Intelligent Approach for License Digitization

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ABSTRACT

The traffic police use a manual process for verifying documents of a person. However, People have to face many problems with the current procedure used by the police for verifying documents of a person. According to the public point of view there is no facility provided by RTO which will make the person document free. The main problem with the existing system is that either people have to carry their documents or smart card but there is possibility that the information might get lost. In finger print recognition technique finger scan is based on distinctive characteristics of the human fingerprint. A fingerprint image is read from a fingerprint recognition device then features are extracted from the image using Bozorth3 algorithm and the regarding information is extracted from database. After the match is found police will get all the detail information about vehicle on his android application
Today android devices play an important role in our day to day life since most of the tasks can be done on android device. Since the people have to carry documents regarding the information of the vehicle, the police as well as people have to face many problems. Thus the traffic police app not only reduces the task of the police but also makes the person document free.

Keyword : - *Bozorth3 , Biometerics identification.*

1. Field of the invention

The field of invention describes 'Intelligent Approach for License Digitization' and a positive approach in reducing the use of manual process for verifying documents of a person and to make the person document free etc. and also to minimize chances of an unwanted disaster.

2. Background of the Invention

As per RTO (Road Traffic Office) guideline everyone has to carry their vehicle document in original form. Documents such as license, vehicle registration certificate, insurance & PUC (pollution under control) .RTO officer can stop any one and ask for these documents to verify or in case of any traffic rule violation. But they do not have any mechanism to validate the authenticity of these documents. RTO officer can verify it only by only physical means.

He cannot caught the fabrication of information in the documents or to check the history of driver license as the traffic police use a manual process for verifying documents of a person. However, People have to face many problems with the current procedure used by the police for verifying documents of a person. There is no facility provided by RTO which will make the person document free. The main problem with the existing system is that either people have to carry their original documents or smart card but there is possibility that the information document get lost or may be damaged over a period. The concept of this project is that when a person is caught by traffic police officer, driver has to show documents that are checked manually by the police. Also the RTO has not provided any facility to the traffic police, which is safe and secure.

This proposed system consists of fingerprint recognition technique. The fingerprint recognition technique will help to identify whether the person is authorized to drive the vehicle or not. Also after getting caught the person will be fined. As far as the security is concerned, the traffic police have whole control of the system and data is fetched from the secure RTO server. Thus by all means the system is secure and safe to use and also user friendly. In this project we also use multithreading for thumb recognition .One of the most important tasks considering an automatic fingerprint recognition system is the minutiae biometric pattern extraction from the captured image of the finger-print.

3. Summary of the Invention

Fingerprints are rich in details which are in the form of discontinuities in ridges known as minutiae and are unique for each person. One of the most important tasks considering an automatic fingerprint recognition system is the minutiae biometric pattern extraction from the captured image of the finger-print. The NIST reference system uses a minutiae based matcher to authenticate a person's identity. Firstly, the minutiae detection algorithm relies on binarization of each gray-scale input image in order to locate all minutiae points. The fingerprint matcher compares features by using Digital Image processing from input search point against all appropriate driving licenses in the database to determine if a probable match exists. With this implementation, there'll be no need to carry documents along. Mobile platforms such as smart-phones and tablet computers have attained the technological capacity to perform tasks beyond their intended purposes. In this project we describe main features of software modules developed for Android smart phones that are used by RTO officers for license and vehicle documents verification. In this project we also use multithreading for thumb recognition and automatic deduction of fine.

Currently the traffic police use a manual process for identifying and verifying authority of a person. However, people have to face many problems with the current procedure used by the traffic police. According to public point of view there is no facility provided by the RTO which will make the person document free. The main problem with the existing system is that either people have to carry their documents or smart card, but there is possibility that the information might get lost.
Today android devices play an important role in our day to day life since most of the tasks can be done on android device. Since the people have to carry documents regarding the information of the vehicle, the police as well as people have to face many problems. Thus the traffic police app not only reduces the task of the police but also makes the person document free.

