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Automated E-Challan System

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Abstract: ***The main idea is to document an E-challan which contains overall information of the vehicle and to introduce a system which helps R.T.O officer to identify the owner of the vehicle and take fine easily from them. Breaking traffic rules on road is a major issue nowadays. Due to large population and traffic congestion it is difficult to identify which vehicle has broken traffic rules. To monitor culprit vehicle manually is very difficult. Therefore, there is need to monitor these vehicles automatically. Here we propose a system where the officer will click the picture of the culprit, which will be saved in the database of our server, the officer will create the challan of the culprit by logging in into our e-challan site where the number of the offender's vehicle will be our primary key, further the time, date and the offense will be mentioned. The offender will be notified about the challan with SMS and challan created will be then available on the consumer side of the site for further payment options.***

The existing system is tedious and time consuming, it requires stopping the vehicle, collecting the owner information, checking his license and collecting Fine, giving the acknowledgment and then allowing the vehicle to pass by. The Challan System for vehicle verification is a new system which is designed to enhance the convenience for officers and vehicle owners. It saves lots of time.

I. INTRODUCTION

In the backdrop of a rise in attacks on traffic cops, the department has urged its personnel to refrain from getting into arguments with motorists. Instead, cops have been asked to click a picture of the number plate of the offender's vehicle and forward it to the Traffic Control Room for issuance of e-challan. The move comes at a time when penalties for traffic offences are being revised, which cops believe will increase attacks on traffic personnel.

The department, which has data of over 75% motorists in the city, hopes that this new alternative will help reduce assaults on cops following altercations.

Whenever a traffic cop clicks photo of offender's vehicle who break traffic rules, which are then stored in his phone and after every day work, the data is submitted to control center, but if the motorist is an acquaintance of the officer his picture is deleted rather than being forwarded to the center for issuing the challan.

Also, after the challan is issued it is sent to the registered motorist by post which is a time consuming task and it takes around 6-7 months for the challan to be received by the offender.

Automatic E-challan generation for traffic violation is a PLC based project that will automatically detect the violating vehicles and accurately punish them. This project is designed to reduce the work of traffic police officers so that they can focus on other violations like illegal parking, driving on the wrong side and drunk driving. This project will work in order to reduce the violations and make the city a better and a safe place for pedestrians and vehicles. The need for automation comes from the growing number of vehicles on the road every day. It has become an impossible task for traffic police officers to watch and control every road and every vehicle. It is up to the human beings to maintain discipline but in a densely populated country like India patience runs thin and forces the people to break the law. This project when fully functional is more suitable for practical purposes as a single PLC which may have input-output capacity of over 1 lakh can cover an entire city. When the drivers know that there is a constant check on their driving, they will automatically start obeying traffic rules. This project can easily cover an entire city. With a one-time investment cost, this project can be easily financed and supported by the government. The project will also be easy to implemented and cheap to maintain. The PLC can be centrally controlled. The PLC is a rugged processor that can handle rugged weather. The tag range varies hence they have to be selected as per requirement. The tag can be made compulsory to the car manufacturer; hence this will help in standardizing the tagging process of all new cars. Also the current vehicles which do not have tags will be given a deadline by the government. This project can only be successfully implemented with the active cooperation of the government, as the processes include compulsion on the people. This process is already installed in lots of developed countries but they have high speed, high cost cameras. Installing such high speed cameras at every junction is not possible. Hence this project is can remove the high cost cameras and replace them with low cost, efficient cameras.

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1) *Admin Website:* Login on website using username and password. Manage Users- Manages end users who are carrying a car or a bike with their login credentials. Manage Traffic Police- Admin manages traffic police with their login credentials. Manage Fine Amount Admin can manage offence with their fine amount. Manage lost Vehicles- Admin can manage lost vehicle in this module
2) *Login:* Traffic police login on Android application using the credentials provided by the admin. Open QR code, Offline QR code Store- View and show QR code to the traffic police to proceed further. View Rule Book- User can view or download pdf of the rule book to avoid offences. Traffic police Scanner- In this application there is a scanner .

