INDUSTRIAL SPECIFIC FIRE MANAGEMENT SYSTEM

PROJECT NAME	INDUSTRIAL SPECIFIC FIRE MANAGEMENT SYSTEM
TEAM ID	PNT2022TMID48285
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BRANCH	COMPUTER SCIENCE AND ENGINEERING

1. INTRODUCTION:

Nowadays, some factories and buildings have proper installation and fire safety and control arrangements such as fire alarm, fire extinguishers, water supply system etc. But the problem is these conventional fire extinguishing systems are not enough to take prompt action during fire outbreak and hence, save life. The best way to reduce these losses is to respond to the emergency situation as quickly as possible. So, there comes the necessity of a standalone fire detection systems. This project therefore seeks to design a microcontroller fire alarm and control system that will continuously monitor the presence of significant amount of heat and activate an alarm and simultaneously switch off the mains of the building, send an SMS alert and extinguish the fire as a safety measure to contain the situation.

1.1 PROJECT OVERVIEW:

The Internet of Things (IOT) is basically the network of 'things' by which physical things can exchange data with the help of sensors, electronics, software, and connectivity. These systems do not require any human interaction. In this Arduino fire alarm system using temperature and smoke sensors using the IOT project, we can send LIVE information like Temperature, Smoke Value detected by a particular device to the Fire Department. IOT Based Fire Alerting System uses two Sensors, namely, Temperature and Smoke sensors. Arduino has an inbuilt ADC converter, which converts the analog signals received at the sensor end to digital. The Arduino is programmed to turn on the buzzer when the temperature & the smoke reach a threshold value.

1.2 PURPOSE:

The project is designed with a low cost and all level users can have one for a safety purpose. This project therefore seeks to design a fire alarm system that will continuously monitor the presence of significant amount of heat and activate an alarm simultaneously switch off the mains of the

building, send a Short Message Service(SMS) alert and extinguish the fire as a safety measure to contain the situation.

2. LITERATURE SURVEY:

2.1 EXISTING PROBLEM:

Fires cause serious damage and disrupts daily life in a devastating manner. Hence preventing them or reducing their effects is a top priority. Though there are many systems that have been created to tackle this problem, false alarms is a challenge that is yet to be avoided. In our model, the place to be monitored is under constant surveillance by a closed circuit television. At tactical points, a number of sensors are placed. The sensor include pir sensor, temperature sensor, heat sensor and gas sensor. Each sensor plays a vital role in detecting a fire if it occurs. On top of these sensors, the footage from the camera is also used to detect the fire through image processing. The main advantage of this system is that it has a very high accuracy. If the fire has been detected a mail is sent to the security and the nearest fire department with an attachment of the photo.

2.2 REFRENCE:

- **Ahmed Imteaj[1]**, Studied the problems faced by factory workers in times when fire breaks out. They proposed a system using Raspberry Pi 3 which is capable of detecting fire and providing information about area of fire. The Raspberry Pi controls multiple Arduino boards which are connected with several motors and cameras to capture the fire incident.In this, they discussed about the modern technology that can be used to reduce extremely unfortunate accidents caused by fire. We designed the whole system and calculated its effectiveness.

- **Nikhade[2],**discusses wireless sensor network system that has been developed using open source hardware platforms, Raspberry pi and Zigbee.
- **Ondrej Krejcar[3],** proposed a model for location enhancement and personnel tracking using Wi-Fi networks. In this, he has represented the control system concept that is used in handling information of location and control unit operations. The location of the user present in the building, is obtained through WiFi access points.
- **Azka Ihsan Nurrahman, Kusprasapta Mutijarsa[4**], have proposed a prototype for a centralized management system for homes or offices which helps better in managing the safety features. In this, home management system is required. This system controls the room lights by turning on and off automatically, it keeps the record of use of electronic device status, turning on and off the ac regulator automatically, it displays the room temperature in home. If fire is detected in the house, it turn on sprinkler at home, it

supervises at home via surveillance cameras, take photos and store them including recordings of surveillance at home, it detects the movements of people at home, and provide notification when someone enters the house .

- **Hassan Zaki, Syed Sajjad Imam zaidi[5],**proposed Few years back the fire is detected through sensors or any other method or by smoke. But these methods are now old and are not effective because in these methods the fire detects when it reaches maximum level and it was sometimes too late because the damage was already done. To prevent from this and to stop fire when it starts researchers have explored the idea to replace the sensors and to detect fire through internet or by another means that was cheap and useful and beneficial for others.
- **Fernandino S. Perilla, Thelma D. Palaoag [6]**proposed, Integrating IoT on a fire safety system greatly increases its effectiveness and efficiency. With the use of sensors, fire indications like increase of temperature, presence of flames, gases and smoke are detected effectively. Building occupants and firefighting authorities are notified in real-time through distress sound and light alarms, and SMS messages sent by the modules integrated in this system. Critical situations are solved and addressed quickly over the traditional systems which requires large amount of time and effort.

- **Pandey[7],**proposed The fire alarm system by using Arduino on IOT with temperature and smoke sensor as can be used in order to send direct information such as smoke or temperature detected value using a specific device wright strait to the fire department.

- **Pandey, Kazmi, Hayat, & Ahmed[8],**proposed The traditional fire alarm system contains several types of devices each has a specific role in system operation to detect people and worn them through visual and audible devices if there is a fire, smoke, carbon monoxide or any other emergencies. This type of alarm can automatically have activated from heat and smoke detector and it could be activated by manual fire alarms such us manual focal point or intake station. Alarms can come as a motorized bell; horns or wall-mounted speaker they can also be luminous sound for speakers that actually sound an alarm, and add an audio evacuation message that for example will warn people against using elevator. Fire alarm speakers are always being sit up at a certain frequency with low, medium or high tones and that is being defined according to country and device manufacturer

2.3 PROBLEM STATEMENT DEFINITION:

We need to design a fire alarm system that all family members can use in single-family residences. It must be able to detect fires at all locations, residents must be able to activate it from convenient locations themselves, and it must alert residents in all portions of the house.

