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SoftDev
P05
2025-04-29
Time Spent:
TARGET SHIP DATE: {2025-06-19}

Project Overview:

We plan on creating a game very similar to GamePigeon, but on a website. This iMessage game can be played between multiple players through their phone numbers and comprises a set of multiple mini games. This is a turn-based game where one person plays a round and sends the game to another player so they can play their round. Depending on the number of points scored, one of the players wins the game. However, this is only available on iPhone, which not everyone has. Therefore, we are trying to create a more accessible version of the multiplayer game that everyone can play and enjoy. For our game, we will be creating the three mini word games, Anagrams, Word Hunt, and Word Bites. These games all consist of forming as many words as possible with the letters given in different simulations – Word Hunt is connecting letters on a board, Anagrams is rearranging the few letters given, and Word Bites is similar to solitaire Scrabble. There will be leaderboards as well to track users stats as well as different game modes like a random multiplayer mode, guest mode, single player mode, and friend list multiplayer mode.

Components

- **Nav Bar: (Shows on all pages)**
    - **If logged in:**
        - Team name (directs to home page), Notifications, Games (redirects to game page), Friends page, Username, Log out button
        - Notifications: Pending friend requests (accept/decline), pending games (redirect to game page)
    - If logged out:
        - Games, login/register
- *home.html*
    - Nav bar (see above)
    - Profile info if logged in
        - Highest score for each game
        - Number of games played for each mode
        - Recent challenge history/log
    - Friends list if logged in
        - Sort by most recent?

- ○ Friends requests if logged in (Accept/Decline)
- ○ If not logged in, brief blurb about how guest mode is only single player and will not be saved
- **gamepage.html**
  - ○ Nav bar (see above)
  - ○ All directly sent pending challenges (from friends or not) at the top of page
  - ○ 3 floating cards of 3 games and different game mode options (if game is created or joined, redirect to respective game page)
    - Pending users waiting for another player below the cards
    - Ability to invite friend/user to new game (search up)
    - Start a new multiplayer game (play your round and wait for someone else to play one)
    - Start a new single player game
    - Clicking start a new game prompts a pop-up that allows you to choose between single player or multiplayer mode

** Pending challenge from __: Accept/Decline
** Pending challenge from __: Accept/Decline

| Anagrams Maybe a one sentence desc here	Word Hunt Maybe a one sentence desc here	Word bites Maybe a one sentence desc here
Pending games to join: ** User__ ** User__	Pending games to join: ** User__ ** User__	Pending games to join: ** User__ ** User__
Invite friend/user to new game	Invite friend/user to new game	Invite friend/user to new game
Start a new game	Start a new game	Start a new game

- ○ If user is not logged in, they are only given singleplayer options

Log in to play multiplayer !

Anagrams Maybe a one sentence desc here	Word Hunt Maybe a one sentence desc here	Word bites Maybe a one sentence desc here
Start a new single player game	Start a new single player game	Start a new single player game

- *login/register.html*
  - Users need to log in or register to be able to have their stats saved on the leaderboard or be able to play multiplayer
  - guest mode: only single player mode is available + does not store score or board info anywhere
  - Usernames have to be unique
- *anagrams.html*
  - Leaderboard
    - Has username and number of points in ascending order
  - Game
    - 1x6 board
    - Logic of selected letter (3 vowels, 3 consonants selected randomly) Can enter words with >= 3 letters
    - If real word (<= 6 letters & in words.txt), adds points; if not, flash message
    - Points are based on length of word (100 for 3, 200 for 4, 400 for 5, 600 for 6)
    - Have 60 seconds to complete (from clicking start to when timer is up)
    - Gets list of words created, and points for each, and total points
    - At the end of game, sends stats to player they are playing w/ and play button for them
    - After the game, if not already friended, popup asking if you'd like to friend the user
- *wordhunt.html*
  - Leaderboard
    - Has username and number of points in ascending order
  - Game
    - 4x4 grid with letters in each grid
    - Users will be able to use their mouse when right-clicked to select a combination of letters on the grid adjacent to one another
      - Each generated grid must have at least a certain amount of possible combinations
    - Given that the word is present in our database, user will gain specific number of points depending on length of word
    - At the end of game, sends stats to player they are playing w/ and play button for them

