Digitization of Driving License Verification and Vehicle Verification

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ABSTRACT

Under the prevailing practices of RTO, license verification process includes checking of driving license number, date of birth of the driver and name of the driver on the license and in vehicle verification process, RC book of the vehicle is verified with the help of chassis number of the vehicle. When the vehicle is stolen the FIR is registered with the chassis number of the stolen vehicle in the nearest police station. There is a gap between license verification process and tracking the stolen vehicle process. We have come up with an mobile application to bridge this gap by connecting two databases of two separate process to increase effectiveness of tracking stolen vehicle process. In our application, when the FIR is registered, the vehicle is blacklisted in the database, so whenever a traffic police officer checks a license of a particular vehicle driver, if the stolen vehicle is there then he gets a notification alert that the vehicle is stolen along with the address & contact number of a particular police station where FIR is registered.

ARTICLE INFO

I. INTRODUCTION

In existing system the verification of the documents like Registration certificate of vehicle and the driving license is done manually. This manual verification is not efficient. It is difficult to identify the fake documents manually. The proposed system helps the traffic police officer to verify the information efficiently. The system is useful for the identification of the fake documents. License Verification module helps to verify the driving license details and validate it. All the data stored is retrieved and displayed on to the screen. In this, driving license number or the name and date of birth is given as input and related to that particular number, details are displayed on the screen. The Vehicle verification module is used for the verification of the RC book of the vehicle. In this module, all the details of the vehicle is retrieved from the database. Vehicle chassis number or the name of owner and number plate of the

vehicle is given as input and the respective details are displayed. If a vehicle is stolen from somewhere and the FIR is registered in the police station, so by using this module the FIR entry is done in the database and the vehicle is blacklisted. In this blacklisted database, the details of the vehicle are stored along with the details of the police station where the FIR is registered. Stolen when a particular vehicle is verified using the vehicle verification module, the alert generation module will check the blacklist database for stolen vehicles and if the vehicle is present in the blacklist database, it will generate the alert message.

Materials and Method

➢ Technologies Used:

During the solution development, following hardware were used:

- Smart phone(Android)

- Dual Core Processor

- Ram Minimum 512MB

- HDD 40 GB At least

  - Software Requirement:

    - Software Development Kit 7.1

    - JDK 1.6

    - Mysql 5.6

    - Eclipse LUNA 4.4.1

    - Netbeans 7.4

Stepwise flow of Methodology:

Different modules are developed for the different purposes. The system contains following modules.

The different modules are:
License Verification:-

This module helps to verify the driving license details and validate it. All the data stored is retrieved and displayed on to the screen. In this, driving license number or the name and date of birth is given as input and related to that particular number, details are displayed on the screen.

Vehicle Verification:-

The Vehicle varication module is used for the varication of the RC book of the vehicle. In this module, all the details of the vehicle is retrieved form theDatabase. Vehicle chassis number or the name of owner and number plate of the vehicle is given as input and the respective details are displayed.

FIR registration:

If a vehicle is stolen from somewhere and the FIR is registered in the policeStation, so by using this module the FIR entry is done in the database andthe vehicle is blacklisted. In this blacklisted database, the details of the Vehicle is stored along with the details of the police station where the FIRIs registered.

Stolen Vehicle alert generation:

When a particular vehicle is verified using the vehicle varication module, theAlert generation module will check the blacklist database for stolen vehicles and if the vehicle is present in the blacklist database, it will generate the Alert message.

Our system has following advantages:

1. Documents can be easily verified.
2. Centralized System which can be used by all the States.
3. No need to carry original documents.
4. Communication between RTO and Police for the thefts of vehicles

The interaction as well as the communication of the user with the application can be shown with the help of following diagram:
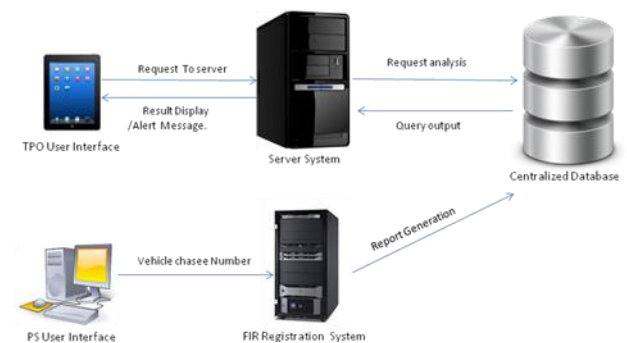

Fig.1Systematic framework forDriving License Verification and Vehicle Verification

II. ALGORITHMS

MD5 for PHP

MD5 algorithm was developed by Professor Ronald L. Rivest in 1991. According to RFC 1321, "MD5 message-digest algorithm takes as input a message of arbitrary length and produces as output a 128-bit "fingerprint" or "message digest" of the input. It is conjectured that it is computationally infeasible to produce two messages having the same message digest, or to produce any message having a given prespecified target message digest. The MD5 algorithm is intended for digital signature applications, where a large file must be "compressed" in a secure manner before being encrypted with a private (secret) key under a public-key cryptosystem such as RSA."[1] MD5 is considered one of the most efficient algorithms currently available and being used widely today.
MD5 algorithm takes a b-bit message as input, where b is an arbitrary nonnegative integer. The following five steps are performed in C programming language to compute the message digest of the input message.

Step1. Append padding bits

Step2. Append length

Step3. Initialize MD buffer

Step4. Process message in 16-word blocks

Binary Search:

Binary search only works on sorted arrays. A binary search begins by comparing the middle element of the array with the target value. If the target value matches the middle element, its position in the array is returned. If the target value is less or more than the middle element, the search continues the lower or upper half of the array respectively with a new middle element, eliminating the other half from consideration.[6] This method can be described recursively or iteratively.

Mathmatical Module:

Given an array A of n elements with values or records $A_0 ... A_{n-1}$ and target value T, the following subroutine uses binary search to find the index of T in A.[6]

1. Set L to 0 and R to $n-1$.
2. If $L > R$, the search terminates as unsuccessful. Set m (the position of the middle element) to the floor of $(L + R) / 2$.
3. If $A_m = T$, the search is done; return m.
4. If $A_m < T$, set L to $m + 1$ and go to step 2.
5. If $A_m > T$, set R to $m - 1$ and go to step 2.

III.RESULTS / DISCUSSION

MD5 algorithm uses four rounds, each applying one of four non-linear functions to each sixteen 32-bit segments of a 512-bit block source text. The result is a 128-bit digest. Figure 1 is a graph representation that illustrates the structure of the MD5 algorithm.
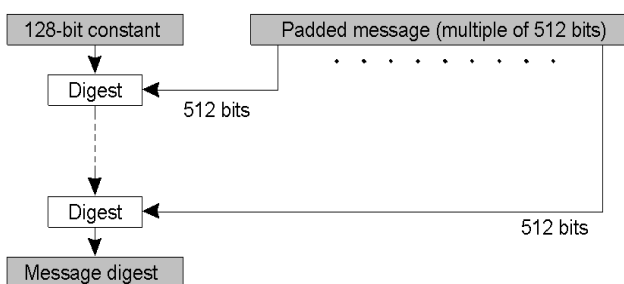
IV.CONCLUSION

Hence the system will be very useful for both, police officer as well as people. It will reduce the gap between police station and RTO significantly and will help to find the stolen vehicles. It will find the fraud documents easily and reduce the frauds in documents and duplication. It will be very convenient for the people who are not caring their documents with them

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