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Title: Mario Party

About

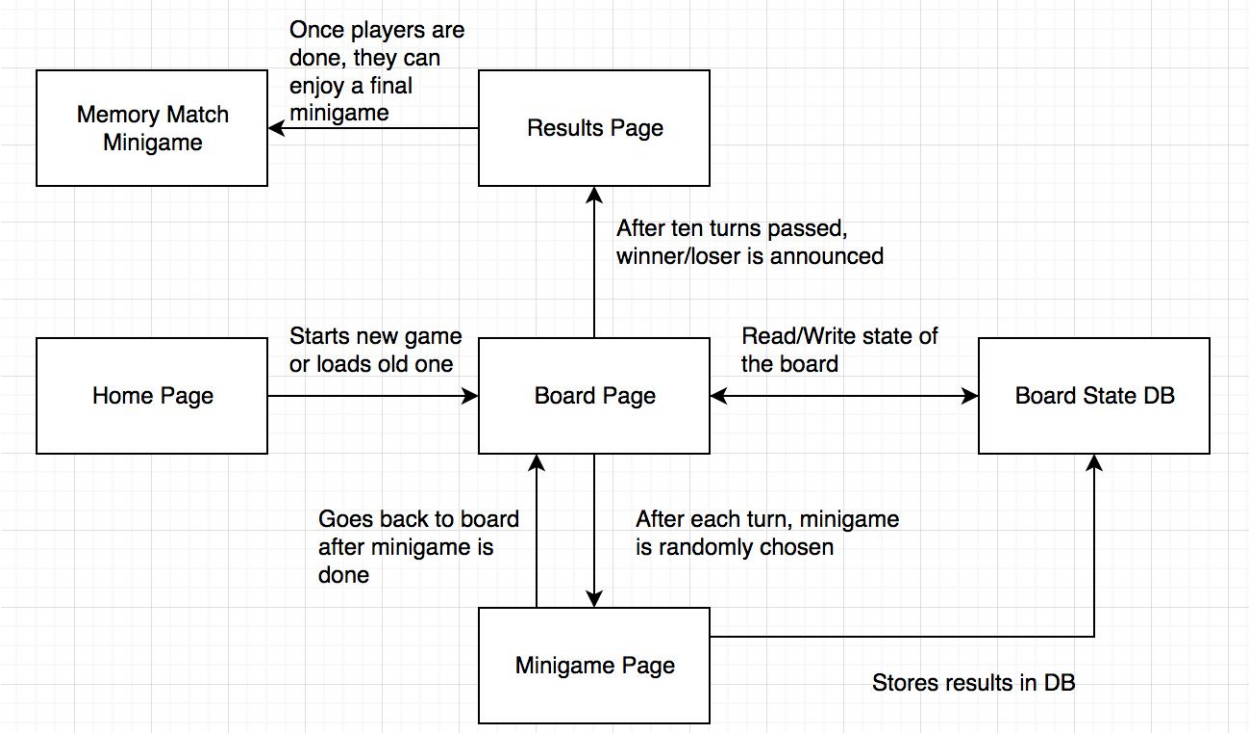
We are creating a simplified version of Mario Party. Two players will play on the same computer for 10 turns. Each player starts with 10 coins. In every turn, each player will roll the die and land on a spot where they will gain/receive a certain amount of coins. After each player traverses the board, a minigame will randomly be selected for them to play. The winner of the minigame will receive 10 coins. The player with the most coins at the end wins.

List of Program Components

- Home page
    - Project Description
    - Form where players can enter their gameID to continue playing their game
    - Button where players can create a new game
- Board page
    - Has the board with the players traversing it
    - Each colored tiles gives the player a different amount of coins
    - After each turn, a minigame is randomly chosen
- Minigame pages (one per minigame)
    - Allows the players to play the minigame together
- Minigame javascript scripts (one per minigame)
    - Makes each minigame interactive
- Board database (fake.db)
    - Stores the state of the board
- app.py
    - Flask app
    - Functions:
        - Functions for each minigame to work
        - Functions for the board (e.g. function that allows the player to move around the board)
- database.py
    - Module that allows app.py to interact with the database
    - Functions:
        - Getters (e.g. getCoins(), getTurnNumber(), etc.) and setters (e.g. setCoins(), setTurnNumber, etc.)

        - authenticate()
            - Makes sure that the game ID inputted exists and is an uncompleted game
        - Function to create a new game

Relationship Between Components



- Home page
    - Contains character selection form
        - The submit button would be the start new game button, would link to board page
    - Adds a game to the games database, turns = 0, generate a random gamecode to return to the player (to return to later)
    - Contains a form where users can enter a former game ID and password so that players can continue their game
        - If the game was already completed, a message will be flashed on this page saying so
- Board Page
    - Color-coded board of tiles with characters selected on the home page
    - Allows the players to “roll a die” (by pressing the s key or the k key)

