

Smart Road Traffic Fine Management Process System

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Abstract - Nowadays road traffic has become real problem in smart cities and also traffic congestion is often seen on road. There are several ways to make traveling safe and one is through the Traffic Police. And also today, the number of vehicles is growing increasing problems of vehicle registration, license registration for RTO department and vehicle related documents verification by traffic police. This document describes the project of smart traffic process system it describes the development in technology. Saving time and making more efforts for traffic police. RTO employee having lot of work burden of making registration, license issue, transfer, etc. which requires lot of paper work. As result people can't get the things done in right time, which is waste of time and energy. Similarly vehicle owner sometimes forgets to carry the license and other documents also at time of enquiry. To solve such problems to storing all vehicle detail information related to the vehicle and driver at centralized database by RTO main administrator. And android application is provided to the traffic police because one of the most important task of traffic police is to direct traffic, manage traffic rules and apply laws. And if you violet the rules while driving, then it can easily retrieves the all vehicle related information that android application through and then finally that information though, fine it according to the traffic rules.

Key Words: Smart Cities, Traffic Congestion, RTO Regional Transport Office, Vehicle Registration, Centralized Database, etc.

1. INTRODUCTION

The Regional Transport Office (RTO) is government organization which maintains a database of drivers and of vehicles for various Indian states and union territories.

Owning a motor vehicle is a dream for most people living in India. If an individual wishes to drive the vehicle in the country, he has to go through the vehicle registration process that is mandatory as per the motor vehicles.

There are thousands of RTO offices in India and a web application has been created by this project to handle all vehicles and transportation related tasks. Therefore, each person should carry out all the functions of their vehicles such as vehicle registration, license registration, etc. can easily complete all such tasks.

The Ministry of Road Transport and Highways is one of the top institutions that follow the rules in our country. When a person breaks any of these rules, it is a punishable offense. The offender has to pay a fine. And traffic police are being hired to do this work. And to make this work lightweight an Android application has been created. And this Android application is provided to traffic police to retrieve vehicle and license information.

1.1 Problem Definition

Current RTO office work is very difficult and complicated, time consuming and in case of real life problems, for example, if one wants to register information about his vehicle or want to get a license, he will first go to the RTO office and give all the work to the agent there. Only if the money has to be spent will the agent get the job done. But all these processes waste a lot of time.

In the present world, everyone is in a hurry so we are developing a Web Application to solve this problem that can overcome this problem and solve it in an efficient way. Today there are many issues like number of vehicles, vehicle registration and registration of license, etc. for RTO department and verification of vehicle related documents by traffic police. An RTO employee has a lot of work to do, such as registering, licensing. Which requires a lot of paper work. And all this work is wasted a lot of time and sometimes forgets to keep the RC book, license during enquiry. To solve many such problems, the RTO administrator stores all driver and vehicle information on the database. This way, the Android app is provided to the traffic police to retrieve vehicle and license information.

1.2 Overall Scenario

In Overall Scenario that Today's, making of vehicle registration, driving license is large time consuming process. Also every time, it is not possible to carry whole documents by driver. Current vehicle registration systems for RTO services are very critical and there is no any updating to RTO office. RTO is a government bureau that maintains the registration of all vehicles in India. The purpose of this project is to create a non-productive RTO service. This application provides licenses, vehicle registration and other documentation registrations. The details of each vehicle registration are stored with RTO administrator in their database. Which traffic police can use through the android application. One of the important

tasks of the traffic police is that if anyone breaks the traffic rules, the traffic police can easily see the details of the vehicle who breaks the traffic rules. And according to the traffic rules fine chart structure, that person has to pay traffic fine. And all this fine process will be done online as well as all the fine payment details as well as information about what kind of traffic rules have been broken and the person who breaks the rule will be sent via message. And a message will also be stored with RTO administrator. It also save the time of the traffic police and there is no negligence in the whole process. Another purpose of this project is that if a person breaks the same traffic rules, then he/she will be given warning via message. In today's runway life, tasks like RC renewal, license renewal are forgotten but through this project every person will get an alert message of RC validity, license validity so every person will complete his/her tasks like registration renewal, license renewal within a time.

2. LITERATURE REVIEW

Today, making of driving license is large time consuming process. Also every time, it is not possible to carry whole documents by driver. Current vehicle registration systems for RTO services are very critical & there is no any updating to RTO office.

Totally whole processes are conducted manually. In current market there are no any applications to provide all the above features together in one application. We all know existing RTO office work is how much lengthy as well as very time consuming process. In many villages there is only one day camp of RTO and the people who want driving license they should remain present on that day if they missed that day then they have to go to the district RTO office. So it is disadvantage because that may be not able to go or he having work on that day. so that here we are developing one web application which provide easiest and efficient way for RTO works like making driving license, insurance of vehicle, registration number of vehicle etc.

