

VEHICLE NUMBER PLATE RECOGNITION (SVNPR)

INTRODUCTION

This project is developed by us for our college (G.N.D.E.C ,Ludhiana) vehicle number plate detection purpose .SVNPR is vehicle number plate recognition system which uses raspberry pi v2 night vision camera to sense and capture vehicle number plate and display it on screen .It also stores vehicle number in database .The camera we used is a night vision camera which facilitates a high performance day as well as night image capturing facilities.

REQUIREMENTS

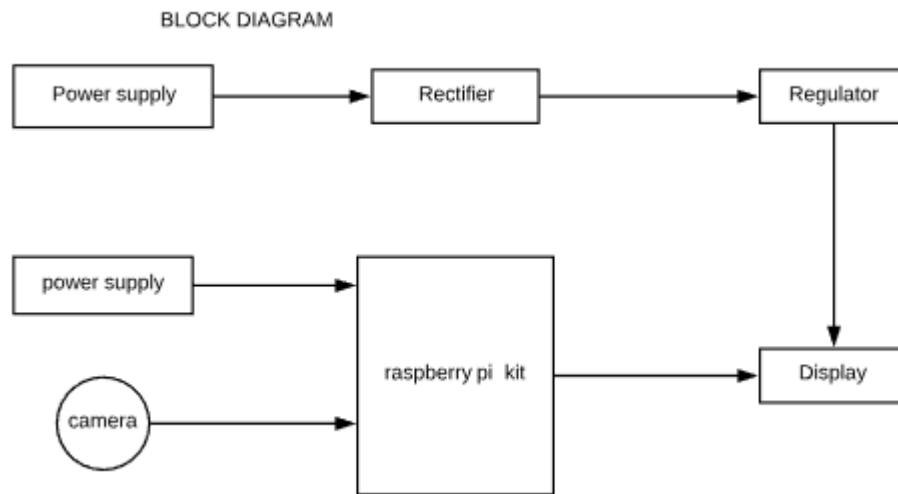
HARDWARE REQUIREMENTS

- RASPBERRY PI Board
- RASPBERRY PI V2 night vision camera
- PIR sensor
- Micro SD card –16GB class 10
- RASPBERRY PI power supply 5V, 2.5A
- LED
- Resistors
- Breadboard
- Jumperwires
- RASPBERRY PI wifi card
- RASPBERRY PI seven segment display board

SOFTWARE REQUIREMENTS

- PYTHON PROGRAMMING
- LINUX/WINDOW OS

BLOCK DIAGRAM



NEED AND SIGNIFICANCE

SVNPR uses night vision camera with sensors to automatically detect car by its motion then capture its number plate and recognize its character .Further it saves the number plate on raspberry pi seven segment display where records are been maintained of entry and exit of each vehicle .SVNPR works efficiently in day as well as night time .It can be used as a security purpose and is an advance ,smart and efficient number plate software recognition system used in modern day.

NOVELTY /INOVATIONS

SVNPR has an image detection system which can detect the image of car and number plate and can recognize the character from number plate .Here we have used wifi card and seven segment display which makes our project cheaper and can also work in moderate configured system.

FUTURE SCOPE

Further ,we can work on features like –

- **Security** -analyzing the vehicle number by using Hadoop and find which vehicle comes on regular interval and the stranger ones which are seen for first time and is having seen with some suspicious activity.
- **HIPI** –we can use Hadoop image processing for better image capturing purpose.
- **AUTO RECOMMENDED PARKING SLOT** – we can add features which will automatically suggest the driver which parking slot is vacant and will request them to park their vehicle at the respected slot which can be used to maintain a better safety and secured parking database.

EXPECTED OUTCOMES

SVNPR will be able to maintain vehicle and organization security by keeping record of each vehicle during entry and exit time.

FINANCIAL ESTIMATE

Our project estimated total is mentioned below-

- RASPBERRY PI Board -₹5000
- RASPBERRY PI V2 night vision camera -₹3000
- PIR sensor -₹250
- RASPBERRY PI power supply 5V, 2.5A -₹1000
- RASPBERRY PI wifi card -₹2000
- RASPBERRY PI seven segment display board -₹500
- MISC. -₹4000
- **Total -15,750**

