



International Journal of Innovative Research in Computer and Communication Engineering

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Website: www.ijircce.com

Vol. 7, Issue 2, February 2019

Design and Development of Driver's Driving Pattern Analysis for Automatic License Issuing System

Sai Chandana M¹, Sai Priya², Sarika S³, Sarathy D⁴, Balaji K⁵

U.G. Student, Department of Electronics and Communication Engineering, GRTIET College, Tirutani,
Tamilnadu, India¹

U.G. Student, Department of Electronics and Communication Engineering, GRTIET College, Tirutani,
Tamilnadu, India²

U.G. Student, Department of Electronics and Communication Engineering, GRTIET College, Tirutani,
Tamilnadu, India³

M.E., Assistant Professor, Department of Electronics and Communication Engineering, GRT Institute of Engineering
and Technology, Tirutani, Tamilnadu , India⁴

M.E., Assistant Professor, Department of Electronics and Communication Engineering, GRT Institute of Engineering
and Technology, Tirutani, Tamilnadu , India⁵

ABSTRACT: To prevent illegal licenses and therefore causing accidents, a new automated system is proposed. This system can be executed using Bayesian logic classification algorithm and feature extraction algorithm. The advance system need to design the wireless sensor network and also the multi sensor fusion based detection approach for detecting result. The map management is also needed to compare the test data from Vehicle Data Recorder (VDR) with reference data. Mapping and multi-fusion sensor union transmission is done using remote server. The Bayesian classification algorithm is implemented with data mining for result. CC2500 wireless module is used as a gateway. The proposed system is the rejection process of existing process to issue Indian driving license. For this applicant will be allotted the test vehicle for test drive with the number of sensors connected embedded in vehicle sending data using wireless sensor network to remote server to get processed. Result analysis is done by differentiate the received data with previous data.

KEYWORDS: Arduino, LCD, ,ZigBee, Force sensor ,Piezo sensor, MEMS, Gas sensor.

I.INTRODUCTION

In India, driving license is an authorized document that allow its holder to operate various types of motor vehicles on highways and some other roads which the public have access. In various Indian states, they are supervised by the Regional Transport Authorities/Offices (RTA/RTO). A driving license is need in India by any person driving a vehicle on any highway or other road defined in the Motor Vehicles Act, 1988.

A modern photo of the driving license can also serve many of the purposes of an identity card in non-driving contexts proof of identity (e.g. when opening a bank account) or age (e.g. when applying for a mobile connection). Applications for a provisional driving licence can be made from the age of 18. Valid for driving a moped or gearless motorcycle (with a capacity of up to 50 cc) from aged 18, and a car from aged 18 or older to drive any other type of vehicle. The common "All India Permit" allows the license to drive throughout the country. For driving



International Journal of Innovative Research in Computer and Communication Engineering

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Website: www.ijirccce.com

Vol. 7, Issue 2, February 2019

commercial/transport vehicles, one should obtain endorsement (and a minimum age of 20 years, in some states) in the driving licence to effect under of The Motor Vehicles Act, 1988. Until a driving test be found in three sections: verbal or written test (depending on the state), road sign test followed by a supervised driving examination has been passed a driver may hold only a temporary licence and be subject to certain conditions.

II. RELATED WORK

This project presents about the automation of driving license test system. Normally, in driving test a person applied for license have to drive over a closed loop path in front of the authorities. The person has to drive over the path without any support over the land surface and if he fails to do he will be disqualified. For that, the authorities watch candidate manually. In this project, a lab view system with sensor has been developed for watching the candidate for getting license by using lab view. By using this, the person who fails to keep their foot in the vehicle by differential output from the sensor can be monitored. Then it was processed by the microcontroller to the lab view with the help of laptop or PC and number of count detection while a person entering for license test was authenticated by using finger print sensor. So that they will spontaneously select or reject by the system.

