

Automated Driving License Evaluation

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ABSTRACT

The paper is regarding the automating of driver's license testing system and updating the results to the person through website and conjointly through registered email. Usually, while driving test the person who requested for license have to be compelled to show his driving skills ahead of the authorities. The person need to operate the vehicle according to several rules. If he fails, he/she are knocked out and have to appear for the driving test next time. The Officials observe mistakes of the applicant physically. The proposed solution for the automation of existing manual test method permits the elimination of intervention of humans and improves the accuracy of driving test thereby going paperless, with Driving Skill Evaluation System. In the proposed system, we have a tendency of taking data from sensor as inputs from hardware simulator and stores into the database. In this system, the person participating in the test are observed by sensors. Therefore weather the person is qualified or not is informed to the applicant as well as the authorities.

Gradual increase in number of road hazards are due to less practice in driving and illegal driving license given to the unskilled drivers by taking bribe. To beat this drawback, automated driving license test will be advantageous. This solution is introduced for ensuring the quality in approving in license to enhance safety.

Keywords : Hardware Simulator, Automation, Database, Sensors.

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I. INTRODUCTION

In today's situation, each family owns a minimum of one vehicle. So as for someone to drive his vehicle, he ought to have a driver's license provided by the RTO. Driving License is a mandatory travel document, a card as same as other government id, which is

promulgated by respective state government. It signifies that the person having license is permissible for driving a vehicle on public roads while not the necessity for any oversight. According to the Motor Vehicles Act of 1988, nobody can drive in a public place without owning a license approved by Regional Transport Office(RTO). Driving without license is

unlawful and driver is compelled to face some penalties.

The procedure of applying for Driving License is very simple. First a computer test will be conducted related to traffic rules and road safety. On passing, The person will gain Learner License. The effectiveness of learner license is for six months. Then practicing of driving a vehicle are often started. Person with a learner license can have to be compelled to learn driving solely in the presence of other person with a permanent driver's license.

After learning, the candidate will have to perform the driving test and clear the same. Our proposed system is automating this driving test which suggests eliminating the participation of authorities within the driving test field and therefore the candidates driving skills are monitored using sensors.

In the Existing System of driving test, the candidate applied for license have to be compelled to drive the vehicle within the test track ahead of the Regional Transport Officers. The Officers observe the movement of vehicle driven by the candidate. If the candidate make any mistakes while driving the vehicle, he/she will be disqualified and is not eligible for getting the driving license. He/she will have to polish their driving skills and will have to appear again for the driving exam. If the candidate does not make any mistake, he/she will be obtaining the permanent driving license by Regional Transport Office (RTO).

There exists several cons in following this manual method of driver's license test evaluation that are mentioned below-

- i. There are possibilities of unskilled drivers obtaining the driver's license by giving bribe to officers. This might cause increase in road hazards owing to unskilled drivers.
- ii. One or more inspectors must be present at the driving field for long hours.
- iii. Sometimes the Officer might not observe the error done by the candidate.

- iv. Manual method used in granting license provides less precise results than automated method.

The objective of this project is to form the understandable, systematic and therefore the transparent license test for any adult looking for the driver's license, by following his driving skills throughout the license test in a track designed for automation test.

II. LITERATURE REVIEW

- 1) The main reasons for road accidents can be classified as human error, road environment and vehicular condition. Human error includes traffic rule violations, not having valid driving license and lack of safety device usage. According to survey conducted during 2016 to 2018, 84.3% of road accidents in 2016, 79.9% in 2017 and 74% in 2018 are by the driver's having valid driving license. Only 13.1% of road accidents are due to learner license and without valid driving license. This is happening due to the officials approving the driving license for drivers having not enough knowledge of driving by taking bribe.
- 2) In [1], it is mentioned that they have developed a lab view consisting of sensor for the purpose of observing the person applied for driving license using the labview. According to this , the sensor can detect whether the candidate has kept his foot on the vehicle or the ground.
- 3) In [3], the automation done in the S reverse track with the help of ultrasonic and IR sensors which are integrated using arduino and transmits message to RTO using GSM module which is interfaced with arduino.
- 4) In [4], they have made use of pair of pressure switches with receiver and transmitter along with the sensors. Also they have attached the speed sensor to wheel of the vehicle used for test which are interface with the central microcontroller.
- 5) In [5], H shape track is used which is monitored

using LabView embedded with the Photosensors. Zigbee protocol has been used for the network and communication purpose.