1. **I AM** Manufacturer

2. **I'M TRYING** TO Detect the fire in the industry in a short time

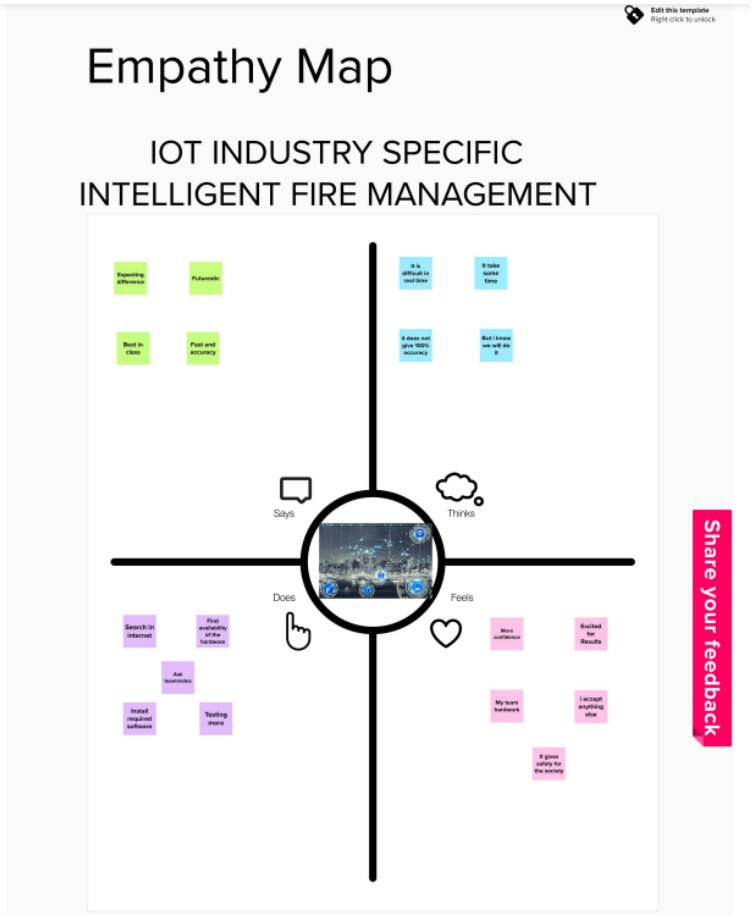
3. **BUT** Using temperature sensor is a major problem

4. **BECAUSE** When heat is increased, the mobile get the false fire alert notification

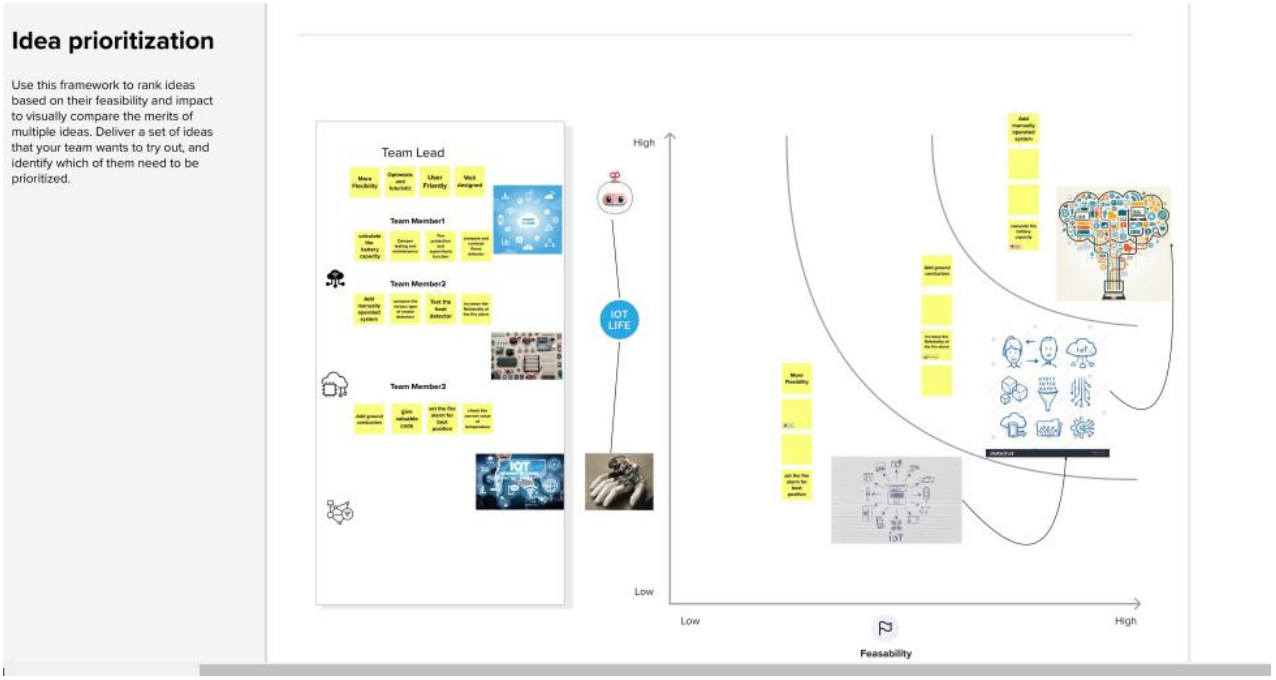
5. **WHICH MAKES ME FEEL** Most of the people lost their lives, My project help to get rid of the problem

3. IDEATION & PROPOSED SOLUTION:

3.1 EMPATHY MAP CANVAS:

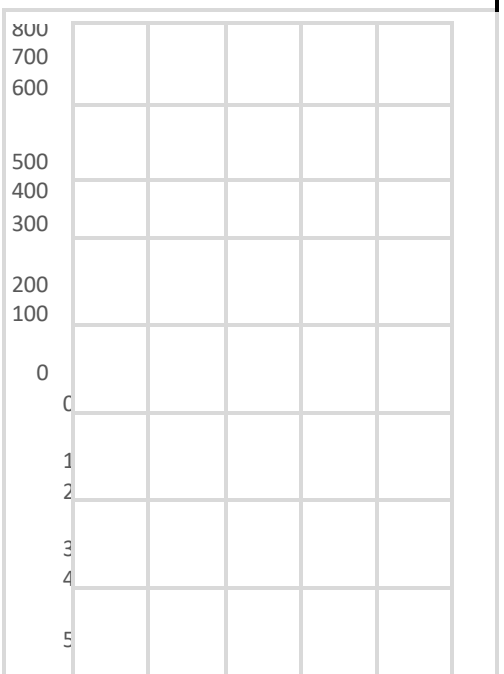


3.2 IDEATION & BRAINSTORM:



3.3 PROPOSED SOLUTION:

S.No.	Parameter	Description
1.	Problem Statement (Problem to besolved)	• Setting up the system is a difficult process. • Power Supply is also one of theproblems. • The Biggest Challenges Faced byIoT in the Safety Sector areLack of resourse, HighAdoption, Cost and SecurityConcerns,etc
2.	Idea/Solutiondescription	• As is the case of precisionIndustry-specific intelligent fire management systemEnablesIndustriesbettertomonitor the safety and maintain thesecuritylevel accordingly. • The Data collected by sensors, Interms of safety, and Security detections help indetermining the safety pattern inIndustries.

3.	Novelty/ Uniqueness	**ALERT MESSAGE** – IoT sensor nodescollectinformation fromthe Industryenvironment, such as smoke, airhumidity, temperaturethentransmit collected data to IoT backhauldevices. **REMOTEACCESS–**Ithelpstheto operatethesystemfromanywhere.
	SocialImpact/CustomerSatisfaction	• Reducesthe fire accident in the Industries. • Itsavesalotof time. • IoTcanhelpimprove production in the industries. • It helps the workers in the industries to work confidentaly for their safety. • IoT canalsohelp e-commercebusinessesthriveandincreasesales. • It make asecuredsociety
5.	BusinessModel (RevenueModel)	Revenue(No.ofUsersvsMonths) 
6.	Scalabilityof theSolution	Scalabilityinsmartsafetyreferstotheadaptability of a system to increase thecapacity, for example, the number oftechnologydevices suchas sensorsand actuators,while enabling timelyanalysis.

