Sunny Side Up: Diana Akhmedova, Samantha Hua, Nicholas Tarsis, Faiza Huda
SoftDev Pd 7
P05 -- Monopoly Deal
2023-06-02

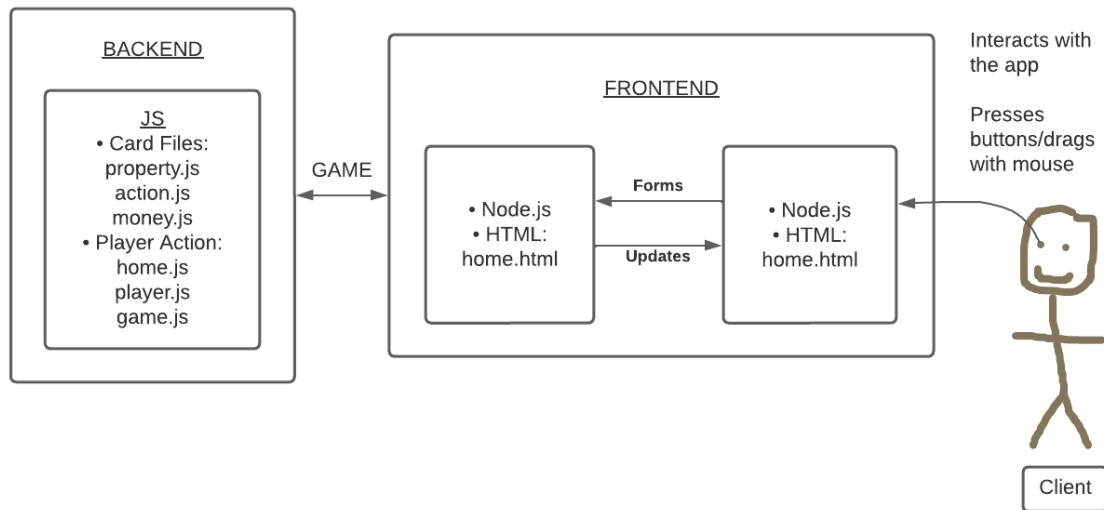**Target Ship Date:** 2023-06-13

Abstract:
Sunny Side Up will recreate the multiplayer, turn-based card game Monopoly Deal. Following the rules of the official game, we will implement Node.js to support real-time gaming between players. The rules are attached below.

Program Components:
- HTML Files:
  - home.html
  - game.html
- CSS Files:
  - style.css
- JS Files:
  - home.js
  - property.js
  - action.js
  - money.js
  - player.js
  - game.js
- Image Files:
  - We will have .png files for every card in the game
- Node.js
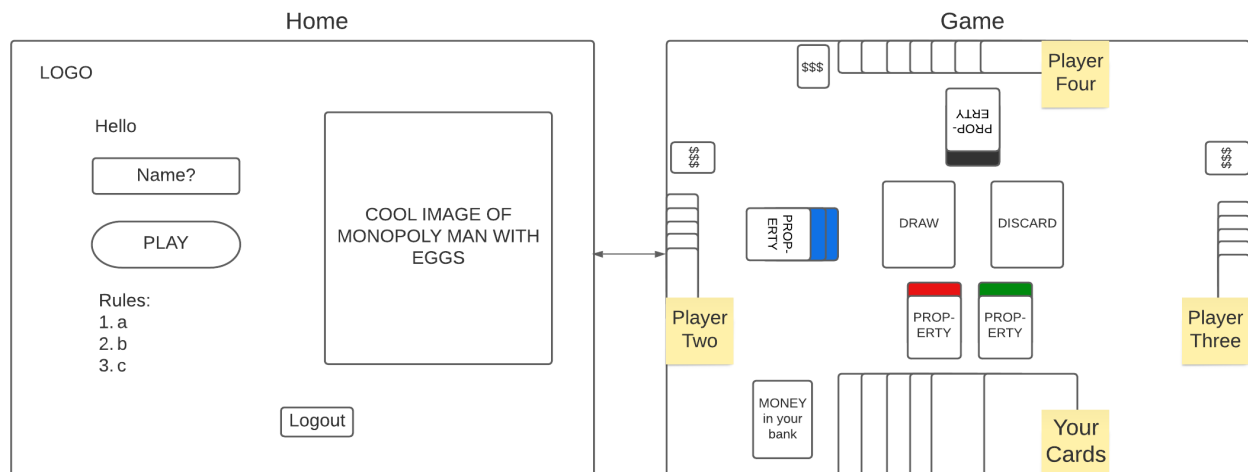 - Handles the multiplayer aspect of the game

Component Map:

BACKEND

JS
• Card Files:
property.js
action.js
money.js
• Player Action:
home.js
player.js
game.js

GAME

FRONTEND

• Node.js
• HTML:
home.html

Forms

Updates

• Node.js
• HTML:
home.html

Interacts with
the app

Presses
buttons/drags
with mouse

Client

Database Organization:

username (TEXT)	password (TEXT)
dawg	w00f
egg	sunnysideup

Site Map:

Home

LOGO

Hello

Name?