II. PROPOSED SCHEME

A. *Photo Upload*

A traffic cop clicks photo of offender's vehicle it uploads directly to the server searches the photo details with the already registered motorist.

B. *Login Page*

The traffic cop can login with his unique ID provided at admin for the service. When the motorist enters the system, he will confront two login option one is traffic officer another is consumer, he has to login in consumer with this aadhar_id which is his username for this system.

C. *Message Sending*

After creating the challan on the traffic police's site, the SMS will be sent to the registered number of the motorist.

III. SYSTEM ARCHITECTURE

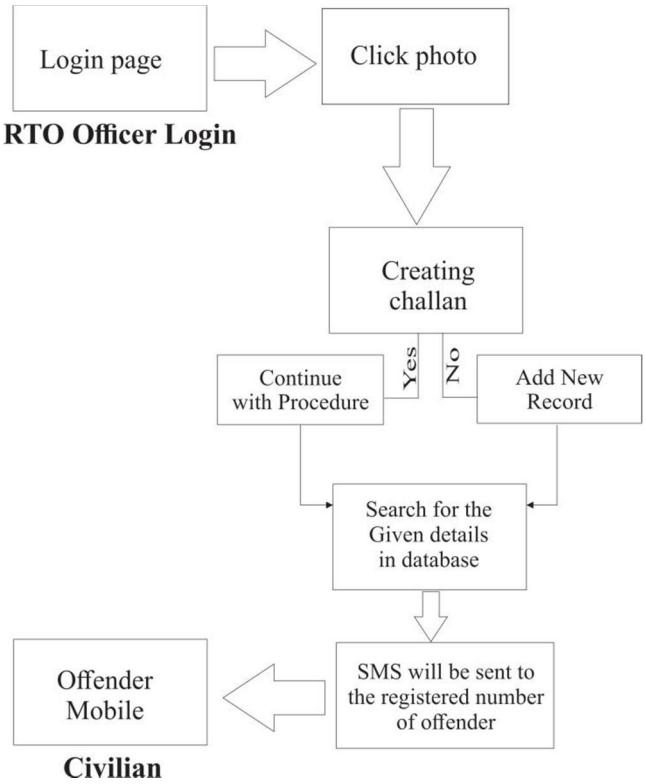

Fig1`.System Architecture

In this fig, first RTO Officer will login into the page,after that whenever RTO officer see the offender breaking traffic rules he will clicks the photo and then the photo will be saved on server after that the RTO officer will redirect to create challan and fill the offender's vechical number ,by using those detail challan will be created and send to the offenders register mobile number.Offender can also check there history of challan and pending challan and can pay the challan on same respective day.

