Driving License Detection System

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I. ABSTRACT

Nowadays getting a driving license is an important thing in every adult's life. In this project we are presenting an driving license detection and safety system capable of testing the knowledge and mental awareness of the person while driving a vehicle so as to improve the standard of license issuing mechanism in order to improve safety in a country. Rash driving and without license driving causes safety problem on the road. This project enhances road safety and vehicle security by using smart driving license card. The smart driving license will use RFID technology. Every rider/driver will be provided with an RFID card which will have a unique identification number. Based on the RFID number the driver can be identified based on the details stored in the database. The identification number will be saved in the database with the personal detail of the driver.

Key Words**:** Sensors, IOT Technology , Alarm, RFID

II. INTRODUCTION

Driving license is most widely used ID document across the world. Road safety is one of the major concerns to be taken into consideration. RFID tag would make the license a contactless technology. Verifying IDs more efficiently and making lines at security check points more quicker because information RFID tags can be picked up from many feets away. Accidents occurs due to violation of traffic rules that is driving the vehicle without proper license. The RFID tag and RFID reader are contained in RFID technology. RFID means Radio Frequency Identification that consists of the tags which can be either active or passive tag. Passive tag do not have own power supply, much cheaper to manufacture and small coil antenna is used. On the other hand, active tag must have own power supply. RFID reader is an interrogator. It is placed at the position so that when a vehicle passes through it the tag automatically gets detected. There are different vehicle classes like light motor vehicle, heavy motor vehicle, motorcycle with gear, motorcycle without gear etc.

III. LITERATURE SURVEY

License plate location is an important phase in vehicle license plate recognition for intelligent transport systems. This paper presents a robust and real time method of

license plate location. The proposed algorithm consists of some stages. In the first stage, we extract vertical edges of the input image using Sobel mask. In the next stage, histogram analysis is used for finding the candidate regions of license plate. Candidate regions are also verified by defined compact factor. In the last stage, we locate the license plate exactly with some morphological operators. Experiments have been conducted for this algorithm. 400 images taken from various scenes were employed, including diverse angles, different lightening conditions. The algorithm can quickly and correctly detect the region of license plate. The license plate detecting rate of success is 83.50%.

This paper presents a two-stage method to detect license plates in real world images. To do license plate detection (LPD), an initial set of possible license platecharacter regions are first obtained by the first stage classifier and then passed to the second stage classifier to reject non-character regions. 36 Adaboost classifiers (each trained with one alpha-numerical character, i.e. A..Z, 0..9) serve as the first stage classifier. In the second stage, a support vector machine (SVM) trained on scale-invariant feature transform (SIFT) descriptors obtained from training sub-windows were employed. A recall rate of 0.920792 and precision rate of 0.90185 was obtained.

As there has been a significant increase in the number of identity thefts, governments and organizations have taken the detection of individual identities as a serious task. Sri Lanka has also experienced an increasing level of this issue in the recent past, especially in forging driving licenses. Since Sri Lanka Driving License (SLDL) has unique features, detection of fake driving licenses adopted by other countries cannot be directly applied for SLDL. As a developing country Sri Lanka cannot afford high cost scanning devices across the country to detect fake licenses. Overcoming these issues and addressing the requirement of counterfeit SLDL identification, in this research we came up with a cost effective, automatic and efficient image processing based SLDL identification system.

Considering the unique features of SLDL, this system is able to identify counterfeit SLDL for all the types of driving licenses currently in use. Further, in this research novel image processing techniques have been applied in order to yield the highest accuracy through the system.

License plate detection includes license plate positioning, segmentation characters, character recognition. The recognition rate of license plates under dynamic scenes is affected by many factors. Each process deviation may affect the overall system recognition rate, and the accuracy of each part is affected by many factors, in order to reduce this error, we combine the advantages of a variety of algorithms to propose a comprehensive detection model. In the license plate positioning phase, we propose HSV space and morphological methods; in the segmentation character phase, we propose the maximum adjacent character horizontal center distance segmentation method; in the character recognition stage, we choose to use the CNN algorithm. In the final simulation test, there are a set of 1 errors in the 30 groups of license plate recognition, the accuracy is higher.

IV. PROPOSED METHODOLOGY

A vehicle distinguishing proof and driver's verification framework as a piece of brilliant city improvement. It comprises of web and windows application where centralized data set of approved vehicles is put away and furthermore it will have RFID vehicle labels, RFID label per user. This tag will set in a vehicle. The label per user is utilized to retrieve the information from the RFID labels. By perusing the chronic number in the RFID tag. Vehicle can be effectively done.

V. SYSTEM ARCHITECTURE

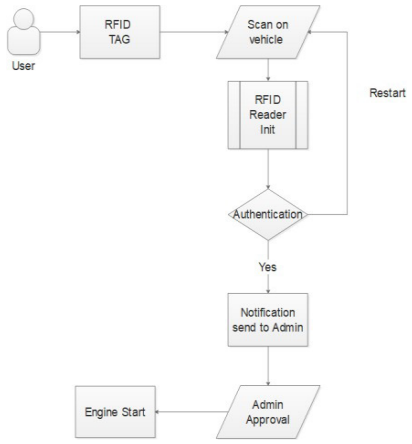

Fig -1: DFD-Level1

VI. OBJECTIVES

- Reduced installation costs : First and foremost, installation costs are significantly reduced since no cabling is necessary. Wired solutions require cabling, where material as well as the professional laying of cables (e.g. into walls) is expensive.
- System scalability and easy extension: Deploying a wireless network is especially advantageous when, due to new or changed requirements, extension of the network is necessary. In contrast to wired installations, in which cabling extension is tedious. This makes wireless installations a seminal investment
- Aesthetical benefits: Apart from covering a larger area, this attribute helps to full aesthetical requirements as well. Examples include representative buildings with all-glass architecture and historical buildings where design or conservatory reasons do not allow laying of cables.

VII. ALGORITHMS

- Hashing and Mapping:
  A cryptographic hash function (CHF)is a mathematical algorithm that maps data of an arbitrary size (often called the "message") to a bit array of a fixed size (the "hash value", "hash", or "message digest").
- It is a one-way function, that is, a function for which it is practically infeasible to invert or reverse the computation. Ideally, the only way to find a message that produces a given hash is to attempt a brute-force search of possible inputs to see if they produce a match, or use a rainbow table of matched hashes. Cryptographic hash functions are a basic tool of modern cryptography.

VIII. CONCLUSION

Hence, we can conclude that the design and implementation of a RFID based Driving license card system which is the aim and objective of this project was successfully implemented. Data are more organized, the system is user friendly, data manipulation and retrieval is done via the graphical interface. This system provides an Verifying IDs more efficiently and making lines at security check points more quicker because information RFID tags can be picked up from many feet's away.

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