3.4 PROPOSED SOLUTION FIT:

	1. CUSTOMER SEGMENT(S) Workers is our customer	**4. EMOTION BEFORE /AFTER** If the fire is nearby, Remove occupants, enclose the area, activate alarm, call 5555, Try to fight the fire if safe to do so.	**7.BEHAVIOUR** Industrial fire safety measures include those that are intended to prevent ignition of an uncontrolled fire and those that are used to limit the development andeffects of the fire after its starts.
	2. JOBS TO BE DONE/PROBLEMS Protect the workers from the fire accident.	**5. AVAILABLE SOLUTION** Install and maintain fire alarm. Place fire alarm on our factory or industry. Tensfire alarm once a month.	**8.CHANNELS OF BEHAVIOUROFFLINE:** Establish a fire prevention plan and emergency procedure, Inspect and maintain your equipment andfacility. **ONLINE:** In online mode, incase of fire incident in industry it is quickly inform and alert to everyone.
	3. TRIGGER In automated system, the presence of fire in the building will be picked up on by designated fire detectors. Then these fire detectors willin turn, trigger the fire alarm.	**6. CUSTOMER CONSTRAINTS** As far as risk to people go, the most appears danger is that from the flames this cancause severe burns to peoplecaught in the fire, particularly if they are trapped and cannot escape the building.	9**. PROBLEM ROOT CAUSE** These accidents can occur from faulty wiring defective products, discarded cigarettes left on flammablematerials, smoke and fire detectors that failed to activate.
	10. YOUR SOLUTION Detect the presence of fire and alert its presence to the fire officials through mobile hotspotand internet from any place.		

4. REQUIREMENT ANALYSIS:

There are two systems requirements analyses: the analysis of functional requirementsand the analysis of non-functional requirements.

4.1 FUNCTIONAL REQUIREMENTS:

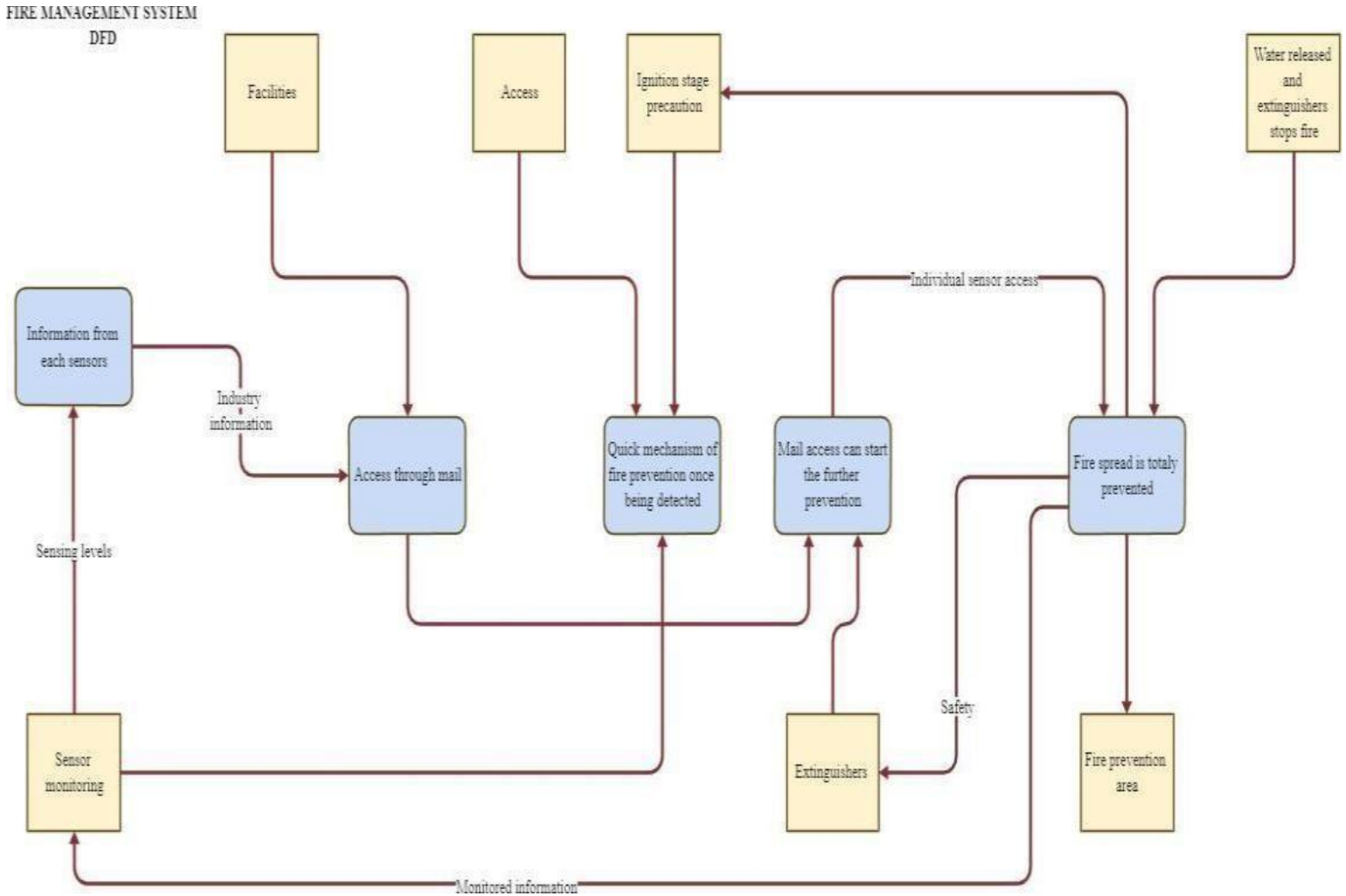
FR No.	Functional Requirement(Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through website or application Registration through Social medias Registration through Linked-in
FR-2	User Confirmation	Verification via Email or OTP
FR-3	User Login	Login through website or App using the respective username and password
FR-4	User Access	Access the app requirements
FR-5	User Upload	User should be able to upload the data
FR-6	User Solution	Data report should be generated and deliveredto user for every 24 hours
FR-7	User Data Sync	API interface to increase to invoice system

4.2 NON-FUNCTIONAL REQIUREMENTS:

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Usability requirements includes language barriers and localization tasks. Usability can be assessed by Efficiency of use.
NFR-2	**Security**	Access permissions for the particular system information may only be changed by the system's data administrator.
NFR-3	**Reliability**	The database update process must roll back all related updates when any update fails.
NFR-4	**Performance**	The front-page load time must be no more than2 seconds for users that access the website using an VoLTE mobile connection.
NFR-5	**Availability**	New module deployment must not impact front page, product pages, and check out pages availability and mustn't take longer than one hour.
NFR-6	**Scalability**	We can increase scalability by adding memory, servers, or disk space. On the other hand, we can compress data, use optimizing algorithms.

