

sllLySaUsAgEsQuAD Design Document

P1M_Jason_Chao, DALEX luo, Devo Leon Huang, DeV0(00) Stanley H00(H000)

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Overview

sllLySaUsAgEsQuAD's image-based web app integrates image recognition, generation, and user authentication systems with Flask, SQLite, and Bootstrap. The landing page will be available to users, but they will not be able to access any other features without being logged in, which are the Profile and API Request pages. This project utilizes the Unsplash, Clarifai, and Pixabay APIs to generate images, descriptions, and videos from AI models.

Site Preview

Home Page

- Navbar with links to profile page and API request form.
- Overview of application (RESTful APIS)
- Buttons to login/signup.

User Profile Page

- Displays past API requests and responses

Login/Registration Page

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

API Requests Page

- Gives users 4 options to make an API request
 - Random image
 - Upload image
 - Image URL
 - Keywords → choose a related image

API Results Page

- Form fields for image source selection. Allow users to input their own images.
- 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`:
- `register.html`
- `api_requests.html`
- `api_results.html`:

Middleware Modules

- `database.py`
- `api_handler.py`

Static Files

- CSS: `style.css`

APIs

[Unsplash](#) | returns random image (needs a card)

[Clarifai](#) | returns a description of the image

[Pixabay](#) | returns videos using the Clarifai description as the search phrase

Frontend Framework

Bootstrap

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.

Database Organization

users | user IDs, API keys, login info

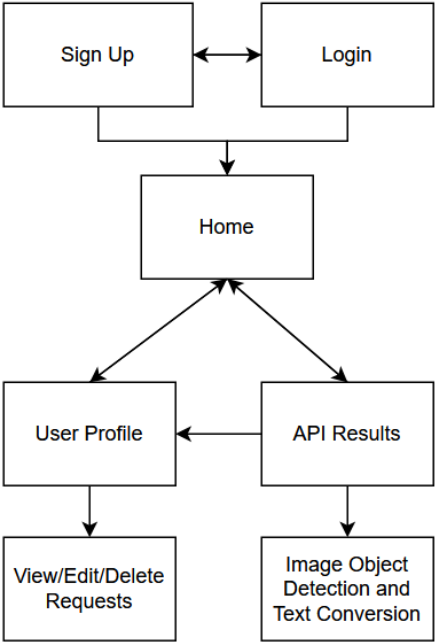
id	id	username	password_hash
#	AUTOINCREMENT	TEXT UNIQUE	TEXT

requests | user API requests & responses

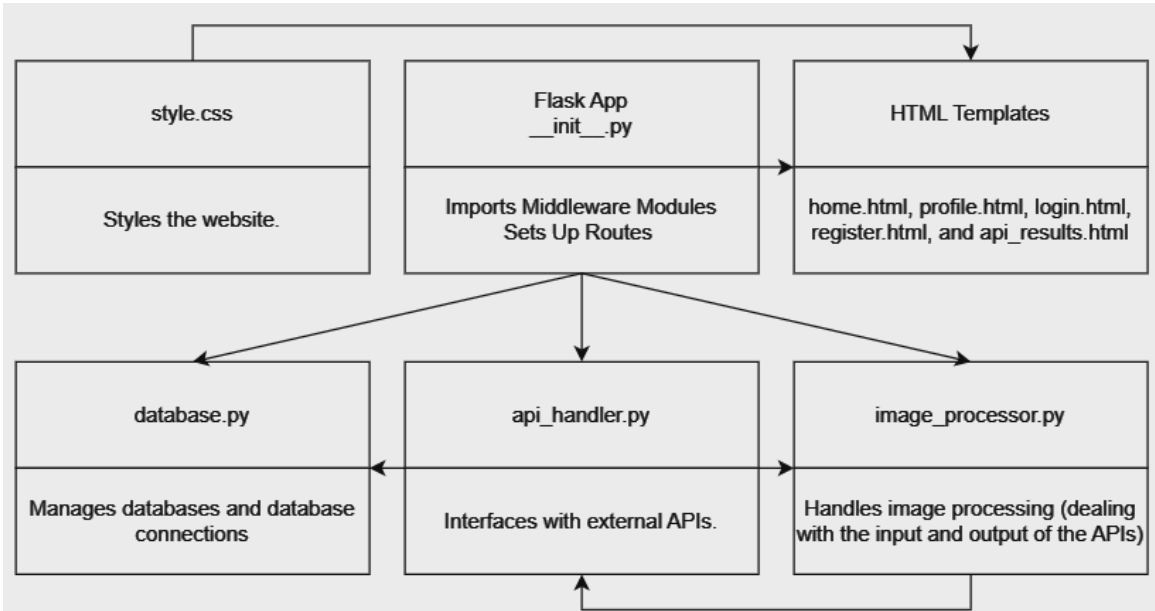
id	request_id	user_request	request_type	response
#	AUTOINCREMENT	TEXT	TEXT	TEXT

id	user_id	img_file		
#	REFERENCES users(id)	BLOB		

Front-End Site Map



Component Map



Task Assignments

P1MJC	SQLite Databases, HTML Templates, Bootstrap & CSS
LUO	HTML Templates, Bootstrap & CSS
H000	API Requests & Responses, SQLite Databases, HTML Templates, Bootstrap & CSS
DLH	Bootstrap & CSS, Team Flag