III. PROPOSED SYETEM

In the Proposed System, each and every specified tests for getting a driver’s license will be performed using several sensors that are fixed in specific spots within the driving test track which that data from sensors is stored in Database. Supported the predefined values assigned to the parameters, the driving skills will be analysed and therefore the results are sent to RTO officials to keep record of additional procedures and the person are sent a memo through his email registered within the website about test result .

In this project, we’ve used a hardware simulator for demonstration purpose from where the sensor data are collected and stored within the database. The benefits of adopting the proposed methodology over existing system are as follows

- i. Corruption in obtaining driving license are often minimized to a awfully large extent .
- ii. Results are more accurate compared to manual process of driving exam.
- iii. There’s no need for the officers to be present within the driving test field.
- iv. The matter of officers not observing the candidate’s mistake doesnt occur.
- v. Only the skilled drivers are getting the license thereby number of road accidents are reduced.
- vi. Ensures transparency within the license issuing system.

IV. SYSTEM DESIGN

1. Block Diagram:

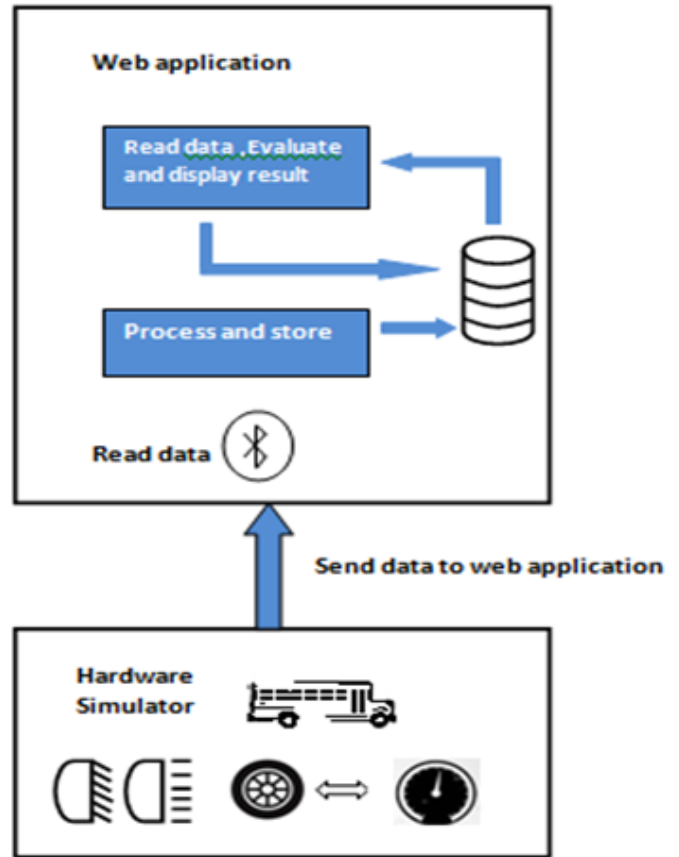


Fig 1: System Block Diagram

a) Hardware Simulator

A Simulator is a software tool that replicates a real-life circumstance, which means it creates a virtual version of the situation. It simulates specific circumstances or the features of a true process or machine for the goal of research or training. In this proposed system, Hardware Simulator is employed which consists of sensors which will be continuously monitoring the vehicle drove by the candidate. It also consists of a timer to stay track of the time taken by the candidate to arrive at the actual destination point. The information from the sensor and timer are going to be collected and forwarded to the mobile server.

b) Web Application

The candidate applied for permit needs to register himself within the website by providing valid username, password, valid email id, application id, application number, gender and age. The info from the sensors and timer is received as key which is then compared with the values that are predefined and consequently the result is stored within the database. The identical result in-case the person is qualified to induce the license or not is updated in his profile created within the website and also he/she are sent a message through his registered email about the result.

