

AUTOMATIC LPG IN CYLINDER MONITORING & BOOKING OVER ANDROID

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Abstract: - In over Country day to day we are using in every house LPG cylinder Plays very important role and its cost is also pays an important for every middle class family so we need have a control on it like weight of cylinder and lick of the any gas from the cylinder as now days max in all family all the members are working people only so to provide security to LPG cylinder if we have any gas licking finder it will help everyone at home to take action to overcome this problem in exiting system, in our paper in the proposed system we fixed a weight sensor for monitoring of weight of LPG cylinder time to time using a weight sensor, any type of Gas lick using gas sensor MQ-2, we will provide any android app to end user so that he will have live monitoring of LPG Gas Level, temperature and humidity sensor GAS lice and SMS notification like gas level, gas status.

Keywords: - LPG cylinder, SMS Notifications, Booking from app, Security, IoT

1. INTRODUCTION

LPG cylinder plays an important role in our day to day life over application we are fixing a weight Senor, gas Sensor, temperature and humidity sensor all this are fixed to over kit for providing the security and monitoring of the LPG cylinder in kitchen, and it's even controlled and monitored using android app, In over proposed system user can first register in this app and later login, at the home page user can see the gas cylinder details like Temperature, Humidity, Gas Leakage or not and weight. In this app when gas cylinder weight is reach to our threshold value (i.e. 30) then it can generate alert dialog box for gas booking as well as after booking the gas it can send SMS to register mobile number about gas booking confirmation. Here user can also check his/her gas booking history, In this module admin can login into this app and they can view user booking requests as well as they can accept or keep in waiting list, over paper in section -2 explain the related work of the paper, like existing system & proposed system, section-3 explain the total implementation of the hardware kit like each sensor connection to over microcontroller, section-4 we are explain the output of the kit and gas booking concept from using app ,section -5 will give Conclusion to over paper.

A. Objectives

- It is also applicable in homes, factories, hotels, gas cars and LPG storage unit
- From over sensors we can expect a Quick response.
- Maintenance cost is very less Ease of operation
- No much maintenance once fit user forever.

2. RELATED WORK

Existing System

In over existing system we cannot find any security for LPG cylinder in kitchen for any lick of gas or no notification of gas cylinder weight, gas booking Process is done manually by calling to the customer

care of the gas, not concept of getting SMS Notifications, no monitoring of any Cylinder over android app in existing system.

Proposed System

In over Proposed system we are fixing a weight Sensor, gas Sensor, temperature and humidity sensor all this are fixed to over kit for providing the security and monitoring of the LPG cylinder in kitchen, and it's even controlled and monitored using android app, In over proposed system user can first register in this app and later login, at the home page user can see the gas cylinder details like Temperature, Humidity, Gas Leakage or not and weight. In this app when gas cylinder weight is reach to our threshold value (i.e. 30) then it can generate alert dialog box for gas booking as well as after booking the gas it can send SMS to register mobile number about gas booking confirmation. Here user can also check his/her gas booking history, In this module admin can login into this app and they can view user booking requests as well as they can accept or keep in waiting list

3. IMPLEMENTATION

B. Block Diagram

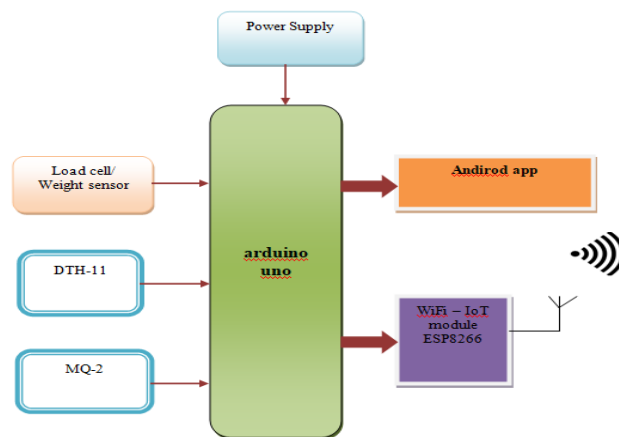


Fig 2 Block Digram

Arduino Uno uses the Atmega328P microcontroller. This controller needs the 5V DC power supply and the remaining specifications of the Atmega328P show in the below figure.

