DOCUMENTATION

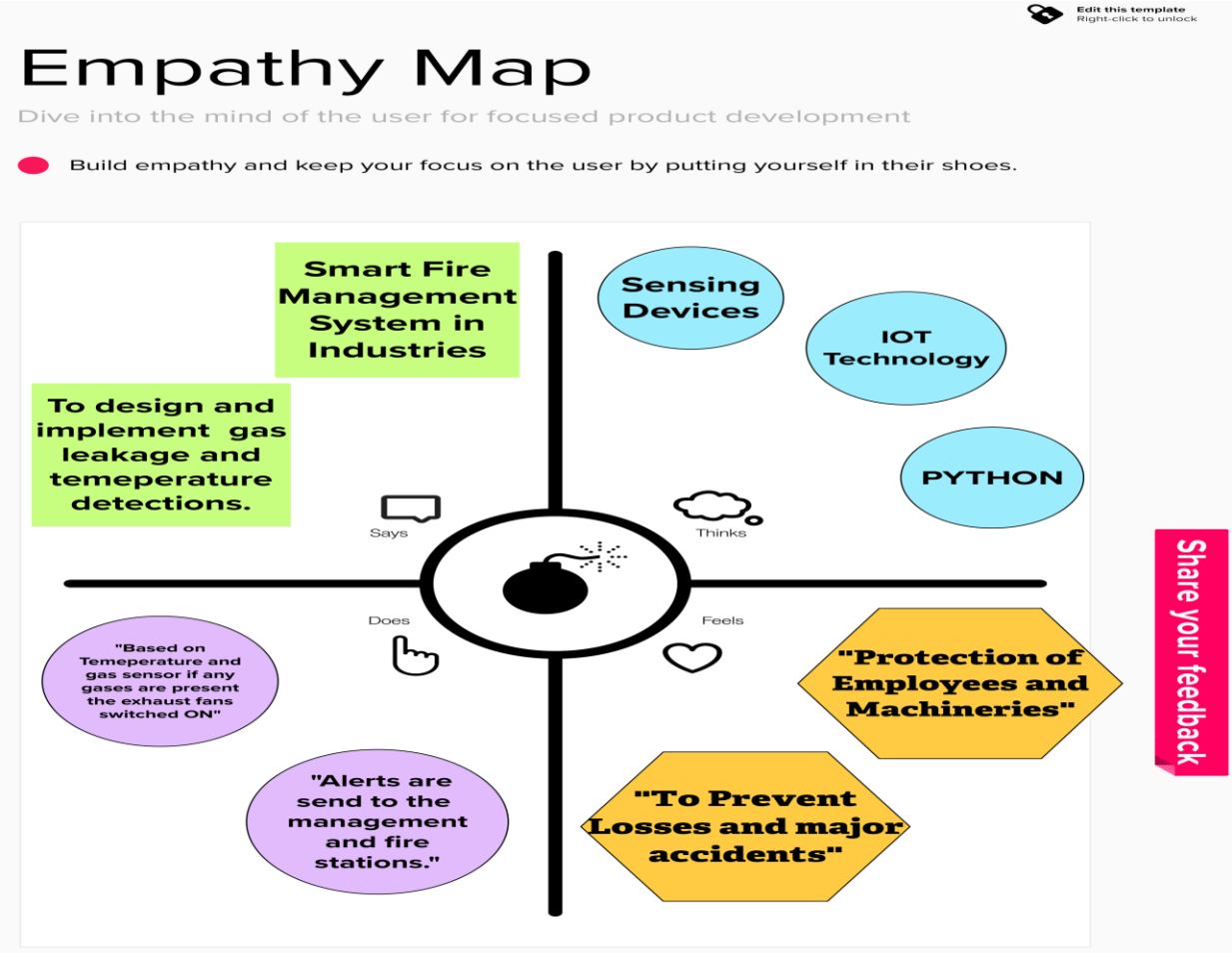
TEAM ID	PNT2022TMID10968
PROJECT NAME	INDUSTRY - SPECIFIC INTELLIGENT FIRE MANAGEMENT SYSTEM
IBM ID	IBM-Project-62210-1658823576

OVERVIEW:

Our idea is to prevent the industry employees and machines from the fire accident by using smart technologies like IoT and sensor device. By using these technologies , we can detect the harmful gases present, temperature increases. If the temperature crosses the abnormal the alarm rang and the exhaust fan automatically turned on and these, information will be send to the industry management as well as the Fire station.

1.IDEATION PHASE:

1.1: EMPATHY MAP



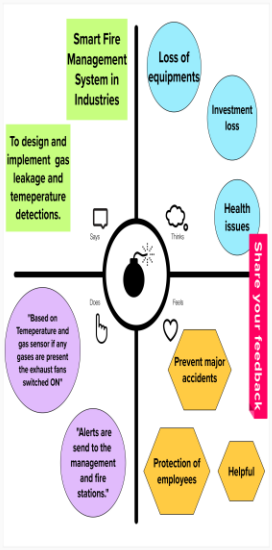
1.2: IDEATION:

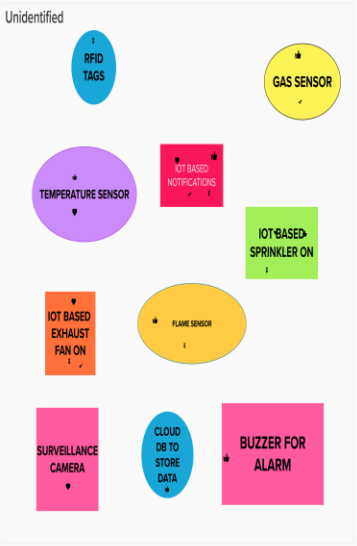
Empathy Map

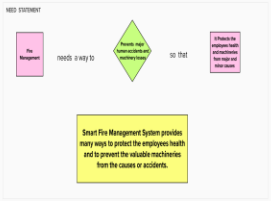
Dive into the mind of the user for focused product development

Build empathy and keep your focus on the user by putting yourself in their shoes.

