sIlLySaUsAgEsQuAD Design Document

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Overview

sIlLySaUsAgEsQuAD's image-based web app allows users to generate, analyze, and process images through RESTful APIS by integrating image recognition, generation, and user authentication systems with Flask, SQLite, and Bootstrap.

Site Preview

Home Page
- Access Control: for logged-in users only. Non authenticated users redirect to the login page.
- Navbar with links to profile page and image request form.
- Overview of application (RESTful APIS)

User Profile Page
- Displays past image requests and detection history
- Allows users to revise/delete prior entries

Login/Registration Page
- Form fields for username and password
- Displays error messages for failed login attempts
- Redirects users to home page after login

API Results Page
- Form fields for image source selection
- Options for object detection & text conversion
    - Identifies objects in image
    - Loads text output from AI API sources based on objects

Program Components

Flask App
- __init__.py

HTML Templates
- home.html:
- profile.html:
- login.html: (may be integrated into home page)

- register.html
- api_results.html:

<u>Middleware Modules</u>
- database.py
- api_handler.py
- image_processor.py

<u>Static Files</u>
- CSS: style.css

Task Assignments

P1MJC	SQLite Databases
LUO	HTML Templates
HOOO	API Requests & Responses
DLH	Bootstrap, CSS Styling

APIs

CloudMersive detects objects in images
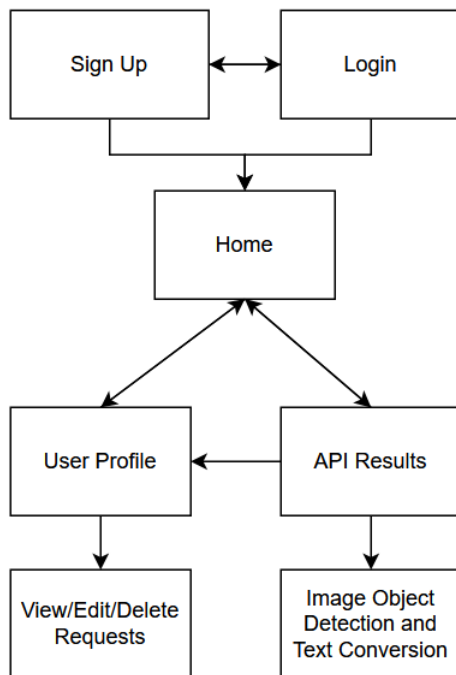Unsplash returns random image (needs a card)
Merriam-Webster returns definition of words
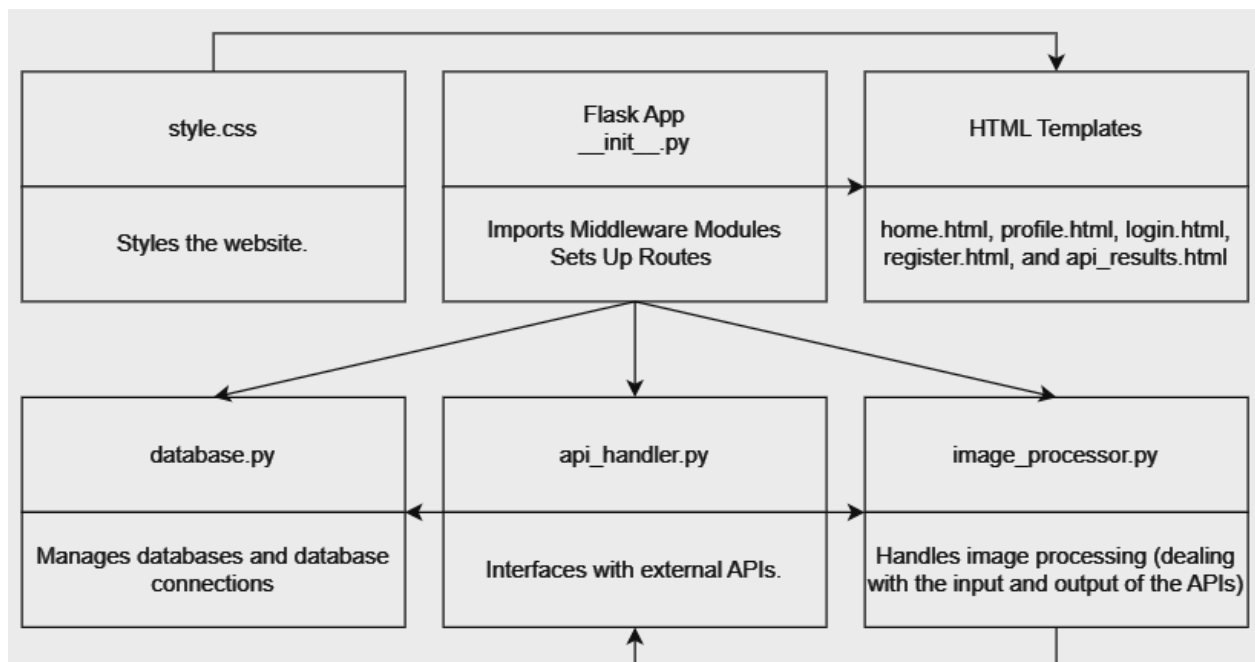
Frontend Framework

<u>Bootstrap</u>

Bootstrap is both easily usable and readable. Its class attributes are simple and follow the framework's pre-determined design so that code lines are not excessively long (noticed this is the case with Tailwind). In addition, it's one of the most developed and expansive frameworks we have available.

Front-End Site Map

Component Map

Database Organization

<u>users</u> | user IDs, API keys, login info

id	user_id	username	password_hash
#	AUTOINCREMENT	TEXT	TEXT

<u>requests</u> | user API requests & responses

id	request_id	user_id	request	response
#	AUTOINCREMENT	REFERENCE users(user_id)	TEXT	TEXT