5. PROJECT DESIGN:

5.1 DATA FLOW DIAGRAM:

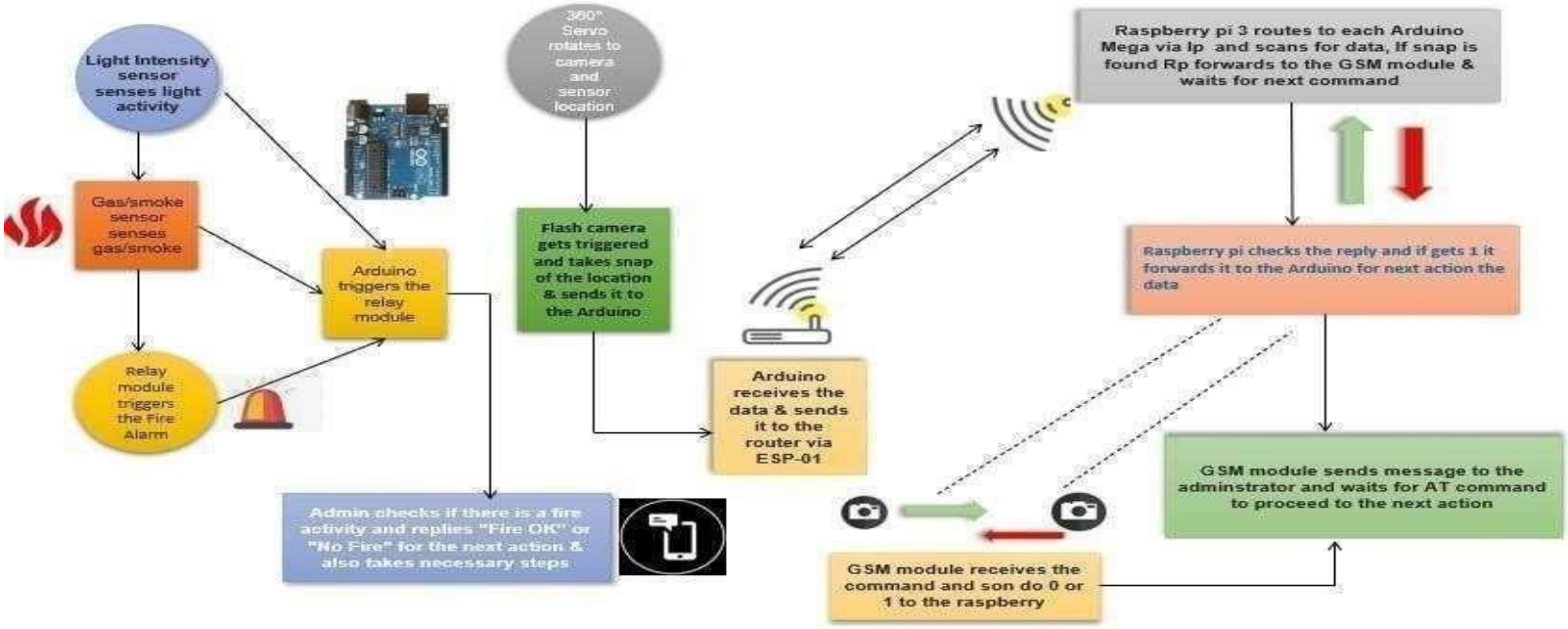


5.2 SOLUTIONING & TECHNICAL ARCHITECTURE:

Key Factors to Consider in Fire Alarm System DesignCode Compliance is a Given
— But is it Enough? ...
Better Fire Safety. ...
Fewer False Alarms. ...
Ease of Maintenance and Longevity of the System. ...
Scalability to Accommodate Future Changes in Use and Occupancy. ...

Ability to Use the System for Other Types of Emergency Communications.

Solution Architecture Diagram:



5.3 USER STORIES:

User Type	Functional requirement	User story number	User story/task	Acceptance criteria	Priority	Release
Customer (Mobile user, Web user, Care executive, Administrator)	Registration	USN-1	As a user, I can register for the application by entering my mail, password, and confirming my password	I can access my account/ dashboard	High	Sprint-1
		USN-2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm	High	Sprint-1
	Dashboard	USN-3	As a user, I can register for the application through internet	I can register & access the dashboard with Internet login	Low	Sprint-2
		USN-4	As a user, I can register for the application through Gmail	I can confirm the registration in Gmail	Medium	Sprint-1

	Login	USN-5	As a user, I can log into the application by entering email & password	I can login with my id and password	High	Sprint-1

6. PROJECT PLANNING & SCHEDULING:

6.1 SPRINT PLANNING &ESTIMATION:

Sprint planning is an event in scrum that kicks off the sprint. The purpose of sprint planning is to define what can be delivered in the sprint and how that work will be achieved. Sprint planning is done in collaboration with the whole scrum team..In scrum, the sprint is a set period of time where all the work is done. However, before you can leap into action you have to set up the sprint. You need to decide on how long the time box is going to be, the sprint goal, and where you're going to start. The sprint planning session kicks off the sprint by setting the agenda and focus. If done correctly, it also creates an environment where the team is motivated, challenged, and can be successful. Bad sprint plans can derail the team by setting unrealistic expectations.

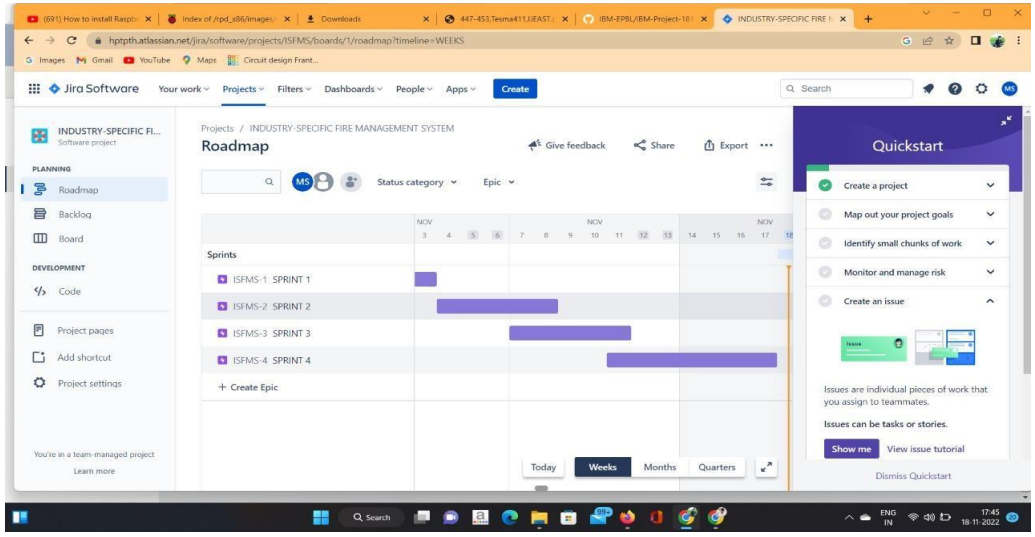
6.2 SPRINT DELIVERY SCHEDULE:

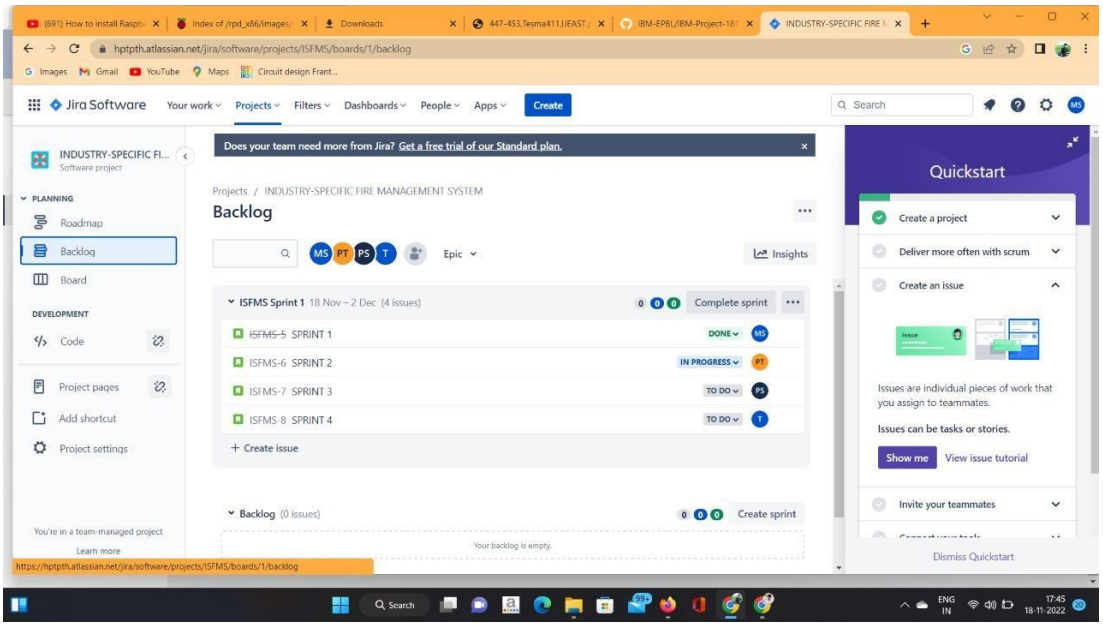
Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date(Actual)
Sprint-1	20	6 Days	24 Oct 2022	29 Oct 2022	20	29 Oct 2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022	20	05 Nov 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	20	12 Nov 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022	20	19 Nov 2022

VELOCITY:

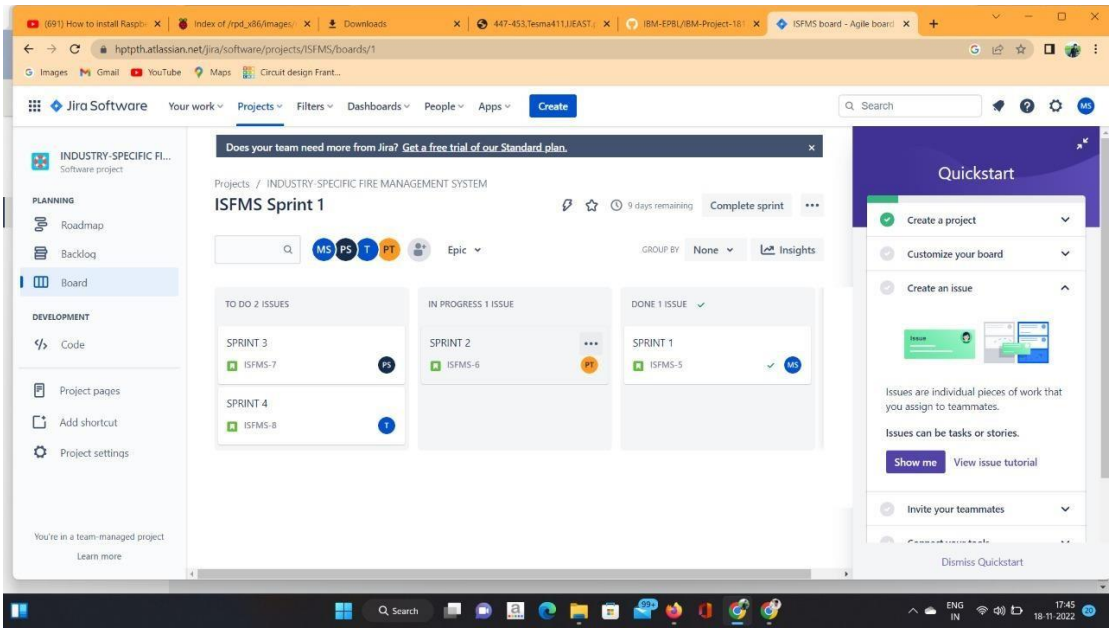
$$AV = \frac{sprint\ duration}{velocity} = \frac{20}{10} = 2$$

6.3 REPORTS FROM JIRA:





BOARD:



7. CODING & SOLUTIONING:

7.1 FEATURE 1:

To increase the safety of emergency responders and building occupants by providing information about how firefighters typically interact with building features and fire protection systems during fires and similar emergencies. By better understanding the needs of the fire service, designers and code officials can

work together to streamline fire service emergency operations within the built environment. Compartmentalization is critical to fire containment and successful evacuating. Fire doors must be kept closed at all times. If fire doors are open during a fire, fire and smoke can spread unchecked. Stairways will act as chimneys and corridors will fill with smoke. If the doors are kept closed, the fire can be contained and the stairways and corridors will provide a protected escape route. It is especially important that the doors be kept closed at night when people are asleep and fire detection and room evacuation are slower.

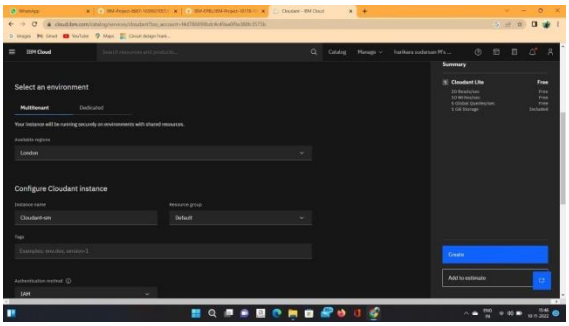
Specially constructed doors designed to contain fire and smoke are installed throughout university buildings. These doors are to remain closed and latched when not in use unless equipped with a magnetic hold open device that release automatically upon activation of the fire alarm system. Fire doors cannot be wedged, blocked, chained or otherwise prevented from performing their design function. In addition to corridor and stairwell doors, student room doors are required to be kept closed and cannot be wedged open.

7.2 FEATURE 2:

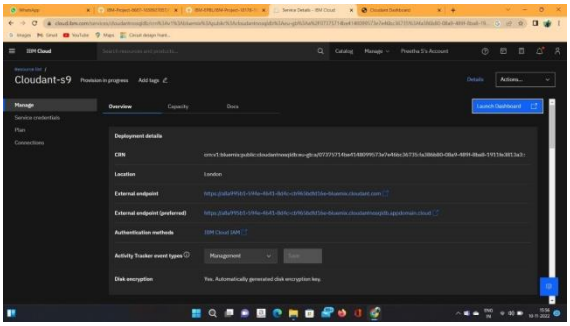
Fire alarm systems provide a rapid means of notifying all building occupants of a fire emergency. These must be kept in operating condition at all times. Vandalism of these systems may result in injury of loss of life during an actual fire emergency.Smoke detectors alert you while there's still time to escape from a fire. Learn their locations and be sensitive to avoidable activation (cooking, smoke, cigarette smoke, aerosols, steam etc.). Don't hang things from them or cover them up.Pull stations are located in your exit paths, usually near an exit or stairwell door. Simply activating the pull station will activate the building alarm system and alert Security.Sprinkler systems are provided in some areas of some buildings. The sprinkler system provides fire suppression water over the area where the fire starts.