In the present world, everyone is in a hurry so we are developing a Web Application to solve this problem that can overcome this problem and solve it in an efficient way. Today there are many issues like number of vehicles, vehicle registration and registration of license, etc. for RTO department and verification of vehicle related documents by traffic police. An RTO employee has a lot of work to do, such as registering, licensing. Which requires a lot of paper work. And all this work is wasted a lot of time and sometimes forgets to keep the RC book, license during enquiry. To solve many such problems, the RTO administrator stores all driver and vehicle information on the database. This way, the Android app is provided to the traffic police to retrieve vehicle and license information.

2.1 Project Methodology:-

Modules used

- **User module/ RTO Admin**
License Registration form
Vehicle Registration form
- **Traffic Module**
Check License
Check Vehicle

1) User Module:

User will fill the online form followings are:

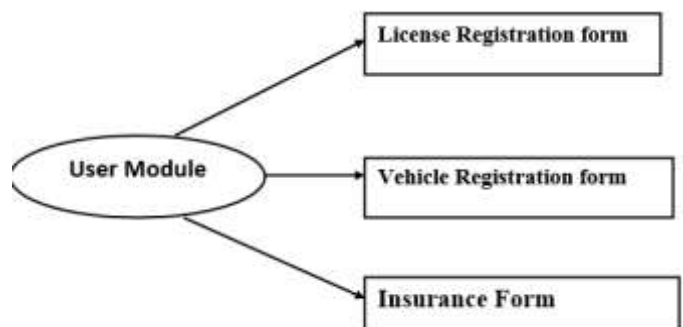


Figure.1. User module

License Registration Form

The below figure shows the user license registration form. This form display information of particular license holder with photo and other details such as first name, middle name, last name, email, date of birth, gender, taluka, contact number, ration card number, address, adhar card number, and voter ID.

Vehicle Registration Form

In vehicle Registration form the RTO administrator gets various details of vehicle and to enter vehicle information first select the vehicle type such as two wheeler, three wheeler, four wheeler, and other types. After entering Registration no such as KA 22 CA 7613 then click check vehicle button it gives pop up message found or not found and displays all records in the data grid below figure shows the vehicle registration form of two wheeler vehicle.

Insurance Form

In the below figure the owner will enter his information as well as vehicle information. User information like first name, last name, middle name, mobile number, email, Vehicle Information like vehicle make, vehicle sub-type, vehicle model, engine number, CC, manufacturing year, city, state, chassis number, fuel used, registration date, your bike's IDV, House number, and select premium plan. We search the insurance formation by using insurance number.

2) Traffic Module:

This module mainly focuses on providing the information only to the traffic police officers it consists of checks license checks vehicle information check insurance and also generate fines.

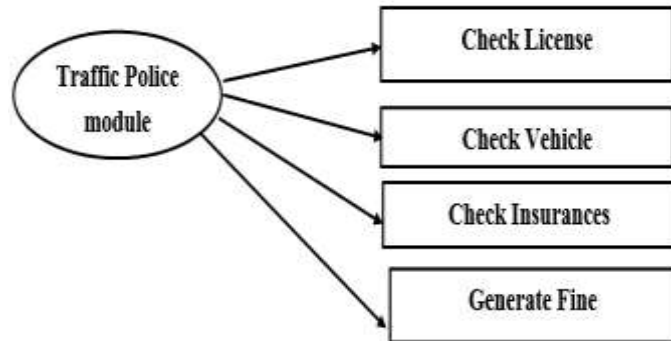


Figure.2. Traffic police module

Check License

The Check License module takes a License number. As an input and returns the respective License information like Name, Photo, address, DOB, issued date, License status and Validity of the license. In case if the record doesn't exist it shows a respective message that record not found.

Check Vehicle

The Check Vehicle module takes a Vehicle Registration number as an input and returns the Respective Owner details like Name and Address. It also includes the Vehicle issued date and valid date of vehicle.

Generate Fine

The Generate Fine module mainly focuses on generating fines for the offences committed. It provides for selecting a variety of offences from a set of given offences for which the fine amount is auto-generated. The user (R.T.O officer) needs to enter other information related to Officer like Officer Id and Other important Vehicle information. This overall process requires internet for data transfer between the client and the server and the data is stored on server.

Check Insurances

Check insurance model which gives the information of the person such as name, city, vehicle make, vehicle model, plan premium, issued date, valid date.

