Project Title:

Python based GUI for computer vision and/or image processing applications

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Project Guide:

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Problem Statement:

This project aims to create a web based Graphical User Interface (GUI) using python to apply:-

a) Image enhancement functions like brightness enhancement, contrast enhancement.

b) segmentation functions like thresholding, edge detection

c) morphological operations like erosion and dilation

Objectives:

Image processing can be defined as a method to perform some operations on an image, in order to get an enhanced image or to extract some useful information from it. Various libraries in languages like python and C++ are available for image processing applications. However, those libraries are complex and beyond the understanding of the common man. It is also time consuming as we have to install the libraries and setup the required environment. There are not many applications that can help users carry out real time image processing tasks. We aim to reduce this gap by developing a web based Image Processing applications that will be publicly available for everyone to carry out image processing tasks. Users can upload an image and see the results in real time. They will also be able to control different thresholds to get the required result. The proposed project will help researchers as well as developers to apply image processing techniques to a given image quickly and efficiently. It will save valuable time that can be better utilized in solving business problems.

Future work:

This application has been developed in a limited amount of time and with limited knowledge. It can be extended further to include more functions and improve the

existing ones. Considering the plethora of image processing algorithms that are being developed this application may soon get outdated. Regular update and inclusion of powerful algorithms will make this application more robust in the long run.