- ■ After the game, if not already friended, popup asking if you'd like to friend the user
- ● *wordbites.html*
  - ○ Leaderboard
    - ■ Has username and number of points in ascending order
  - ○ Game
    - ■ 8x9 board
    - ■ first working version: letters randomly generated (weighted) and placed on board. scrabble style, ability to move tiles. after every move, checks every row and col for consecutive tiles making a word (with blank tiles on either side). words won't be counted twice. points based on word length
    - ■ later: "double tiles"
    - ■ later: (using someone else's existing) solver to try to approximate number of words that can be made with letters to ensure a playable board
    - ■ At the end of game, sends stats to player they are playing w/ and play button for them
    - ■ After the game, if not already friended, popup asking if you'd like to friend the user
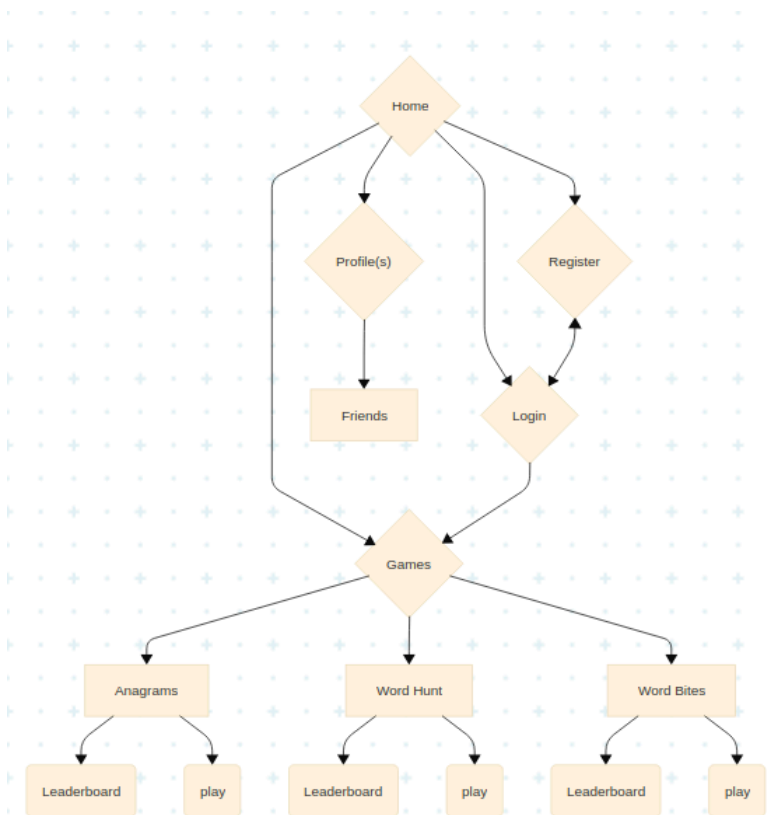
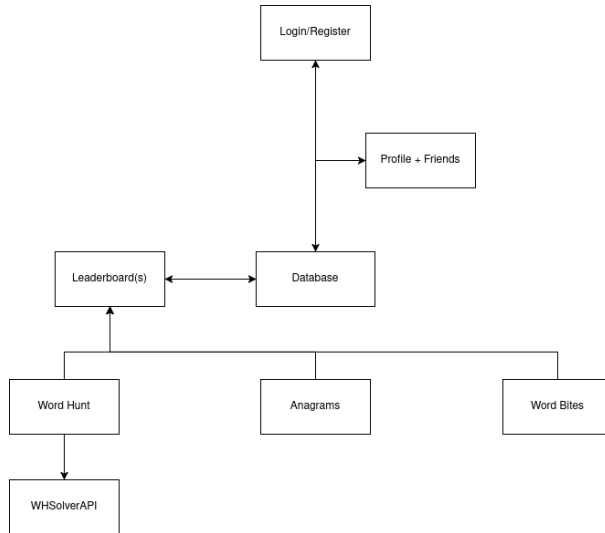**Ted Talk Topic:** lesscss

Site Map:
Editor | Mermaid Chart

Component Map:

Resources:
- ● Framework: Tailwind
- ● APIs:
- ● Word Hunt Solver API:

- ○ https://whsolver.ajayganesh.com/ (need to create api card)

https://api.whsolver.ajayganesh.com/solve?board=zxcvasdfqwerghjk

Datasets:

Letter generation algorithm ideas:
https://gamedev.stackexchange.com/questions/200339/how-to-generate-boards-for-a-game-like-gamepigeons-word-hunt

word list:
https://github.com/k-gerner/Game-Pigeon-Solvers/blob/master/wordbites/letters9.txt

Drag and drop:
https://www.w3schools.com/Html//html5_draganddrop.asp

Database Organization:
game_name: (INTEGER)
1 = Anagrams
2 = Word Hunt
3 = Word Bites

users table

user_id	username	password
INTEGER AUTOINCREMENT	TEXT NOT NULL UNIQUE	TEXT NOT NULL

leaderboard table (one for each of 3 games) – automatically makes an entry with 0s when user makes an account

user_id	# games played (running, updating after each game)	top score (comparing + updating after each game)
INTEGER NOT NULL	INTEGER NOT NULL	INTEGER NOT NULL

friends table

user1_id	user2_id
INTEGER NOT NULL	INTEGER NOT NULL

challegehistory table (new row for every game played)
If singleplayer game: user2_id, score2, and winner_id are NULL

challenge_id	user1_id	user2_id	game_name
INTEGER AUTOINCREMENT	INTEGER NOT NULL	INTEGER	INTEGER NOT NULL
winner_id	score1	score2	board
INTEGER	INTEGER NOT NULL	INTEGER	TEXT NOT NULL

Task Breakdown:

Task	Sasha Murokh	Tiffany Yang	Linda Zheng	Ankita Saha
PM	✓			
Front End		✓		
DB Lead	✓			
JS Lead		✓		
Login Auth			✓	✓
Word Hunt			✓	
Word Bites	✓			
Anagrams				✓

User Collaboration		✓	✓	✓