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Smart Fuel Level Indicator

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Abstract: **Today, if the fuel marker in the vehicles is further advanced in this digitized world. The correct measure of fuel available in the fuel tank will be known. Here we demonstrate the fuel calculation in litters in the tank. The litter reward will be numbered. This project focuses primarily on the fuel level sign in bike tanks and predicts the location of the user using the latitude and longitude value that GPS sends to the system. This project evades a lot of issues such as fuel bunkers at fuel stations, fuel failure and stops us from getting into situations where we need to drive our vehicles because of the fuel level assumptions. The fuel pointer framework for the bikes is computerized these days yet they do not show the correct fuel measure available in the tank i.e. they show the fuel measure as far as bars and not in numbers or digits like litters or milliliter. The fuel pointer framework for the bikes is computerized these days yet they do not show the correct fuel measure available in the tank i.e. they show the fuel measure as far as bars and not in numbers or digits like litters or milliliter. This issue is therefore being considered for our work of constructing the computerized (numeric) fuel pointer framework for motorcycles which indicates correction. The fuel pointer system for the bikes is computerized these days yet they do not display the appropriate fuel measure available in the tank i.e. they show the fuel calculation as far as bars and not in percentages or digits like litters or milliliter.**

Keywords: **Fuel, Level, Mileage, GPS.**

1. Introduction

The current vehicle fuel demonstration system uses simple and computerized graphics to show the supposed fuel level status, not to represent the numerical number. This frame alluded shows the numerical fuel level using LCD [1]. In India, the issue of mileage has become a major issue; causing customers to stall in the dark zone, as they fail to test the fuel level in numerical by utilizing LCD. In India, mileage issue has risen to be a major issue prompting clients stalling out in obscure zone since they neglect to check the fuel level. This proposed configuration can give an approach to stop this issue and control the exorbitant utilization of the fuel to the client by demonstrating mileage [2]. This suggested layout will be useful for monitoring the fuel stream in the engine, as well as displaying the fuel left persistently and the kilometer it can reach. This is finished by controlling the use of fuel with the help of units placed in the fuel tank and when the fuel tank becomes unfilled a sign is given to the driver that the fuel is empty and the vehicle will be killed. On the premise of Arduino or PIC 16F877A advancement of this plan is done and to demonstrate the fuel that is available in the vehicle LCD show

is utilized as yield unit. The Characters got from the controller unit is recently shown and in addition the fuel level and the separation it can travel, so that the client can drive at the existing fuel.

2. Problem definition

Recent spikes in petrol and diesel prices have bothered most of the consumers. Shooting oil prices have hit family budgets but you cannot do anything about them except fuming at the government or wondering if the global factors will soften. However, there is one thing totally in your control not to get conned at the petrol pump. Short selling or selling adulterated fuel is a common phenomenon across the country.

Union oil minister Dharmendra Pradhan shared that Delhi ranked third among states for petrol pump frauds. Delhi reported 785 cases of short-fueling at petrol pumps between April 2014 and December 2017. It was only behind Maharashtra and Uttar Pradesh with 1,560 and 913 cases, respectively. And that could be a tip of the iceberg because most cases go unreported. A little bit of awareness can help save you from petrol pump frauds. Also we added an extra safety precaution i.e. if the stand of bike is opened then the bike will not start. By using these systems, we reduce the chances of accident.

3. Proposed system

In the system, Arduino microcontroller is used. This controller is extremely helpful to utilize, the coding or programming of this controller is additionally simpler. Arduino finds its application in a huge number of device. It is used in remote sensor, security & safely device, home automation and in many industrial instrument. The working of the system of the Arduino microcontroller which are installed in the tank use to since the level of petrol and send it to the controller, the controller will show that level in digital(numeric)form like (1,2, 3......etc.) on the 16*2 LCD display is place over it and these pulse are given to the controller. According to that, the LCD which is connected to the controller shows the mileage, fuel level & estimated distance is displaced on the LCD. The additionally Arduino circuitry is used to provide location of user, by using latitude & longitude value of corresponding area of users.
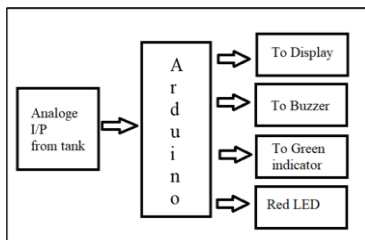
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Fig. 1. Smart fuel level indicator system

4. System description

In the system, the Arduino Nano is used. This controller is extremely helpful to utilize, the, coding or programming of this controller is additionally simpler. The ultrasonic sensor is used is installed in the tank to sense the level of petrol [3]. Microcontroller finds its application in a huge number of devices. A prototype of the proposed model was design & implemented under various conditions with different permutation and combination to obtain the complete working of system.

When the fuel was zero, the system displayed, fuel is zero with a periodic buzzer. When the fuel started to pour in, only the fuel crossed minimum reserve level, the buzzer got switched off while the LCD displaying the exact amount of fuel entering in the tank. When the fuel starts to leave the tank to the carburettor, the amount of fuel was measured and calculate the exact amount of fuel present in tank in LCD display. These methods are very simple to execute & has a higher accuracy in measurement.

Second diagram we use an additional safety method i.e. advance stand system. In our daily life we face many accidents problem.

5. Conclusion

The smart fuel indicator is a signaling device of very advanced kind. The main advantage of this device is that it can provide the exact value of the remaining fuel as well as the ability of the vehicle to run in km. The time taken for the operation is much less. All the equipment has material of long life, durability and quality. This project will demonstrate that a reliable fuel level monitoring system can be developed using simple hardware and technology available. It also shows the user's vehicle position by using the latitude and longitude value. The system designed and tested in this project showed the system's low construction cost.

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