

BMS INSTITUTE OF TECHNOLOGY AND MANAGEMENT

Yelahanka, Bengaluru.-560064

DEPARTMENT OF INFORMATION SCIENCE AND ENGINEERING

PROJECT BASED LEARNING SYNOPSIS

Name of Guide: Prof.Mahalakshmi Mam Batch No: Date of Submission:

NAME OF STUDENT (Block Letters)	USN (Block Letters)	Email-Id/Group Mail-Id	Contact No.
Nithin Urala M R	1BY18IS076	1by18is076@bmsit.in	9483784316
Pranav R D	1BY18IS087	1by18is087@bmsit.in	7892085564
Sumukha S	1BY18IS120	1by18is120@bmsit.in	7795905684
Shohebahmed Najeerahmed Gadawale	1BY18IS112	1by18is112@bmsit.in	8660721890

Smart Fuel Indicator

Abstract : *In this modern and advanced world we come across many technologies which makes our life easier and comfortable. But during our daily routine we come across some real world problem while riding our vehicles, that is, we are often bothered about the presence of fuel in the tank. Hence we have planned for a one stop solution to this problem. Our project is based on a digitalized and smart fuel indicator which gives the exact amount of fuel present in the tank and shows the amount of distance the vehicle can further travel with the remaining fuel. We have planned for an android application for this cause*

Introduction : The proposed fuel indicator in vehicle utilizes simple and digital visuals for indicating the amount of fuel in the fuel tank. This overcomes the major drawback of analog fuel gauge present in the vehicles. This project focuses on controlling the stream of the fuel in the vehicle, additionally showing the fuel left and kilometer it can further cover. Further to make this user-friendly and accessible we have planned for an android-based application which helps the user in conveying the message. Our project basically consists of a module fitted inside the fuel tank which has a pressure sensor which makes it possible to measure the fuel irrespective of the shape of the fuel tank thus, making it applicable for all types of vehicles.

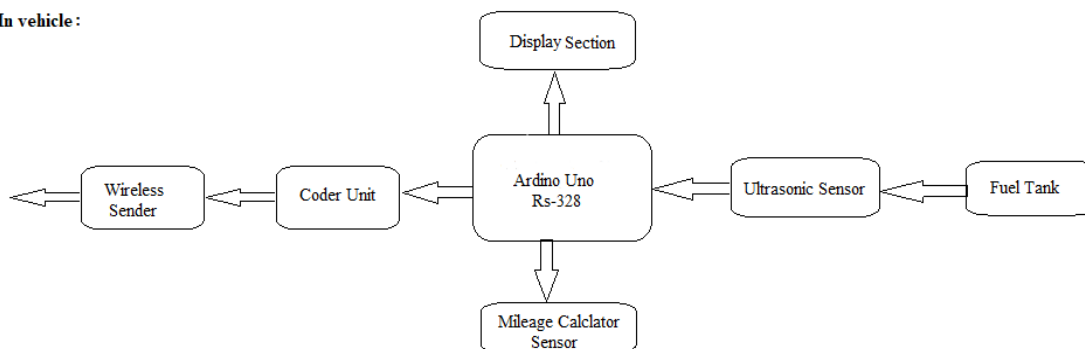
Existing System:



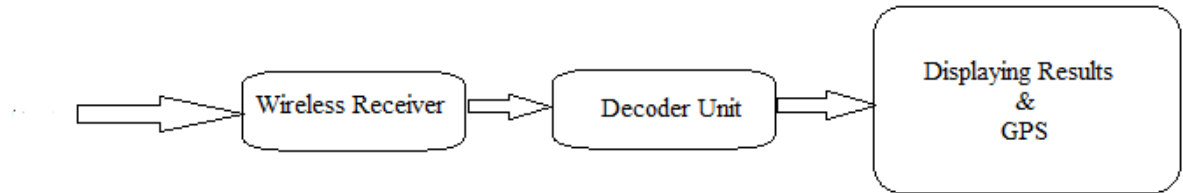
Analog Fuel Gauge

Procedure: The proposed system aim in the measurement of the fuel in the vehicle tank using ultrasonic sensor. The ultrasonic sensor has a better accuracy and and it is easy to calibrate and interface it with arduino controller which is used. The ultrasonic sensor sends ultrasonic waves and reflects it back to the receiver unit of the ultrasonic sensor. In this way we can find the level of fuel in the tank if we know the time required by the ultrasonic sensor to travel. We have used arduino because it is more reliable than 8051 controller. In addition to this we have used Hall Effect sensor which can calculate the mileage of the vehicle. The Hall Effect sensor will count the number of rotations done by the wheel and accordingly it will calculate the mileage of the vehicle. And when the vehicle tank goes in reserve mode the GPS will indicate the nearby petrol pump in the prescribed area. Block Diagram The ultrasonic sensor is directly connected to the fuel tank of the vehicle. Accordingly the ultrasonic sensor will find the output that is the level of fuel in tank in litres. The Hall Effect sensor is connected to the wheel of the vehicle with magnet on one of the spoke of the vehicle. So it will easily calculate the number of rotations easily. And the distance covered can be easily calculated by knowing the rotations.

In vehicle:



In Electronic Device:



System Requirement: Keywords-GPS, Hall Effect, Proteus, Ultrasonic Sensor, Serial Transmission.

References [1] Jaimano Varghese, BineshEllupurayilBalachandran , “Low Cost Intelligent Real Time Fuel Mileage Indicator for Motorbikes”,International Journal of Innovative Technology and Exploring Engineering(IJITEE) ISSN: 2278-3075, Volume-2, Issue-5, April2013:

[2] Nitin Jade, PranjalShrimali, Asvin Patel, Sagar Gupta, “Modified Type Intelligent Digital Fuel Indicator System”,IOSR Journal of Mechanical andCivil Engineering (IOSR-JMCE) e-ISSN: 2278-1684, p-ISSN: 2320-334X PP 20-23.

[3]Kunal D. Dhande, Sarang R.Gogilwar, SagarYele, “Fuel Level Measurement Techniques”,Systematic SurveyInternational Journal of Research in Advent Technology, Vol.2, No.4, April 2014E-ISSN: 2321-963781.

[4]AlkaGaba, Nitin Goyal, “Review over Diverse Location Aided Routing”, Global Journal for Current Engineering Research, Vol. 2, No. 2, pp. 141-144, 2013.

[5]NITESH.K.A, LOHITH.B.N M.Tech 4 Dept. of DECS VTU-RC, PG Centre, Mysuru2Asst.Prof, Dept. of DECS VTU-RC, PG Centre, Mysuru.

[6]T. J Sokira and W. Jaffe, Brushless DC Motors: Electronic Commutation and Control, Tab Books, USA, 1989.

Signature of Guide

Signature of Coordinator

Signature of HOD

--	--	--