III. PROPOSED SYSTEM

The proposed project implements a real time machine-learning framework for riding pattern recognition. Riding pattern data are collected from accelerometer/gyroscope sensors mounted on motorcycles. Using an instrumented vehicle and an embedded data logger, experimental data are collected when different subjects drive a given sequence several times. The goal is to create a machine-learning approach that can recognize the riding pattern from the collected measurements. The results can be used to determine, from among the classified situations, those that are time-critical events and/or near misses.

This proposed project is also aims at monitoring the Emission of CO constraints from the vehicle and report it to the RTO station with CO sensor. The proposed work consist of hardware and software design execution to issue driving license. Provide license to applicant by no. of steps as follows.

While rpm sensor is used to sense and measure speed at every angle of test vehicle .wireless sensor network includes global positioning system (GPS). GPS provide data for mapping, receives X,Y, Z co-ordinates according to position of a vehicle. The software need for proposed work is .NET for visual data while Ms-access for back end application.

Bayesian algorithm is used for making by comparing data from sensors. Mems sensor is used to define coordinates in terms of longitude and latitude of a test vehicle. While smoke sensor used to detect how much toxic gases produced from the vehicle like carbon monoxide, chlorine and nitrogen etc. Foot rest sensor is used for the candidate who fails to keep their foot in the vehicle by differential output from the sensor can be monitored.

International Journal of Innovative Research in Computer and Communication Engineering

