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ONLINE VEHICLE TRACKING WITH MOBILITY SUPPORT FOR VEHICLE INSPECTORS

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ABSTRACT

Now days, most of the Regional Transport Office's (RTO) are computerized and data are stored in servers. The available data viewed only in the RTO premises and not viewed in outside the campus. The details of the vehicle and drivers are not available to the RTO officials while vigilance. It can be done through the web services via Internet in the mobile devices. We proposed a web services called "Online Vehicle Tracking with Mobility Support for Vehicle Inspectors".

Keywords: Online Vehicle Tracking, Mobile Devces, GPRS,Mobile Communication, RTO.

I. INTRODUCTION

The Regional Transport Office [RTO] is a bureau of Indian Government which looks after issuance of Driving License and vehicle registration. Each state's transport office is governed by Government of India for proper functioning of vehicles registration under specific series allotted to particular state.

Job of regional transport office is to maintain systematic records of vehicles and its owners' identity; RTO office allot a unique series of number to every vehicle and these vehicle numbers are registered with relevant authority of transport based on vehicle owners' addresses. Every RTO is given a particular number series for registering vehicles. This is done for tracing the vehicle via its owner's address in case of any mishap or crime. Below mentioned list describes specific series of numbers allotted to each state's RTO office.

This system is aimed to develop to help RTO officers and traffic sergeants to inspect vehicles on the spot by using only the mobile with GPRS enabled. Using this system, the officials can check whether the riders of the vehicle own correct documents like RC book, insurance and road tax details through mobile by giving vehicle registration number as input. The features decided to include in the System are mobile tracking used to track the details of the vehicle by giving the registration numbers in mobile, issuing on spot fitness certificate, New Registrations, New Licenses and verifying the vehicle information, owner details and Road Tax.

II. EXISTING WORKS

There is no online mobile tracking system for vehicle inspection at present in Tamilnadu. The online tracking system is done with help of GPRS system.

General Packet Radio Service GPRS is a packet switched service based on Global System for Mobile Communications GSM, an extensively deployed voice technology. GPRS is a 2.5 G cellular

network. It provides affordable and fast internet connections to service users. Billing is based on the amount of data transferred rather than on the connection time. This is achieved by allocating resources radio channels to users only when they need to send data. GPRS may offer data rates up to 171.2 kbps [1-3]. GPRS utilizes most nodes in an existing GSM network; two additional nodes are introduced in the GSM network to support GPRS Serving GPRS Support node SGSN and Gateway GPRS Support Node GGSN, these two nodes constitute the core network of a GPRS sub-network and they are connected through an IP based GPRS backbone network.

For the applications that require real time location information of the vehicle, these systems cannot be employed, because they store the location information in the internal storage that can only be accessed when vehicle is available.

The steps for software implementation of the GSM/GPRS based system are discussed below.

A. Algorithm for GPS, GSM / GPRS Based System

1) Start.
2) Separate out the latitude and longitude from the$GPRMC frame.
3) Select the method of transmitting coordinates whether GSM (using SMS) or GPRS (to the static IP).
4) If GPRS is used then establish connection with the remote server having static IP.
5) Send data packets to the server.
6) Terminate the connection.
7) If data is to be displayed using a GSM, then send the SMS containing the position information to the cell phone.

III. METHODOLOGY

The proposed Online Vehicle Tracking with Mobility Support for Vehicle Inspectors methodology includes the following functionalities;

- Registration of Motor Vehicles.
- Issue of permits and fitness certificates to Transport Vehicles.
- Issue of licences to drivers and conductors.
- Enforcing the various provisions of the Central Motor Vehicle Act,
- Tamil Nadu Motor Vehicle Taxation Act and the rules framed under these Acts.
- Inspection of vehicles involved in accidents.
- Negotiating inter-state agreements.
- Collection of tax and fees on Motor Vehicle.
- Providing relief to victims of Motor Accidents from the Honourable
- Chief Minister's Accident relief fund.
- Advising on various road safety measures.

IV. IMPLEMENTATION

The system is implemented in ASP.Net with SQL server Management Studio 2008. The basic information about the vehicle and owner, license of the drivers, insurance details of the vehicle are stored on the RTO office servers. The system provides the mobile packages for tracking the vehicle and installed in the RTO officer mobile phone.

The vehicle inspector can verify the vehicle using the GPRS enabled mobile phone with the package and entering the vehicle number as input. The system immediately show the details of the vehicle with validity of FC and insurance. The system also provide facilities to issue the memo and spot fine to the drivers for violating any road rules.

V. RESULT

The figure 1 and 2 show the sample screenshot for the Online Vehicle Tracking with Mobility Support for Vehicle Inspectors.The figure 1 shows the interface to the vehicle inspectors to check the originality of the vehicles information by input the vehicle number (a sample format of the number also given).

Figure 1. Vehicle Tracking System in Mobile

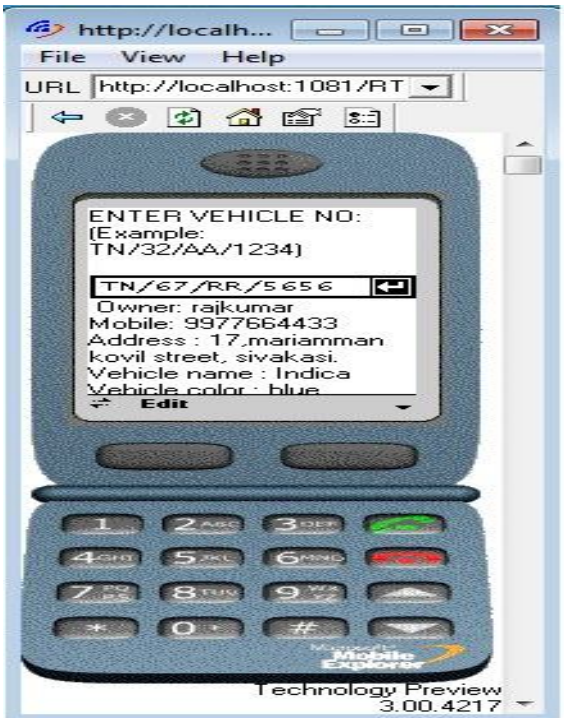

Figure 2. Vehicle Information System in Mobile

The figure 2 shows the vehicle information of the given input vechicle number with etrails of the owner and other information of the vehicle such as model, color, FC details, Insurance Details etc.

This system is proving to be a boon to the RTO Officials and sergeants for their spot raids on the roadways. With the help of this system they can verify the identity of the vehicle owners through their mobile phone. This feature greatly reduces the amount of work done by those officials and enhances the accuracy.

VI. CONCLUSION

This system provides the features of new registration for the vehicles, issuing license, paying road tax, mobile Tracking, the special feature to be considered that helps the traffic sergeants and RTO officials to track whether the vehicle is theft or not and License Tracking to check whether the vehicle driver has the original license or duplicate license. In future this system is used to send SMS alerts to user mobile.

VII. REFERENCES

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