

Simplified Management Automation for RTO Using RFID

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Abstract— nowadays many people are purchasing two wheelers, four wheelers etc. So the RTO employees having lot of work burden of making registration, License issue, transfer etc. which required lot of paper work. As a result people cannot get the things done in right time, which waste the time, energy. Similarly the vehicle owner sometimes forgets to carry the license, and forgets the insurance date at the time of enquiry. So to overcome these drawbacks we are developing an enhanced SM'RTO' Management. We intend to provide an environment which gives a user friendly means to maintain documents. Administrator has the power to verify the data entered by the user, processing of data and provide appropriate solutions.

Keywords- Store details in RFID tag, Scan using RC522 reader, Processing in Arduino and display in LCD.

I. INTRODUCTION

A Regional Transport Office (RTO) is an Indian government bureau which is responsible for the registration of vehicles and issue of Driver's License in India. RTO management will be having lot of work regarding registration of vehicles and issue of driver's license. Similarly the vehicle owner sometimes forgets to carry the license, and forgets the insurance at the time of enquiry. This concept is an approach to solve such problems that is by storing all the information related to vehicle and driver at database by RTO administrator. The RFID tag act as a barcode that retrieves the user's credentials instantaneously for the RTO officials for inspection. The RTO officials are allotted with RC522 reader for accessing the RFID tag RFID stands for Radio Frequency Identification and is a term that describes a system of identification. RFID is based on storing and remotely retrieving information or data as it consists of RFID tag, Arduino and RC522 reader and backend Database. RFID tags store unique identification information of objects and communicate the tags so as to allow remote retrieval of their ID. RFID technology depends on the communication between the RFID tags and RC522 readers. The range of the reader is dependent upon its operational frequency. Usually the readers have their own software running on their ROM and also, communicate with other software to manipulate these unique identified tags.



Fig: RC522 Reader

Basically, the application which manipulates tag deduction information for the end user, communicates with the RC522 reader to get the tag information through antennas. Many researchers have addressed issues that are related to RFID reliability and capability. RFID is continuing to become popular because it increases efficiency and provides better service to stakeholders. RFID technology has been realized as a performance differentiator for a variety of commercial applications, but its capability is yet to be fully utilized.



Fig: RFID tag

1) Advantages of the proposed system:

- Authentication code is generated through activation message.
- Activation message is encrypted using Advanced Encryption Standard (AES).
- Provides enhanced security measures

2) *Disadvantages of the proposed system:*

- The algorithm takes more time to execute.
- As it contains key combination it takes longer time to decrypt the message.
- Silke Holtmanns, Ian Oliver "SMS and One-Time Password Interception in LTE Networks" IEEE 2017.

II. PROBLEM STATEMENT

To implement a system for vehicle user which makes it easy to carry all related documents digitally using RFID card so that user and the RTO officials will not face problem during enquiry.

III. SCOPE OF THE PROJECT

The project simplified management automation for RTO using RFID aims to provide best analysis to society.

IV. OBJECTIVES

- To provide users with easy of carrying documents.
- To ensure transparency in the day-to-day management and administration of the officials in RTO department.

V. METHODOLOGY

There are three main modules. They are

- 1) Admin Module
- 2) Transition Module
- 3) User Module

1) *Admin module:* In this module all the predefined users' credentials are incorporated within in a fixed sever which are available for the RTO officials and all the credentials of the customer can be accessed through RFID card and Arduino.

2) *Transition module:* This module helps in accessing the information which is in the control of RTO officials and usage of customer's. In this we also have an device which is accessed through traffic commission.

3) *User module:* In this module RFID tag device is allotted for every customer the tag consists of unique code which is customer defined to his credentials. This RFID tag allows the performing of the Transition module.

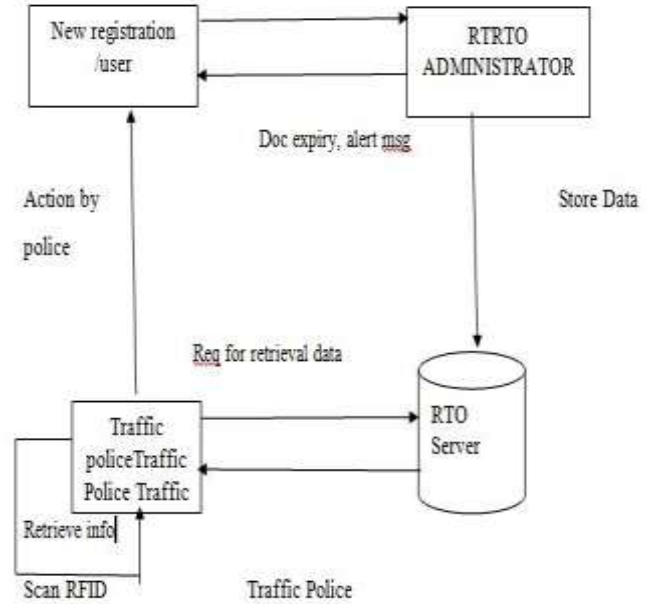


Fig: Block diagram of Simplified Management Automation for RTO using RFID

VI. CONCLUSION

By creating awareness, we can increase the paperless and IT savvy environment.

- We stringent the standards and full proof system
- Service orientation with better infrastructure for citizen centric service.
- Speedier, efficient and transparent services.

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