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Automatic Driving License Test with Android Application

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ABSTRACT: Aim of this project is to make the clear, efficient and the transparent test of the any driver which wants the license of driving by to tracking the driving of a new person while giving driving test. In real situations if any driver is not good in driving then also he got the license of driving through the agents of the driving school. By using this project we can help to our country to reduce the corruption. Then the proportion of the accident is increasing by giving the license to the wrong person. This situation can be handled by the project which help to giving license to the right person only. The prior concept behind this project is to test the drivers' skills and make the report of it Many time at the sharp turn drivers leave the track that courses the accident. With the help of the project automated testing machine, we will be able to generate the real time result. If the driver result is pass or fail it will directly show on the android application.

KEYWORDS: Android App, Bluetooth, IR Sensor

I.INTRODUCTION

In recent days life technology has been developed and people are interested to do everything in shortcut. The growing technology introduces many advances in day to day life. . In day to day life many modern transporting vehicles coming into market usage of these vehicles also increases in a wider market. For operating the vehicles the license is compulsory. Road safety is an issue of national concern as it impacts on the economy, public health and general welfare of the people carried out by road, adaptability to individual needs and cost savings. The surveys conducted by international finance corporation imply that most of the road accidents on road are happened because of improper knowledge about how to drive the vehicle.

So the concept of this project is to test the driving skills of a new driver while giving a driving test. For this we have provided a hardware and android integration. we will be able to generate the real time result. If the driver result is pass or fail it will directly show on the android application. By the use of this system we can measure the result of driver in multiple parameter like reverse time, lane cutting etc.

Fig 1.Track for driving test

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II.LITERATURE SURVEY

As per previous research papers The two types of sensors are used such as proximity sensor and fingerprint sensor .The fingerprint(U4000B) sensor to store data and USB interface to transfer digital fingerprint image to the computer-controller technology to support the Bio key SDK developed tool .The proximity sensor are used to detect object without physical contact. The LCD will be used for display [1]. By using two sensors in the track. So, the signal interruption is less. And also the authority person needs not to monitor the candidate who enters for the license test. Then the person is identified by limit switch sensor and proximity sensor with the help of lab view which is connected to laptop or PC. During driving the person is monitored by the sensors [2].

As per research paper, they have write a paper on automation of driving licenses test using wireless sensor network. In have implemented using Bayesian logic classification algorithm and feature extraction algorithm .The whole system used WSN, GPS, and Data mining, map match-ing, multi sensor fusion based detection approach, ZIGBEE[4]. They used sensor embedded H-track is interfaced to the Lab view based monitoring system using NI USB (6009) DAQ card. They used test vehicle motion on the H-track is sensed using 8051microcontroller based zero rpm measurement system [6]

