***Project Phase II Report***

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**Image Processing in Python**

**Submitted for the requirement of**

**Project course**

BACHELOR OF ENGINEERING

**COMPUTER SCIENCE & ENGINEERING**

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**ABSTRACT**

Vision is a major source of information for human beings. ‘Earlier it was impossible to achieve but due to the development of new technologies it has been made possible’. Image processing has its impact on communication devices also. By digital image processing we can enhance the image, extract the text from image, edges of images can be detected and we can apply other effects also. We can get any details about the images. There are many applications of digital image processing. Almost this technique is use in every field, medical field, robotics., neural networking, also useful in Crime branch for investigation.

The project mainly deals with one of the application of digital image processing that is detecting edges in the images.

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**1.Introduction**

**Image processing Python Project** is one form of signal processing for which the input is an image, such as photographs or frames of video; the output of image processing can be either an image or a set of characteristics or parameters related to the image. Image processing is a technique which involves different operation that can be performed on the image. Image processing plays a vital role in photography, computer science, and many other fields.

Image processing has the lot of application in different fields like medical, computer science etc. In this project, we have implemented some of the image processing operations which will help the user to understand the concept of image processing. Therefore, the scope of this project is increasing.

The purpose of this project is to allow users to explore how digitized images can be processed using computer software.

**2.Literature Review**

Many techniques of digital image processing were developed in ,1960s at the Jet Propulsion Laboratory, Massachusetts Institute of Technology, Bell Laboratories, University of Maryland. The cost of processing of image was very high. But that changed in 1970s, when digital image processing grow rapidly as cheaper computer and hardware became available. Images then could be processed in real time. With the development of fast computers available in 200s, digital image processing has become one of the most common form of image processing. It is used because it is not only the most versatile method, but also the cheapest.

**3.Problem Definition**

Digital image processing is concerned with processing of an image. Image processing is a method to perform operations on images like enhancing images, extracting text from image, detecting edge of image and many other operations. In digital image processing we take an image and convert that image in different forms. Like if we take color image we can convert it into grey image. In this both the input and output is an image. Usually Image Processing System includes treating images as two dimensional signals while applying already set signal processing methods to them.

Today, it is rapidly growing technology. It forms core research area within engineering and computer science disciplines too. Image processing has its wide applications in robotics, machine learning, neural networking, signal processing, medical field, graphics and animations and in many other fields.

**4.Objectives**

The objective of our project is mainly concerned with basic operations on the image. So that user can get required a visual appearance. Image processing is the use of computer algorithm to perform, improve or change some quality of the image. Now a day, it is important in different fields.

The Python Image Processing Library adds image processing capabilities to the Python Interpreter. This library provides extensive file format, an efficient internal representation, and fairly powerful image processing tools. Actually, the Image Library designed for fast access.

The Python Image Library is ideal for image archival and batch processing application. Here our project is providing an image processing tool through which user can give desired effects to an image. It accepts input via mouse and keyboard and gives output on the screen.

So, just one click by mouse, you will get the image with the expected result. In this project, we are providing different image processing tool with GUI so it makes easy for the user to give desired effects to the image.

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