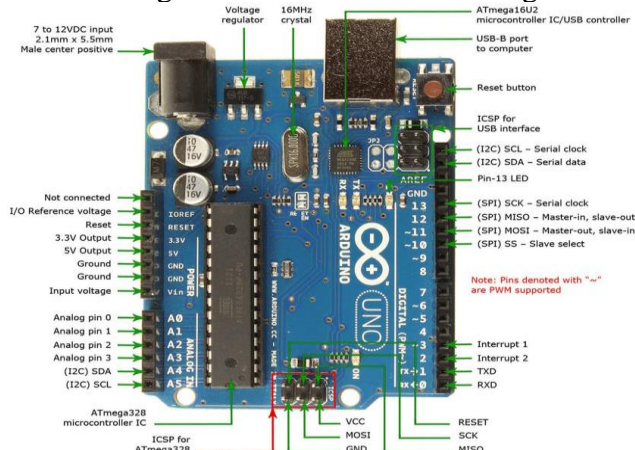


Fig 2 Arduino Uno Board representation

C. DHT11

The temperature of the patient's body is also a very important parameter in the health concern. If the body temperature increases the doctor gives the respective treatment to maintain the normal body temperature. To check the body temperature we are using the DHT11 sensor which gives the temperature and humidity present in the air. Fig 2 shows.



Fig 2 Arduino Uno with DTH-11

D. Buzzer

The buzzer is a piezo circuit which produces audible sound when powered with some voltage. The buzzer is used for alert or notification purposes. This will be very useful in human life which automates and notify the people.



Fig 3 Buzzer

The buzzer will have two pins. One is positive and the other one is negative. The positive pin is connected to the digital pin of Arduino and the negative pin connected to the ground. To activate the buzzer from digital pin Arduino gives HIGH pulse then buzzer makes the audible sound. To deactivate Arduino gives the LOW pulse to the positive pin of the buzzer.

E. Wifi Module ESP8266

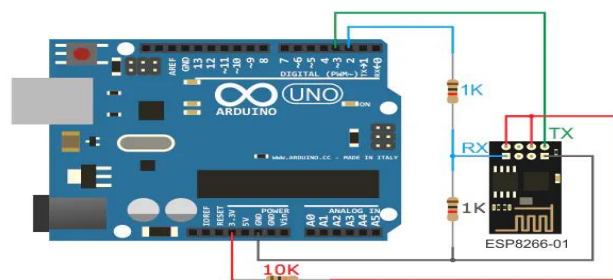


Fig 4 ESP8266 wifi module Connection

This module is used for posting all the vales from hardware to Server and to android application using internet, it is also used for displaying the valued of over kit like gas, temp, hum, level to end user over this phone .

F. Weighing load cell sensor

In over applictaion the load cell sensor is use to monitor to monitor the weight of the LPG clynder in over applictaion.

