Enhanced Driving License using NFC

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Abstract - *With the flourishing availability and exercise of smart handsets in our everyday lives, mobile phone will soon become an elementary way to access many of the sophisticated applications and services in a very convenient as well as inviolate manner. The new technology i.e. Near Field Communication (NFC), provides the phone with an interface which allows it to act as a smart card reader. The proposed system is based evolving an Enhanced Driving License (EDL)which is helpful in personal identity of a particular user and also guides to access the information about the license holder's records. The system consists of three modules. The first module composes of a Web application for user from which he/she can register for a new license attached with the NFC tag. The second module is the Admin module from which the admin can login into the system and test the documents and issue a new license to the user. All the information will be stored in the Motor Vehicle Department (MVD) database. The third module composes of a device which is carried by the traffic policeman through which the NFC tag can be accessed.*

Key Words: **Near Field Communication; Enhanced Driving License; Motor Vehicle Department.**

1. INTRODUCTION

The need for manual RTO based systems is completely decreased in this method and the RTO system works through NFC. A complete NFC system consists of a transponder (tag), reader/writer and computer host. The transponder, also known as the tag. The microchip contains memory to store a unequalled data and to receive and send data back to the reader. These tags are powered by the electromagnetic signal received from a reader. Development in technology bring digital world to be border-less. It's proven through a developed technology, when trade and transaction can be done not only using real money but also virtual one.[4]NFC(Near Field Communication) technology provides both way interaction between two electronic devices and make it secure and digital. Tapping two device against each other. It communicate at speed of 106kbit/s.

E-RTO system is an Automation of Road Transport Department and our E-RTO is a step in the Mobile computing by using NFC which will make it easy for RTO professionals to manage and administrate inside office data and also access it on field during enquiry via Mobile application. E-Digital world has crossed all the horizons due to the development in the technologies. Trade and transactions can be done virtually. The NFC based devices are powered

through the radio frequency. The process of shopping has been supported by the existing NFC technology device. The NFC tag (EDL) gives an individual identity to every user account. If a particular driver has been caught by the traffic policeman for violating the traffic rules, the driver is supposed to scan his EDL. If the identity of the driver is tallied with the pertaining stored data in the system, the corresponding data is fetched on the handset. If the driver violates the rules, the policeman can also file a new complaint about him and the fine amount will be deducted virtually from his account. After this procedure, the vehicle will get immediate access to drive through. Moreover, this system also has some additional features. The new user can register himself/herself through the web application by feeding all the essential information. The user can login and view all his retrospective records if there are any.
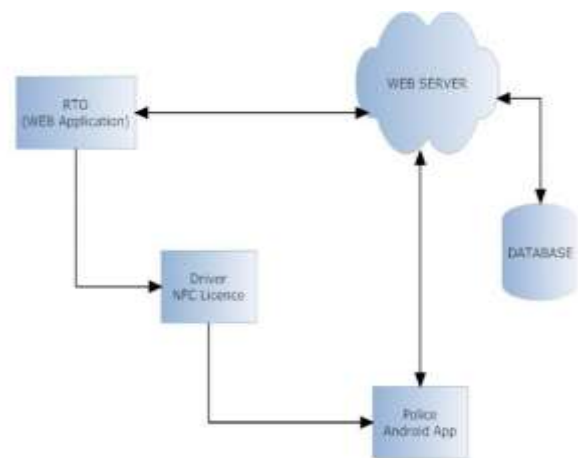

Fig 1.1 Architecture

DATABASE: Database use for storing Driving License Details, balance amount, complaint written record against the Drive if any.

POLICE ANDROID APP (Traffic Official's): It is app use for registering the complaint against the driver and for viewing the details of Drive in case of problem or violence of the rules.

DRIVER NFC LICENSE (Card Holder's): It is driving License issued by RTO officials to driver who wants the License. License will be NFC enabled.

RTO (WEB APPLICATION) (ADMIN): RTO (Admin) is the authorized person which give the License to other person.

Admin is an very important person which do's the validation of document submitted by the person for driving license.

2. LITERATURE SURVEY

Previous System was based on catching of people committing crimes & fining them via a challan of paper which is similar to the bill we get on buying of goods. Keeping the record of these receipts for police officer as well as the offender was difficult. It also involved corruption as offender used to payoff the police officer & let go without filling the challan. In this system, all the records of the offenders will be available once the NFC cards are scanned, there is a least chance of bribing the police officers & the payment will be done on the spot by the balance in the NFC card. Due to the records serious offenders committing same crime can be punished heavily or the license will be confiscate.

