TRAFFIC RULES VIOLATION SYSTEM USING NFC CARD

Rishu Yadav[1], Akhil Korgaonkar[2], Shashikant Yadav[3], Prasannakumar Yadav[4], Dr. Vinayak D Shinde[5],Sunny Sal[6]

[1,2,3,4] *Student, Dept of Computer engineering, SLRTCE, Maharashtra, India*
[5]*Head of Department(HOD), Dept of Computer engineering, SLRTCE, Maharashtra, India*
[6]*Assistant Professor, Dept of Computer engineering, SLRTCE, Maharashtra, India*

---***---

Abstract - *The project involves developing an Digital Driving License which provides a proof of identity and a way to access details about license holders past record. The existing driving licenses consist of two memory sections, one for the public and another for personal data. The personal space will hold license data so that it can be checked by government officials in cases of any fraud or other criminality. The space which is provided for public usage will be offered to service providers and will be easily able to be read by an NFC enabled mobile phone.*

Keywords— **Android Mobile, NFC tags, RTO**

1. INTRODUCTION

The older RTO system features are reduced by this approach and it is digitalized by NFC cards. An NFC components consists of a transponder for reading and writing and computer system. NFC tags are powered by the electromagnetic signal received from a reader.

The Near Field Communication (NFC) devices are also used in virtual money for shopping purposes. The NFC uses low radio frequency for use. In the year of 2010, Google was integrating this into an Android devices, which made transactions using virtual money more popular [1].

The NFC tag are used as a unique identity for account of users. When traffic cops catches a person driving a vehicle, He asks the driver to show his NFC enabled Driving licences and scans it. When the scanned NFC enabled Driving licences is already available in system it matches with the tag id and fetches the required data or information such as previous records and user info etc.

Traffic police can also place a new complaint about that user. If a new complaint is placed, then the fine amount will be deducted from users wallet balance.

After this, the vehicle gets immediate access to drive through. This NFC based RTO system also has some additional features. New user can register themselves with the system and also an old user can recharge his account balance. The amount for recharge can be entered in the system.The NFC chip stores a unique combination of numbers,registered with the driver's master data in the web application. .[1][2].

2. LITERATURE REVIEW

Literature review is highlighted in reference to the performance and approach of the current system we have studied and about the proposed system which we are implementing.

2.1. Existing system

In current system whenever vehicle driver breaks any rule then police officer catches victim and ask for license. User shows his license and traffic police officer charges him for whatever rule he has breached. 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. In existing system all is manual process i.e. traffic police manually check for charges in his list.[1] Some time it may make mistake while seeing charges in the list, so driver will pay wrong charges for his penalty.

Sometime traffic police say high charges by his own then at that time corruption may take place, because drivers request police man to take small amount and leave them without receipt. So there is corruption happening.

2.2. Proposed system

Nowadays latest mobiles and tablets have an integrated scanner that can easily read NFC chips. Only one needs to do for license checks is attach a single low-cost NFC chips to the driver's driving license.[3]

The NFC chip stores a unique combination of numbers. This unique ID can be easily read by the mobile phones and the NFC to web app with the latest NFC based technology and uniquely registered with the driver's master data in the web application.[4]

The drivers can easily perform the automated checks with NFC to web application. They only need to hold their licenses up to their devices. The phone scans the NFC card and fetch the unique id from the NFC card.

The data connection or internet connection can be either through a mobile internet or via a wireless network.
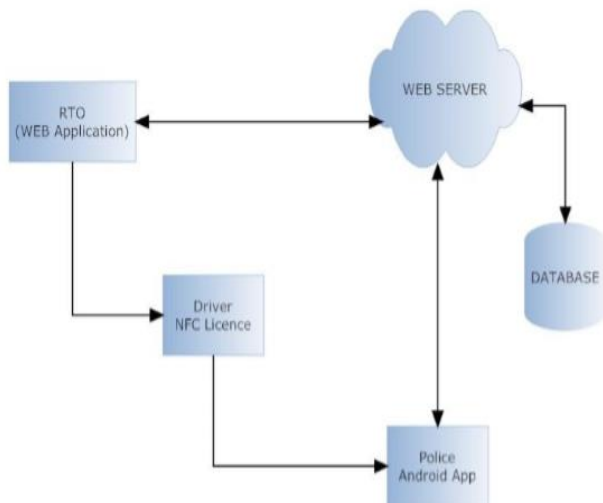
---

3. SYSTEM MODEL

Fig -1: Architecture.

- **DATABASE**: In Our Project we have used Database for storing Driving License Details, balance amount, complaint register against the Drive.

- **ANDROID APPLICATION**: This application is used for registering the complaint against the driver or for viewing the details or information of Driver in case of any fraud or violence of the rules.

- **NFC CAERD LICENSE**: This is driving License issued by RTO officials to the person who wants the License.This License will be NFC enabled.