III.BLOCK DAIGRAM

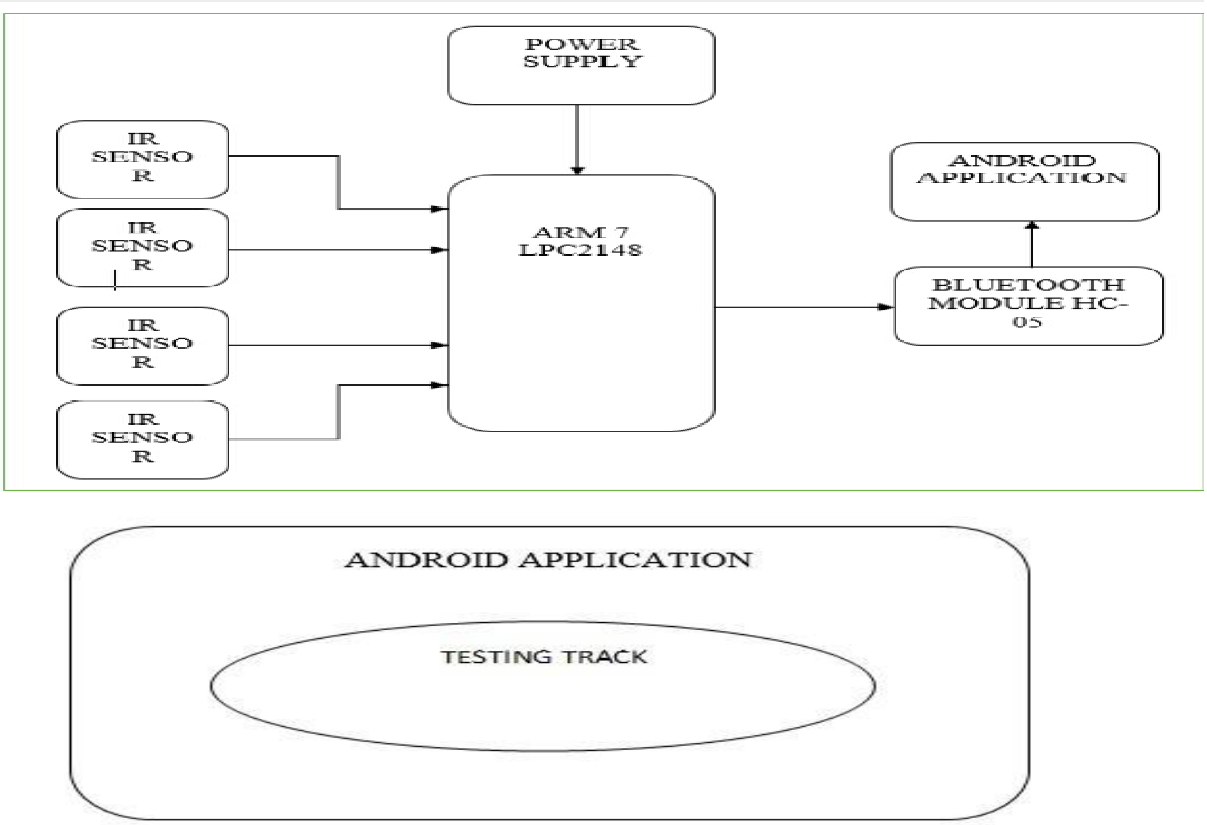

Fig2.Block diagram of automatic driving license test

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IV.EXPLANATION

We are implemented many of the IR sensors on the testing track. Which is uses to detect the path covering by the driver. This sensors normally not passing the signal from transmitter to the receiver. When any vehicle will pass on that track where the IR Sensors placed then that signal will pass form transmitter to the receiver by reflection of obstacle. Then it will generate the signal. This all sensors generate the signal and it is send to the ARM LPC. 2148. Here ARM7 is act as the processor of whole system. ARM 7 is connected to the android app through the Bluetooth module. Android app is given the display of the track which is cover by the driver and the track which remain or leave the drive. The ARM LPC2148 is calculate the how many time driver take reverse, breaks, lane cutting etc. as per performance of the driver all data shown on the app and generate the result of that drivers driving skill.

