19CCE301 IOT PROJECT

LICENSE PLATE DETECTION USING RASPBERRY PI

GROUP 07

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Agenda

- Introduction
- Components
- Steps
- Working
- Reference

Components used...

RASPBERRY PI 4

PI CAMERA

LCD DISPLAY 16X2

Introduction

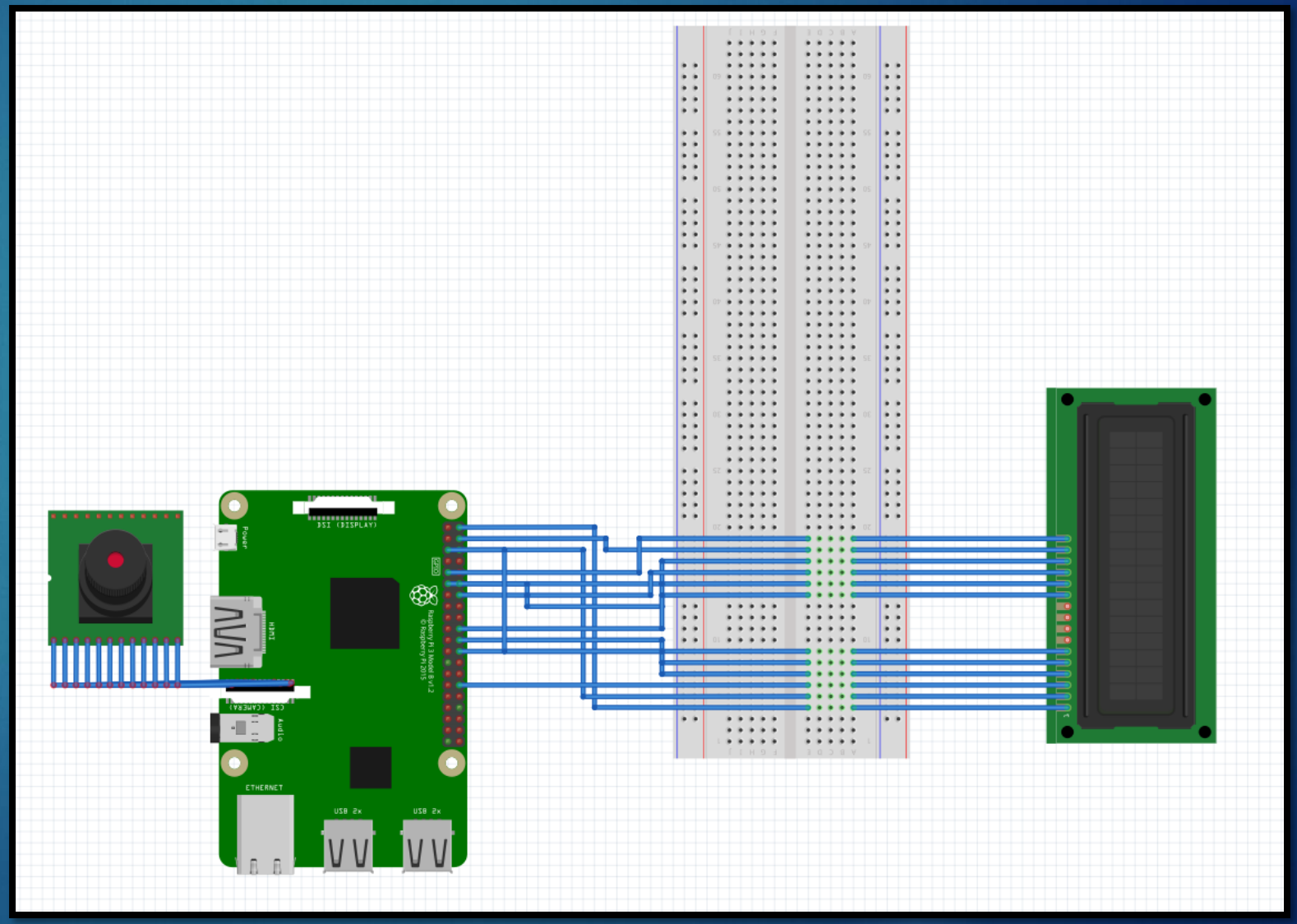
- Increase in vehicular traffic everyday. Hence, It is difficult to manually impose traffic rules.
- Growing number of unlicensed drivers on road using unregistered number plates.
- This leads to the introduction of a system that detects license plates and filters out/imposes penalties on the identified owners
- Our system is designed to deduct the fine directly from the user as well identify unregistered number plates

