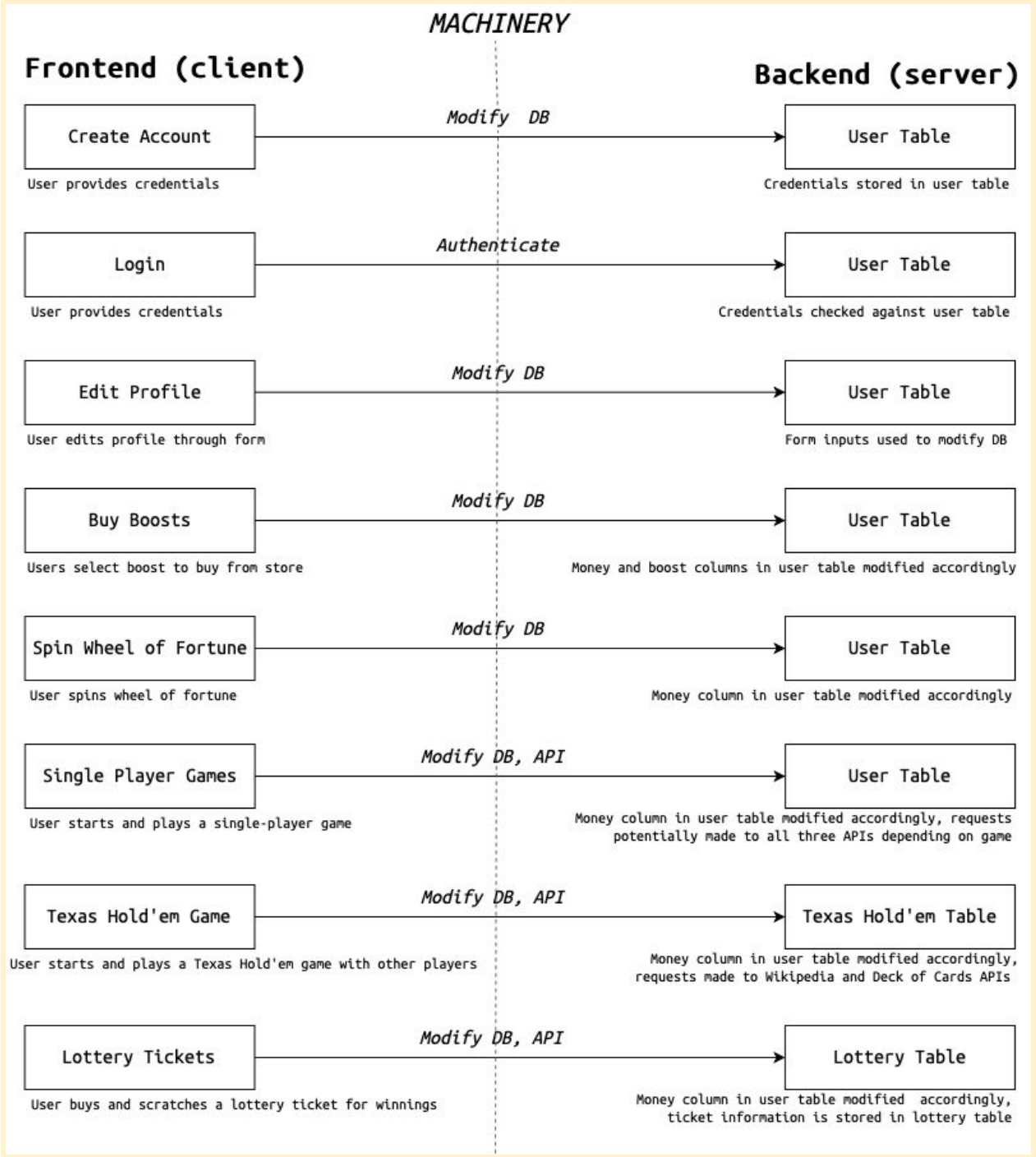
Back End

- 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
- Queues for the live Texas Hold'em poker game that puts people in queue until there are four people available

