

Traffic Police Management and Detection of Stolen Vehicle using QR Code

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Abstract— In today's growing number of transports, vehicles security has become an important issue. It is important to improve the means of security to reduce the number of vehicle robbery and prevent them. Thus, to overcome this ubiquitous issue we are proposing a system whereby a vehicle can be easily identified using a QR code irrespective of private or public place such as traffic signal or public parking systems or public areas such as market places, railway stations or bus stands. Here in this system, vehicle will be easily identified by its features which are going to be stored in the application being built on basis of QR code. We would be requiring a real time database where all vehicle related data would be stored and used. By using the system, vehicle tracking and tracing can be easily and conveniently done hence proving assistance to technically incompetent people also.

Keywords: Security, Vehicle Stolen, Cost efficient, Vehicle Tracking, QR code

I. INTRODUCTION

In day to day life there is lots of increment in population and most of the people are using their own vehicles. Due to that road traffic problems are increased. Hence traffic Police work has been increased. Regional Transport office (RTO) responsible for making registration of all vehicle related document, license issue, transport. RTO management has lots of work related to registration of vehicle documentation. Regularly we observe that people have to stop their vehicles on the road or toll plaza to show their documents for their vehicles. This is waste of time for the driver and for that police who take time in checking the documents and return back again. Sometimes the driver forgot to carry the vehicle related documentation due to some reason and therefore he has to pay fine. In this proposed system we solved all this issue related traffic police management. The proposed system aims to reducing traffic police work and also driver no need to carry vehicle document manually. If someone vehicle is robbed or theft, we can easily detect stolen vehicle using QR code.

The QR (Quick Response) Code system was developed in 1994 by Denso Wave. It has 40 versions, four levels of error correction, and the maximum symbol size hence it will more beneficial than barcode. By using the highest level of error correction method allows up to 30 per recovery of the symbol code words. In addition to, QR Code has many advanced. QR code is type of matrix barcode or two-dimensional barcode. This technology is useful for our developing system. The main purpose of QR code is, it uses in the system like vehicle identification. This technology is helpful in situations where the license plate number missing or GPS tracking is not available. In our system QR code has stored the information about vehicle like Owner name, Address of vehicle owner, VIN No, Contact No etc.

II. LITERATURE SURVEY

A. Paper Name: RADAR: An in-building RF-based user location and tracking system.

– Author: P. Bahl and V. Padmanabhan (2015)

Abstract: This paper presents RADAR, a radio-frequency (RF) based system for locating and tracking users inside buildings. RADAR operates by recording and processing signal strength information at multiple base stations positioned to provide overlapping coverage in the area of interest. It combines empirical measurements with signal propagation modelling to determine user location and thereby enable location aware services and applications. Its present experimental results that demonstrate the ability of RADAR to estimate user location with a high degree of accuracy.

B. Paper Name: GPS-free positioning in mobile ad-hoc networks.

– Author: S. Capkun, Maher Hamdi, and J. P. Hubaux (2015)

Abstract: This paper considers the problem of node positioning in ad-hoc networks. It proposes a distributed, infrastructure-free positioning algorithm that does not rely on Global Positioning System (GPS). The main contribution of this work is to define and compute relative positions of the nodes in an ad-hoc network without using GPS and further explain how the proposed approach can be applied to wide area ad-hoc networks.

III. ARCHITECTURE DIAGRAM

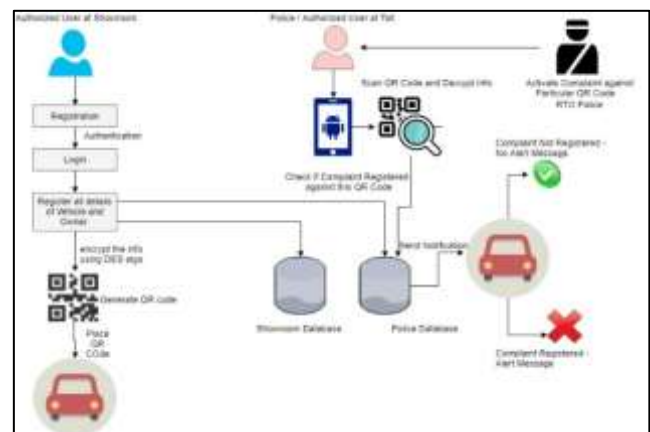


Fig. 1: System architecture diagram

IV. PROBLEM STATEMENT

To design and implement a system for vehicle user which make easy to carry all vehicle related Document digitally using QR code so that user will not face problem during inquiry and detect stolen vehicle.

V. PROPOSED SYSTEM

Proposed system mainly consists of four modules:

- Driver/Owner
- RTO administrator
- Traffic police
- Civil police

A. Driver/Owner:

Provide vehicle and personal information to RTO administrator (name, address, license no., mobile no., Aadhar number, vehicle number, bill of sell etc.) and get QR code

B. RTO administrator:

RTO administrator stores all the information related to vehicle and driver and generates QR code. Also send document expiry alert message to owner when stolen vehicle detected then instantly alert message will be send to police as well as owner of vehicle.

C. Traffic Police:

Scan the QR code and retrieve vehicle and user information. Also check user past details i.e., how many times he/she violating the traffic rules (like breaking traffic rules), according to that generate fine.

D. Civil Police:

Civil police play an important role, since a web page will be provided to civil police in order to update the stolen vehicle status to the RTO database.

VI. CONCLUSION

In this paper, we have successfully explained that vehicle robbery and theft can reduce to a comparative low level by using QR code system. By using this application, it is not necessary to carry all the documents and license every time. Simply you have to carry QR code in your Smartphone. By using our system, the driver goes through the verification process through a reliable and efficient manner. QR code is being widely used for implanting messages such that people can easily use their Smartphone's to capture the QR code and gain relevant data from QR code reader. User can get QR code by simply registering with the system.

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