When a person is caught by a traffic police officer his/her documents are checked manually by the police. In doing so, carrying documents is mandatory for the vehicle owners which is risky because they may get lost or broken. Also the RTO has not provided any facility to the traffic police which is safe and secure. This system consists the fingerprint recognition technique. The fingerprint recognition technique will help to identify whether the person is authorized to drive the vehicle or not. Also after getting caught the person will be fined. The fine will be deducted automatically from the person's bank account. As far as the security is concerned, the traffic police have whole control of the system and data is fetched from the secure RTO server. Thus by all means the system is secure and safe to use and also user friendly.

3.1 Diagrams
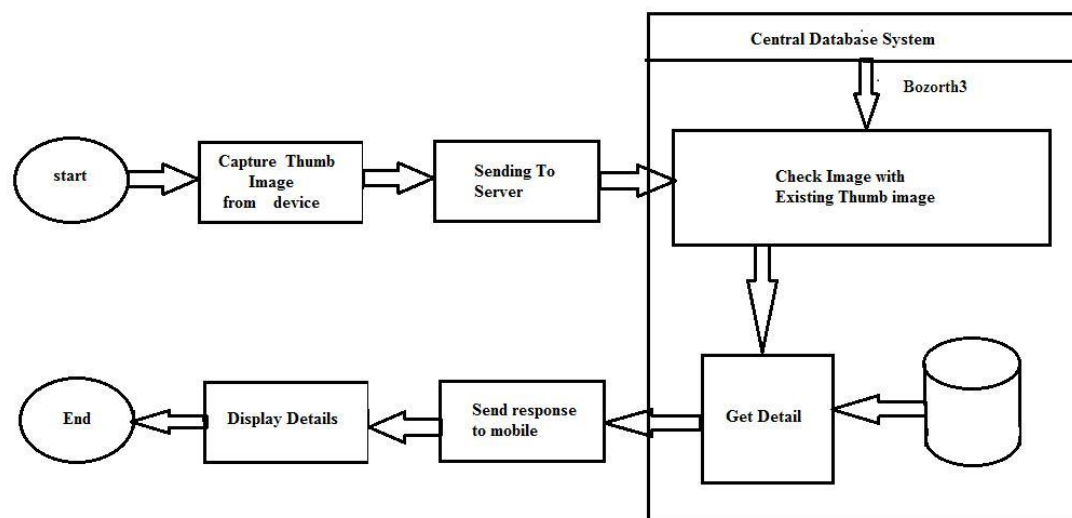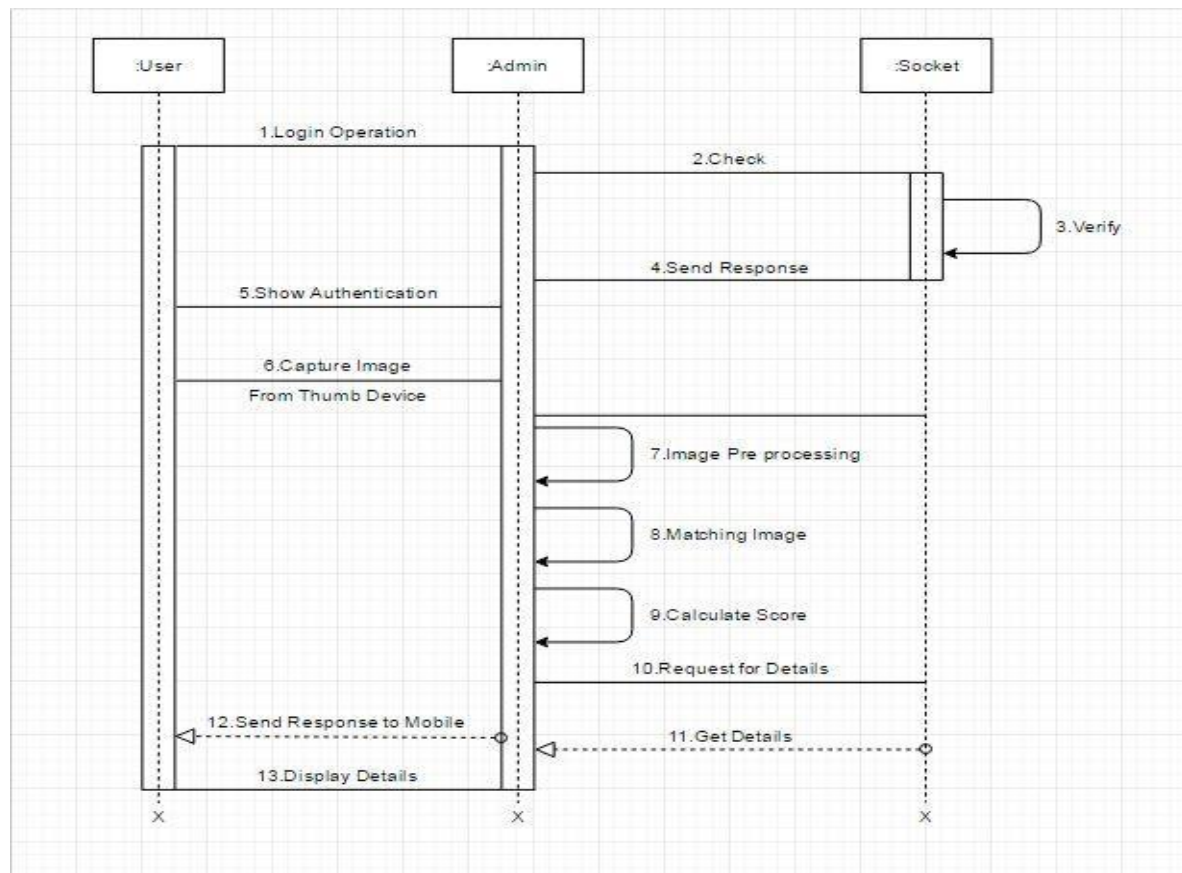
3.2 Detail description of the invention