7.3 DATABASE SCHEMA:

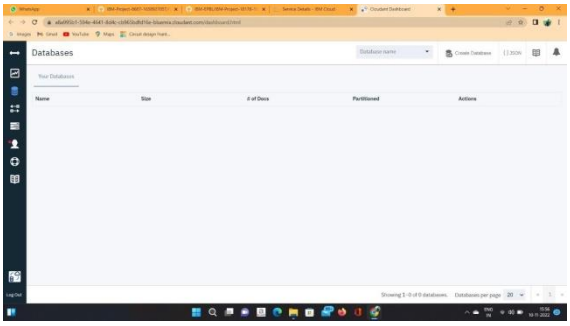
STEP 1:



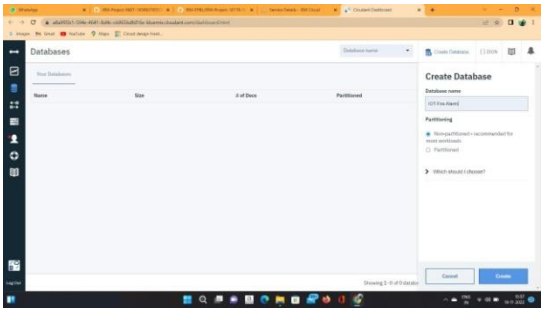
STEP 2:



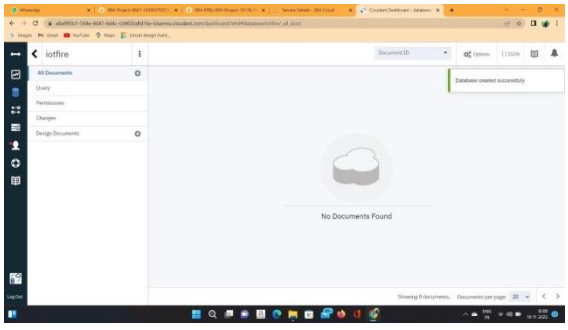
STEP 3:



STEP 4:



STEP 5:



8. TESTING:

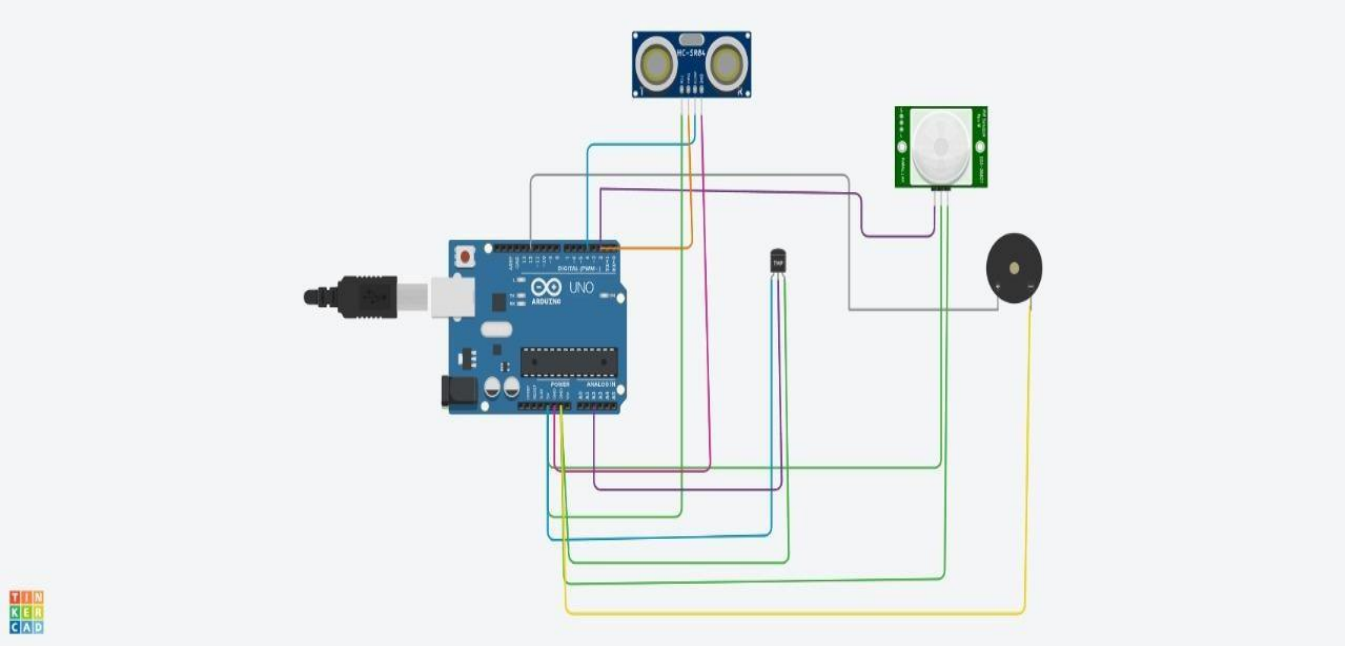
8.1 TEST CASES:

CODE:

```
  void setup()
{
Serial.begin(9600);
pinMode(A2,INPUT);
pinMode(12,OUTPUT);
pinMode(2,INPUT);
}
void loop()
{
double data=analogRead(A2);
double n=data/1024;
double volt=n*5; double
off=volt-0.5;
double temperature=off*100;
Serial.print("Temperature data: ");
Serial.println(temperature);
int motion=digitalRead(2);
Serial.print("position is :");
Serial.println(motion); if(motion==1){
Serial.println("Motion detected");
tone(12,1000);
delay(2002);
}
```

```
else{
Serial.println("No Motion");
noTone(12);
delay(200);
}
if(temperature >=60)
{
tone(12,300
0);
delay(200);
}
else
{
noTone(1
2);
delay(200
);
}
```

Circuit Diagram:



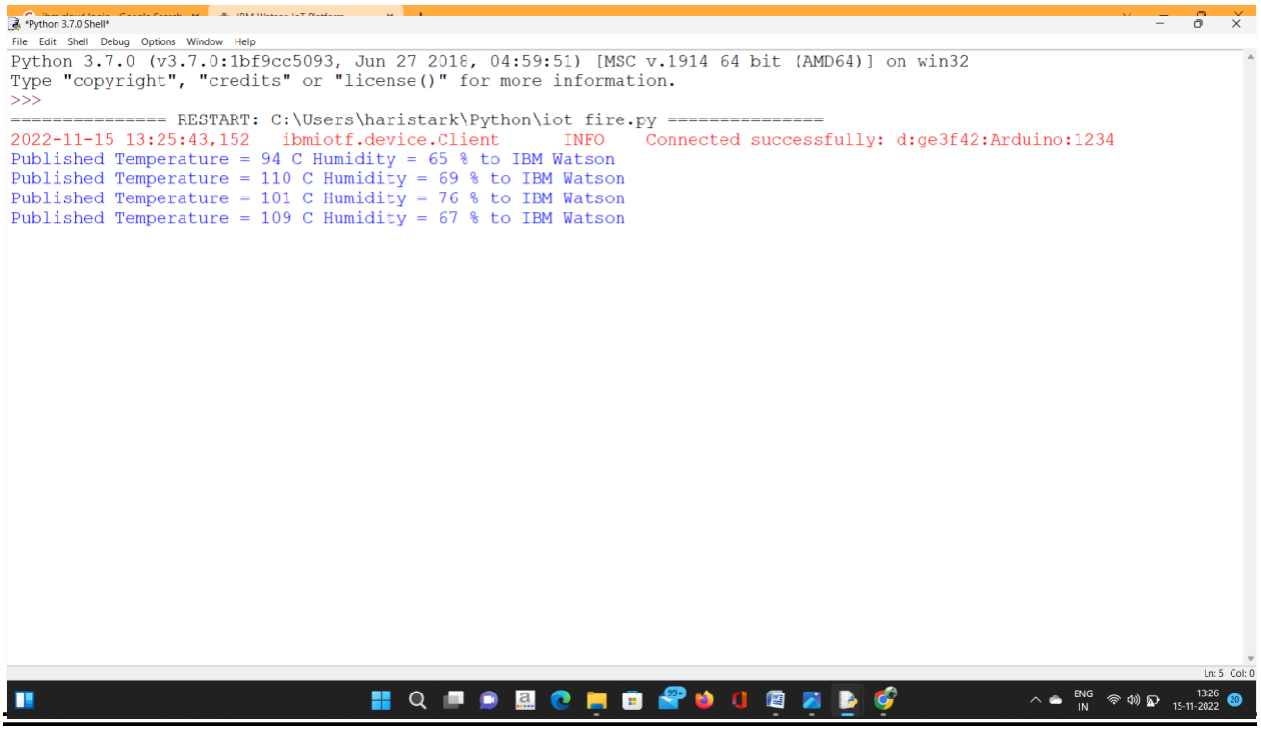
8.2 USER ACCEPTANCE TEST:

PYTHON CODE:

```
import time
import sys
import ibmiotf.applicationimport
ibmiotf.device import random

#Provide your IBM Watson Device Credentialsorganization =
"ge3f42"
deviceType = "Arduino"deviceId
= "1234" authMethod = "token"
authToken = "FfR(Gr?Vsx?4c-*k45"

# Initialize GPIO
def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
```

```
status=cmd.data['command']if

status=="lighton":

        print ("led is on")

    elif status == "lightoff":print

        ("led is off")

    else :

        print ("please send proper command")

try:

        deviceOptions = {"org": organization, "type": deviceType, "id":
deviceId, "auth-method": authMethod, "auth-token": authToken}deviceCli =

        ibmiotf.device.Client(deviceOptions) #.....


except Exception as e:

            print("Caught exception connecting : %s" % str(e))sys.exit()


# Connect and send a datapoint "hello" with value "world" into thecloud as an event of type
"greeting" 10 times

deviceCli.connect()
```

```
while True:

        #Get Sensor Data from DHT11


        temp=random.randint(90,110)

        Humid=random.randint(60,100)



        data = { 'temp' : temp, 'Humid': Humid }#print data

        def myOnPublishCallback():

            print ("Published Temperature = %s C" % temp, "Humidity =
%s %%" % Humid, "to IBM Watson")



        success = deviceCli.publishEvent("IoTSensor", "json", data,qos=0,
on_publish=myOnPublishCallback)

        if not success:

            print("Not connected to IoTF")

        time.sleep(10)


        deviceCli.commandCallback = myCommandCallback


# Disconnect the device and application from the clouddeviceCli.disconnect()
```


Pythor 3.7.0 Shell
File Edit Shell Debug Options Window Help
Python 3.7.0 (v3.7.0:1bf9cc5093, Jun 27 2018, 04:59:51) [MSC v.1914 64 bit (AMD64)] on win32
Type "copyright", "credits" or "license()" for more information.
>>>
========== RESTART: C:\Users\haristark\Python\iot fire.py ==========
2022-11-15 13:25:43,152 ibmiotf.device.Client INFO Connected successfully: d:ge3f42:Arduino:1234
Published Temperature = 94 C Humidity = 65 % to IBM Watson
Published Temperature = 110 C Humidity = 69 % to IBM Watson
Published Temperature = 101 C Humidity = 76 % to IBM Watson
Published Temperature = 109 C Humidity = 67 % to IBM Watson
Ln: 5 Col: 0
ENG
IN
13:26
15-11-2022

9. RESULT:

9.1 PERFORMANCE METRICS:

Fire safety differs from many areas measured because success results in the absence of an outcome (fires, injuries, property damage, business disruption, etc) rather than a presence. As such, measuring fire safety is not easy and there are no simple answers to achieve this.The key to effective selection and measurement of fire safety performance indicators is the quality of the performance standards and specifications that have been established. Performance indicators for reviewing overall performance can then be developed based on active and reactive measures that include

- assessment of the degree of compliance with fire safety system requirements
- identification of areas where the fire safety system is absent or inadequate
- assessment of the achievement of specific objectives and plans within organisational policies and codes of practice
- fire and near miss data accompanied by analysis of immediate and underlying causes, trends and common features.

In other words, the performance metrics should be answering questions in relation to where the organisation stands in terms of aims and objectives and risk control, along with the effectiveness, reliability, efficiency and proportionality of the management system. Indicators should also be able to indicate whether performance is getting better or worse and how well the organisational culture is supporting implementation.

10. ADVANTAGES:

1. Fire management provide early detection

The major benefit is the early detection of fire. The earlier the fire gets detected, the faster the firefighters will be informed and further, they'll work to stop it. The latest fire alarm systems also have the feature of automaticallycalling the emergency services as well as key contacts to decrease the time it usually takes for the fire brigade to reach the site.

2. They provide insurance discounts:

Fire management can save you money on your house insurance to a large extent. Many of the homeowner policies provide amazing discounts to customers who have these systems in their home. This is because it can be possible to save a house rather than to lose it completely.

3. They monitor for 24/7:

A fire management system provides homeowners with 24/7 protection all through the day. The entire home is monitored when you are away and also at night when you are fast asleep. This benefit gives homeowners a secure feeling as they know that the monitor never stops.However, to attain all these benefits, it is very important to choose the right fire protection company that can provide you with the best quality and durable fire alarms. There are numerous fire protection companies in the UK and to select the best among them is quite daunting as all claims to be the best. So, to make your search a bit easier, given below are certain factors that you should look for when finding a fire protection company.

DISADVANTGES:

1. False Alarm

These security systems are prone to false alarms that involve the alarm ringing when anyone from your family enters the restricted area. Or there are instances when the alarm is triggered by itself without any reason.