The traditional system which currently subsist is generating paper challan which is similar to bill. ⬚ There is no record of the past frequent violations of the offender. ⬚ Offenders who committ the same dangerous crimes again & again are left ⬚ There is also corruption in the system as traffic police take bribe instead of issuing a challan ⬚ The payment is done in cash which can be a problem. ⬚ The system which is in use is not eco-friendly& requires a lot of paper work instead our proposed system is eco-friendly& technologically advanced.

3.EXISTING SYSTEM

Previous System in India was based on catching of people committing crimes & fining them via a challan of paper which is similar to the bill we get on buying of goods.

Maintaining the record of these receipts for police officer as well as the offender was difficult. It also involved corruption as offender used to pay off the police officer & let go without filling the challan.

4. PROPOSED SYSTEM

Many of the new smart phones, tablets and other devices consist of an integrated scanner which can read the NFC chips. The only simple thing that a person needs to do is to attach a single low-cost NFC chip to the driver's license. Unique collection of numbers is stored in the NFC chip.

This unique combination of numbers is the ID which is read by the smart phone with the NFC technology that associates with the driver's data already stored in the web database of MVD. The drivers are able to perform the automated checks using the NFC to the web application. They just have to hold their driver's license up to their smart phones. The smart phone scans the NFC chip and reads the unique number ID from the chip from which it can fetch the driver's entire data. The connection required to fetch the data can either be through a mobile data connection or via Local wireless network.

The proposed system is the RTO automation using NFC in which we would have a NFC card as the driving license which can be scanned and the payment of the fines can be done on the spot through the balance in the card. The system goes like this:

1. A user is caught by a traffic police officer for a violation of traffic rule. 2. His NFC card is scanned via the android application and an android phone which has a NFC feature. 3. The records of his previous violations are displayed. 4. Now the traffic police officer adds the new complaint and fines the wrongdoer for it with the balance in the NFC card. Now the offender is allowed to go

5. IMPLEMENTATION

Modules of the project:-

The proposed system consists of three modules which work simultaneously which are as follows:

A. Admin module:

• The admin can only login the application.

• The admin can check the documents of the new user who wants to register and if the documents are legal then he will make a new account for the user into the web application and provide EDL to the user.

• After a new user account is created, the user will get the username and password by mail.

B. Traffic Policeman module:

• The traffic policeman can login to the android app.

• If any user is caught by the policeman for violating the traffic rules, then the traffic police will get his driving license and tap it using the android phone.

• After tapping, the police can place a new complaint as well as view all the previous records of the user.

• After the new complaint is filed, the fine amount will gradually be deducted from the total balance of the user.
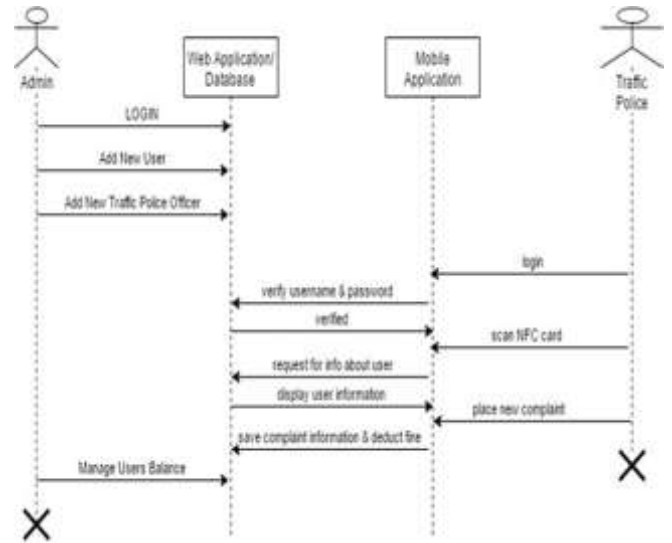
C. User module:

• The user can login into the system using his username and password provided by the admin.