- **RTO WEB APPLICATION**: RTO Which is the Admin the authorized person who give the License to other person. Admin is an important person which do's the validation of document submitted by the person for driving license.
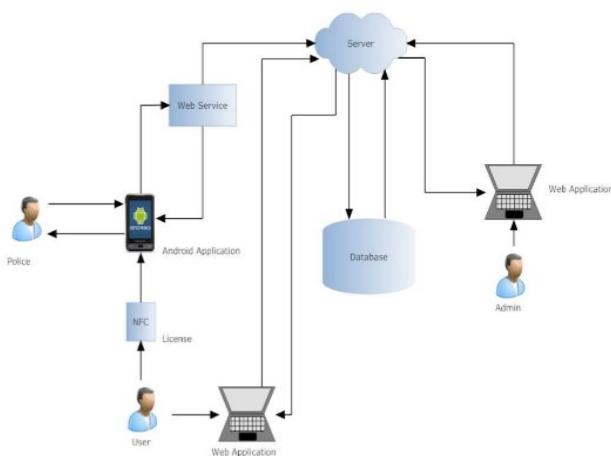
3.1. BLOCK DIAGRAM

Fig -2: Block Diagram

3.2. Entities involved in this system

3.2.1 Police Module-

- Police Module consists of username and password which would be able to make challans to the user who have violated the traffic rule,
- If a user is caught by police, then police will get the Nfc embedded driving license and will tap using their android smartphone.
- Police can check past records, and can placed a new complaint.[4]

3.2.2 Main Official's Module-

- Admin can login and operate the application.
- Admin will verify the documents and if the user provides valid documents then he will create a new user account into the application and provide a new licence to the user. [4]

3.2.3 User Module-

- User can operate the account via login through his username and password on the site.
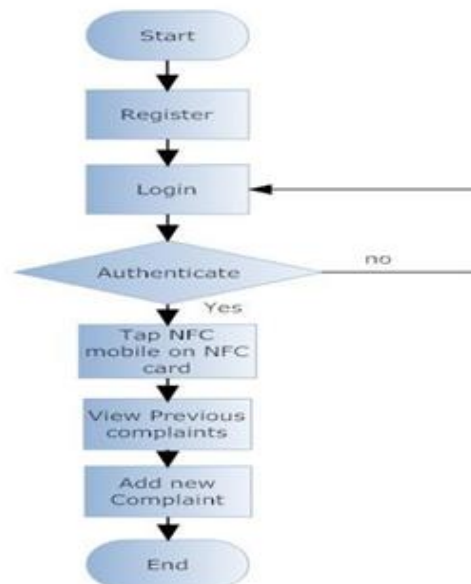- User can view the complaints which are placed against him.

4. IMPLEMENTATION

Fig -2: Process of lodging complaint.

- Website is consist of all main officials, user as well police modules. User can see all previous record, paid as well pending records
- Main official can add money to user account by login through the login page

- Main officials are also responsible for allocation of traffic duty to the respected police officers
- A user can also login through same login module allotted the head official to see previous records
- Main official is also responsible for adding the users.

5. ADVANTAGES

- Centralized database system so that each and every recently entered penalty can be seen
- Fake reciepts will be completely removed
- No manual data handling work
- More transperancy than existing system.[1][4]

6.DISADVANTAGES

- Mutual understanding of traffic cop and license holder can lead to corruption.
- The Nfc tag will not read the device if its not tapped properly on the device.

7. CONCLUSION

In our project we have put the idea of automating the present system in RTO system which works manually.

By implementing our system, it will help us in lodging objection and complaint, which will bring glassiness in the system which will make work efficient and will be easy to implement.

ACKNOWLEDGEMENT

We sincerely like to thank our project guide Dr. Vinayak D.Shinde for his guidance and encouragement and supporting us throughout successful completion of our project. We would also thank Prof. Sunny Sall, project Co-guide, for his continuous support. We are grateful to all faculties of Computer Department.

REFERENCES

[1]   Shristi Singh and Sakshi Nigam, Touch and Go" With Near Field Communication: A Review, AEICT-2014.

[2]   Hussein Ahmad Al-Ofeishat, Mohammad A.A.AlRababah, Near Field Communication (NFC), IJCSNS International Journal of Computer Science and Network Security, VOL.12 No.2, February 2012.

[3]   Near Field Communication. Deventer: ICT Communication & Multimedia.

[4] Huda Ubaya, Design of Prototype Payment Application System with near Field Communication (NFC) Technology based on Android Computer Engineering and Applications Vol. 1, No. 1, June 2012.

[5] International Journal of Modern Trends in Engineering and Research RTO automation using NFC 2014.

BIOGRAPHIES

Dr. Vinayak D Shinde has Ph D. in Computer Science and Engineering from Shri Jagdishprasad Jhabarmal Tibrewala University,Jhunjhunu   –January 2017.Head and Assistant Professor in Dept. of Computer Engineering at Shree L. R. Tiwari College of Engineering,Mira Road, Thane.

Sunny B Sall Pursuing Ph.D. in Technology from Sardar Patel Institute of Technology,Mumbai University – December 2016 onwards. Assistant Professor at Shree L. R. Tiwari College of Engineering, Mira Road.