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Website: www.ijircce.com

Vol. 7, Issue 2, February 2019

BLOCK DIAGRAM

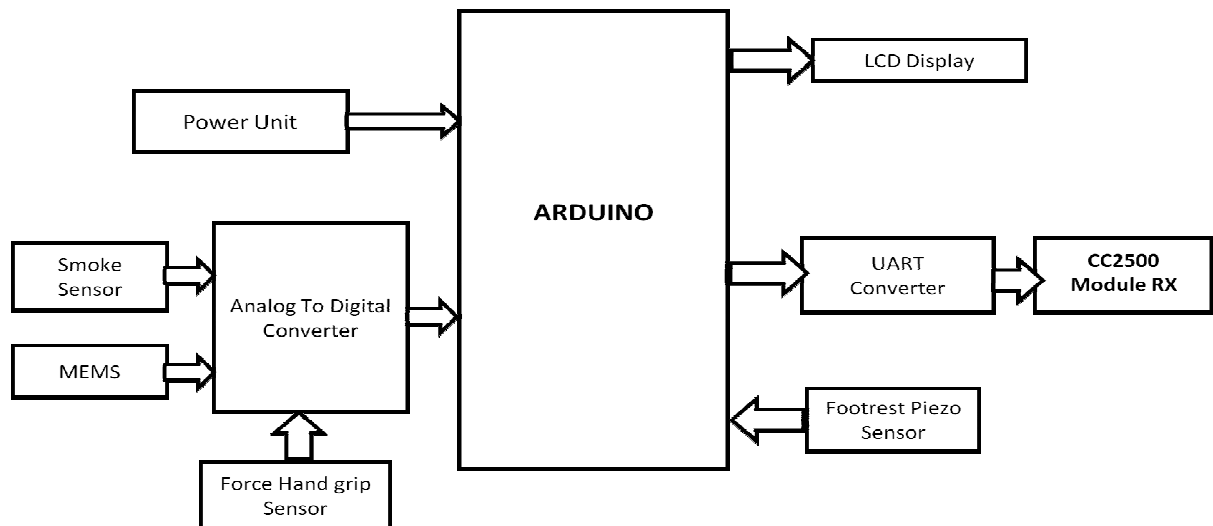


Fig.1: Transmitter Side

RECEIVER SIDE

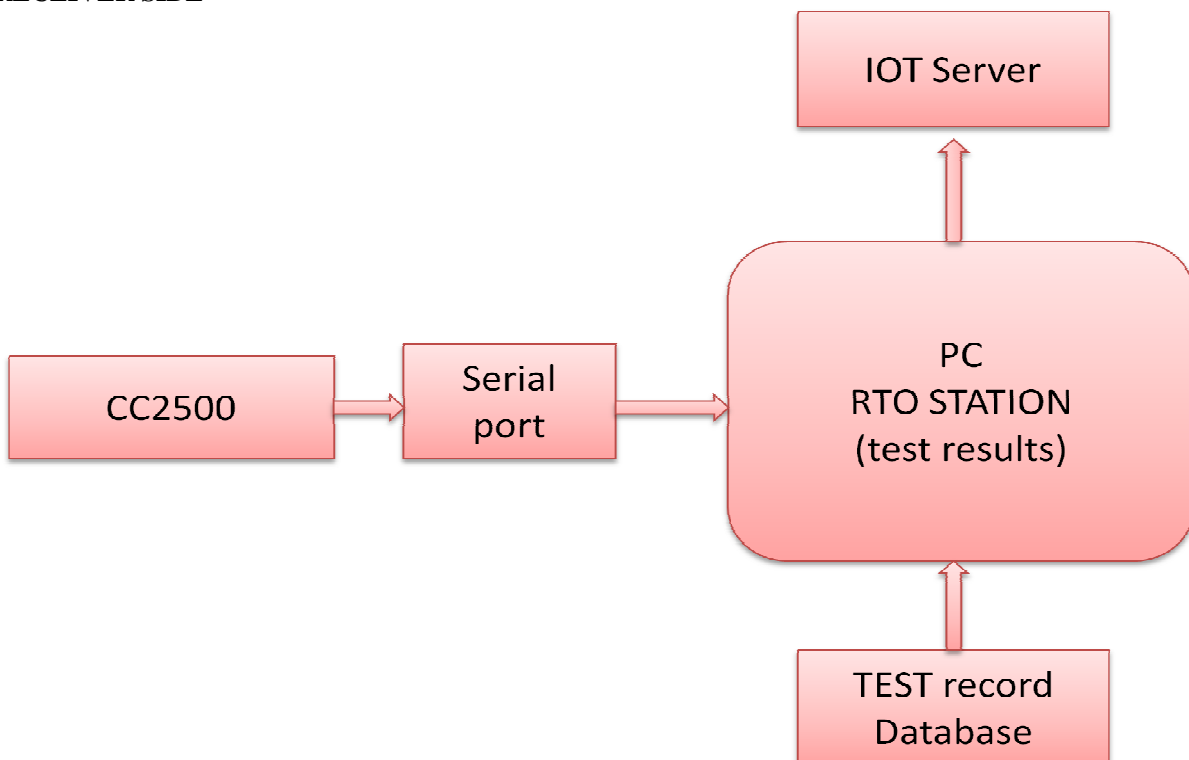


Fig.2:Receiver Side

International Journal of Innovative Research in Computer and Communication Engineering

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Website: www.ijircce.com

Vol. 7, Issue 2, February 2019

IV. IMPLEMENTATION

A. HARDWARE COMPONENTS

Force Sensor:

A force-sensor is also known as "force-sensitive resistor" and are sometimes referred to by the initialise. For the best response of the sensor, is convenient placing them to the location where the effect of acting force is highest. In this case which is dealing with measuring on the handlebars, was the best solution placing the sensors close to the centre holders.



Fig.3:Force Sensor

MEMS Sensor:

These sensors are used to measure the acceleration produced by driver's body during the driving analysis. They usually consist of a central unit that processes data and several components that interact with the surroundings such as microsensors. Board comes fully assembled and trial with external components installed. The included 0.1uF condenser set the bandwidth of each axis to 50Hz.



Fig.4:MEMS Sensor

Smoke Sensors:

A Smoke sensor is a device that senses gas/smoke. In this we consider the smoke produced by the vehicle is measured. A Smoke detector is a device that detects the presence of gases in an area, often as part of a safety system. This type of apparatus is used to detect a gas leak or other discharge and can interface with a control system so a process can be automatically shut down. A gas discoveror can sound an alarm to operators in the area where the leak is occurring, giving them the opportunity to leave. This type of device is important because there are many gases that can be harmful type of harmful to organic life, such as humans or animals.



