Enhanced RTO

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Abstract - *In this paper, we describe the design and implementation of an Enhanced RTO. Enhanced RTO is a application which is needed for drivers and traffic police. Now a days when a driver caught by traffic police while breaking some traffic rule, then a traffic police has to make a penalty history on the receipt and a driver has to pay the fine. All this process are going manually. But Enhanced RTO is the system which reduces the manual work of the traffic police, only the driver need to be have his license card that should be a NFC card. Then traffic police will get that card and will tap on the mobile application. All the information about user will get displayed. Traffic police will enter the penalty details and the penalty amount will get deducted automatically from the NFC card.[1]*
Traffic police can check the penalty history, he can enter the new penalties in the record. The driver can check his all previous records.[1]

1.Introduction

In Enhanced RTO automation system the NFC tag is used as a unique identity for account of a particular user. When a vehicle driver caught bay a traffic police, its driver is prompted to scan his NFC tag. If the identity (serial number of the tag) is matched with the one already stored in the system, the historical records of that driver get fetch on a mobile phone. [1]

Traffic police can enter a new complaint about driver. If police placed a new complaint then the fine amount will get deducted from his total balance. After this, the vehicle gets immediate access to drive through.

This NFC based RTO system also has some additional features. A new user can register him with the system. Also an old user can recharge his account balance. The amount for recharge can be entered in the system. In beginning, the user is prompted to scan his tag or ID. The serial code of the tags identified by the reader module and is sent for comparison with stored data. If the ID is matched by the microcontroller, the fine amount is deducted from user's balance and user gets to drive through the area.[1][2]

2. Literature Survey

Literature survey is highlighted in reference to the performance and approach of the current system.

Existing System:

1. In current system whenever vehicle driver breaks any rule then police officer catch him and ask for his license.
2. User shows his license and traffic police office charges him for whatever rule he braked. But in this driver doesn't know about penalty list and what exactly charges are there for penalties so user sometimes get fooled by traffic police persons.
3. In existing system all is manual process i.e traffic police manually checks for charges in his list. Some time it may make mistake while seeing charges so driver will pay wrong charges for his penalty.
4. Sometime traffic police say high charges by his own then at that time corruption may takes place, because drivers request police man to take small amount and leave them without receipt. So there is corruption happen.[1][2]

3. Proposed system

3.1. System Overview
1. Many modern smart phones and tablets have an integrated scanner that can read NFC chips. All one needs to do for driver's licence checks is attach a single low-cost NFC chip to the driver's licence.[3]

2. The NFC chip stores a unique combination of numbers. This ID will be read by the smartphone and the NFC to web app with the underlying NFC technology and uniquely associated with the driver's master data in the web application.[4]

3. Now the drivers can perform the automated checks with NFC to web application. They just need to hold their driver's licences up to their smartphones. The phone scans the chip and fetch
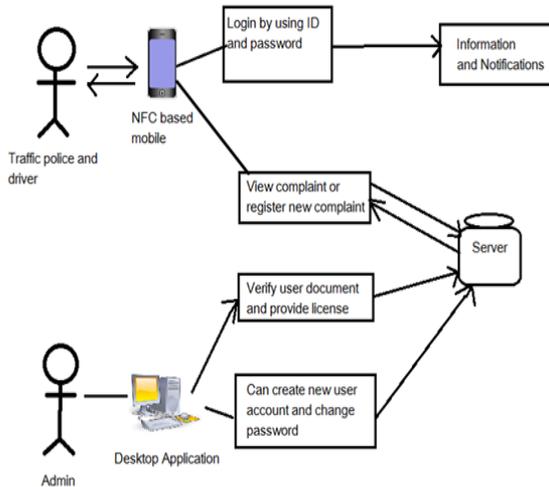
3.2. Block Diagram

Figure 1. Block Diagram

3.3. Modules of the Project

3.3.1 Admin Module:-

1. Admin can login into the application.
2. Admin check the documents and if those documents are legal then he will make a new user account into the application and provide a new license to the user.
3. After creating a new user account user will get the username and password by mail.[4]

3.3.2 Traffic Police Module:-

1. Traffic police login to the android application.
2. If any user caught by traffic police then police will get the driving license and tap using android phone.
3. After tapping, police can view the previous records, can placed a new complaint.
4. After placing a new complaint the fine amount will get deduct from a total balance of the user. [4]

3.3.3User Module:-

1. User can login into the system using username and password.
2. User can view the complaints which are placed against him. [4]

the unique id from the chip.[4]

4. The data connection can be either through a mobile data connection or via a local wireless network.[1]

3.4. Technology & Programming Languages

3.4.1. Hardware Requirements:

1. NFC tags
2. NFC based Android Mobile
3. Intel processor IV and above
4. 1 GB RAM
5. 160 GB hard disk

3.4.2. Software Requirements:

1. Visual Studio 2010
2. MS SQL Server 2005
3. SDK for Android 4.2
4. Windows Operating System
5. Eclipse

4. Scope & Applications

The requirement of the user or driver is to:
1. Access/ Search information about their complaints.
2. Login to the system through the first page of the application
3. Can get help through the help option to view different features of the system in a website.
4. Admin can View/change user's details.
5. An admin login should be present who can read as well as remove any uploads.

5.Conclusion

The Enhanced RTO system provides fast and convenient way to pay the penalty amount, when driver caught by traffic police after breaking some traffic rules. Also all user can access all his information about the penalty history and admin keeps the record of all the updation. It is more reliable to use for drivers and provides transparency and security better than existing system.

6.Enhancements

6.1. Limitations
1. The Android application requires mobile data or wireless network to access all the features.

6.2. Future Modifications
1. NFC could be used for so much more than just data transfer and payments. We can purchase our tickets, reserve hotel, unlock and lock rooms and cars etc.[1][4]

7.Acknowledgement

8.References

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