S.NO	NAME	POSITION	COLLEGE NAME
1	ATCHAYA.R	TEAM LEADER	K.RAMAKRISHNAN COLLEGE OF ENGINEERING
2	DHIVAKTHI.G	TEAM MEMBER 1	K.RAMAKRISHNAN COLLEGE OF ENGINEERING
3	HEMA PRIYA.P	TEAM MEMBER 2	K.RAMAKRISHNAN COLLEGE OF ENGINEERING
4	JANANI.T	TEAM MEMBER 3	K.RAMAKRISHNAN COLLEGE OF ENGINEERING







1.3: LITERATURE SURVEY:

LITERATURE SURVEY

INDUSTRY SPECIFIC INTELLIGENT FIRE MANAGEMENT SYSTEM

TEAM LEADER: B.ATCHAYA

TEAM MEMBER 1: G.BHARATHE

TEAM MEMBER 2: P.HEMAPRIYA

TEAM MEMBER 3: T.JANANI

PAPER 1:

TITLE: Urban Fire Risk Evaluation Based on 2-tuple AHP— Taking the 8th Division with Shihezi City for Example

AUTHOR : Caihong Yin; Kaixuan Qi; Kunze Li; Qiangling Duan; Lijing Gao; Jinhua Sun

Published in: 2019 9th International Conference on Fire Science and Fire Protection Engineering (ICFSFPE)

DESCRIPTION:

The evaluation of urban fire risk was an important gist of scientific and effective urban firefighting management, planned and constructed. This study, took the 8th division with Shihezi city (Shi-City) as an example, an evaluation index system of urban fire risk was first built through analyzing the influential factors of fire risk in urban areas, which contained four first-class indexes and twenty-two second-class indexes. Then, to overcome the weaknesses of the analytic hierarchy process (AHP), 2-tuple fuzzy linguistic representation model was incorporated into AHP to calculate the weights of indexes. After that, an urban fire risk evaluation model was proposed. Finally, the developed model was applied into the fire risk evaluation of Shi-City and the fire risk rating of Shi-City was derived as slightly higher than medium, which offered significant guidance for fire control and safety management.

PAPER 2:

TITLE: Application of PHM Technology in the Design of Tank Fire Control System
AUTHOR: Jing Xu;Yang Lei; Bin Liu; Chao Ji; Lijun Nan
Published in: 2018 Prognostics and System Health Management Conference (PHM-Chongqing)

DESCRIPTION:

Combined with the process of Prognostics Health Management (PHM), the technology and application of armored vehicle fire control system PHM were discussed. The architecture of the health management system for tank fire control system was researched. According to the information characteristics of tank fire control system, the dual redundant bus transmission technology of FLEXRAY and CAN was applied, and the corresponding software and hardware systems were designed. Through the vehicle test, it was proved that the health management system will be effective for locating the fault, comparing the aim and assisting the soldier training. The data and video collected by this system were convenient for both maintenance and further study as the basic data.

PAPER 3:

TITLE: Fire Safety Management in Transportation of Municipal Wastes with the Use of Geographic Information System
AUTHOR: O.P. Savoshinsky; A.A. Zakharova; A.V. Pak
Published in: 2018 IEEE International Conference"Management of Municipal Waste as an Important Factor of Sustainable Urban Development" (WASTE)

DESCRIPTION:

Fire safety management is one of the main tasks in the field of waste safety. The transportation of municipal waste was a complex management task that requires a highly skilled decision maker. The current management technique is based on the approach to the construction of systems based on the analysis, by assessing the set of initial factors, which does not allow to achieve the management goal. The proposed approach based on synthesis was devoid of this drawback. The application of the system was shown by the example of the use of geo information systems to the problem of fire safety in the transportation of municipal waste.

PAPER 4:

TITLE: Fire incidents Management System in the city of Manila through Geo-Mapping

AUTHOR: Maricor Y. Ingal; Ralph Louisse T. Tolentino; Mico J. Valencia; Francis F. Balahadia; Arlene R. Caballero

Published in: 2016 IEEE Region 10 Symposium (TENSYMP)

DESCRIPTION:

Fires had become a concern in recent years in the city of Manila, posing a threat to the entire community. Manila Fire District was facing problems in their internal transactions between different sub-stations. The study served as an automated fire incidents management system that can provide a chart and a summary based on the input data of each sub-station and can provide a map of all the fire incidents through geo-mapping in districts of Manila. This study, Manila Fire District implemented appropriate programs and lead awareness campaign to the community to help lessen fire incidents and mitigated its damages.

PAPER 5:

TITLE: Discussion of Society Fire-Fighting Safety Management Internet of Things Technology System

AUTHOR : Wang Jun; Zhang Di; Liu Meng; Xu Fang; Sui Hu-Lin; Yang Shu-Feng

Published in: 2014 Fifth International Conference on Intelligent Systems Design and Engineering Applications

DESCRIPTION:

IOT is regarded as another information industry wave following computer, Internet and mobile communication network, and had become one of strategic dominant positions of new economic and technological development all over the world. The society fire-fighting safety management was an important application field of Internet of Things (IOT) technology. This paper combines application features of IOT technology according to fire-fighting business requirement to discuss the fire-fighting IOT systematic frame, plan society fire-fighting safety management IOT technology system, and proposed priority development points of society fire-

fighting safety management IOT technology, thereby provided reference for technology research and development of IOT technology in society fire-fighting safety management field.

PAPER 6:

TITLE: Fire Safety Management Information System Design for Key Social Organizations

AUTHOR: Xu Fang; Zhang Di; Wang Jun

Published in: 2014 Fifth International Conference on Intelligent Systems Design and Engineering Applications

DESCRIPTION:

Aimed at the actual fire safety management needs of key social organizations and units, this paper introduced the design and implementation of the fire safety management information systems of the networked key organizations and units, provide information sharing and services on fire-fighting facilities' operating conditions, fire alarm information, and fire management information to the networked users, fire maintenance enterprises, and the fire supervision and administrative authorities so as to improve the fire safety management efficiency for these organizations and units, offered a scientific tool to the organizations to improve their fire safety management level, extended the functions of fire remote monitoring control system, and promoted fire prevention and controlled capability of the whole community.