PLAY

Rules:
1. a
2. b
3. c

Logout

COOL IMAGE OF
MONOPOLY MAN WITH
EGGS

Game

$$$

Player
Four

PROP-
ERTY

$$$

$$$

PROP-
ERTY

DRAW

DISCARD

Player
Two

PROP-
ERTY

PROP-
ERTY

Player
Three

MONEY
in your
bank

Your
Cards

Rules:

- Goal - Own three complete sets of property
- Set up - Each player gets dealt a hand of 5 cards
- Turn - Pick up two cards, Play up to three cards

Special Cases:
- If you owe money and do not have enough money in your bank, you must give up property of equal value to the debt
- If you owe someone money but have zero assets you do not have to pay
- If you have no cards, pick up 5
- If you have more than 7 cards at the end of your turn, discard cards until you have seven

Front End Framework (FEF): Bootstrap
- Bootstrap because we are more familiar with it, it is easier to use, and it has a wide variety of tools

Job Assignments:
- Diana Akhmedova(PM) - Cards, Graphics in JS
- Samantha Hua - Cards, Join button
- Nicholas Tarsis - Droplet, Graphics in JS
- Faiza Huda - Implementing cards with game rules, Join button

Tasks:
- ☑ ~~Play Monopoly Deal to learn how to play the game we will make~~
- ☐ Learn Node.js
- ☐ Make a Droplet
    - ☐ Get a domain
    - ☐ Make app work on droplet
- ☐ Home Page
    - ☐ Logo
    - ☐ Reverting people to login page if they aren't logged in
    - ☐ Login message
    - ☐ Play button leads to Game Page
    - ☐ Rules summary
    - ☐ Monopoly man image

☐ Logout button
☐ Game Page
  ☐ Logo
  ☐ Track user movements
  ☐ Send other user movements in real time
  ☐ Make users adhere to game rules
  ☐ Create different card types (Property, Action, Money)
  ☐ Create specific cards based on parent class
  ☐ Implement the correct probability of drawing the cards as dictated by the game deck
  ☐ Implement game rules with cards
  ☐ Display cards correctly on board

Stretch Goals:
- Add a leaderboard
- Add profile pictures and the ability to change usernames
- Add game rooms people can create/join
- Create a chatroom (w/emojis)
- You can see the specific property card names when they are in your hand (ex: Indiana Avenue)
- Implement wild rent and property cards

Cards in Game:

- <u>Property Cards</u>
  - Red - 3
    - Rent: $2, $3, $6
    - Illinois Avenue
    - Kentucky Avenue
    - Indiana Avenue
  - Orange - 3
    - Rent: $1, $3, $5
    - St. James Place
    - Tennessee Avenue
    - New York Avenue
  - Yellow - 3
    - Rent: $2, $4, $6
    - Atlantic Avenue
    - Ventnor Avenue
    - Marvin Avenue
  - Light Green (Utilities) - 2
    - Rent: $1, $2
    - Electric Company
    - Water Works
  - Dark Green - 3
    - Rent: $2, $4, $7
    - North Carolina Avenue
    - Pennsylvania Avenue
    - Pacific Avenue
  - Light Blue - 3
    - Rent: $1, $2, $3
    - Oriental Avenue
    - Connecticut Avenue
    - Vermont Avenue
  - Dark Blue - 2
    - Rent: $3, $8
    - Park Place
    - Boardwalk

- ○ Pink - 3
  - ■ Rent: $1, $2, $4
  - ■ States Avenue
  - ■ St. Charles Place
  - ■ Virginia Avenue
- ○ Brown - 2
  - ■ Rent: $1, $2
  - ■ Mediterranean Avenue, Baltic Avenue
- ○ Black (Railroad) - 4
  - ■ Rent: $1, $2, $3, $4
  - ■ Pennsylvania Railroad
  - ■ Reading Railroad
  - ■ B. & O. Railroad
  - ■ Short Line
- ○ Property Wild Cards - 2 each
  - ■ Red/Yellow
  - ■ Pink/Orange
  - ■ Dark Blue/Dark Green
  - ■ Light Blue/Brown
  - ■ Black (Railroad)/Light Green (Utilities)
  - ■ Black (Railroad)/Light Blue
  - ■ Black (Railroad)/Green
- ● <u>Action Cards</u>
  - ○ Rent - 2 each
    - ■ Charge player(s) money based off of the color and amount of property as specified by the card
    - ■ Red/Yellow
    - ■ Orange/Pink
    - ■ Light Green (Utilities)/Black (Railroads)
    - ■ Light Blue/Brown
    - ■ Dark Green/Dark Blue
    - ■ Wild (only one player affected) - 3
  - ○ Houses/Hotels
    - ■ If added to a complete set, it increases the rent amount
    - ■ If added to bank, it liquidates into cash

- - - Houses: 3M - 3
    - Hotels: 4M - 2
  - Deals
    - Sly Deal - 3
      - Steal a player's property card as long as it is not part of a complete set
    - Forced Deal - 3
      - Swap property cards with a player as long as their card's not part of a complete set
    - Deal Breaker - 2
      - Steal a complete set of property
    - Debt Collector - 3
      - Force any player to pay you 5M
  - Just Say No - 3
    - Cancel any action that is played against you
  - Pass Go - 10
    - Draw 2 extra cards
  - Double the Rent - 2
    - Played with a Rent card
  - It's my Birthday - 3
    - All players pay 2M
- Money Cards
  - 1M (6), 2M (5), 3M (3), 4M (3), 5M (2), 10M (1)