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IV. LITERATURE SURVEY

In [1], there were different modules in which they store different information & having different service. In RTO it had process for registration of vehicle, their documents data all were stored in database in which they access from here. In maintenance or service provider they had whole document & information about location in which vehicle owner who face problem, they give service to them. This system also provided feature for detection of lost vehicle. Administrator had rights to verify the data entered by the user, processing of data and provide appropriate solutions. Any person who has been authorized by the administrator could use this system. An authorized user should have a user name and password to access detailed information from the site excluding for accessing general information in shared, public pages. In "Smart RTO Web and Android Application" [2] it describes smart RTO & web application consist of web application for RTO administrator and the android application for the user. The user has to register for the services like insurance, license & RC book. If the traffic police caught the driver and asks for the license, insurance and vehicle documents the driver had to tell him the license number, insurance number manually and the traffic police will enter the details in his mobile app and the data stored on the server will be fetched regarding the
documents. It influenced by RTO management system. This information was stored in database at server through on inline registration and server-side end. On client side an android application was provided to police.
After police logins into the system was able retrieve vehicle and license related information from the RTO database. If authentication fails, the information is provided to the police to retry else information about the use is displayed. In "E-RTO management system" [3] describes E-RTO is an advanced "E-RTO management System" which is design keeping in a view to make the existing registration and insurance system easier and faster. It included the entire registration and insurance procedure starting from the initial phase of entering till the result. Also, security was provided in the intermediate stages starting from the receiving of the application form to revealing the applicant number along with the expiry date of license are being dealt. Administrator was provided for authentication purpose as well as it could handle all the database of E-RTO and manage all the process. He had rights to approve learning license number, permanent license number, pass the vehicle registration number, offer insurance details to the user, etc. Facilities were provided by administrator. In [4], it showed the authentication of vehicle using RFID which was an advanced "ERTO Management System". It was designed keeping in view to make the existing registration and insurance system easier and faster. It included the entire registration and insurance procedure starting from the initial phase of entering till the results. All the intermediate stages starting from receiving of the application form to revealing the applicant number along with the expiry date of the license were dealt. This technology enabled the traffic police to be more effective in controlling repeat violators of traffic rules. Traffic Police had the database of registration numbers as well as the history of driving license holders. When a traffic policeman would enter the details of any vehicle caught violating traffic rules, it would give the complete details of that particular vehicle including the name and address of owner and the make, model and other details of the vehicle. Not only this, the details of the driving license holder would also be available. Therefore, enhanced penalties would be imposed for repetition of violation of traffic rules. Also, the RFID tag is used to identify the vehicle independently. In "RTO AUTOMATION SYSTEM USING NFC" [6] describes automation system is basically a digital system to overcome the manual task. The single NFC cheap need to be attached to the license of driver. The NFC chip stores a unique combination of numbers. This ID could be read by the smartphone and the NFC to web application with the underlying NFC technology and uniquely associated with the driver's master data in the web application. A mobile application, database and NFC technology was developed that enabled the exchange of data between different devices over distances. In this project, the smartphones equipped with NFC was used and it could be paired with NFC tags or stickers which could be programmed by NFC apps to automate this task. A new system for RTO using Android app which included Near Field Communication was introduced in this paper. The microchip contains memory to store a unique

V. WORKING PRINCIPLE

When-ever any vehicle breaks any of the traffic rule, the traffic cop will click the photo of the offender's vehicle, with the fine type and whatever the rule is break by offender the cop will select the rule by giving the drop down in the application and select the fine type and this will be selected in RTO database
The photo will be redirected to the server . The string of character will be then compared with the data in the RTO database. From the RTO database, details of the vehicle such as owner's registered mobile number will be found. These details are then used to create challan which will comprise of the owner's details, fine type and penalty of the crime.
This E-challan is then sent to the vehicle's owner on the same day of the crime through SMS.

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VI. RESULT

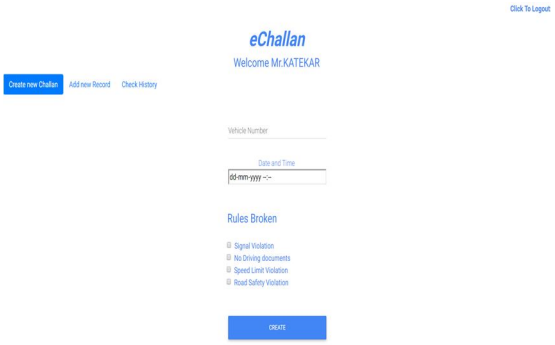

Fig 2.Create Challan

The fig , shows the sample screenshot of how RTO officer will create the challan and fill out the details,of offender's vehicle number to mark the violation for breaking the rule, after that detail of user will be fetched from database and by using the same data RTO officer will send the challan to offender's register mobile number.

VII. CONCLUSION

In this paper our proposed scheme works to convert the traditional challan system, our project is to prepare E-challan system so that whenever a traffic cop clicks photo of offender's vehicle it is uploaded to the server, further the traffic cop creates the E-challan with the vehicle number and then the created E-challan is made available to the motorist on the consumer side of the system, also this is notified to the motorist via SMS.