PAPER 7:

TITLE: A System design of the Tahe's forest -Fire -prevention Management System

AUTHOR: Xindan Gao; Nihong Wang; Jun Li

Published in: 2010 The 6th International Conference on Networked Computing and Advanced Information Management

DESCRIPTION :

This article paper aimed to introduces how a system was designed for Tahe's forest-fire-prevention management in Northeast China after a brief introduction to

the overall functional characteristics, the overall function flow chart and the operating environment of the forest -fire -prevention management system. firstly, and then This system design consists of seven function modules, which were geographic information system module, fire-risk each function module of the system in detail, including geographic information system module, fire forecast module, forest -fire -alarm receiving module, blazes fire-put-out-aided decision-making module, forest-fire-put-out troops sending module, loss evaluation module, forest -fire -prevention office and information management module and as well as GPS real-time monitoring module. Among all modules, the geographic information system module was the core of those fire -prevention -management system, and other various modules were carried out various functions through links with the core module, based on its function, realized link. In conclusion, that this paper summarized the whole system design work done by this paper and as well as the advantages and disadvantages of this system.

PAPER 8:

TITLE: Automatic fire alarm and fire control linkage system in intelligent buildings
AUTHOR: Wang Suli; Liu Ganlai
Published in: 2010 International Conference on Future Information Technology and Management Engineering

DESCRIPTION:

This paper described a comprehensive program of an office building intelligent systems Fire Control Linkage System subsystem design, At the same time, it described the following: the idea of the system design, the system components, selecting equipment, the linkage of alarming and controlling gas extinguishing, and the technical features. Projects under this program have been completed, can realize the intelligent prediction of fire, automatic fire alarm and linkage functions.

PAPER 9:

TITLE: Building fire rescue with evacuation management information system and its application
AUTHOR: Xu Tao; Mao Guozhu; Li Xin; Zhao Lin

Published in: 2009 16th International Conference on Industrial Engineering and Engineering Management

DESCRIPTION:

Building Fire Rescue with Evacuation Management Information System (BFREMIS) was established. And the evacuation model of BFREMIS was analyzed and presented in this paper. Based on the constructed network model, the evacuation of the teaching building in the university was analyzed by using the software EVACNET4. The analysis items included: the total evacuation time, the floor clear time, evacuation bottleneck, and the visual path of the evacuation on MAPGIS platform. BFREMIS was valuable in building safety assessment and building fire rescue.

PAPER 10:

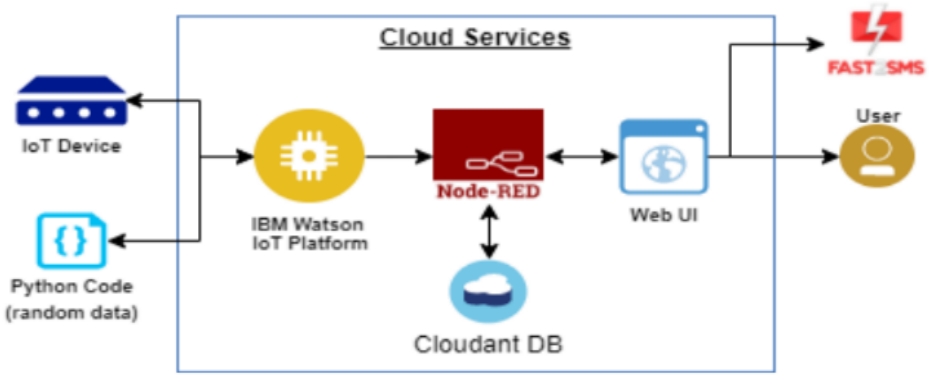
TITLE: Forest Fire Management at Aggtelek National Park Integrated Vegetation Fire Management Program from Hungary
AUTHOR: Agoston Restas
Published in: 2006 First International Symposium on Environment Identities and Mediterranean Area

DESCRIPTION :

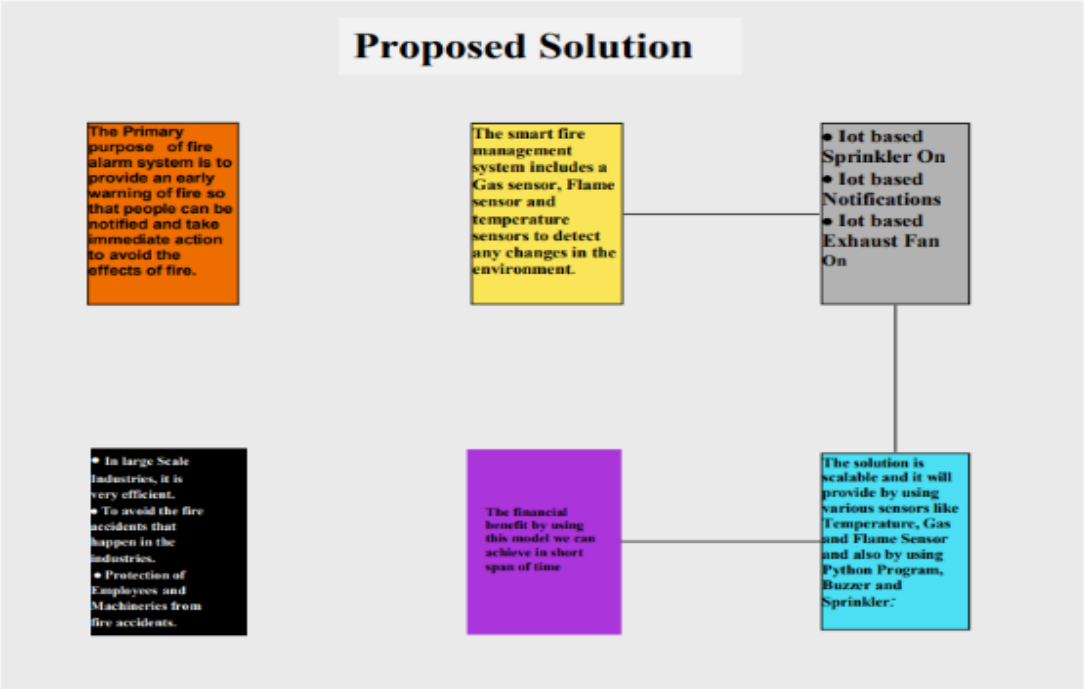
Szendro Fire Department is located in the northeastern part of Hungary. The main task was to fight against wildfire and mitigate the impact of fire at the Aggtelek National Park - which belongs to the UNESCO World Heritage list. In 2004 the Fire Department started a project named Integrated Vegetation Fire Management (IVFM). The IVFM consist of two main parts: Peripheries and Modules. The Modules are: Tower based environment monitoring and fire detection system, Mobile command control unit and Static and dynamic decision support system. The Tower based environment monitoring and fire detection system addressed the Fire Department by hot information. The Static and dynamic decision supported system was based on robot reconnaissance aircraft (UAV-RRA)- dynamic parts; and the GIS - static parts. The data supplied by the robot reconnaissance aircraft was combined with the GIS based fuel model and other information to predict the fire activity. The environment monitoring and fire detection system and the Dynamic part (UAV-RRA) of Decision support system based on remote sensing.

