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Pillow library documentation and installation guide: <https://pillow.readthedocs.io/en/stable/index.html>

**Project Report: Automating Image Editing with the Pillow Library**

**Project Overview:**

This project focuses on automating the process of editing multiple images stored in a folder using the **Pillow** library. Instead of manually editing each image one by one, the goal is to streamline the workflow by allowing the program to handle all the images at once. This not only saves time but ensures consistency across all images. By leveraging the power of Python and the Pillow library, this automation handles tasks like resizing, cropping, adjusting brightness, and converting file formats, all in one go.

**Objective:**

The primary goal of this project is to make batch image processing as simple and efficient as possible. With Pillow, this automation takes care of common image edits, making it easier for users to apply the same changes to a large number of images without needing to open and edit them individually. The tool supports various image formats like JPEG, PNG, and BMP, making it versatile and easy to adapt to different needs.

**Methodology:**

1. **Loading the Images:** The program starts by scanning the target folder to find all image files. Using Python’s os and glob modules, it pulls in every image in the folder, whether it’s a portrait, landscape, or any other format supported by Pillow. The Image.open() function from Pillow is then used to load each image.
2. **Editing the Images:** Once the images are loaded, the program can apply a series of edits. These may include:
   * **Resizing:** The images can be resized to fit a specific resolution, useful for standardizing image sizes for websites or print.
   * **Format Conversion:** If necessary, the images can be converted to grayscale, or even to other color models like CMYK for printing purposes.
   * **Cropping and Rotation:** Users can crop images to a certain area or rotate them by any degree, which can be particularly helpful when dealing with misaligned photos.
   * **Applying Filters:** Simple filters like blurring or sharpening can be applied for various effects.
3. **Saving the Edited Images:** After editing, the images are saved. Users can choose to save them with the same format or opt for a different one. The program can save them either in the original folder or a new directory for better organization, ensuring the edited versions don’t overwrite the originals.
4. **Error Handling:** To ensure the program runs smoothly, error handling is built in. If an image is unsupported or corrupted, the program skips it without crashing, so the rest of the images can still be processed without interruptions.

**Conclusion:**

This project effectively uses the Pillow library to automate the tedious task of editing multiple images. By applying the same changes to all images in a folder, it saves time, reduces the chances of mistakes, and increases productivity. The automation tool is simple to use and can be customized further to handle more advanced editing tasks, making it a useful tool for anyone working with large batches of images, from photographers to designers.