Smart Vehicular System

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Abstract— Now days there is traffic problem in tolls as well as at traffic signals therefore in order to reduce the traffic jam, save time and to monitor the person's detail driving the vehicle, we have designed project for the automation on checking license details. The aim of our project is to design a system, which automatically identifies approaching vehicles and compares vehicles number and license from RTO database that is complete detail about the person and his license renewal whosoever is driving the car. If the vehicle belongs to the authorized person which is retrieved from RTO database, RFID sensors detects it and automatically opens the toll gate if on toll and a predetermined amount is automatically deducted from his/her account, if he/she is on traffic signal and violates any rule a challan is being generated against him. This reduces traffic congestion, saves time spent on toll booths/traffic signals and helps in lower fuel consumption.

Key words: RFID, RTO, Sensors, Vehicle

I. INTRODUCTION

Smart Systems are required for license checking at traffic signals so as to monitor the person's detail driving the vehicle is an authorized driver or not if he/she is violating traffic rules the traffic police is having our application on his smart phone he login's it with his login id provided to him which is common for all traffic police officers whenever a person is to be checked he inserts vehicle number after inserting he gets complete detail of the vehicle that who is the authorized person what is his licence number in which year he is having renewal vehicle details and everything related to it .Similarly on toll booths a toll person having our portal where there is login for toll person as well where , whenever a vehicle arrives RFID sensors grab their vehicle number and retrieves complete detail about the driver of the vehicle from RTO database who is supposed to drive the vehicle and again the complete detail about the vehicle after verification toll person automatically opens the toll gate and a predetermined amount is automatically deducted from his/her account.

II. EXISTING SYSTEM

In existing system, traffic police stop's the vehicle if the person is violating any of the traffic rules at traffic signal he asks for license to the driver, the problem arises if license is expired or the person is carrying some other person's document or he/she is not carrying it. But if our system is implemented we can directly search from vehicle number that who is the owner of the vehicle and details of the vehicle and owner associated to it, finally we could generate challan for the person in fault. In existing scenario no such system is their hence it is required to implement such system as it reduces traffic congestion, fuel congestion both at traffic signal and toll .Now a day's driving licence has become smart but the system is still the same it is not having complete detail of the owner

III. PROBLEM STATEMENT

The most common problem is traffic congestion, fuel consumption both at traffic signal and toll. To avoid fuel loss. Saving time in collecting toll. Avoid financial loss, to monitor the traffic and the main problem arises if license is expired or the person is carrying some other person's document or he/she is not carrying it.

