Monitoring Riders Pattern For Automatic License Issuing System

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Abstract. This paper presents about the mechanization of driving permit test framework and informing the aftermath of the applicant remotely. Normally, in driving test an up-and-comer applied for license need to drive over a shut hover path before the trained professionals. The up-and-comer needs to roll over the way with explicit guidelines and on the off chance that he neglects to do so he will be excluded and should attempt next time. These specialists watch the mistakes of the up-and-comers physically. In this paper, the Arduino framework with important sensor modules has been produced for viewing the contender for getting their permit. By utilizing this framework, the applicant who take up the test are checked and the outcome climate the competitor is passed or fizzled is refreshed to the up-and-comer just as the specialists remotely utilizing IOT and GSM modules. This checking of the driving test ground is done autonomously using the Arduino structure. This framework is produced for improving the norms of permit giving instrument to improve street wellbeing

Index Terms— Driving license, Arduino, Autonomous, GSM, IOT

1. Introduction
A driver’s permit is an authority report, regularly plastic and the size of Mastercard, allowing a particular individual to work at least one sorts of mechanized vehicles, for example, a cruiser, vehicle, truck, or transport on a public street. The laws identifying with the permitting of drivers differ between purviews. In certain purviews, a grant is given after the beneficiary has finished a driving assessment, while in others, an individual secures their grant prior to starting to drive. Various classes of grant regularly exist for various sorts of engine vehicles, especially huge trucks and traveler vehicles. The trouble of the driving test fluctuates impressively between locales, as do factors, for example, age and the necessary degree of skill. The base driving age in India is 16 for mopeds under 50, and 18 for vehicles and cruisers of in excess of 50 cc. Drivers are lawfully obliged to convey a legitimate driving grant in India while driving, and it should be created whenever needed to do as such by a cop. In India, individuals matured at least 50, need to go through exacting clinical trials to get a grant that has restricted legitimacy and requires reestablishment like clockwork. A Commercial Driving License is substantial for a very long time and afterward needs to be recharged. These days getting a driving permit is something critical in each grown-up’s life. The RTO office gives the permit to a learner gave the student breezes through the recommended assessment. These tests should challenge the capacity of the student inside and out. The hopeful should be awesome and certain about driving. Eventually, the learner needs to procure the permit. Street safety and security is very
important as economy gets affected, societies well-being and government assistance of the individuals. In excess of 85 percent of traffic is completed by street transport in light of simple accessibility of streets, flexibility to singular necessities and cost investment funds. The review led by International Finance Corporation infers that a large portion of the street mishaps are going on due to ill-advised information about driving. Study proves that 54 percent of the permit holders are not having the appropriate information on driving the vehicle. In this paper we are introducing a robotized driving permit test fit for testing the information and mental attention to the individual while driving to improve the norm of permit giving component to improve street wellbeing in a nation. This computerized framework is finished by interfacing Arduino UNO board with number of sensors, these sensors are kept on the test track to distinguish the mistakes of the up-and-comer while he is stepping through the exam. Then Arduino uno with touch sensors, ZigBee, IOT transfers the applicants results via SMS and also storing the data in cloud,

2. Proposed Work
We are going to design an automatic license issuing system with the help of Arduino UNO, touch sensors and IOT. The module, for example, touch sensors, Zigbee transmitter and receiver, GSM and IOT are utilized for this cycle. The Arduino UNO is the mind of the framework. Touch sensor is used for detecting if the person is touching the ground or not, then these data first transmitted to RTO section (receiver section). All these details of the applicants result, that is whether he met all or few conditions required for the driving test and whether he failed or passed the test is uploaded to the cloud with time and date for further verification and also message indication is sent to the user’s mobile number automatically.

A. Block diagram

Fig. 1. Transmitter

B. Hardware requirements
We have a transmitter section and receiver section. In the transmitter section we have touch sensor, Arduino UNO, ZigBee transmitter. And in the receiver section we have ZigBee receiver, Arduino UNO, IOT, GSM.

The list of components we have used in our project are -

Fig. 2. Receiver
ARDUINO UNO: It is the mind of the framework. It is one of the most used microcontrollers worldwide. It is responsible for the connection between touch sensors and ZigBee transmitter.

VIN: Input voltage required for the operation of devices in our model for example the VIN we are providing is 5V for the ZigBee transmitter. The required voltage for driving the Arduino board is delivered via this pin.

MEMORY: 32 kb is the inbuilt memory provided in our device so for performing a program 1 kb is enough. So, if we need to perform another task, we can rewrite the program for a new program with 1 kb of memory.

GSM MODULE: GSM is global system for mobile communication and is used in portable communication mode. We are using GSM in our model so that we can communicate the status of process with the applicant through a SMS.

INTERNET OF THINGS: The IoT gadget is worked utilizing both PC and programming stages. Committed PC parts are utilized to make an interface with the actual world, and to perform more unpredictable PC errands. Microcontrollers are utilized to make programming that deciphers information and controls the framework. This module talks about the jobs of both PC and programming parts in the framework. Depicts the elements of standard PC frameworks and portrays the communication among programming and equipment utilizing a microcontroller. IoT gadgets regularly utilize a working framework to help correspondence among programming and micro-controller. We are using IOT to use it in displaying the applicants result state.