2.PROJECT DESIGN PHASE-I:

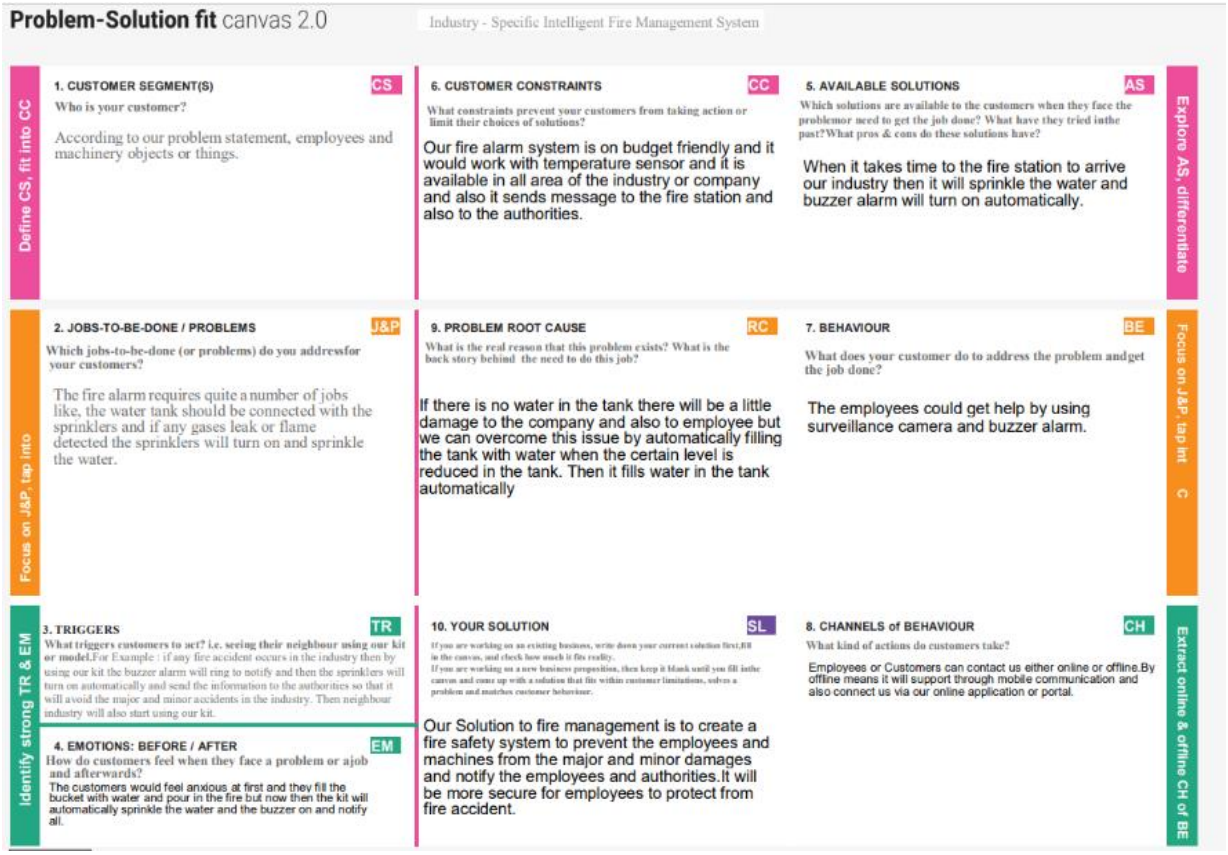
2.1: ARCHITECTURE:



2.1: PROPOSED SOLUTION:



2.3: PROBLEM SOLUTION FIT:



2.3: PROPOSED SOLUTION TEMPLATE:

Project Design Phase-I
Proposed Solution Template

Date	01 October 2022
Team ID	PNT2022TMID10968
Project Name	Project – Industry Specific Intelligent Fire Management System
Maximum Marks	2 Marks

Proposed Solution Template:

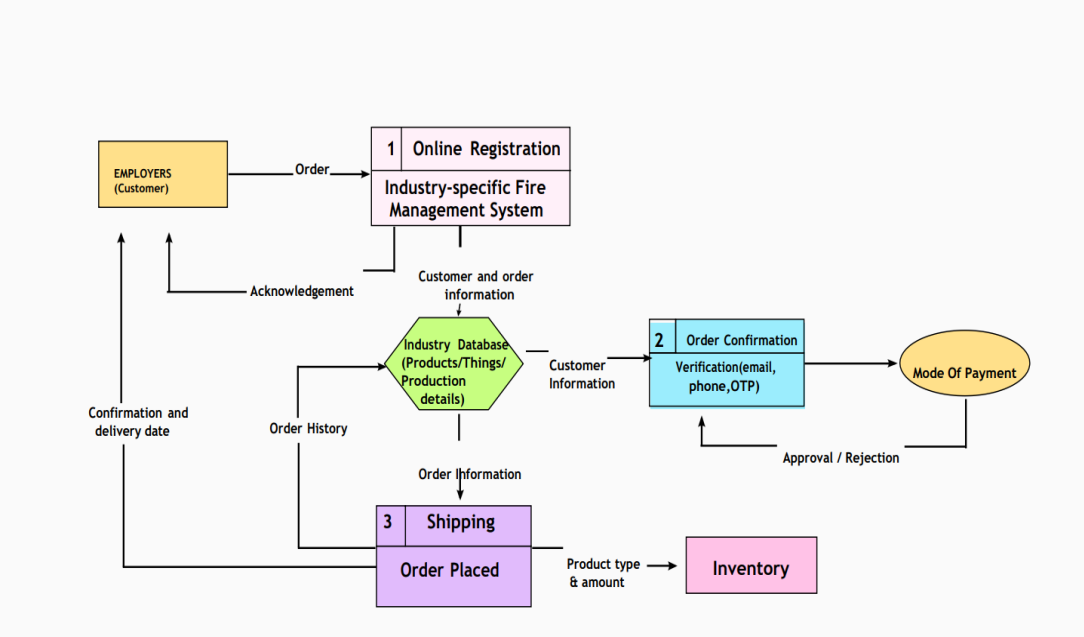
Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	The Primary purpose of fire alarm system is to provide an early warning of fire so that people can be notified and take immediate action to avoid the effects of fire.
2.	Idea / Solution description	• The smart fire management system includes a Gas sensor, Flame sensor and temperature sensors to detect any changes in the environment. • Based on the temperature readings and if any Gases are present the exhaust fans are powered ON. • If any flame is detected the sprinklers will be switched on automatically. • Emergency alerts are notified to the authorities and Fire station.
3.	Novelty / Uniqueness	• Iot based Sprinkler On • Iot based Notifications • Iot based Exhaust Fan On • Temperature Sensor • Flame sensor • RFID tags • Gas Sensor • Surveillance Camera • Buzzer for Alarm • Cloud DB to store Data By using these things we can prevent the employees from fire accidents and also we can avoid machinery damages.
4.	Social Impact / Customer Satisfaction	• Danger to machine and human can be saved. • Life of employees can be prevented
		from accidents. • In large Scale Industries, it is very efficient. • To avoid the fire accidents that happen in the industries.