Fig.5:Smoke Sensor

LCD:

LCDs are slowly being restored by OLEDs, which can be easily made into various shapes, and have a less response time, wider colour gamut, virtually infinite colour contrast and observe angles, lower weight for a given display size and a slimmer profile (because OLEDs use a single glass or plastic panel whereas LCDs use two glass panels, the thickness of the panels increases with size but the increase is more noticeable on LCDs) and potentially lower power consumption (as the display is only "on" where needed and there is no backlight).

International Journal of Innovative Research in Computer and Communication Engineering

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Website: www.ijircce.com

Vol. 7, Issue 2, February 2019



Fig.6:LCD

B.SOFTWARE COMPONENTS

Arduino uno@328:

The Arduino comprises a rich instruction set with 32 general purpose working registers. All the 32 registers are directly connected to the ALU, allowing two individualistic registers to be accessed in a single instruction executed in one clock cycle. The resulting architecture is more efficient while achieving throughputs up to ten times faster than conventional CISC micro controllers.



Fig.7:Arduino uno@328

V. RESULTS

The result shows output display for the automatic driving license system. In Receiver side IOT server is used to detect the candidate pass or fail. For the first time the candidate details like name, address, enrolment ID are entered manually. Then the next times the candidate details are generated manually.

RESULT PASSED

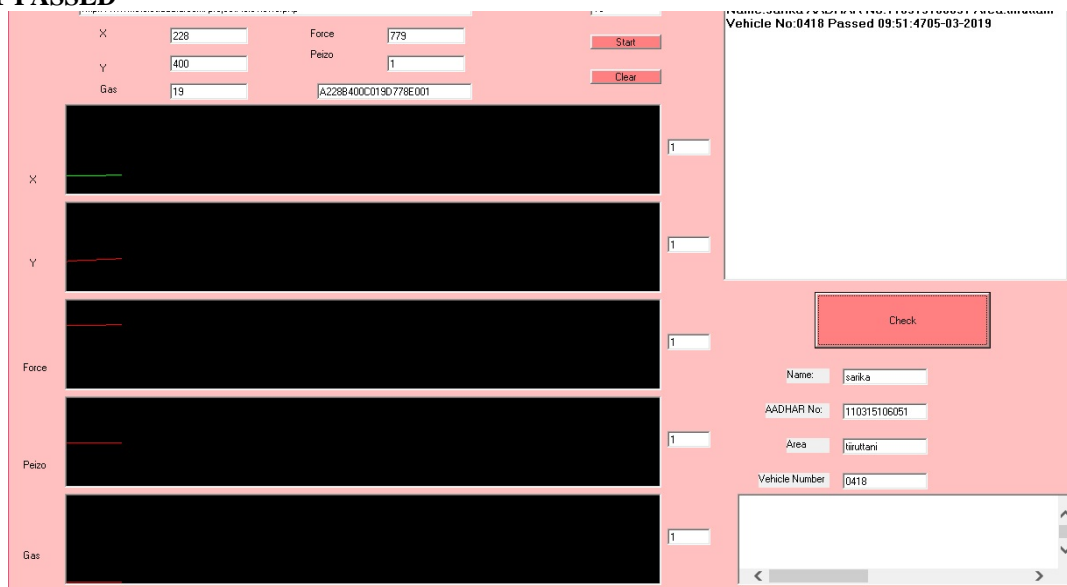


Fig.8: Result Passed

International Journal of Innovative Research in Computer and Communication Engineering

(A High Impact Factor, Monthly, Peer Reviewed Journal)

Website: www.ijircce.com

Vol. 7, Issue 2, February 2019

In the above diagram, the person who is applying for driving license and the above graphical representation shows the person is pass in the test.