The Flow Chart of Automated Driver’s License Evaluation is shown within the below Figure 2. Initially the data from the sensors and also the timer from hardware simulator is collected and therefore the sensors are going to be continuously monitoring the movement of the vehicle. The sensors check if the candidate makes any mistakes. If he/she does so, Candidate won’t be eligible for getting driver’s license and also the same will updated for the candidate and also the officer. If there’s no mistake, candidate are sent a message that he/she are going to be getting his driver’s license soon

2.Flow Chart:

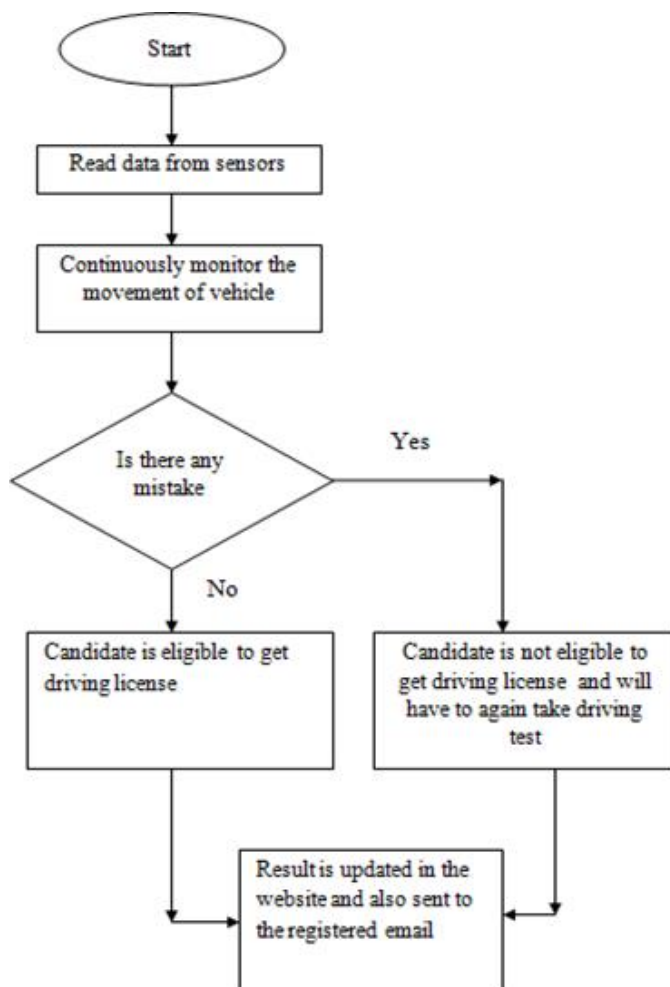


Fig 2: Flow Chart

V. RESULTS

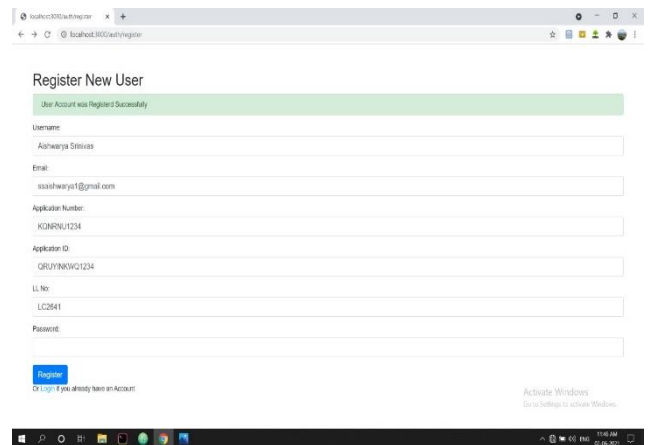


Fig 3: User Registration Page

