

HIT137

Group Assignment 3 (30% Mark)

You are required to create a GitHub repository and add all your group mates to it (make sure to keep it public, not private). You should do this before you start the assignment.

All the answers and contributions should be recorded in GitHub till you submit the assignment.

Submission Guidelines:

- **Include your GitHub Repository link in a text file “github_link.txt”.**
- **Zip all the programming files and outputs and “github_link.txt” and upload them to Learline.**

Overview

You will develop a desktop application that demonstrates your understanding of Object-Oriented Programming principles, GUI development using Tkinter, and image processing using OpenCV.

You have the flexibility to design any user interface, provided it effectively supports all required functionality.

Functional Requirements

1. Image Loading
 - a. Select and load images, from the local device
 - b. Display the loaded image in the application window
2. Image Cropping
 - a. Draw a rectangle using mouse interaction for image cropping
 - b. Provide real-time visual feedback of the selection area while drawing
 - c. Display the cropped result alongside the original image
3. Image Resizing
 - a. Slider control for resizing the cropped image
 - b. Update the display in real-time as the user moves the slider
4. Allow saving of the modified image

Bonus

- Implement additional image processing features
- Add keyboard shortcuts
- Implement undo/redo functionality