

Are you?

Slay queen (or king)

1. Overview

Are you? is an innovative mobile application designed to enhance your daily styling routine by providing instant color compatibility feedback on your outfits. Levering advanced color theory algorithms and a user-friendly interface, this app ensures your ensemble is visually appealing, harmonious, and tailored to your personal style. Whether you're fashion-forward or seeking simplicity in your wardrobe, Are you? offers a seamless way to elevate your outfit choices.

2. Technologies

This script is a Python application that utilizes various libraries to perform a unique blend of tasks involving image encoding, outfit analysis through AI, and multimedia interaction within a GUI (Graphical User Interface) created using Tkinter. It also demonstrates the integration of the OpenAI API for image analysis, leveraging the potential of GPT-4 with vision capabilities. The script is structured into several key functions, each with its specific role:

`encode_image(image_path)`: This function takes the path to an image file as input and returns a base64-encoded version of the image. This encoding is necessary for transmitting the image data within a JSON payload when making requests to the OpenAI API.

`image_request(image_path, api_key)`: This function is responsible for sending a request to the OpenAI API with a given image path and the user's API key. It constructs a JSON payload that includes a base64-encoded image and a prompt that instructs the AI on how to analyze the outfit in the image. The function returns the API's response.

`extract_message(json_data)`: After receiving a response from the OpenAI API, this function extracts and returns the AI-generated analysis from the JSON response.

`analyze(image_path, feedback_text)`: This function initiates the process of analyzing an outfit by calling `image_request` with the path of the uploaded image and then extracts the AI's feedback using `extract_message`. The analysis result is then displayed to the user through a message box.

`upload_image(feedback_text)`: This function allows the user to upload an image from their filesystem using a file dialog. It updates a text variable with the path of the uploaded image, which is then used for analysis.

`update_frame(index, label, window, delay)`: A function designed for animating GIF images within the Tkinter GUI. It updates the displayed frame of a GIF by loading frames sequentially, creating an animation effect. If it reaches the end of the GIF, it loops back to the beginning.

`main()`: The main function where the Tkinter GUI is set up and the application's functionality is initialized. It includes setting up the window, a button for uploading and analyzing an outfit, a label for feedback, and starting an animation of a GIF image. Additionally, it initializes Pygame for audio playback, specifically loading and playing an MP3 file in a loop.

Overall, the script showcases a multi-faceted approach to GUI application development in Python, integrating image processing, API interaction, audio playback, and dynamic GUI elements.

3. Usage

Prerequisites

Ensure you have Python installed on your system.

Install necessary Python libraries (tkinter, requests, base64, moviepy, cv2, pygame) if you haven't already. This can typically be done using pip, e.g., `pip install requests moviepy opencv-python pygame`.

Obtain an API key from OpenAI that has access to the GPT-4 with vision preview capabilities.

Replace 'YOUR_API_KEY' in the script with your actual OpenAI API key.

Step 1: Start the Application

Run the script by executing it in your Python environment. This can be done through a terminal or command prompt by navigating to the directory containing the script and running:

phpCopy code

```
python <script_name>.py
```

where <script_name> is the name of your Python file.

Step 2: Upload an Image

Upon running the script, a GUI window titled "Are you a slay queen (or king)" will open.

Click on the "Analyze your outfit" button. This will open a file dialog.

Navigate through your files and select the image you want to analyze. The application supports .jpg and .png formats.

Once an image is selected, its path will be displayed in the GUI, indicating that it has been successfully uploaded.

Step 3: Analyze the Outfit

After uploading the image, the analysis process will automatically start (triggered by the same button click that initiates the image upload).

The application sends the image to the OpenAI API, where it is analyzed based on the outfit's harmony and contrast of colors, proportions and fit of the clothing, and how well the outfit complements the body shape.

Wait for a few moments while the analysis is being performed.

Step 4: View Analysis Results

Once the analysis is completed, a message box will appear with the title "YOU ARE A CERTIFIED SLAY QUEEN (or king)" containing the AI-generated feedback on your outfit.

Read through the feedback to understand the AI's evaluation of your outfit.

Additional Features

Animation: While using the application, you'll notice a GIF animation playing in the GUI window, adding a visual element to the experience.

Background Music: The application plays a looping background music track using Pygame. This music starts automatically when you launch the application and continues playing in the background.

Closing the Application

You can close the application at any time by simply closing the GUI window.