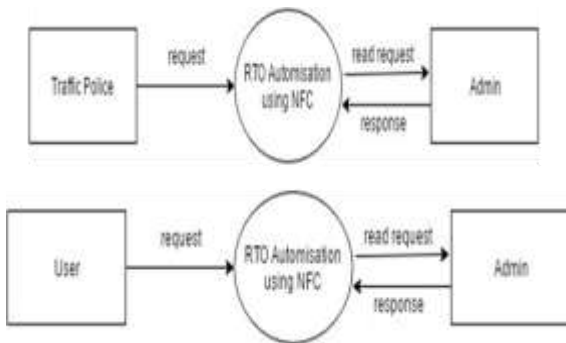• He can view all the previous complaints which were placed against him.
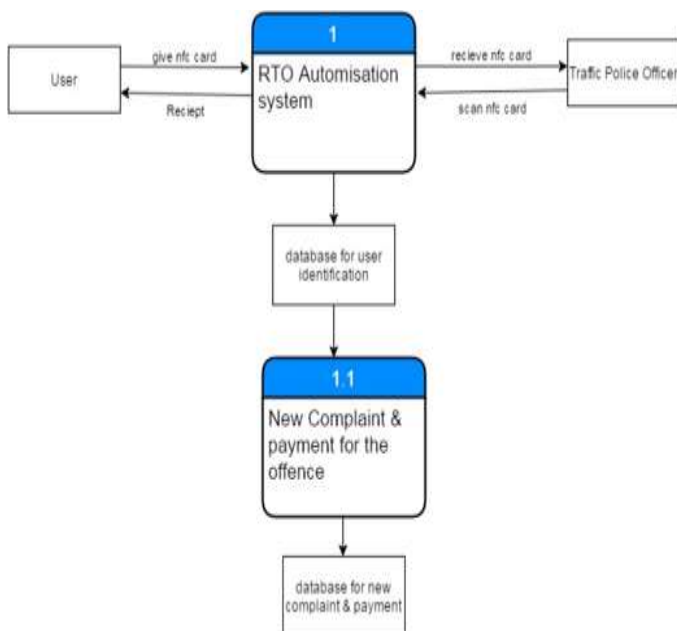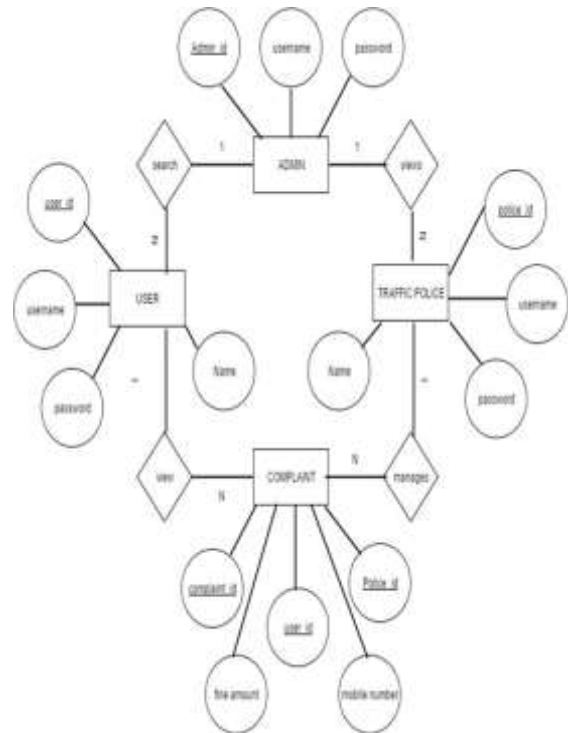
Flow of the project:-
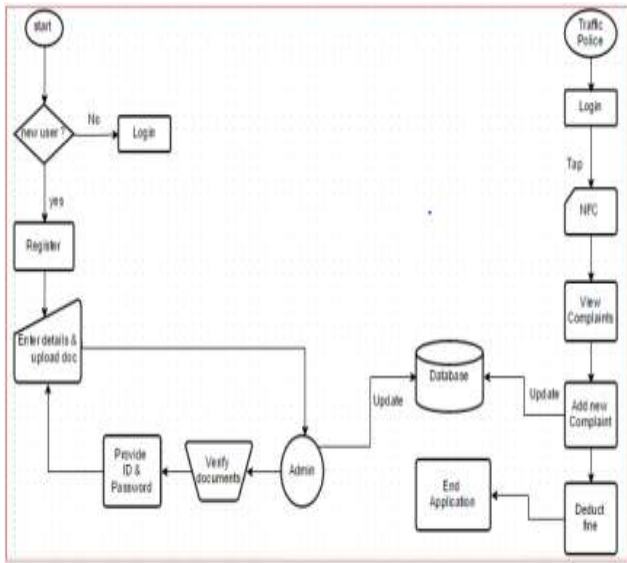
Design Details:-

DFD Diagram:-

Sequence Diagram:-

ER Diagram:-

6. CONCLUSION

The technologies that are used in this system are an android for the mobile application and a website for the user and the RTO admin. This is an effort to automate the current system in RTO which will aid us in billing and lodging complaints and bring more transparency, uplift the existing standards and make work lucid and easier. It will make the work of RTO digital and automatic and reduce the manual work and make the easy and fast execution of the process.

The technology can be furthermore used in toll systems, mini wallets, automated ticketing as well as various licensing

systems. In this we are using NFC technology which the new technology. The smart phone are now enable with NFC using this we are develop the system for the RTO officers. Make the work of RTO digital and automatic .It will reduce the manuals work and make the easy and fast implementation of the process.

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