    - Each colored board tile makes the player gain/lose a certain amount of coins
    - Updates the games database to keep track of what turn the game is on and how many coins each player got
    - Accesses players database to display leaderboard
- Results Page
    - Shows who won or lost (or if there was a tie)
    - Accesses players database to display leaderboard
    - Links players to memory match minigame
- Minigame Pages
    - Each minigame has a different page
    - Players will play simultaneously on the keyboard (where on the keyboard depends on the minigame)
    - Once the game is finished, links back to the board page
    - Updates the player database with coins won during the minigame
- Memory Match Minigame Page
    - Players simultaneously play with the mouse by taking turns
    - Game is replayable - can be played as many times as you want
    - Only accessible after a game is finished

Database Schema (exact names subject to change)

- Board.db
    - Has two tables
        - Games -> stores game ID, how many turns have passed, a passcode (for returning to the game at a later time), and where the game is in a turn (i.e. is it at the board or one of the minigames?)
        - Players -> stores data for each player in each game (gameID, playerID [i.e. Mario or Luigi], coins, player position on the board)

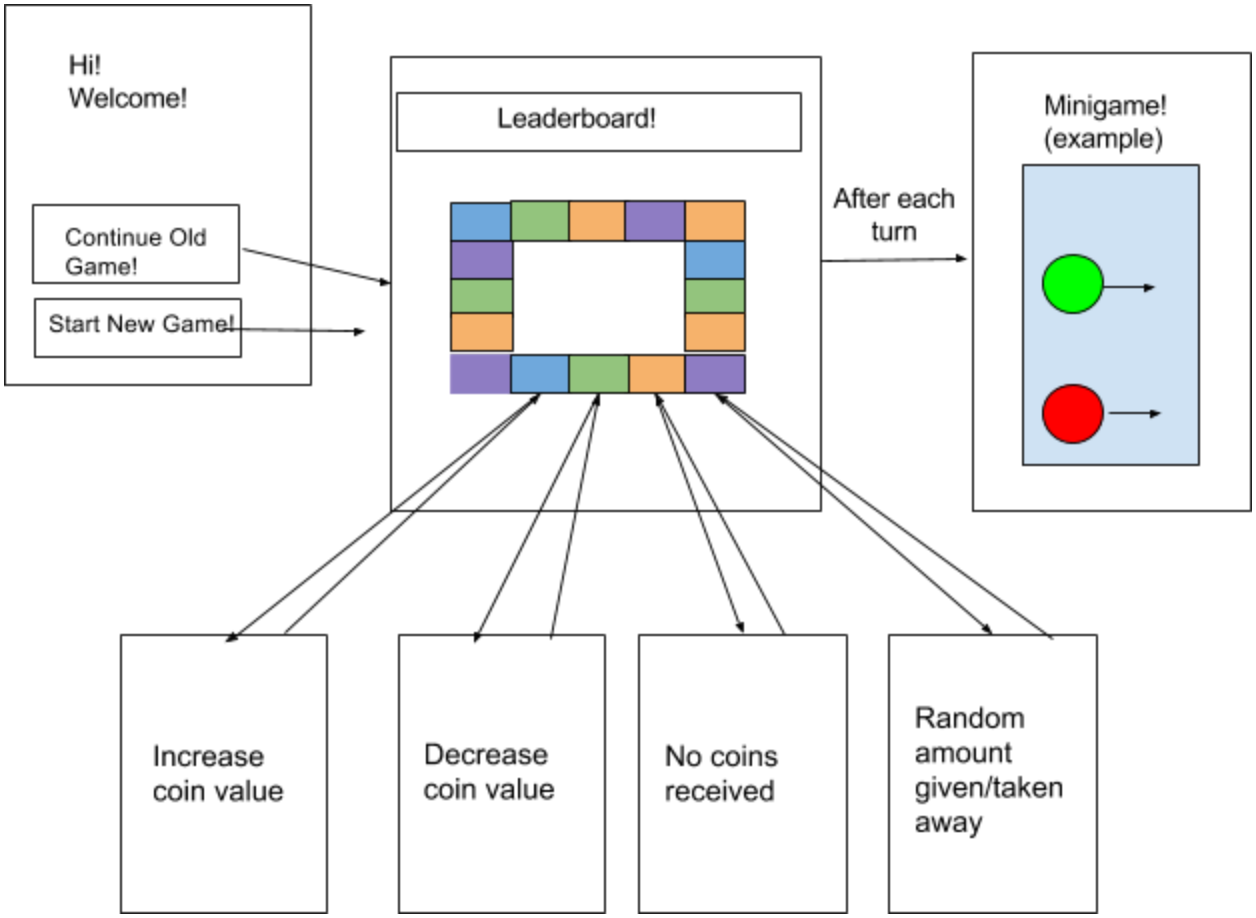
Games

gameID	turns	passcode	place_in_turn
1	5	1832	0
2	9	3891	1
3	7	3108	2
...	...	...	...

Players

gameID	playerID	coins	Position (in squares from origin)
1	1	20	0
1	2	29	5
2	1	10	8
2	2	18	2
...	...	...	...

Sitemap for Front-end



Breakdown of Tasks

Tiffany Chen - project manager, home page, css
Jonathan Quang - slot machine minigame and that dinosaur minigame when chrome has no access to internet
Iris Tao - memory match minigame
Donia Tung - board pages