Document scanner app

Overview

The Autonomous Image Scanner Application is designed to automatically scan and process images of documents, providing users with a convenient way to obtain a scanned version of their documents.

Goals

Automated Scanning: The primary goal is to automate the process of scanning documents without manual intervention.

Efficient Processing: Efficiently process the input image to identify document contours and apply perspective transformation for scanning.

Features

1- Load Image: Users can load an image of a document using the "Load Image" button.

2- Scan Document: The application provides a "Scan Document" button to initiate the automated scanning process.

3- Display Images: Both the original and scanned images are displayed on the application window.

4- User Interaction: The application allows users to interact by selecting an image and triggering the scanning process.

Usage

Load Image:

Click the "Load Image" button to select an image file (supported formats: png, jpg, jpeg).

The original image will be displayed on the application window.

Scan Document:

After loading the image, click the "Scan Document" button to initiate the automated scanning process.

The scanned version of the document will be displayed.

Code Overview

The code uses the OpenCV library for image processing and Tkinter for creating the graphical user interface. Below is a brief overview of the code:

Image Loading: Load the selected image and display it on the Tkinter canvas.

Document Scanning: Apply image processing techniques, including edge detection and contour analysis, to identify the document's contours. Use perspective transformation to obtain a scanned version of the document.

User Interface: Create a simple Tkinter-based GUI with buttons for loading an image and triggering the scanning process.

Dependencies

OpenCV: Open Source Computer Vision library for image processing.

Tkinter: Python's standard GUI (Graphical User Interface) toolkit.

Future Improvements

Implement more advanced document detection and scanning techniques.

Enhance user interaction features for better usability.