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SoftDev1 pd6
P #02: The End
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CodingGeneral

Mission Statement: Help people learn how to code in JavaScript by solving problems in an interactive web app.
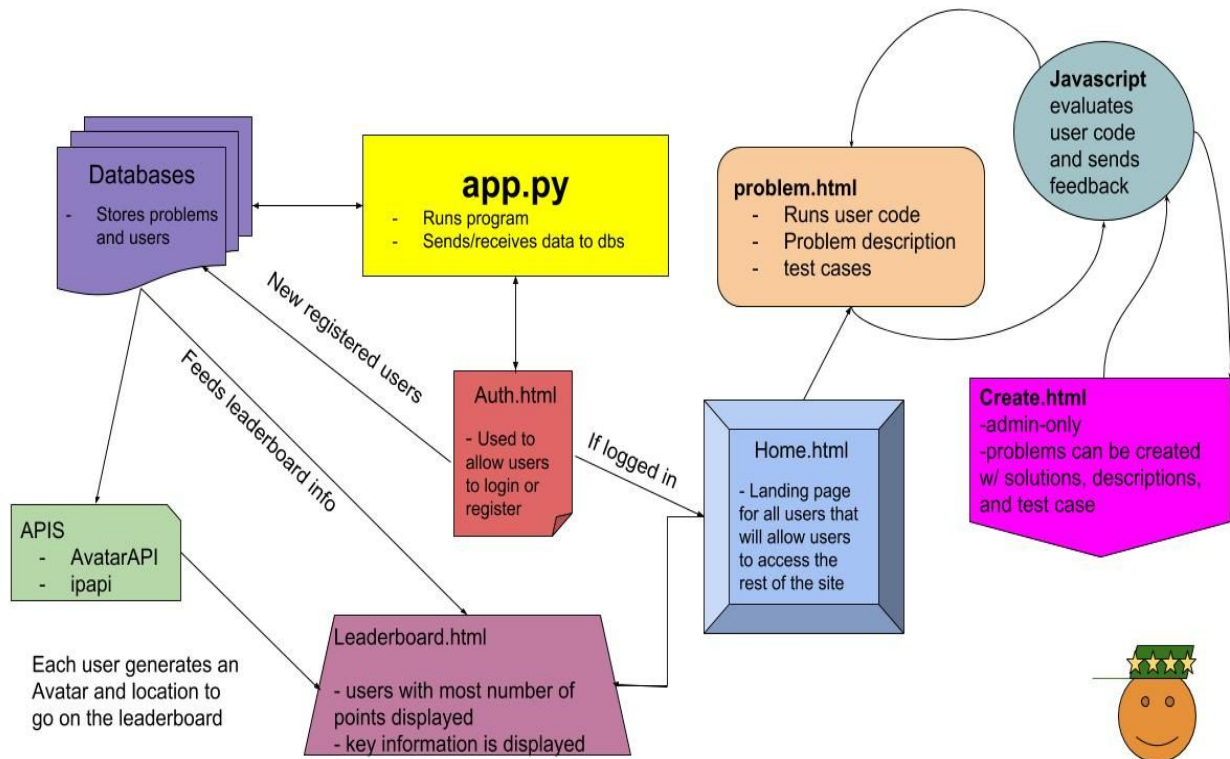
Description: We will create a website that allows users to learn javascript by solving increasingly difficult problems. Solving problems will earn you points and unlock harder levels. You can type solutions and run them, and the website will test your solution by running it on certain test cases. If you give up, a sample solution will be displayed. Earning points will also increase your position on the leaderboard, which also displays your country (using ipapi!) so that you can represent your home with pride and compete with others around the world. Admins will have the ability to create problems on their own, given that they write a working solution to it.

Program Components
- Login/Sign Up Page
  - Users are greeted a login page and non-registered users may register their accounts
- About Page
  - Simple page that displays our mission statement and a general overview of the site/how it works.
- Problems Page
  - Provides a list of Easy/Medium/Difficult problems, that have different point rewards
  - After a problem is completed, users cannot access them any longer and confetti is displayed to celebrate with the user
- Leaderboard Page
  - A list of all registered users sorted by their points (points are earned by completing problems) and their country/username
- Creating Problems Page
  - Admins are the only users with access to this page which allows them to upload problems (problem description, test cases, solution) and categorize their difficulty (Easy/Medium/Hard). If the solution code provided doesn't pass the test cases, problem is not posted. Harder problems are worth more points.
  - Admins must be added manually into the database to prevent normal users from gaining entry.

