

WebApp for Document Verification and Challan Generation (RTO)

Manjeet Marodkar¹, Mansi Singh², Yash Goyal³, Shubham Chouke⁴, Mayur Ganvir⁵, Anurag Rallapalli⁶

Associate Professor, Department of Information Technology Engineering, S B Jain Institute of Technology Management and Research Engineering College, Katol Road Nagpur, India¹

U.G. Student, Department of Information Technology Engineering, S B Jain Institute of Technology Management and Research Engineering College, Katol Road Nagpur, India²⁻⁶

Abstract: The term Digitization refers to the process of converting information into digital form. Digitization is taking the country by storm, digitization has formed its roots in almost every field of interest India. In this growing digital India it is very important to automate the process of document verification and Challan generation by RTO. Also the existing scenario of RTO does not necessarily enforce traffic rules and laws as effectively as it should, which sometimes leads to these rules being overlooked by the drivers, vehicle owners and even the traffic police officers. We aim at providing drivers and vehicle users the facility of not carrying around unnecessary paperwork as this application which will store their DL and VRC can be accessed from any location at any given time. The proposed approach in this paper tackles with all these issues by automating the whole process of registration for D.L and V.R.C and viewing and accessing these documents by authorized users and traffic police and generation of e-challan and payment in case any traffic rule violation is observed. Also the current RTO scenario does not provide any way to detect frauds and unauthorized user of vehicles.

Keywords: Digitization. Document Verification, e-challan generation, driving license, vehicle registration certificate.

I. INTRODUCTION

In this growing digitization era where all the computations and services are provided to the citizens electronically on their devices to reduce paperwork and manual work. This project aims at taking the process of document verification and challan generation by the Motor Vehicles Department and digitizing it so that both the parties are benefited from it. This project could also be viewed as an effective way of enforcing important traffic rules that are sometimes overlooked like over-speeding, jumping signals or other severe traffic rule violations like drink and drive, hit and run etc. This endeavour is a blend of enforcement of rules which are the part of G2C (Government to Consumer), G2E (Government to Enterprise) and C2G (Consumer to Government) applications of e-Governance. G2E constitutes the areas where Government can enforce the policy, standards and accountability on enterprises. C2G includes the areas where consumer interacts with the government. G2C application provides citizens, a way to get the Driving License (DL) and Registration Certificate (RC) of their vehicles using SAARTHI and VAHAN respectively which is related to transportation and come under the scope of RTO (Regional Transport office/Authority) at district level and ARTO (Assistant Regional Transport office/Authority) in outlying subdivisions of every state across country. The users and traffic police officers would be given their own UserNames and Password through which they can access their user profiles and view all the important documents like Driving License (D.L.) and Vehicle Registration Certificate (VRC). The traffic police officers would be able to generate an e-challan for the users who violate traffic rules, these users would be notified through email or reminders about the challan generated and have to pay the fine amount on or before the day the challan expires, if the users fail to pay the challan on time they would be reminded regularly through reminders. And lastly, if the user fails to pay challan for more than 3 times, their credentials would be blocked as they will not be able to view their documents on the application unless and until they pay the challan. The credentials can also be blocked incase of any severe traffic rule violation. The users will be provided UserNames and Passwords which will be segregated based on the State, District and City they live in.

II. LITERATURE SURVEY

In the paper of Shiv Kumar Goel Dr. Manoj Kumar Shukla [1] they discussed about the ever increasing rate of traffic rule violation and the e-penalty measures that could be adapted to strengthen the enforcement of road and traffic safety. All this gave them the motivation to design a government induced penalty system which will force the violator not to repeat their mistake again. The key area of this system is to identify the Vehicle, assure about the sufficient amount in VPC, and deduction of appropriate penalty from the VPC and notify to the vehicle owner automatically. In this approach they will install RFID readers at various sensitive places and points which are more prone to traffic rule violation and when and offender breaks any kind of traffic rule, the RFID sensors will detect or identify the

offender. The Intelligent Expert Penalty System (IEPS) will check whether this offence is first time or a repetitive offence by this vehicle, accordingly the amount of penalty will be deducted from the VPC linked with the vehicle registration number and owner will be informed for the penalty amount has been deducted from their account. This would make sure the traffic rules are followed and it also helps to keep corruption and bribery in check

In the paper of, Mr. Petare Purushottam Arvind, Dr. Mohite Pratapsinh Vitthalrao, Ashta. Ms. Joshi Mugdha Mukund [2] which talk about their project on 'DigiLocker'. DigiLocker is one of the key initiatives under the Digital India Programme. This was released by the Department of Electronics and Information Technology (DeitY), in February 2015 to provide a secure dedicated personal electronic space for storing the documents of resident Indian citizens. This locker is linked to their AADHAR cards and can be utilized to store the soft copy of all the important documents and allow the account holders to access their documents from wherever and whenever possible. It also intends to reduce administrative expenses of the government agencies and departments which make it very easier for citizens to receive these services. DigiLocker employs the same idea used in our approach that is to reduce the physical documents that need to be carried by the citizens. So, instead of carrying all these documents they can store it on this application and access it wherever they need.