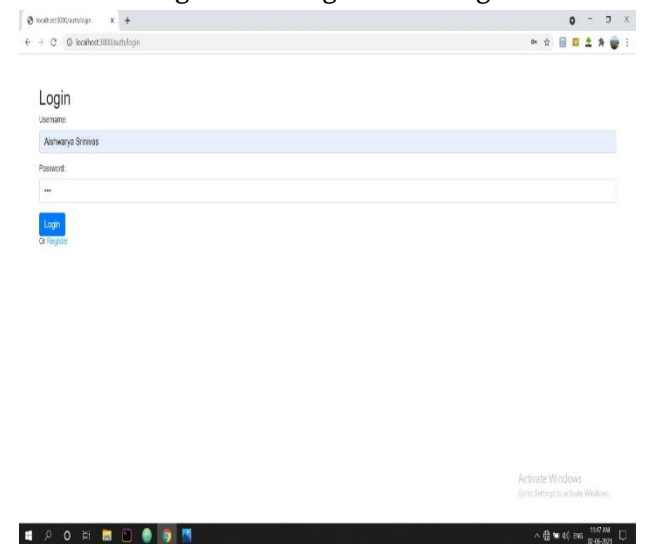


Fig 4: Login Page

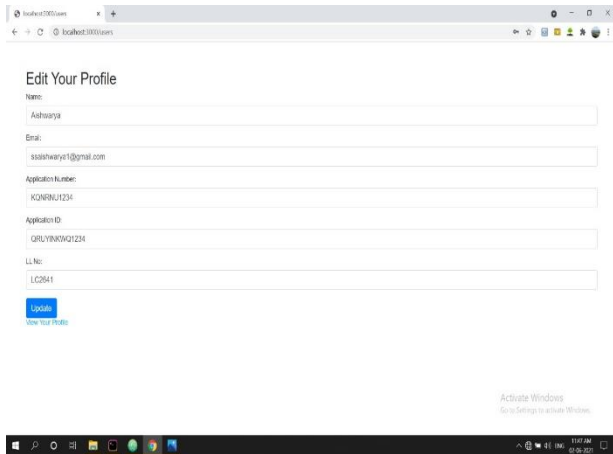


Fig 5: Profile Editing Page

VI. CONCLUSION

The Automated License Evaluation System is proposed to enhance the quality and accuracy of driving exam. This can help promote only the skilled drivers to drive on public roads reducing the amount accidents. This can also reduce the possibilities of corruption by making a really transparent driving exam.

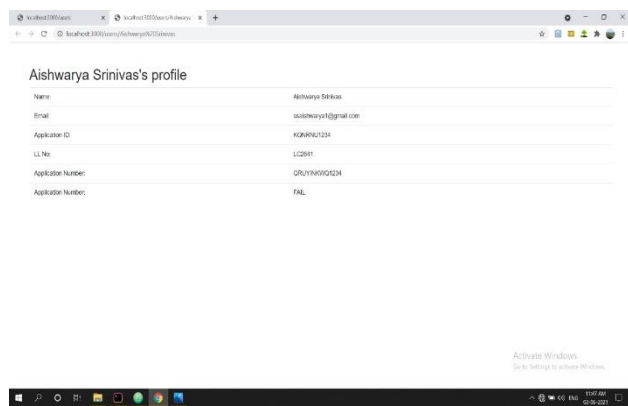


Fig 6: User Profile

VII. ACKNOWLEDGEMENT

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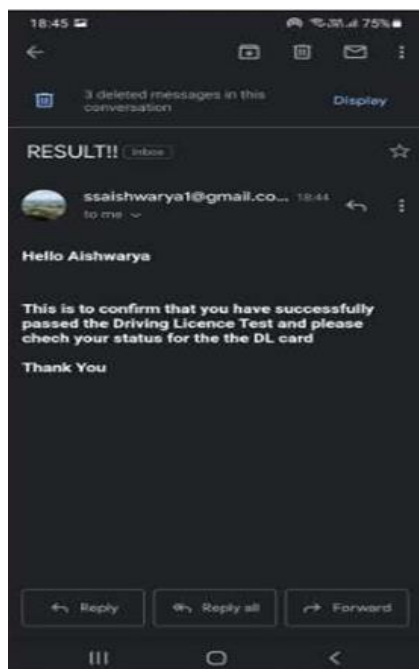


Fig 7: The result of driving test received through mail

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