The system proposes an Android application to verify a person's documents using his/her thumb impression. Currently the traffic police use a manual process for identifying and verifying authority of a person. However, people have to face many problems with the current procedure used by the traffic police. There is no facility provided by the RTO which will make the person document free. The main problem with the existing system is that either people have to carry their documents or smart card, but there is possibility that the information might get lost or get damaged.

Since the people have to carry documents regarding the information of the vehicle, the police as well as people have to face many problems. Thus this invention not only reduces the task of the traffic police but also makes the person document free.

When a person is caught by traffic police officer documents are checked manually by the officer. In doing so, carrying documents is mandatory for the vehicle owners, which is risky because they may get lost or broken. Also the RTO has not provided any facility to the traffic police which is safe and secure. This system consists the fingerprint recognition technique using biometric device. The fingerprint recognition technique will help to identify whether the person is authorized to drive the vehicle or not. The thumb impression are captured 6 from the biometric device and sent to the server 7. The captured image of the thumb is checked with the existing image 8 which is stored in the centralized database. The data is requested from the database 10 to get the details 11 of the respective driver. The response which was requested is then sent to the traffic officers tablet (mobile device) 12. After the response is sent the detailed information of the particular driver is displayed on the display device 13 carried by the officer. In addition to the information which is displayed the previous records of the driver are also shown on the particular display device.

4. CONCLUSIONS

These application revolutionaries the traditional approach toward validating the license information of people. This application simplifies the retrieval of license information based on biometric identification of person. The application will authenticate the driver and make them document free.

6. REFERENCES

1) http://www.biometric-solutions.com/fingerprint-recognition.html
2) http://dexal2.hh.se/staff/josef/public/publications/alonso-fernandez09chapter.pdf
3) https://github.com/cloudmesh/example-project-nist-fingerprint-matching
4) https://www.nist.gov/services-resources/software/nist-biometric-image-software-nbis