Background Remover & Blurrer

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# Installation

To run the Background Remover & Blurrer app on your local machine, follow these steps:  
1. Clone the repository:  
 git clone https://github.com/your-username/background-remover-blurrer.git  
 cd background-remover-blurrer  
2. Install the required dependencies:  
 pip install -r requirements.txt

# Usage Guide

## Starting the Application

After installing the dependencies, you can start the Streamlit app with the following command:  
streamlit run app.py  
Once the app starts, it will open automatically in your default web browser.

## Uploading Images

1. In the sidebar, click on '📂 Upload Your Images'.  
2. Click the 'Choose files' button to select multiple .jpg, .jpeg, or .png images from your computer.  
3. The images will be displayed in the main section of the app once uploaded.

## Choosing Process Type

After uploading the images, you will be presented with two options in the sidebar:  
- Remove Background: This option will remove the background from the images using the rembg library.  
- Blur Background: This option will blur the background of the images using OpenCV. You can adjust the blur intensity for each image using the slider.  
Select the desired process type, and the images will be processed accordingly.

## Downloading Processed Images

After the images are processed, you can download each image individually by clicking the 'Download Processed Image' button next to each image.

## Download Processed Images as Zip

If you want to download all the processed images in a zip file, click the 'Download Processed Images as Zip' button in the sidebar. This will create a zip file with all processed images and allow you to download them at once.

# Code Structure

## app.py

This is the main file for the Streamlit app. It handles the user interface, image upload, display, and interaction with background processing functions.  
It imports helper functions from utils.py, background removal functions from background.py, and zip creation logic from zip\_creator.py.  
It displays the uploaded images, processes them based on the user's choice, and provides options for downloading the processed images.

## utils.py

Contains utility functions used across the app.  
- load\_image(image\_file): Loads an image from an uploaded file.  
- convert\_image\_to\_bytes(image): Converts an image to bytes, which is used for the download button.

## background.py

Contains functions for processing the images.  
- remove\_bg(image): Removes the background using the rembg library.  
- blur\_bg(image, blur\_intensity): Applies a blur effect to the background using OpenCV, with a customizable blur intensity.

## zip\_creator.py

Contains the logic for creating a zip file of the processed images.  
- create\_zip\_from\_images(processed\_images, file\_names): Compresses the processed images into a zip file for easier download.

# Requirements

The project requires the following Python libraries:  
- streamlit: For creating the web interface.  
- opencv-python: For image processing, specifically for blurring backgrounds.  
- numpy: For handling image arrays.  
- Pillow: For working with images in Python.  
- rembg: For removing backgrounds from images.  
  
To install all dependencies, use the provided requirements.txt:  
pip install -r requirements.txt

# License

This project is licensed under the MIT License - see the LICENSE file for details.