IV. TECHNOLOGY STACK

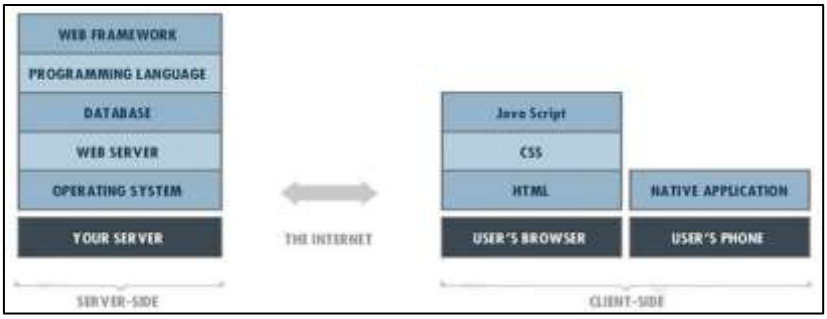

Fig. 1: Technology Stack

V. HIGHLIGHTS OF THE SYSTEM

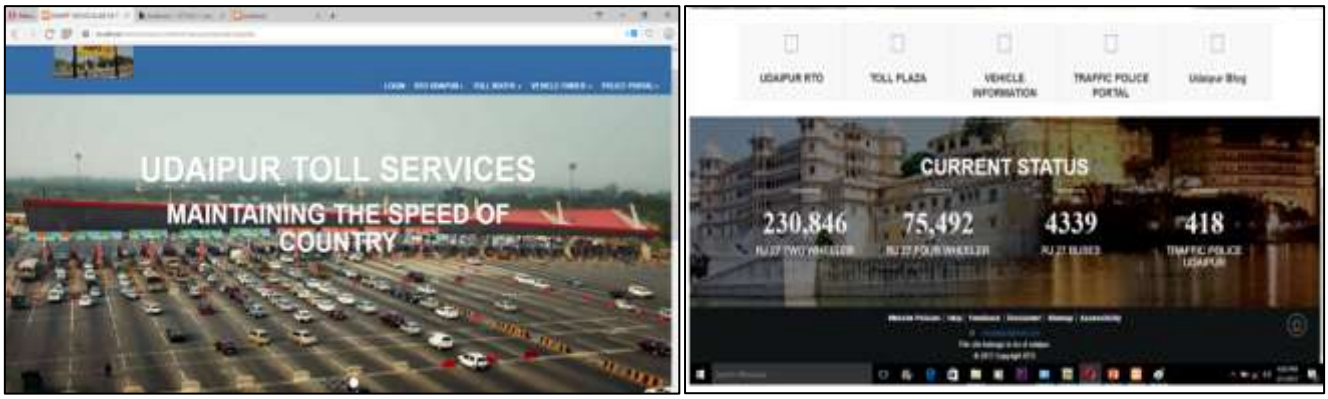

Fig. 2: Home Page

A. Module 1: Login Page

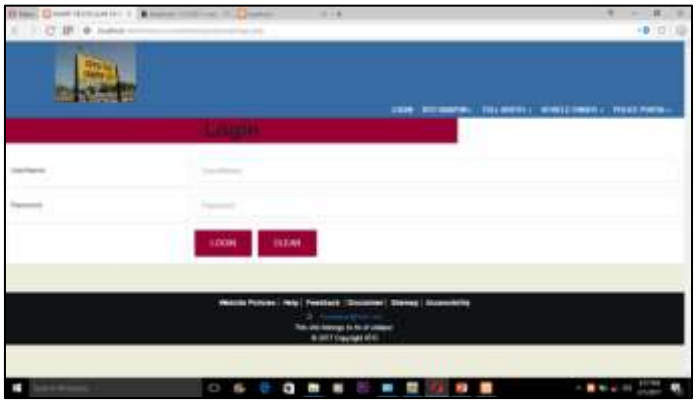

Fig. 3: Login Page

This is login page where an admin i.e. traffic policeman/toll person/RTO officer could login so as to see details of vehicles as well as owner details of particular vehicle no and a new person could also register himself/herself. A particular admin could see specific details regarding to his/her requirement. This page beside tabs of different portal contains feedback, help, sitemap etc.

B. Module 2: Police Portal

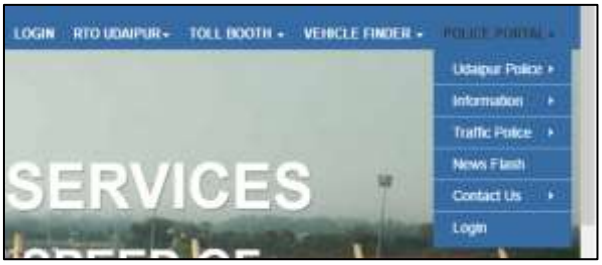

Fig. 4: Police Portal

This is police portal where a traffic police could see license of the owner and generate a challan for any particular violation of rule. It contains Udaipur police information, traffic police information, and news flash and contact us. Traffic police is having all the authorities to check the license of particular person and on the basis of crime accordingly challan is being generated and sent by mail on that particular person's address.

C. Module 3: Toll Portal

Fig. 5: Toll Portal

TOLL portal contains information of particular vehicle no which is gathered by RFID sensor. i. e. License of the owner, vehicle type, RC BOOK information, license renewal date and many information. Other than that we have complete information about staff of particular toll where this portal is being used.

D. Module 4: Vehicle Search

Fig. 6: Vehicle Search

This module can be used by any of the admin's to find a particular vehicle from different zone. Any vehicle approaching to toll or traffic or at any place violating any rule could be tracked by a police, traffic police, and toll person just by clicking on its districts vehicle code.

VI. FUTURE SCOPE

In our project now we are implementing RFID sensors .To detect vehicle number and the payment is done at toll, amount paid by the vehicle owner is through debit card here we can also implement the automatic debit system. In this system we have to treat the RFID card also as the smart card. In the RFID card we have now vehicle number in the code format. So, we can combine the RFID card with smart card as both are the different forms of basic principle of Bar code.

ACKNOWLEDGMENT

This project demanded a huge amount of research work and dedication which would not have been possible without the support of many individuals and organization. Therefore, we would like to extend our sincere gratitude to all of them.We are also grateful to Prof. (Dr.)K.N. Sheth, Director, GITS for supporting and motivating us to do a quality work. Finally we are thankful to Dr Raghuveer (HOD CSE) for helping us in implementing the project.

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