5.	Business Model (Revenue Model)	The financial benefit by using this model we can achieve in short span of time.
6.	Scalability of the Solution	The solution is scalable and it will provide by using various sensors like Temperature, Gas and Flame Sensor and also by using Python Program, Buzzer and Sprinkler.

3.PROJECT DESIGN PHASE-II:

3.1: DATA FLOW DIAGRAM:



3.2: FUNCTIONAL AND NON-FUNCTIONAL REQUIREMENTS:

Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	13 October 2022
Team ID	PNT2022TMID10968
Project Name	Project – Industry-Specific Fire Management System
Maximum Marks	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	**User Requirements**	Worker and Material Protection Automatic Sprinkler System Monitors Temperature, Smoke and Gas Leakages
FR-2	**User Registration**	Manual Registration Registration through form Registration through webpage Registration through Gmail
FR-3	**User Confirmation**	Confirmation via Phone Confirmation via OTP Confirmation via Email
FR-4	**Payment Options**	Cash on Delivery Net Banking/UPI Credit/Debit/ATM Card
FR-5	**Product Delivery and Installation**	Door Step delivery Take away Free Installation and 1 year Warranty
FR-6	**Product Feedback**	Through Webpage Through Phone call Through Google forms

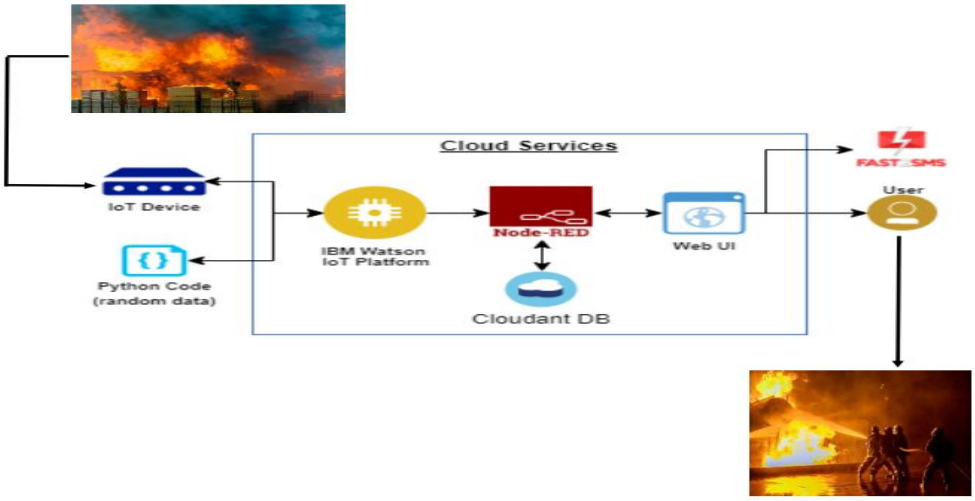
Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Have an understandable and self-explanatory manual. Easier to use and access. Easily accessible by everyone.
NFR-2	**Security**	Are inspected monthly by the Fire Alarm Technician. Inspected and tagged by a contractor annually.
NFR-3	**Reliability**	Hardware requires a regular checking and service. Software may be updated periodically. Immediate alert is provided in case of any system failure.
NFR-4	**Performance**	The equipment must have a better user interface It should have a minimal energy requirement It has to save lives of people and things
NFR-5	**Availability**	All the features will be available when the user requires. It depends on the need of the customer and the customization of the user has done.
NFR-6	**Scalability**	The product has to cover all the space of industry irrespective of the size or area.

3.3: TECHNOLOGY ARCHITECTURE:

SOLUTION ARCHITECTURE DIAGRAM



3.4: JOURNEY MAP

Customer Journey Map

PHASES	Motivation	Information gathering	Analyzes various products	chooses the most efficient product	Payment
Actions	Need to improve the safety from fire accident.	Wants to choose a good product to control fire accident.	Similar products to conquer or detect the fire	Smart boards are more efficient compared to static board	Satisfaction of the product
Touch points	The buyers feel stirred	After installation, the government no need to worry much about the fire safety	Customers will get attracted by multi-tasking and automation process.	After getting this the government won't worry about the fire accident	After find the product admirable, the government get's it.
Customer Feeling					
Customer Thoughts	Customer think that it will helpful to control the fire accident.	Customer thinks that it will take more time	Customer feel safeand secured by direct fire automatically	The product choosing will be easy and comfortable for customers.	They think the product will be user friendly
Opportunities	Customer gets the safety from major and minor fire accident	Customer known about the procedure of product	The customer will be aware of other product	The customer comes to know which product is best one	The customer will enjoy the journey

4.PROJECT PLANNING PHASE:

4.1: MILESTONE AND ACTIVITY LIST:

Project Planning Phase

Milestone and Activity List

Date	21 October 2022
Team ID	PNT2022TMID10968
Project Name	Industry-specific intelligent fire management system

TITLE	DESCRIPTION	DATE
Literature Survey& Information Gathering	A literature review is a comprehensive summary of previous researches on the topic. The literature review surveys scholarly articles, books, and other sources relevant to a particular area of research.	3 September 2022
Prepare Empathy Map	An empathy map is a collaborative tool teams can use to gain a deeper insight into their customers. It helps us to understand the customer's pain, gain and difficulties from their point of view.	10 September 2022
Ideation - Brainstorming	Brainstorming is a group problem-solving method that helped us to gather and organize various ideas and thoughts from teammembers.	17 September 2022
Define Problem statement	The Customer Problem Statement helps us to focus on what matters to create experiences people will love. A well-articulated customer problem statement allowed us to find the ideal solution for the challenges customers face.	19 September 2022

Problem Solution Fit	It helped us understand and analyze all the thoughts of our customer, their choice of options, problems, root cause, behavior and emotions.	26 September 2022
Proposed solution	It helped us analyze and examine our solution more in the grounds of uniqueness, social impact, business model, scalability etc.	28 September 2022
Solution Architecture	Solution architecture is a complex process – with many sub-processes – that bridges the gap between business problems and technology solutions. It helped us understand the features and components used to complete the project.	1 October 2022
Customer journey map	It helped to analyse the various steps, interactions, goals and motivation, positives, negatives and opportunities.	7 October 2022
Solution requirements	It briefs about functional and non-functional requirements. It involves the various steps in the entire process. It also specifies features usability, security, reliability, performance, availability and scalability.	12 October 2022
Technology stack	A tech stack is the combination of technologies a company uses to build and run an application or project. It helps us analyse and understand various technologies that needs to be implemented in the project.	15 October 2022
Data flow	A Data Flow Diagram (DFD) is a traditional visual representation of	11 October 2022

	the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.	
Sprint Delivery plan	Sprint Planning is an event in scrum that defines what can be delivered in the upcoming sprint and how that work will be achieved. It helps us to organize and complete the work effectively and efficiently.	22 October 2022
Prepare milestone and activity list	Helps us understand and evaluate our progress and accuracy so far.	23 October 2022
Project Development - Delivery of Sprint-1	Develop and submit the developed code by testing it.	In progress

4.2: SPRINT DELIVERY:

Project Planning Phase

Date	6 November 2022
Team ID	PNT2022TMID10968
Project Name	Industry specific intelligent fire management system
Maximum Marks	8 Marks

Product Backlog, Sprint Schedule, and Estimation (4 Marks)

Sprint	Functional Requirement (Epic)	User Story Number	User Story / Task	Story Points	Priority	Team Members
Sprint-1	Registration	USN-1	As a user, I can register for application by entering my email password and confirming it.	5	High	ATCHAYA.B BHARATHE.G HEMA PRIYA.P JANANI.T
Sprint-1		USN-2	As a user, I will receive confirmation email once I have registered for the application	5	High	ATCHAYA.B BHARATHE.G HEMA PRIYA.P JANANI.T
Sprint-1	Login	USN-3	As a user, I can log into the application by entering email& password	5	Medium	ATCHAYA.B BHARATHE.G HEMA PRIYA.P JANANI.T
Sprint-2	Post Job	USN-6	As a room temperature data controller, I log into my profile and start monitoring the room temperature	6	High	ATCHAYA.B BHARATHE.G HEMA PRIYA.P JANANI.T

Sprint-2	Job Search	USN-4	I receive all the information about room temperature from web from room temperature API. Whenever there is change in room temperature , corresponding updates are made on sign boards.	9	High	ATCHAYA.B BHARATHE.G HEMA PRIYA.P JANANI.T
Sprint-3	Apply	USN-5	As a data sender ,I will send the information to the fire station.	6	High	ATCHAYA.B BHARATHE.G HEMA PRIYA.P JANANI.T
Sprint-3	Send Confirmation	USN-7	With the data, updates I will tell them the room temperature.	4	High	ATCHAYA.B BHARATHE.G HEMA PRIYA.P JANANI.T
Sprint-4	Dashboard	USN-8	I will alert the employees and workers to escape from the fire management.	6	High	ATCHAYA.B BHARATHE.G HEMA PRIYA.P JANANI.T
Sprint-4	Recruiter Review	USN -9	As an administrator, I ensure that all departments work co-ordinates and ensure the accuracy and efficiency	3	High	ATCHAYA.B BHARATHE.G HEMA PRIYA.P JANANI.T
Sprint-4	Chat bot	USN-10	As a user, I can send my queries via mail	1	Low	ATCHAYA.B BHARATHE.G HEMA PRIYA.P JANANI.T

Project Tracker, Velocity & Burn down Chart: (4 Marks)

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	15	7 Days	24 Oct 2022	31 Oct 2022	15	31 Oct 2022
Sprint-2	15	7 Days	1 Nov 2022	07 Nov 2022	15	07 Nov 2022
Sprint-3	10	6 Days	08 Nov 2022	13 Nov 2022	10	13 Nov 2022
Sprint-4	10	6 Days	14 Nov 2022	20 Nov 2022	10	20 Nov 2022

Velocity:

Sprint-1 and Sprint-2

$$AV = \frac{Sprint\ duration}{Velocity} = \frac{15}{7} = 2.14$$

Sprint-3 and Sprint-4

$$AV = \frac{Sprint\ duration}{Velocity} = \frac{10}{6} = 1.6$$

5. PROJECT DEVELOPMENT PHASE:
5.1: SPRINT -1

SPRINT-1

TEAM ID	PNT2022TMID10968
PROJECT NAME	INDUSTRY - SPECIFIC INTELLIGENT FIRE MANAGEMENT SYSTEM
IBM ID	IBM-Project-62210-1658823576