2. Expensive

Both, wireless and hardwired alarm systems are expensive to install. They require an initial investment, which includes equipment cost, installation, and subscription of security monitoring service.

3. Usage of batteries

The life of the batteries in the detectors & I/O modules, especially the older models & even more so if the distance from the field device to the panel or repeater is too far.When the distance is too far, the radio transceiver in the detector uses maximum transmitter power & I have been to buildings where some detectors needed new batteries every 5 to 7 weeks.

10. CONCLUSION:

The paper depicts the necessity and an efficient solution for fire safety. Internet of Things was the main concept used and the project mainly builds on the techniques which are already presents and also it has overcome many obstacles present in the previous systems. But still there are few tweaks and remodelling required to get a more efficient and working model. The time taken for process is to be reduced for practical use.Quick response to the warning due to fire breakout is the great way to avoid huge losses to environment and cultural heritage.

IoT is a wireless system that can be made use for efficiently differentiating between fire and non-fire warnings which avails more time for fire extinguishing. IoT enables technology of sensing along with gateways which have connection with software and apps that are backbone cloud based. IoT is the major concept and project is made to build on the already existing techniques and overcome hurdles present in all previous systems.

System based on IoT improves the speed and has quick response ability. In the discussed systems if the sensor technology is enhanced then the system can be more effectivethere are limitations which needs rebuilding to achieve effective model. Time required for the procedure needs to be decreased for practical purpose. In the future, efforts are to be put in system which also involves preventing the carbon monoxide poisoning inorder to assure safety of the home and the residents. As multi -sensors are being used for fire detection and the data to be created by sensors when there is fire is high , work has to be done inorder to discover a procedure that decreases the need of high amount of data.

10. FUTURE SCOPE:

The developed prototype in this work is made for a user to control the fire management system remotely. This helps the user if he/she is not in the building or even unaware of emergency condition. The use of this prototype will avoid the unpredictable situation or any critical situation from occurring in the residential areas without awareness of the resident. The use of coupled sensor of temperature sensor and smoke detector was found to be more appropriate than the use of only one of them. Though the prototype was able to extinguish the fire but the portability can be significantly improved by an efficient assimilation of the different modules. This system should also take care that each module of it can be easily replaced by a better sensor and equipment with updated technology. The microcontroller can be programmed with the contact number of local authorities of fire brigade.

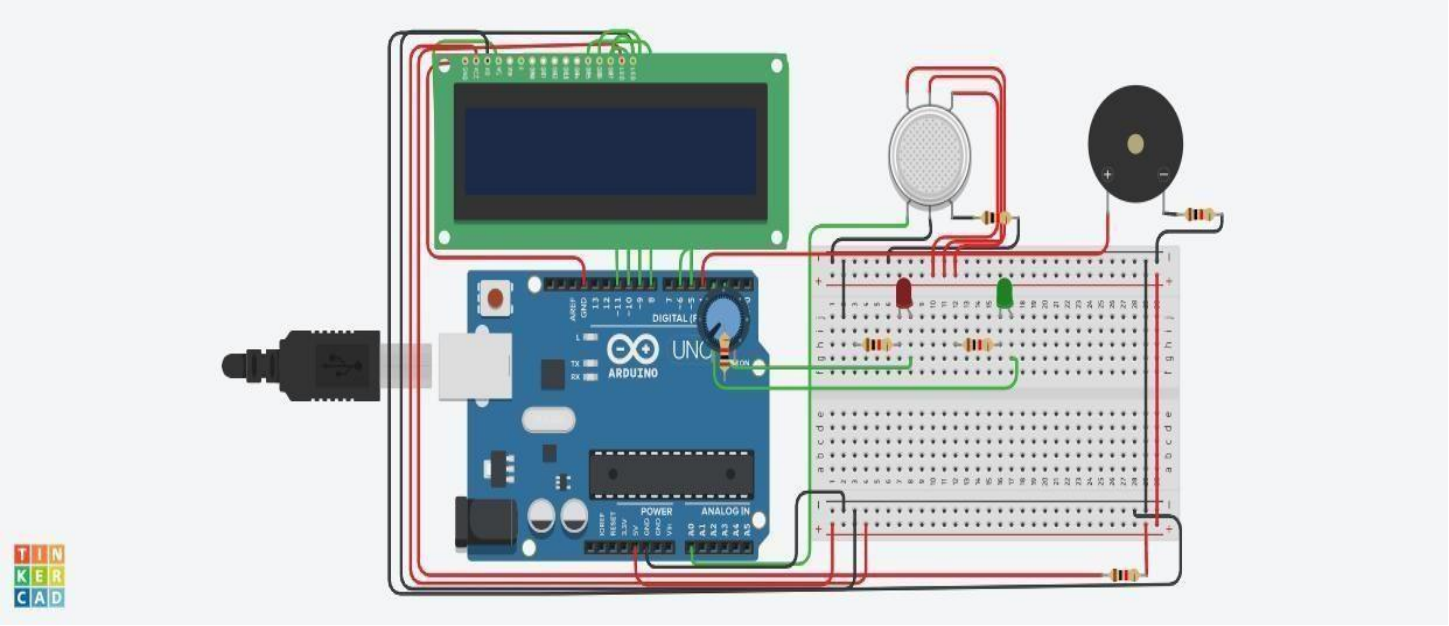
13. APPENDIX:

SOURCE CODE:

```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random

#Provide your IBM Watson Device Credentials
organization = "ge3f42"
deviceType = "Arduino"
deviceId = "1234"
authMethod = "token"
authToken = "FfR(Gr?Vsx?4c-*k45"

# Initialize GPIO
def myCommandCallback(cmd):
    print("Command received: %s" % cmd.data['command'])
    status=cmd.data['command']
    if status=="lighton":
        print ("led is on")
    elif status == "lightoff":
        print ("led is off")
    else :
        print ("please send proper command")
```

```
try:
deviceOptions = {"org": organization, "type": deviceType, "id": deviceId, "auth-method":
authMethod, "auth-token": authToken}
deviceCli = ibmiotf.device.Client(deviceOptions)
#.....

except Exception as e:
   print("Caught exception connecting : %s" % str(e))
   sys.exit()

# Connect and send a datapoint "hello" with value "world" into the cloud as an event of type
"greeting" 10 times
deviceCli.connect()

while True:
        #Get Sensor Data from DHT11

        temp=random.randint(90,110)
        Humid=random.randint(60,100)

        data = { 'temp' : temp, 'Humid': Humid }
        #print data
        def myOnPublishCallback():
            print ("Published Temperature = %s C" % temp, "Humidity = %s %%" % Humid, "to
IBM Watson")

        success = deviceCli.publishEvent("IoTSensor", "json", data, qos=0,
on_publish=myOnPublishCallback)
        if not success:
            print("Not connected to IoTF")
        time.sleep(10)

        deviceCli.commandCallback = myCommandCallback

# Disconnect the device and application from the cloud
deviceCli.disconnect()
```

CIRCUIT DIAGRAM:



GITHUB LINK: https://github.com/IBM-EPBL/IBM-Project-18178-1659680344