ZIGBEE: It is a device used for wireless communication. We are using both ZigBee transmitter and ZigBee receiver, which are always connected. It is similar to a Bluetooth device. We are using this mainly for transferring data from transmitter to receivers end so that data can be accessed through IOT and can be uploaded on cloud.

TOUCH SENSOR: Computerized based TTP223B IC sensors are extravagant and give a decent reaction when we contact them, this sensor can be handily hindered by a microcontroller, and contains just three terminals for the outer interface. it merits finding the inconstancy of the capacitive article. It utilizes extremely low force and the working voltage is just between 2.0V 5.5V. Reaction season of about 60mS in quick mode, 220mS in low force mode @ VDD = 3V. Affectability can change with capacitance (0 50pF) remotely.

3. Results Discussion
We successfully tested our prototype and got a desired output. After the verification of rider’s skills, he will be intimated through a message. If he meets only one of conditions out of three, he will a receive a message that “please try after one week”, similar messages be shown for if he fails to meet more conditions. If he meets all three conditions, he will be receiving a message that states “license will be granted”.

4. Conclusion
In this undertaking we are attempting to produce a license without the interference of the RTO where we will be using sensors as a primary component for monitoring the rider’s pattern and whether he meets the basic requirements for riding a motorcycle. The applicant is also intimated whether he is eligible to obtain a driver’s license. The result is also stored in the cloud which can be referred later for further verification by the RTO officials.
Fig. 3. Sample Path

Fig. 4. Receiver

Fig. 5. Cloud output
References

[1] Raghavendra.Sheddi, Meenakumari.V.Umarani "E-verification Of Driving License Through Aadhaar Database", 2017 IJEDR, Volume 5, Issue 3, ISSN: 2321-9939.

[2] Ganesh Sharma, Abhisheke Sarde, Sonal Gupta, Santosh- Janbhare, Nilav Mukhopadhyay, "E-Driving License And Re

[3] Amruta G.Bakal, Spoorti S.Awate, Megha G.K, Pratibha S.H, Praveenkumar N.Hadapad, "Cross Verification of Vehicle and Driver for RTO", International Journal of Emerging Technology in Computer Science Electronics (IJETCSE), ISSN: 0976-1353 Volume 14 Issue 2 –APRIL 2015.

[4] Sanjeev Sheter, Wasim Sheikh, Pratik Shinde "Vehicle Information System" (IJCSIT) International Journal of Computer Science and Information Technologies, Vol. 6 (2), 2015, 1393-1395.

[5] A.R. Kuttur, P.C. Bhaskar, “Simple and efficient method of Image Acquisition using Internet for Real Time Application”, ISSN 2319-7064, IISR, Volume 2, Issue 4, April 2013.

[6] Martin Albert, Alexander Lange, Annika Schmidt, Martin Wimmer, Klaus Bengler, "Automated driving – Assessment of interaction concepts under real driving conditions", in 6th International Conference on Applied Human Factors and Ergonomics (AHFE 2015) and the Affiliated Conferences, AHFE 2015.

[7] Sharmila R, Padmavathi T, “A Smart Automation System for Monitoring License Test Drive Using Embedded System”, in Vol-2 Issue-3 2016 IJARIIEISSN(O)-2395-4396.

[8] Mohit John and Arun Joseph, “Zigbee Based Wireless Data Acquisition Using LabView For Implementing Smart Driving Skill Evaluation System”, International Journal of Instrumentation and Control Systems (IJICS) Vol.3, No.3, July 2013.

[9] Pooja Jadhav, Akshata Thorat, Jayashri Jagtap, “Smart Driving Test Track”, Department of Electronics and Telecommunication Engineering of AnnaSahab Dange College of Engineering and Technology, Ashta, Maharashtra, India.

[10] D. Sarathkumar, C. K. Sathish Kumar, S. Nithya, E. Thilagavathi, “Automatic Two-Wheeler Driving Licence System by Using LabView”, International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering, Vol. 5, Issue 4, April 2016.

[11] Komal A Margale, Priyanka M Pawale, Amruta A Patil, Jyoti Waykule, “Driving License Test Automation Using VB”, International Journal of Engineering and Applied Sciences (IJIAS), Volume: 2 Issue: 4 April 2015.

[12] Marianne Bertrand, Simeo Djankov, Remma Hanna and Sendhil Mullainathan, “Obtaining a Driver’s License in India: An Experimental Approach to Studying Corruption”, The Quarterly Journal of Economics (2007) 122 (4): 1639–1676.

[13] Prince Samuel S, Kiruba R, Saranya M, “Development of Test RIG for Automated Driving Test Track and Issuing License Using LabVIEW.” International Journal on Recent and Innovation Trends in Computing and Communication (2015), Volume: 3 Issue:12.

[14] de Winter, J. C. F., van Leuween, P., Happee, R. (2012), "Advantages and Disadvantages of Driving Simulators: A Discussion", In Spink, Greco et al. (Hg.) – Proceedings of Measuring Behaviour (S. 47-50).

[15] M. D. Nikose, Trupti Nikumbh, Shweta Pole, Kalyani Patil, “Automatic Driving Test System using Android Application”, International Journal of Science Technology Engineering, Volume 4, Issue 9, March 2018