III. PROPOSED WORK

Statistics have shown time and again that a majority of road accidents occur due to negligence of traffic rules like underage driving, jumping signals, over speeding, drunken driving etc. These situations could have been easily controlled if traffic rules were laid down more effectively and enforced more strongly. In most of these cases the offenders tend to get away by bribing the traffic police and carry on repeat the same mistakes again and again. Also the overhead of printing and distributing DL and VRC this results in unnecessary use of paper which could easily be avoided if the whole process is digitized.

The project will contain three major actors and therefore based on their roles and functionalities we divided the project in three modules :

- Admin Module
- Traffic Police Officer Module
- User/DL Holder Module

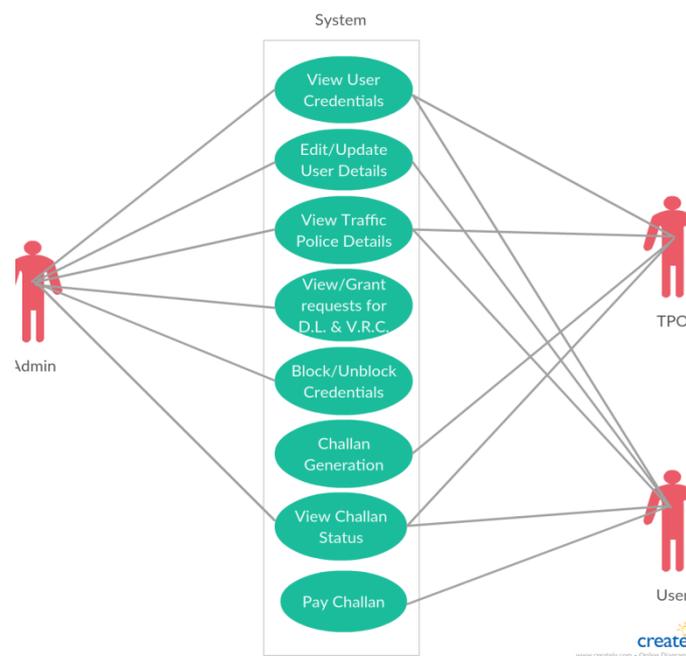


Fig 1 : Use-case Diagram

The above figure is the use-case diagram which shows the interaction and functions performed by each actor and also how these functions are related to each other.

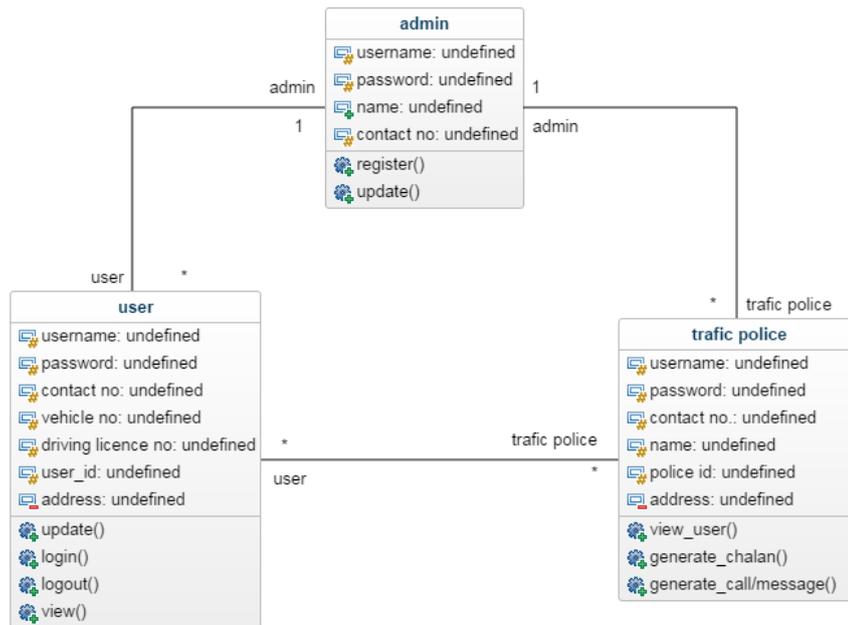


Fig 2 : Class Diagram

The above class diagram shows important relationships between the three actors and thus helps in understanding the dependencies and functionalities better, The basic idea of drawing the system design is to understand the working of all the modules together how and when various operations are performed and how these operations affect the project and what would be the desired output for these.

