AUTOMATED FUEL LEVEL INDICATOR

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With this research paper I learned a lot about Different HARDWARE programming and iot based things which is to be needed in it.

Abstract :- The internet of things is the fastest growing platform nowadays for connecting all hardware modules like (sensors, electronics, devices etc.) together and embedded those with software making our own creative devices applications Recent studies confirm that nowadays peoples are diverted towards or we can say as the modern world is mostly interested in iotbased facilities and different technologies. The purpose of this project is to make the people's life more Luxurious and can have a type of technology that people can be aware when the fuel level in vehicle would be low this type of technology would be implemented to remind the people by beeping the sound through led light and micro speaker.This technology is based on iot in whuch we have used the arduino,sensor (for detecting the duel level in vehicle),led light, connecting wires. In this project a proposal of a digital measurement system which displays the different parameters like fuel quantity and battery health. The heart of the project is the arduino which operate the sensor through program running in the computer at particular time and displays the results in the digital format. An ultrasonic sensor is interfaced to the level of the fuel in the vehicle which make our project innovative and different.another feature we wanted and willing or need to add in the project would be that when the fuel level is extremely low than with the help of GPS/GSM module we can detect the nearby petrol pump in which we can search and

give the result automatic to the user who is using this technology.

Keywords:-arduino, ultrasonic, sensor,module,iot(internet of thing)

I. INTRODUCTION

- We are already aware that motor vehicles display the amount of fuel in the fuel tank by means of some indication like bars running through the E (empty) and F(full) indicators. The manufacturer provides the specification that each bar maps to the corresponding liters of fuel approximately. To the contrary every one of us might have experienced the problem with improper estimations of the current fuel level in the tank with the existing bars representation system. Today in this digitalized world, if the fuel indicator in the automobiles is also made digital it will help to know the exact amount of fuel available in the tank. An advanced digital Fuel meter is the one which shows the level of Fuel in digital format. In this work, we propose a digital measurement system which constantly displays the different parameters like Fuel quantity and battery health.
- That's why we do not get proper idea about fuel present in our tank. We get only approximate level of fuel. So this problem is taken into consideration for our project work of developing the Digital (numeric) fuel indicator system for two wheelers which shows exact amount of fuel in terms of liter or milliliter. This value in liters will be in numerical digits (ex: 1.2 lit, 1.3 lit, 1.4 lit). T It is online buying e-commerce products with interesting Design and easily accessible.

This project mainly concentrates about the indication of fuel level in two- wheeler tanks. In the recent times we are constantly hearing about petrol theft. Most of the petrol bunks today have fraud the pumps such that it displays the amount as entered but the quantity of fuel filled in the customer's tank is much lesser than the displayed value. Yet the pumps are tampered for the benefit of the petrol bunks owner. This results in huge profits for the petrol bunks but at the same time the customers are cheated. All the vehicles in India consist of analog meters hence it is not possible to precisely know the amount of fuel currently in the vehicle and also it is not possible to cross check the quantity of fuel filled in the petrol bunk. In this project we focus on creating a digital display of the exact amount of fuel contained in the vehiclestank and also help in cross checking the quantity of fuel filled at the petrol theft.

II. MOTIVATION & PROBLEM STATEMENT

We have the motivation and innovative idea which we can do and make more effective this project by adding the gps location into project for searching gas station nearby at specific location it needs the another hardware for finding live location of the station.

To design digital fuel level indicator with the help of non contact type fuel level sensor and voltage sensor the reading which shows on LCD display in terms of liter/milliliter and percentage ..

III LITERATURE SURVEY

A.Avinashkumar, U. Singaravelan, T.V.Premkumar and K.Gnanaprakash, "Digital fuel level indicator in twowheeler along with distance to zero indicator", IOSR Journal of Mechanical and Civil Engineering (IOSRJMCE),e-Issn: 2278-1684,P-Issn: 2320-334x, Volume 11, Issue 2 Ver. III (Mar-Apr. 2014), PP 80-84,"Today in this digitized world, if the fuel indicator in the automobiles is also made digital it will help to know the exact amount of fuel available in the fuel tank. The above furnished fact is considered in our project and we found out a proper solution for indicating the exact availability of fuel in the tank digitally. Here, we are indicating the amount of fuel in the tank in liters. This value in liters will be in numerical digits (ex: 1.2, 1.3, 1.4). This project mainly concentrates about the indication of fuel level in two- wheeler tanks. Various other features like the distance can be travelled to the corresponding fuel, is added with this arrangement which will explain the clear performance of the vehicle to the corresponding fuel."

Mrs. Udayavalli.V., Mrs. M. Omamageswari, "Embedded system based intelligent digital fuel

Gauge",Ipasj International Journal Of Electronics & Communication (Iijec),Volume 2, Issue 12, December 2014,"In the recent times we are constantly hearing about petrol bunk frauds. Most of the petrol bunks today have manipulated the pumps such that it displays the amount as entered but the quantity of fuel filled in the customer's tank is much lesser than the displayed value. I.et the pumps are tampered for the benefit of the petrol bunks owner. This results in huge profits for the petrol bunks but at the same time the customers are cheated. All the vehicles in India consist of analog meters hence it is not possible to precisely know the amount of fuel currently in the vehicle and also it is not possible to cross check the quantity of fuel filled in the petrol bunk. In this project we focuses on creating a digital display of the exact amount of fuel contained in the vehicles tank and also help in cross checking the quantity of fuel filled at the petrol bunk. Finally once the fuel is filled at a bunk the device also sends an SMS to the vehicle owner indicating the amount, quantity, and date, time etc. And also we can find the exact location of the vehicle."

IV ABOUT PROJECT

Scope of the work: The literature mentioned above and the findings depicts that the scope of the work is confined to the following:-

1. This work aims to design digital metering system that indicate both the parameter simultaneously i.e. fuel level and battery health.In case of kick less motor bike.

2. To avoid fuel theft cases and leakage problem.

3. To avoid chances of sudden battery discharge in case of kick less motor bike

Objective of this work: The objective is to design digital fuel level and battery life indicator which would the following:-

1. Selecting appropriate automotive application (motor bike/car)for carrying out this study to indicate fuel level and battery health.

2. To design the circuit diagram and make correct connection of each electrical component by using classical approach design available in literature.

3. To make the program using Arduino IDE software of both fuel and battery level

4. Because of flat bottom section of fuel tank and using single ultrasonic sensor at top of fuel tank there is less chances of error in running of programming.

5. To check accuracy of output result by practically measuring the quantity of fuel by pouring and removing from tank.

V CONCLUSION

The proposed idea consists of ultrasonic technique for fuel measurement that acquires the measured fuel level and sends to the display unit which is present on the dash board. The data acquired from the sensor is given to the microcontroller. The processor processes the data by calculating the liter value that send to the display unit. At the same time voltage sensor which is connected in between the battery and arduino uno microcontroller gives we reading on display unit of the percentage of charge are left in the battery.

REFERENCES

Raj Patel, Hitesh Pungalia, Saurabh Mahajan, "Flow Meter and Arduino Based Fuel Gauge for Automotive Vehicles", IOSR Journal of Mechanical and Civil Engineering (IOSR-JMCE), e-Issn: 2278-1684,P-Issn: 2320-334x, Volume 13, Issue 5 Ver.VII (Sep.- Oct. 2016), Pp 85-92.

Programming Arduino: getting started with sketches,second edition(electronics).

YOUTUBE:-engineers and electronics,edutainer,Electrical engineering idea etc.Google research for various types of sensor and its usage in this project.