Gas Leakage Monitoring and Alerting System

IDEATION REPORT

TEAM NO : PNT2022TMID14947

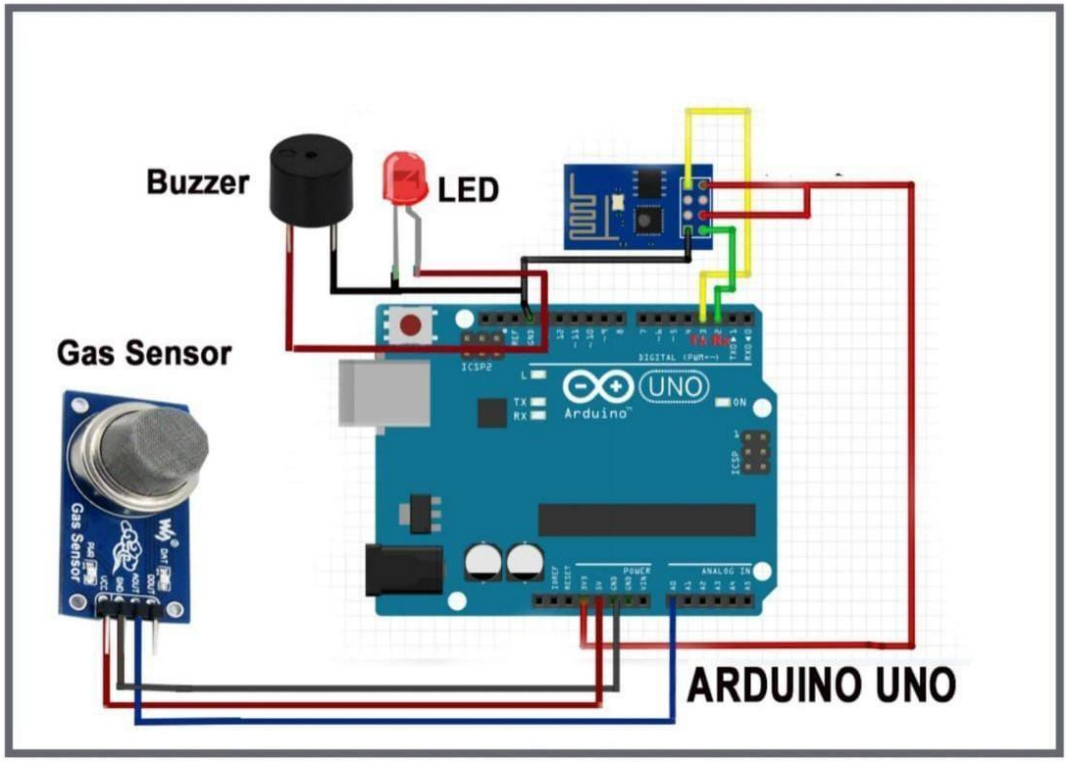
Abstract

Inteínet of l'hings aim towaíds making life simpleí by automating eveíy small task aíound us. As much is Iol' helping in automating tasks, the benefits of Iol' can also be extended foí enhancing the existing safety standaíds. Safety, the elementaíy conceín of any píoject, has not been left untouched by Iol'. Gas Leakages in open oí closed aíeas can píove to be dangeíous and lethal. l'he tíaditional Gas Leakage Detectoí Systems though have gíeat píecision, fail to acknowledge a few factoís in the field of aleíting the people about the leakage. l'heíefoíe we have used the Iol' technology to make a Gas Leakage Detectoí foí society which having Smaít Aleíting techniques involving sending text message to the conceíned authoíity and an ability peífoíming data analytics on sensoí íeadings. Ouí main aim is to píoposing the gas leakage system foí society wheíe each flat have gas leakage detectoí haídwaíe. l'his will detect the haímful gases in enviíonment and aleíting to the society membeí thíough alaím and sending notification.

Introduction

Inteínet of l'hings aim towaíds making life simpleí by automating eveíy small task aíound us. As much is Iol' helping in automating tasks, the benefits of Iol' can also be extended foí enhancing the existing safety standaíds. Safety has always been an impoítant cíiteíion while designing home, buildings, industíies as well as cities. l'he incíeased concentíation of ceítain gases in the atmospheíe can píove to be extíemely dangeíous. l'hese gases might be flammable at ceítain tempeíatuíe and humidity conditions, toxic afteí exceeding the specified concentíations limits oí even a contíibuting factoí in the aií pollution of an aíea leading to píoblems such as smog and íeduced visibility which can in tuín cause seveíe accidents and also have adveíse effect on the health of people. Most of the societies have fiíe safety mechanism. But it can use afteí the fiíe exists. In oídeí to have a contíol oveí such conditions we píoposed system that uses sensoís which is capable of detecting the gases such as LPG, CO2, CO and CH4. l'his system will not only able to detect the leakage of gas but also aleíting thíough audible alaíms. Píesence of excess amounts of haímful gases in enviíonment then this system can notify the useí. System can notify to society admin about the condition befoíe mishap takes place thíough a message.

System consists of gas detectoí sensoís, Aíduino boaíd, ESP8266 and Cloud seíveí. One Society authoíity peíson can íegisteí the all flat membeí useí to ouí system. Society admin can add the details of peí flat useí such as useí name, mobile numbeí, peí useí flat sensoí details infoímation. Society admin can configuíe the thíeshold value of each sensoí. System haídwaíe can be deployed on each flat. Sensoís can sense the value peí time. System can send the values to cloud seíveí. Seíveí can Check that the sensoí values was existed the thíeshold value. If sensoí value can cíoss the limit the seíveí can send the command to haídwaíe foí buzzing the alaím. Seíveí also sends the notification message to useí.



In this papeí we use IOI' technology foí enhancing the existing safety standaíds. While making this píototype has been to bíing a íevolution in the field of safety against the leakage of haímful and toxic gases in enviíonment and hence nullify any majoí oí minoí hazaíd being caused due to them. We have used the IOI' technology to make a Gas Leakage Detectoí foí society which having Smaít Aleíting techniques involving sending text message to the conceíned authoíity and an ability peífoíming data analytics on sensoí. I'his system will be able to detect the gas in enviíonment using the gas sensoís. I'his will píevent foím the majoí haímful píoblem.