AI/ML Project

Mobile UI Design Generator

Created by

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Project Overview

The Mobile UI Design Generator is a web application that enables users to create mobile user interface designs based on text descriptions. It leverages two powerful AI models: GPT-2 for generating design prompts and Stable Diffusion for creating high-quality images. The application is built using Streamlit, providing a user-friendly interface.

Required Libraries

To run this project, you will need the following Python libraries:

1. Python

2. Diffuser

3. Torch

4. Transformors

5. Streamlit(optional)

Code Explaination

Detailed Documentation

1. **Initialization (`initialize_models`):**
   - Loads the GPT-2 tokenizer and model.
   - Loads the Stable Diffusion pipeline for image generation.
   - Checks if a GPU is available and uses it if possible.
2. **Prompt Generation (`generate_prompt`):**
   - Takes user input and generates a descriptive prompt using GPT-2.
   - Handles tokenization and decoding of the generated text.
3. **Input Validation (`validate_input`):**
   - Ensures that user input is not empty or whitespace.
4. **UI Design Generation (`generate_ui_design`):**
   - Validates user input and generates a prompt.
   - Creates an image based on the prompt using Stable Diffusion.

- o   Displays the generated image and saves it to a file.
5. **Main Application (`main`):**
   - o   Sets up the Streamlit interface and manages user interaction.
   - o   Calls initialization and generation functions based on user input.

Conclusion

This documentation provides a comprehensive overview of the Mobile UI Design Generator project, detailing each function's purpose and usage. The application combines powerful AI capabilities with an easy-to-use interface, making it a valuable tool for anyone involved in mobile app design.

As I have made an Streamlit interface here we have created a file with same code and create a main.py file which is there in the github repository with the name MobileUI_Main.py , there you can run the file with "Streamlit run MobileUI_Main.py" command in your local pc but before that you have to install Streamlit,Torch,Diffusers,Transformers in your pc and run the command and use the app in the web.

Here are some reference images of the app in the streamlit :

Deploy

Mobile UI Design Generator

Welcome to the Mobile UI Design Generator!

Enter a description for the mobile UI design (or type 'exit' to quit):

genereate a mobile UI design for childrens with cartoon

Generated Prompt: Create a mobile UI design for: genereate a mobile UI design for childrens with cartoonish backgrounds

create a mobile UI design for childrens with cartoonish backgrounds create a mobile UI design for childrens with cartoonish backgrounds create a mobile

Deploy

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