Steps involved…

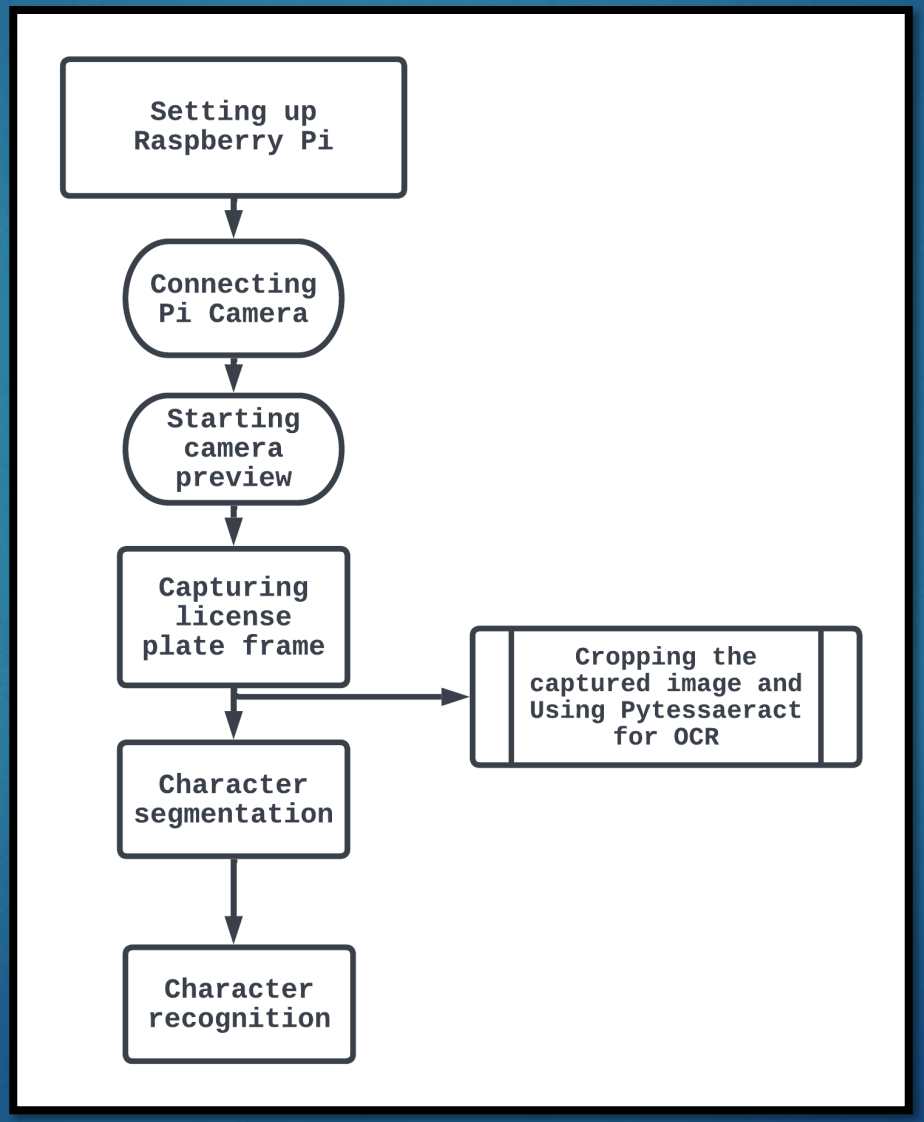
- License plate capture using PiCamera.
- Image Gray scaling using OpenCV
- Contour Detection using Canny Edge Algorithm
- Masking and Cropping the desired contour.
- Perform image segmentation using PyTesseract
- If string matches with database, impose penalty on related number plate
- Else, License Plate is not registered with concerned authorities.
- Then, Email is sent.

Circuit Block

VSS	GROUND
VDD	5V
V0	GROUND
RS	GPIO 7
EN	GPIO 8
R/W	GROUND
D4	GPIO 25
D5	GPIO 9
D6	GPIO 10
D7	GPIO 17
A	5V
K	GROUND



Working flowchart



Reference…

- License Plate Recognition using Raspberry Pi and OpenCV

https://circuitdigest.com/microcontroller-projects/license-plate-recognition-using-raspberry-pi-and-opencv

- Dataset/ number plate images

https://www.kaggle.com/code/tustunkok/license-plate-detection

- https://iotdesignpro.com/projects/real-time-license-plate-recognition-using-raspberry-pi-and-python