IV. IMPLEMENTATION MODULES

1. ADMIN MODULE

The admin will basically have all the privileges of viewing and modifying the user accounts (including both Traffic Police and DL Holders). The admin can view the requests and grant them UserNames and Passwords. There can be multiple admins. The admin can access various databases and create new users/ DL holders by accepting their requests or new Traffic Police Officers, these changes will be reflected in their original databases. Admin can also view the various complaints by the users and TPO.

2. TRAFFIC POLICE MODULE

The second module is the Traffic Police controller module. The Traffic Police can view profiles of various DL Holders and all the information like their history or past challans whether paid or unpaid, They also have the privilege to generate a challan for a user in case they break any kind of traffic rule. Traffic police officers can view various complaints and notices that are put up by the users these complaints could be that of stolen vehicles etc. In this way the TPOs can catch the stolen vehicle and the thief if they ever come in contact with them. TPO can also put up their own complaints if they want to.

3. USER MODULE

This is the third and final module which is the user module. The user module provides users to view their account and important documents. They receive updates and reminders if they have any challan or penalty left unpaid, or the expiration date of their documents is near and they have to get it renewed as soon as possible. They can file complaints which would be viewed by the Admin and TPO so that they could get assisted for these complaints if possible.

4. ADVANTAGES

- Reduces overhead of designing and printing
- Provides easy tracking of vehicles in case of fraud and theft
- Provide reminder messages in case of expiry
- Provide users to pay the fine online using netbanking or e-wallets which in turn saves time and effort.
- Generation of automated challan by the TPO.
- Can be linked with AADHAR Card to be used as an identity proof.

**5. APPLICATIONS**

- This system can be centralized and be used in all over INDIA.
- Other countries can also use this application by changing the norms accordingly.
- This Authorized website can also be used as identity proof of a person.

V. FUTURE SCOPE

The future scope of this application involves introducing RFID sensors or cameras on the roads that detect any kind of traffic rule violation like over speeding, or driving without a helmet etc and automatically generate the penalty of challan and have it delivered to the user, this would remove the middle-man, the traffic police officer from the picture thereby eliminating any chances of corruption or bribery.

VI. CONCLUSION

The proposed approach will help in penalizing the traffic rules violator by imposing a hefty fine on them which they are liable to pay. This approach would also reduce overhead on printing and distributing the DL, VRC and other important documents. With the help of this approach the leakage in the revenue generated by the government from the traffic control department will reduce to a great extent as people cannot get away with bribing the cops, if a challan is generated on their name, they have to pay the fine or get their credentials blocked. This would enforce people to follow traffic rules instead of breaking the law and paying a hefty amount of fine. Also, this approach can be considered helpful in tracking down stolen vehicles and people or minors driving on the roads without a DL or and expired one.

REFERENCES

- [1] Shiv Kumar Goel Dr. Manoj Kumar Shukla, "Improved Design of e-penalty to control Road and Transport Safety with the help of ICT and enforcement of e-Governance A step Towards "Make in India""
- [2] Mr. Petare Purushottam Arvind, Dr. Mohite Pratapsinh Vitthalrao, Ashta. Ms. Joshi Mugdha Mukund, "DIGILOCKER (DIGITAL LOCKER- AMBITIOUS ASPECT OF DIGITAL INDIA PROGRAMME.) ", GE-INTERNATIONAL JOURNAL OF MANAGEMENT RESEARCH VOLUME - 3, ISSUE- 6 (June 2015) IF-4.316 ISSN: (2321-1709)
- [3] Kamlakannam et. al, "Fast character recognition using expert system"- in proceedings of the Thirty-SeventhSoutheastern IEEE Symposium on system theory (ssst-05)
- [4] Gregory J. Wolff, David G. Stork, K. Venkatesh Prasad,"Method and apparatus for document verification and tracking"
- [5] Pranoti Salunkhe, Poonam Malle, Kirti Datir, Jayshree Dukale, "Automated Toll Collection System Using RFID" in IOSR Volume 9, Issues 2(Jan-Feb 2013).