RESULT FAILED

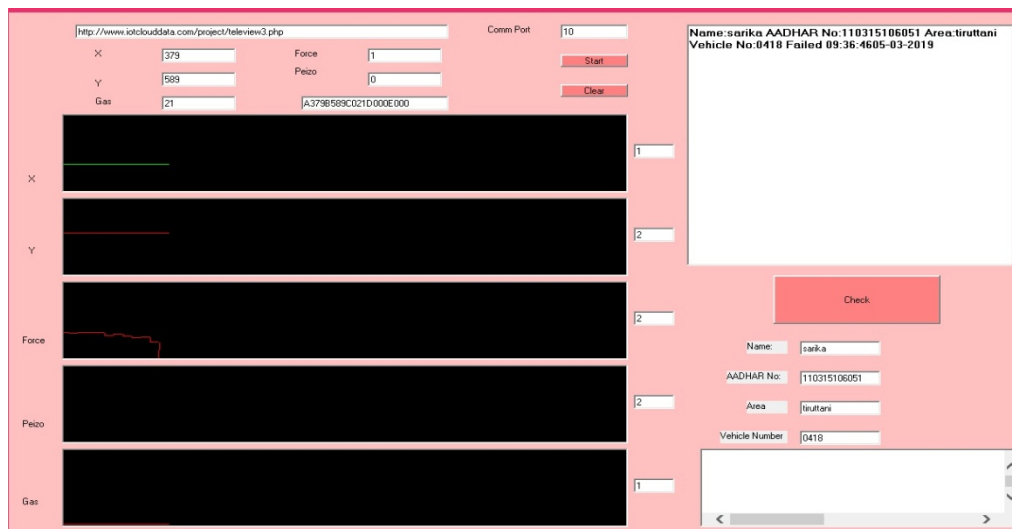


Fig.9: Result Failed

In the above diagram, the person who is applying for driving license and the above graphical representation shows the person is fail in the test.

VI. CONCLUSION AND FUTURE WORK

Monitoring the person who applied for two wheeler license whether the candidate is eligible for getting license by using wireless sensor network and also the system is used to count the number of attempts without any authorities. So that they will naturally select or reject by the system. It's should be reduces the manpower and there is no chance for any illegal activity. It can be adopted for full real life travel other than RTO office.

REFERENCES

- [1]. Chin Teng Lin., "Wireless and Wearable EEG System for Evaluating Driver Vigilance", IEEE Transactions on Biomedical circuits and systems, Vol. 15, Issue No. 8, pp. 230-255, Aug 2014.
- [2]. SMohit John and Arun Joseph, "Zigbee based wireless data acquisition using lab view for implementing smart driving skill evaluation system", International Journal of Instrumentation and Control Systems (IJICS), Vol.3, Issue No.3, pp.56-63, July 2013.
- [3]. Ramkumar, "Fingerprint based driving licensing authentication system using FPGA implementation", international Journal of engineering sciences & research technology, Vol.2, issue 3, pp.95-102, April 2014.
- [4]. Arun Joseph, "LABVIEW Based Module for Bio Signals Monitoring", International Journal of Computer Science and Mobile Computing (IJCSMC), Vol. 3, Issue No.7, pp.423-431, February 2014.
- [5]. Karthik N., "Lab view Based Human Power Generator & Fitness Analyzer", IOSR Journal of Electrical and Electronics Engineering (IOSRJEEE), Volume 2, Issue 3, PP: 01-04, Oct 2012.
- [6].Basil Hamed, "Design & Implementation of Smart House Control Using Labview", International Journal of Soft Computing and Engineering (IJSCE), Vol.1, Issue: 6, pp.31-37, January 2012.
- [7]. Tang S.M, Gao H., "Traffic-incident detection-algorithm based on nonparametric regression," IEEE Transactions on Intelligent Transportation Systems, Vol. 16, Issue No. 3, pp. 380-405, Sep 2005.
- [8]. Gani and M. J. E. Salami, "A Labview based data acquisition system for vibration monitoring and analysis", Research and Development conference, Vol.1, Issue No.4, pp.62-65, May 2004.