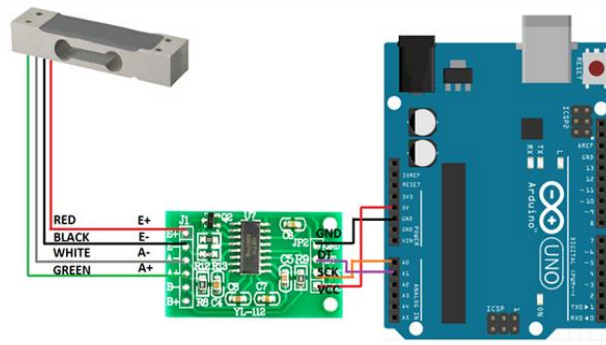


Fig 5 Weighing load cell sensor Connection

G. Schematic Diagram

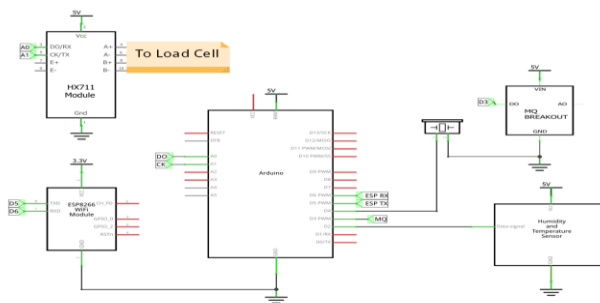


Fig 6:- Connection to microcontroller & all Sensors

4. EXPLEMENTAL RESULT

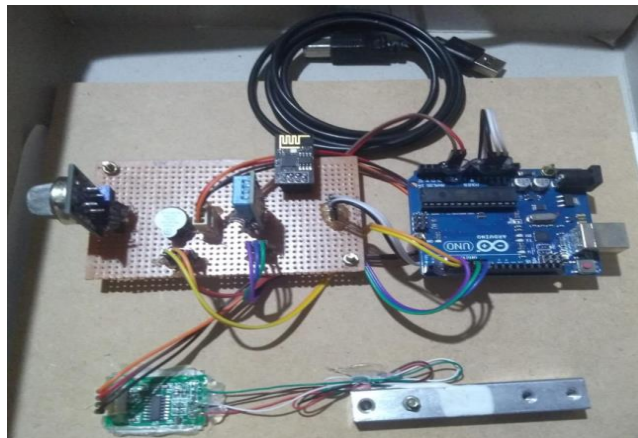


Fig 7 Demo Kit of the application

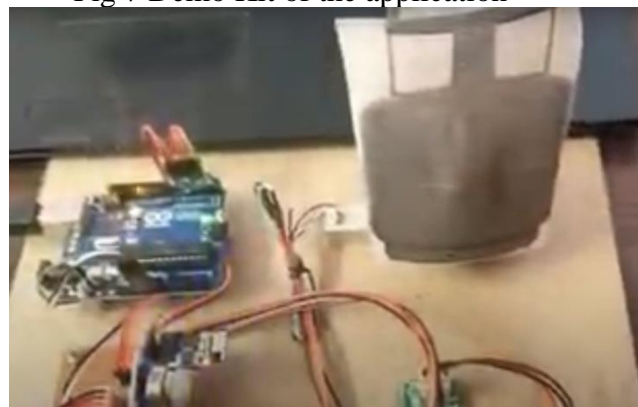


Fig 8 Kit testing using LPG Cylinder

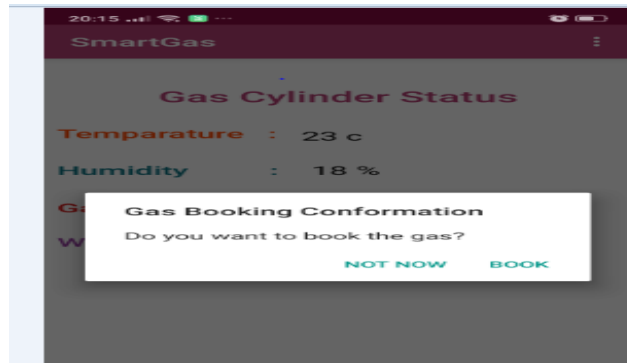


Fig 9 Values on Android phone

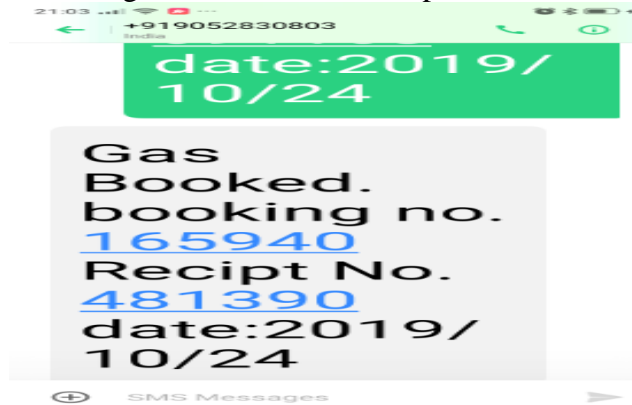


Fig 10 SMS Notification to Phone

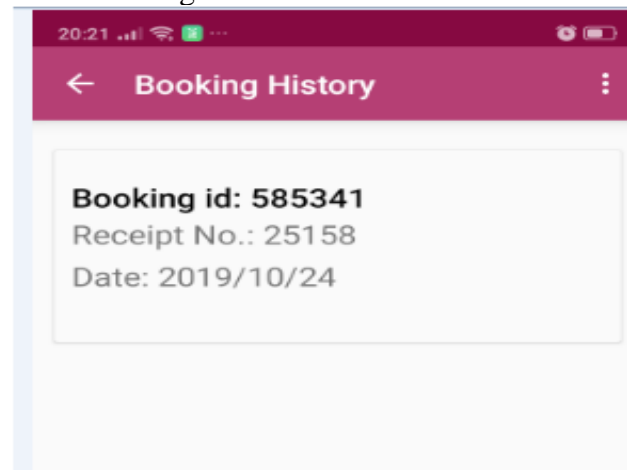


Fig 11 Booking History

H. Applications

- It is used as a Domestic gas leakage detector.
- In industries it is used as combustible gas detector.

5. CONCLUSION

In this paper we have two modules like hardware kit with all the security sensors like gas, weight, DTH-11 for monitoring the LPG cylinder time to time, the second module is android app when the users can register, login in to the application can check the values on app, and based on notification he/she can book the LPG cylinder from over app, end user will get SMS notification using in over hardware kit, to user mobile phone.

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