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SoftDev
P02: Makers Makin' It, Act I
2025-01-07
Time Spent: 3
TARGET SHIP DATE: 2025-01-18

DESIGN DOCUMENT (VERSION 0)

I. Description

Up or Nah is based on the hit game Higher or Lower. It is played by comparing the popularity of Google searches. You will be presented with two choices and must guess which choice has a higher or lower number of searches on Google. This game draws from an API database of search statistics that offers various topics and categories to keep things interesting. Although this is playable without an account, they must create one to track their scores and compete against others. This simple yet addictive game is the perfect way to pass the time while keeping you updated with trending and popular topics.

Original Game: https://www.higherorlowergame.com/.

A. Program Components

a. User Accounts
    i. Creation of accounts and login/logout functionality
    ii. Score Tracking: Storing the users' highest scores on a leaderboard
    iii. Sessions
b. Routes to different pages of the website using Flask and Python
c. APIs
    i. SerpApi - Google Trends API
    ii. GiphyAPI - Generating related gifs
d. SQLite3 Database
    i. Stores data of the user and leaderboard information
    ii.
e. Jinja Templates
    i. Main Game Page: Containers for the two topics to compare

B. Program APIs

a. SerpApi - Google Trends API
b. GiphyAPI - Generating related GIFs

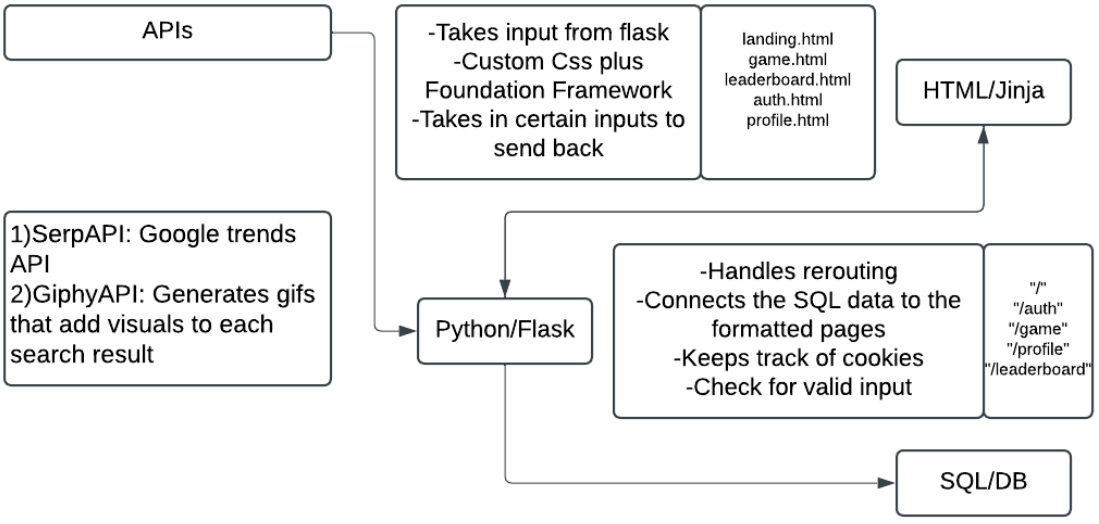
C. Frontend Framework: Foundation

a. Why Foundation?
    i. Easy-to-use and easy-to-follow tutorials
    ii. Vast amount of CSS components and JS ones that will make things look and feel good
b. How Foundation?
    i. Grid System: Structure layout of pages like main game page (Website will be able to adapt to size changes)
    ii. Pre-designed Components: Buttons, Forms, etc
    iii. JS Plugins: Modal Windows for confirmation messages

D. Program Component Connections

a. User accounts: Give access to individual statistics and player leaderboards
b. Routes + Python: Routes allow users to traverse the website. They connect the different pages (HTML documents) of the website. Python also interacts with APIs and the database.
c. Database: Stores information related to the user (ID, Password, etc)
    i. One of the main factors for information exchange between components (has all the data)
d. APIs: Provides data for the randomly generated search topics
e. Templates: Allow for dynamic web pages

E. Component Map



F. Database Organization

Table to store User Data

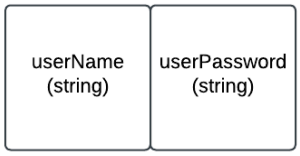
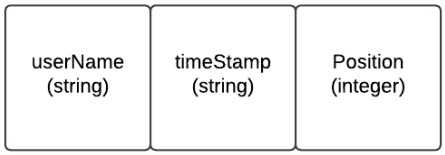


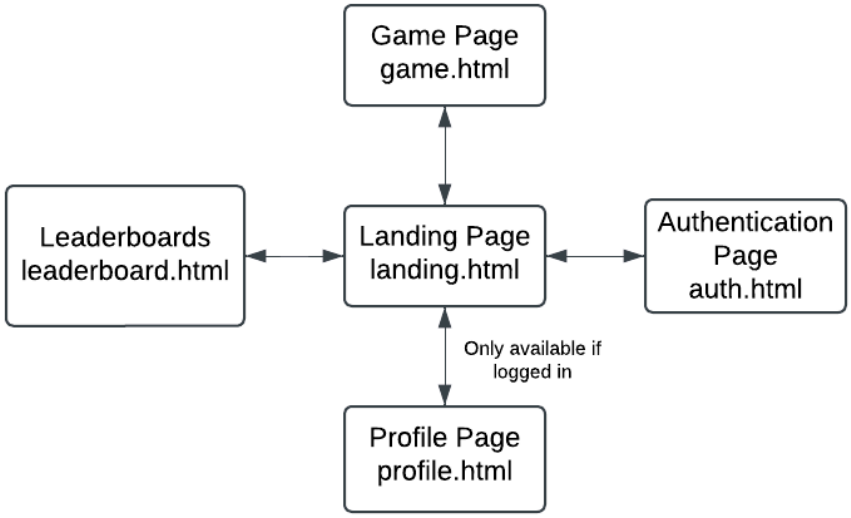
Table to store Leaderboard Data



a. User Table
    i. Username (PK)
    ii. Password
b. Scores
    i. Username (FK)
    ii. Timestamp
    iii. Position

Note: PK for primary key (each row value must be unique), FK for foreign key (to link tables)

G. Site Map + Descriptions



a. Landing Page (/): Homepage to the game; Contains buttons to log in, sign up, and start the game
b. Main Game Page (/game): Two columns that allow you to pick the one that you think is more frequently searched)
c. Leaderboard (/leaderboard): Displays top player scores across all users
d. Login/Sign Up Page (/auth): Allows the user to register/login to their account
e. Profile Page (/profile): Displays the user's username, password, and statistics

H. Task Breakdown

1. Qianjun Ryan Zhou: Frontend
    a. Create HTML pages with Jinja templating - Includes any forms required for logging in/signing up
    b. Design site style with CSS and front-end framework (Foundation)
2. Ivan Gontchar: Frontend (Javascript)
    a. Updating UI to reflect real-time changes in the game state/leaderboard state
    b. Animating site features (like buttons) and related game effects
3. Aidan Wong: Backend (Python and API functions)
    a. Routing and logic between pages + User session management
    b. Linking database and API functions with site features
4. Jason Chao: Backend (Database and API functions)
    a. Create SQLite3 database schema
    b. Work on database and API interaction modules for SerpAPI and GiphyAPI