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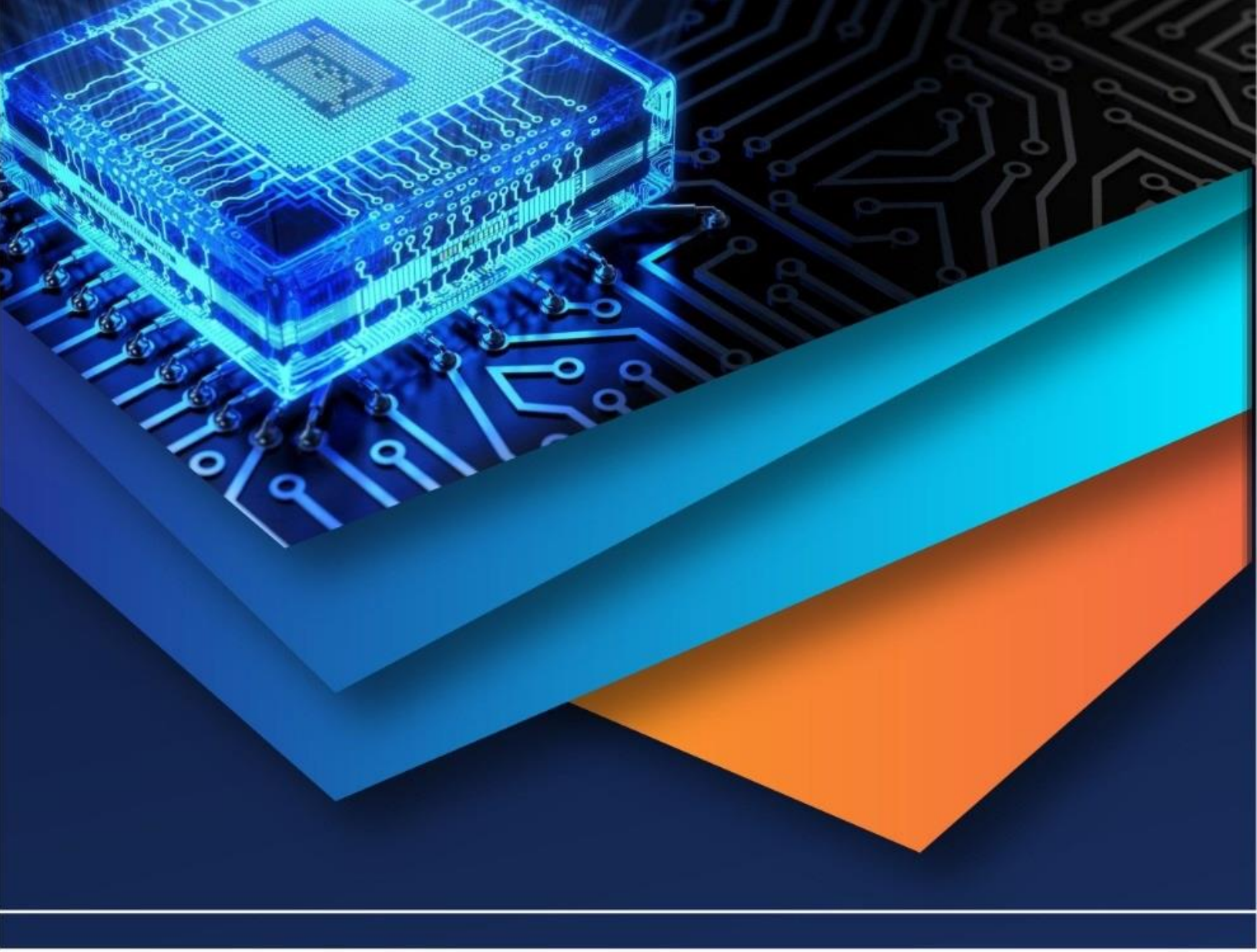

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