3) RTO Admin:

The work of the RTO admin is to verify the license registration from, vehicle registration from. If any detail is unfilled in the form then RTO admin will tell user to fill the details correctly in the form. If the form is filled correctly than RTO admin will submit the form, then license number and vehicle number will generate.

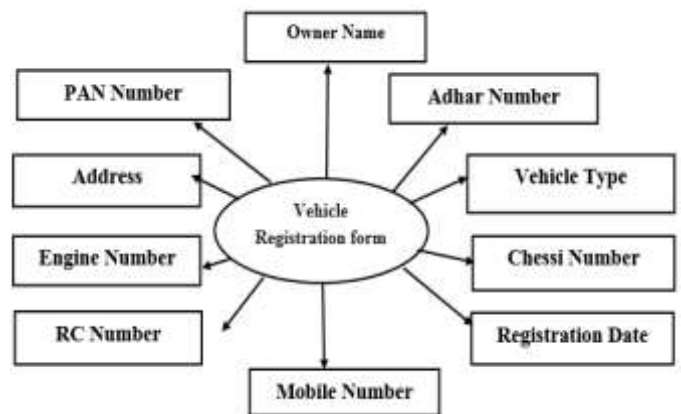


Figure.3. RTO Admin module

2.2 System Architecture:-

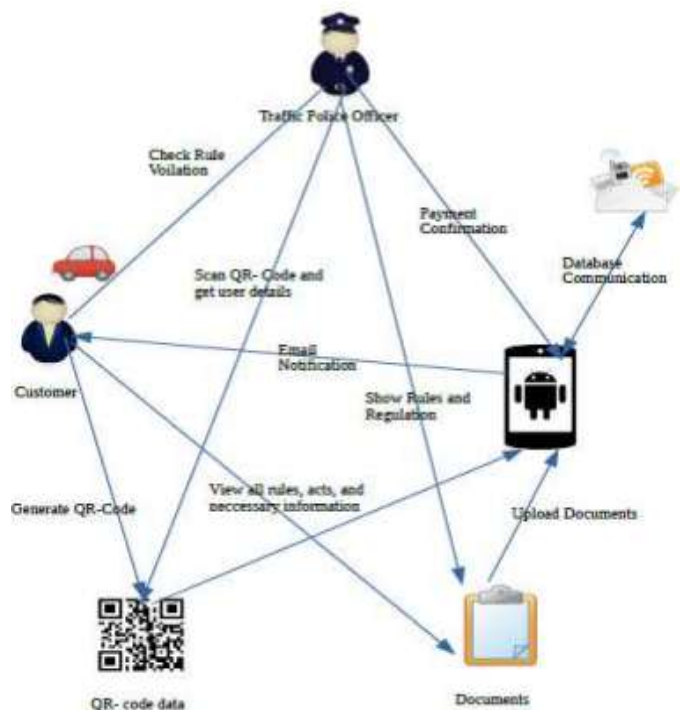


Fig: Flow of process.

It influenced by RTO management system. There is no need to carry documents by the vehicle driver. Traffic police directly fetches information through the android application. The work flow of this figure represents initially a new applier will provide his document's hard copy forms to the administrator of RTO. This information is Stored in database at server through on inline registration. And server side end is in C#.net. On client side an android application will be provided to police. After police logs into the system can 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.

Application

- For vehicle carriers person.
- For license registration.

Advantages

- Reduce the corruption in transport department.
- Keep the license documents safely.
- In case of accident it helps to identify the injured person and also helps to find out stolen vehicle effective.
- Traffic police can verify the whole details of person and vehicle.
- No need to carry the license.

Disadvantages

- Traffic police should have internet connection on mobile.
- Traffic police should have smart phone.
- User must remember his license number, Insurance number.

3. CONCLUSIONS

It can be concluded that " smart RTO web based android application" ,effectively verifies documents related to vehicle and license this system introduced facility for RTO officer to platform verification of license and vehicle and vehicle documents .It also helps RTO officials to maintain records systematically and reduce a lot of paper work and manual efforts. Hence drivers are totally independent of vehicle related documents. The driver's data will be fetched from RTO server. This RTO application aims to serve the people with digitalized documents like License, Vehicle, and Insurance for easy use as these documents can be lost. We conclude that this project will be applicable for various RTO services .These project will be provide application easily. The purpose of this project is to create an application for RTO services. This application provides registration for the license, vehicles registrations and other documentation. In this application investigation functions like checking of license, documents, PUC etc. for help of RTO officers are provided. By using this android application traffic police can verify the whole details of person and vehicle. In this application investigation functions like checking of license, documents, etc. for help of RTO officers are provided. By using this android application traffic police can verify the whole details of person and vehicle.

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