Faculty of
Engineering
Credit Hours System

Cairo University

# Image Processing Project Proposal

# “Gate Access Controller”

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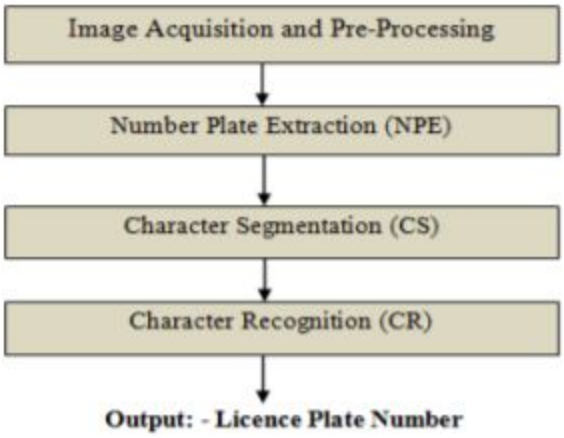
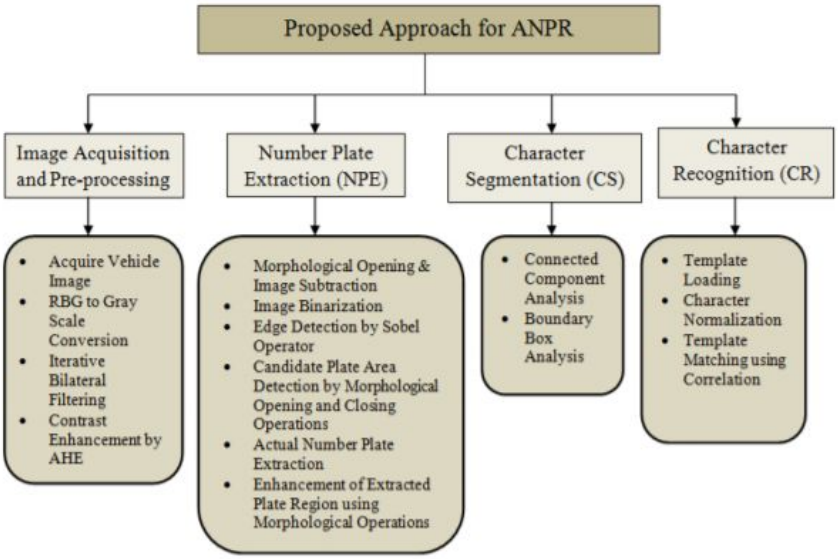
## OVERVIEW

Automatic Number Plate Recognition System that detects the numbers of a car plate, removes the noise and all the disruptions and outputs the text of the car plate. It basically consists of 4 phases: - Acquisition of Vehicle Image and PreProcessing, Extraction of Number Plate Area, Character Segmentation and Character Recognition. This project will be used as a gate access controller. The gate grants access to vehicles with specific number plates to enter an organization’s premises. The gate will open if a number plate matches one of the specific number plates, otherwise, it won’t.

## Block Diagram




## SPECIFICATIONS

In this project, we are mainly going to use OpenCV namely some functions as RGBtoGray and Iterative Bilateral Filter, Adaptive Histogram Equalization for the first part (Image pre-processing).

Then we are going to be ing Morphological operations and Binarization, accompanied with Sobel Filter for edge detection to extract the numbers off the plate as shown above

## Additional Comments

We will be using the plate recognition system bypassing the program images of the plate, whether it was noisy or not, this implementation should be working for lighter and darker images alike.

## References

An Automatic Number Plate Recognition System under Image Processing by Sarbjit Kaur College of Engineering and Management Kapurthala/ Computer Science and Engineering, Kapurthala (Punjab),144601,India