● Problem Page
  ○ After a user selects a specific problem from the Problems Page, they are brought to this page where a description of the problem and JavaScript text editor is available. There is a button where users can check their code with the visible and hidden test cases (the hidden test cases are to discourage users from submitting hard coded solutions). The test cases are run through the solution.
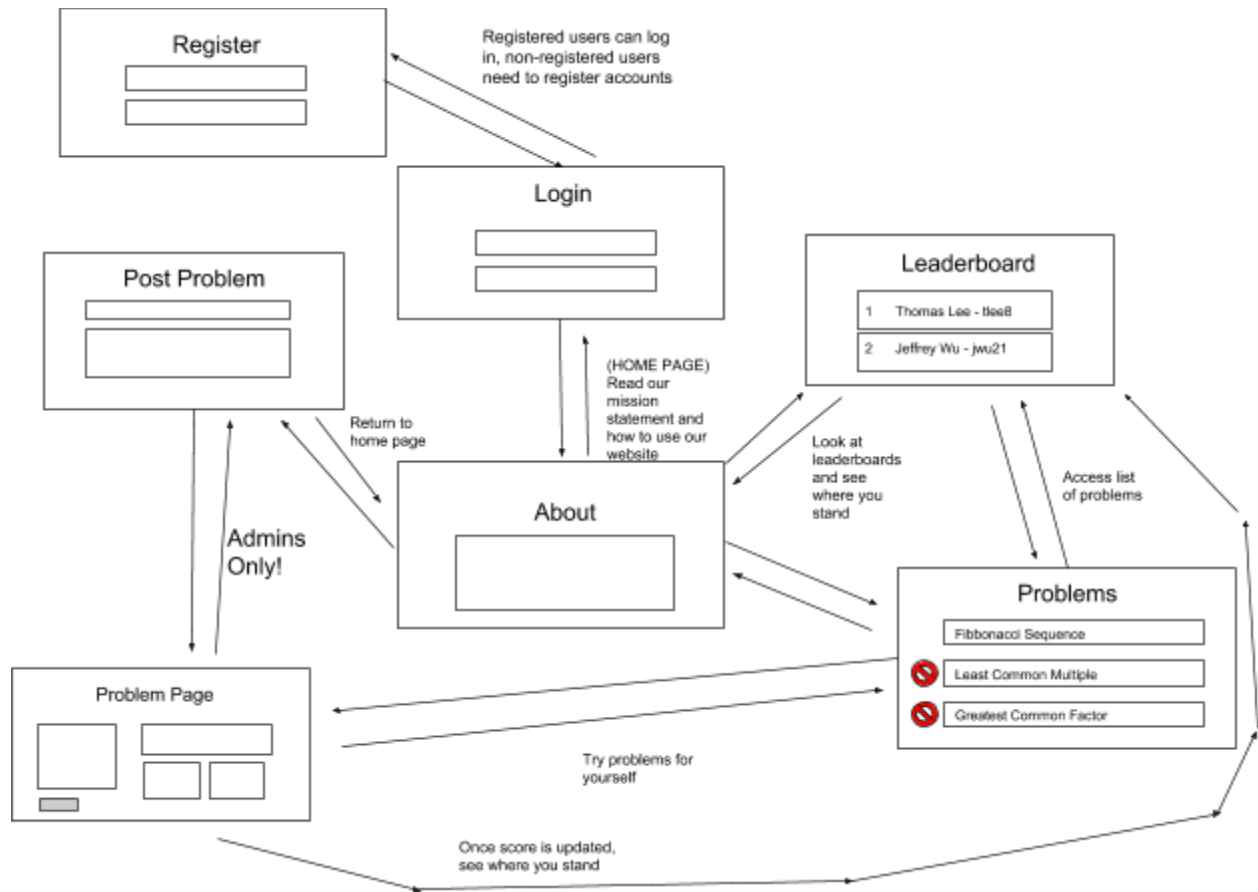
Relation of Components

Database Schema

QUESTIONS

ID	INT
NAME	TEXT
DESCRIPTION	TEXT
TEST CASES	TEXT(JSON)
SOLUTION	TEXT
POINT VALUE	FLOAT

USERS

ID	INT
USERNAME	TEXT
PASSWORD	TEXT
POINTS/SCORE	INT
QUESTIONS SOLVED	TEXT (JSON)
COUNTRY	TEXT
ISADMIN?	BOOLEAN

Site Map

Task Breakdown

Jeffrizey -- Project b0ss; assist with backend ; use js to add to frontend

Dame -- Database management + API integration

Tom -- Front-end, HTML + Jinja2, Video Editing

Saji -- Backend + JavaScript (the parts associated with backend)

1. User registration and logging in/logging out (Damian)
2. Use bootstrap to create pages
   a. We have selected bootstrap as a front end framework because of the ease of navigation through their documentation, as well as being more familiar with it
3. Allow users to solve problems using javascript (test cases, solutions)
4. Get points from solving problems
5. Admins-create problems and solutions
6. Leaderboard
7. Incorporate ipapi into leaderboard
8. Avatars
9. Confetti!
10. Film/edit video