A black background with grey leaves

Description automatically generated

GUI development

Week 7

A grey logo on a black background

Description automatically generated

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# Objective

The project aims to develop a graphical user interface (GUI) using the Tkinter Python library. The GUI incorporates features such as reading and extracting information from nutritional labels using an OCR tool from uploaded images. The GUI consists of three main pages: upload images, image cropping, and nutritional label extraction/editing.

# Progress Summary:

## 1. Upload Images Page:

The first page of the GUI serves as the upload images page. It includes a button for manual file selection and a drag-and-drop feature for ease of use. Users can upload images containing nutritional labels, which are then processed further in subsequent pages.

## 2. Image Cropping Page:

The second page allows users to crop the uploaded image. This functionality is crucial for focusing on the specific area containing the nutritional label, enhancing the accuracy of OCR processing. However, during development, issues arose with multiple instances being created upon uploading multiple images, which must be addressed for smoother functionality.

## 3. Nutritional Label Extraction and Editing Page:

The third page facilitates the extraction of information from cropped images. Once the image is cropped, the relevant nutritional label information is extracted using an OCR tool and displayed in a Treeview widget. This page also allows users to edit the extracted information directly, providing a more interactive experience.

## Challenges Faced:

Several challenges were encountered during the development process:

* **Handling Multiple Instances**: The issue of creating multiple instances on multiple image uploads needs to be resolved to ensure seamless processing without data clutter.
* **Integration of Cropped Image**: Difficulty was faced in correctly integrating the cropped image from the second page into the OCR process on the third page. This integration issue needs to be addressed for accurate extraction of nutritional information.

## Next Steps:

To address the identified challenges and improve the GUI functionality, the following steps are proposed:

* **Fix Multiple Instances Issue**: Review the code to identify the cause of multiple instances creation upon image uploads and implement a solution to prevent it.
* **Correct Image Integration**: Refactor the code to ensure smooth transfer and processing of cropped images from the second page to the third page for accurate OCR extraction.
* **User Interface Refinement**: Enhance the user interface elements for better usability and aesthetics, ensuring a seamless experience for the end-user.

Conclusion:

Despite encountering challenges, significant progress has been made in developing the GUI for nutritional label extraction and editing. By addressing the identified issues and implementing the proposed solutions, the GUI can be further refined to provide a user-friendly interface for efficiently extracting and managing nutritional information from images.