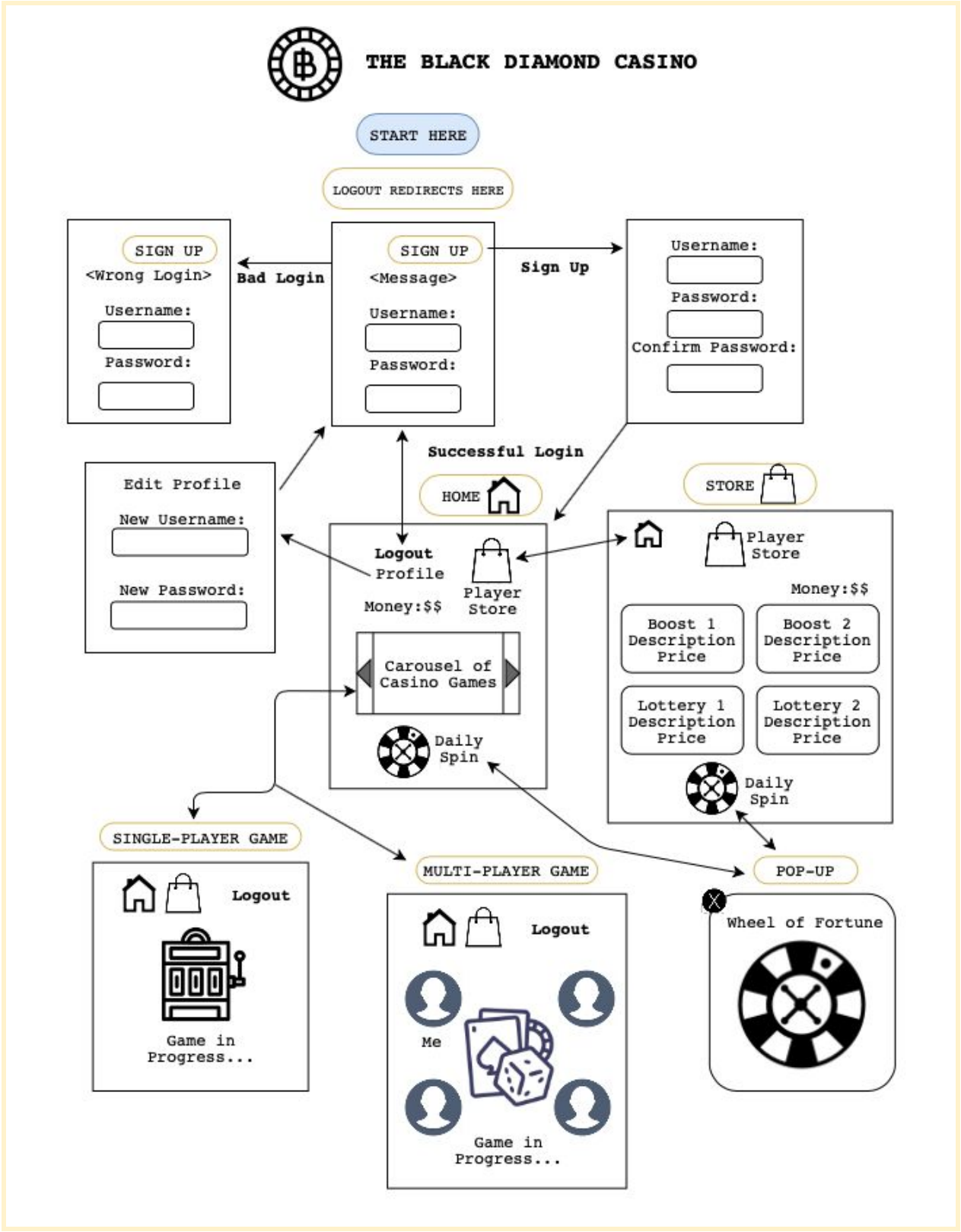
API and Libraries

- 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 Library (installed through pip)
    - Used for explaining game rules, selecting text from sections labeled '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**
TEXT	TEXT	TEXT	TEXT	TEXT	TEXT	TEXT	INTEGER	INTEGER

*the game id will come directly from the deck of cards API, as this is guaranteed to be unique and is necessary when new cards are to be drawn
*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

LOTTERY TABLE

id	owner	numbers	claimed
INTEGER	TEXT	TEXT*	INTEGER

*each ticket has a comma-separated list of nine numbers (lotto numbers)

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)**
Project Manager
(stretch goal) AJAX updating

TCao **Ace of Spades**
Bootstrap Front End Styling - Maintain consistency across website

JL **Jack-of-All-Trades**
Database Management / Interaction

Mandy **Queen Fortunata**
API Call Management
JavaScript Browser-side code