**Advanced traffic violation control and penalty system using iot and image processing techniques**

**Project Requirements**

**Aim:**

In our daily life, we come across many problems caused due to traffic rule violation by some people. Also when we go through the daily newspaper, we realize that road accidents is one of the major problems now a days in every city. These problems cause disturbance to the whole system and also consumes our precious time. So in an attempt to reduce it & improve the traffic discipline, advanced technological solutions has been proposed. In this project, we are designing a system which will automatically incur penalty to the vehicle for violation of traffic rules. Recognizing vehicle number plates is a difficult but much needed system. This is very useful for automating toll booths, automated signal breakers identification and finding out traffic rule breakers. Here we propose a Raspberry Pi based vehicle number plate recognition system that automatically recognizes vehicle number plates using image processing. The system uses a camera along with LCD display interfaced to a Raspberry pi. The system constantly processes incoming camera footage to detect any trace of number plates. On sensing a number plate in front of the camera, it processes the camera input, extracts the number plate part from the image. Processes the extracted image using OCR and extracts the number plate number from it and it will upload .the extracted number plate data to cloud using IOT and sends message along with fine details to the owner of the vehicle for violation of traffic rules

**Hardware & Software Requirements:**

1. RASPBERRY PI
2. python
3. Php 7
4. Html5
5. CSS 3
6. Boot Strap
7. AJAX
8. my Sql
9. j query
10. Number plate
11. Camera
12. Lcd
13. Buzzer
14. Power supply
15. Transformer
16. 5v adapter
    1. **Project Flow:**

raspberrypi

CAMERA

LCD

Power supply

**Dashboard:**

**Mobile app dashboard**

1. In mobile app we have the data of rules volatile vehicles along with owner information
2. The data from raspberry pi will stores in server and helps to check anytime
3. Data will display in app that coming from raspberrypi for vehicle owner and traffic police

Traffic police:

1. In traffic police dashboard all the data of rules volatile vehicle will present
2. By using this app we can on spot fines to rules volatile vehicles
3. On the time vehicles certificates checking Traffic police will checks any previous fines are active or not

Vehicle owner:

1. Vehicle owner will checks the image,time,fine amount on the dash board of vehicle owner