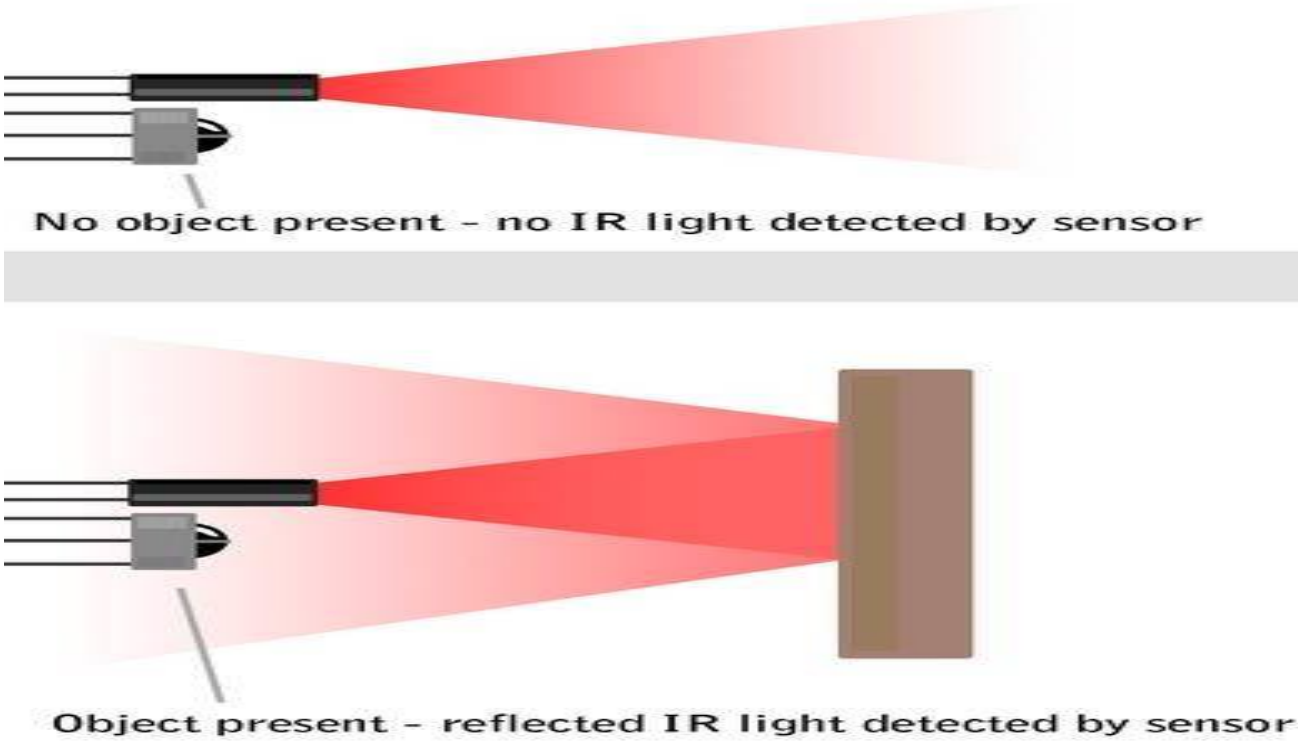

Fig3.IR Sensor

V.ANDROID APPLICATION

This project is a combination of hardware system and android application. Here, android app works as a master and hardware works as a slave unit. Hardware consists of Bluetooth module, ARM 7 and IR sensor. Hardware and android communicate using Bluetooth module. A Bluetooth module is+ used at hardware side and the in-built Bluetooth of Android cell is used. Bluetooth module works using serial communication protocol. That is they are connected to the Rx and Tx pins of controller. Android app GUI includes an image of the driving track and also the points where IR sensor are placed. It will have a start and stop buttons also. It will provide a result of final driving test at the end of the driving test. Here, we use android studio software to build the android app and the processor to build the app is shown in the images. We use a Bluetooth connectivity library of android to communicate with the hardware of Bluetooth in the android cell. We use internal timer to read the data coming from the hardware.

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When we press the start button on the GUI internal timer starts and the android app connects with the hardware Bluetooth and sends command to the read. each IR sensor. Whichever IR is cut by the vehicle on the track it is represented on the GUI. Point to point marking is done as the IR sensor gets cut by the vehicle. In this way whole track is traced and the position of vehicle is located on the track. When the user press the stop buttons the timer stops and the app will calculate the number of IR sensor that are missed by the driver and will give the final result.

VI.FUTURE SCOPE

This system is used in the driving school for the trainee drivers
We can use the cameras instead of using sensors then it will work more effectively.
Using GSM module this system can send the data of driving test we can send to higher authorities.
Using GPS system we can track the exact location of the vehicle and track.

VII .CONCLUSION

The idea of this system is only for the testing the skills of the driver but by the some modifications we can use it to the driving school also. Hence we can say that this system increases the level of transparency in the driving skill test process and also decrease the rate of corruption in the process of issuing the driving license. The android base RTO testing is help to reduce the corruption.

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