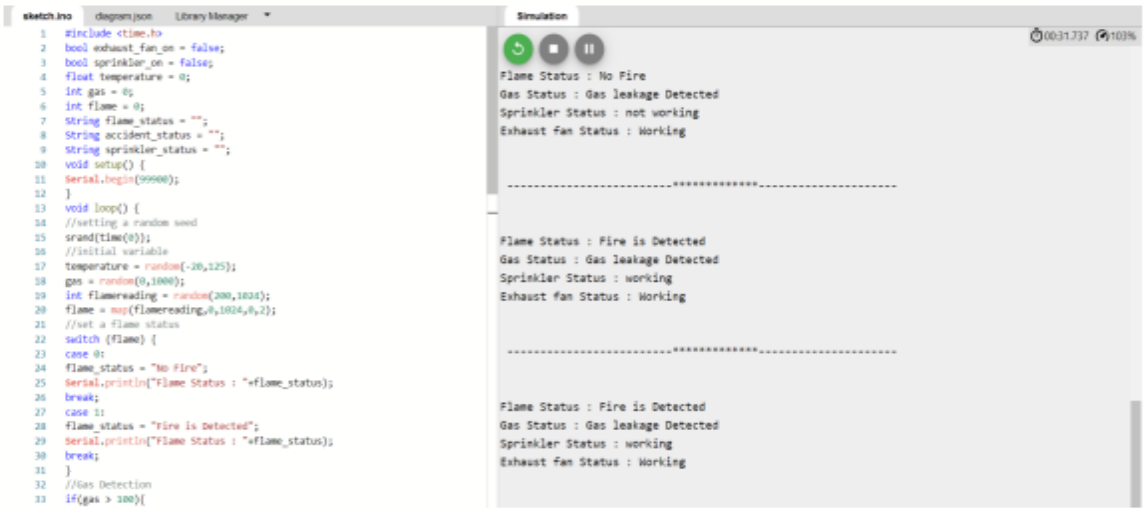
CODE:

```
#include <time.h>
bool exhaust_fan_on = false;
bool sprinkler_on = false;
float temperature = 0;
int gas = 0;
int flame = 0;
String flame_status = "";
String accident_status = "";
String sprinkler_status = "";
void setup() {
Serial.begin(99900);
}
void loop() {
//setting a random seed
srand(time(0));
//initial variable
temperature = random(-20,125);
gas = random(0,1000);
int flamereading = random(200,1024);
flame = map(flamereading,0,1024,0,2);
//set a flame status
switch (flame) {
case 0:
```

```
flame_status = "No Fire";
Serial.println("Flame Status : "+flame_status);
break;
case 1:
flame_status = "Fire is Detected";
Serial.println("Flame Status : "+flame_status);
break;
}
//Gas Detection
if(gas > 100){
Serial.println("Gas Status : Gas leakage Detected");
}
else{
exhaust_fan_on = false;
Serial.println("Gas Status : No Gas leakage Detected");
}
//send the sprinkler status
if(flame){
sprinkler_status = "working";
Serial.println("Sprinkler Status : "+sprinkler_status);
}
else{
sprinkler_status = "not working";
Serial.println("Sprinkler Status : "+sprinkler_status);
}
//toggle the fan according to gas
if(gas > 100){
exhaust_fan_on = true;
Serial.println("Exhaust fan Status : Working");
}
else{
exhaust_fan_on = false;
Serial.println("Exhaust fan Status : Not Working");
}
Serial.println("");
Serial.println("");
```

```
Serial.println(" ----------**********----------
-");
Serial.println("");
Serial.println("");
delay(3000);
}
```

WOKWI SIMLUATION OUTPUT:



5.2: SPRINT -2

SPRINT-2

TEAM ID	PNT2022TMID10968
PROJECT NAME	INDUSTRY - SPECIFIC INTELLIGENT FIRE MANAGEMENT SYSTEM
IBM ID	IBM-Project-62210-1658823576

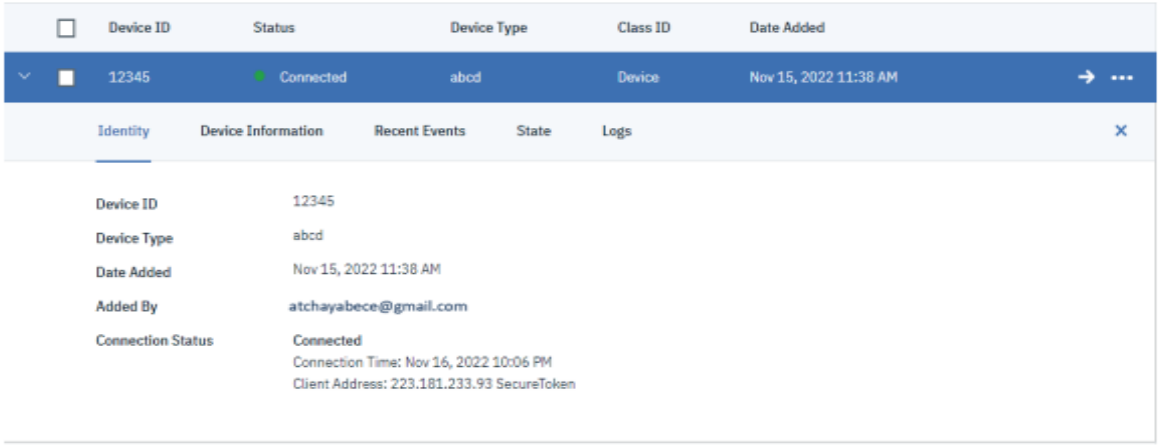
Code for Simulation:

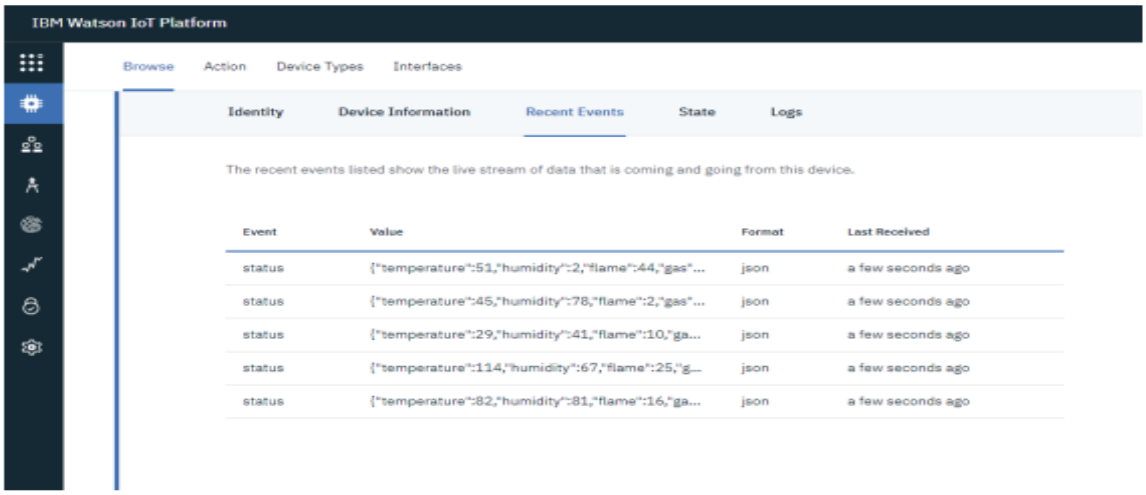
```
#IBM Watson IOT Platform
#pip install wiotp-sdk
import wiotp.sdk.device
import time
import random
myConfig = {
"identity": {
"orgId": "s8ov1q",
"typeId": "abcd",
"deviceId":"12345"
},
"auth": {
"token": "12345678"
}
}
def myCommandCallback(cmd):
print("Message received from IBM IoT Platform: %s" %
```

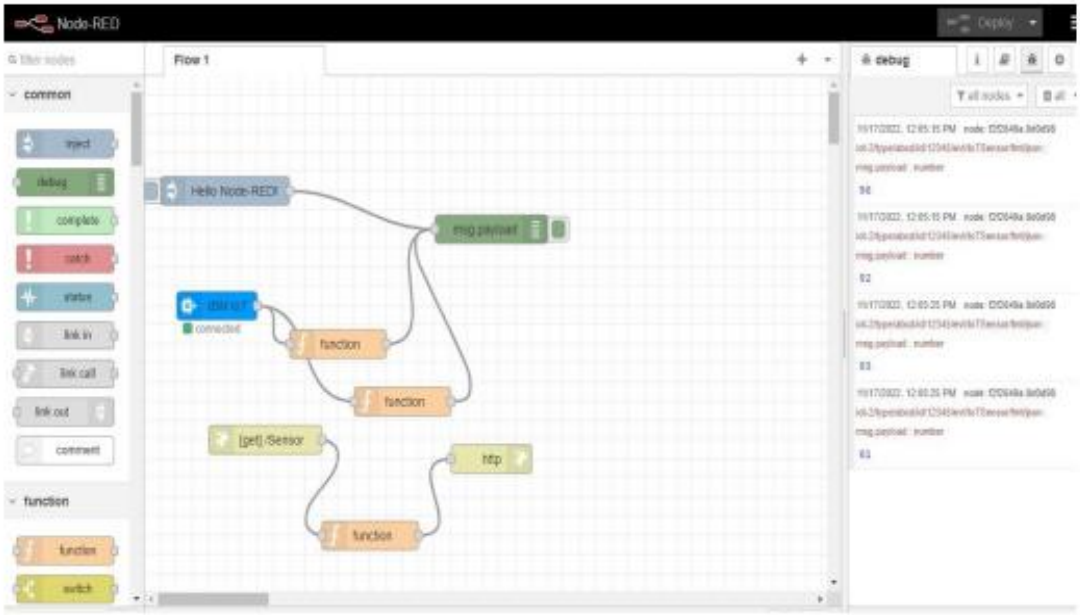
```
cmd.data['command'])
m=cmd.data['command']
client = wiotp.sdk.device.DeviceClient(config=myConfig,
logHandlers=None)
client.connect()
while True:
temp=random.randint(-20,125)
hum=random.randint(0,100)
flame=random.randint(0,50)
gas=random.randint(0,100)
myData={'temperature':temp, 'humidity':hum,'flame':flame,'gas':gas}
client.publishEvent(eventId="status", msgFormat="json", data=myData,
qos=0, onPublish=None)
print("Published data Successfully: %s", myData)
client.commandCallback = myCommandCallback
time.sleep(2)
client.disconnect()
```

OUTPUT (IBM IOT Watson):

CONNECTION DETAILS:



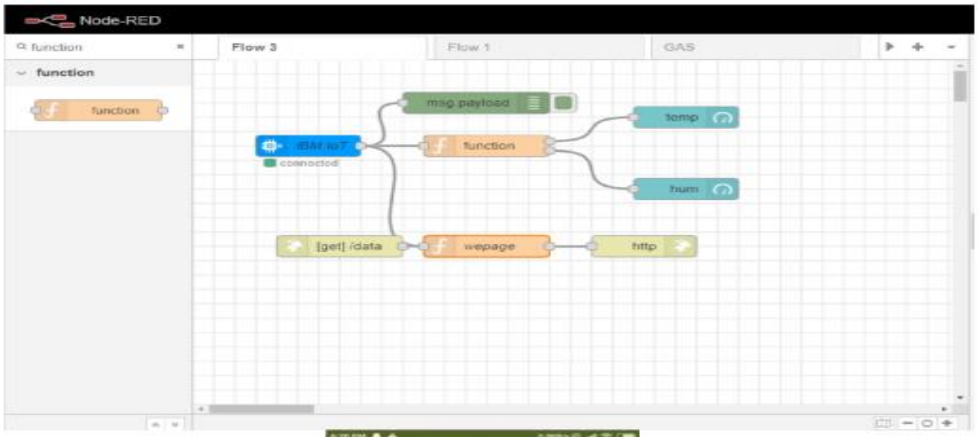



Node-RED
Deploy
Flow 1
debug
common
inject
debug
complete
catch
status
link in
link call
link out
comment
function
function
switch
Hello Node-RED!
msg.payload
function
function
[get] /Sensor
http
function

5.3: SPRINT -3

SPRINT-3

Team ID	PNT2022TMID10968
Project Name	INDUSTRY - SPECIFIC INTELLIGENT FIRE MANAGEMENT SYSTEM
IBM ID	IBM-Project-62210-1658823576


Node-RED
function
function
function
Flow 3
Flow 1
GAS
msg.payload
temp
function
hum
connected
[get] /data
wepage
http


MIT App Inventor 2
type in the 6-character code
-OR-
scan the QR code
connect with code
scan QR code
Use Legacy Connection

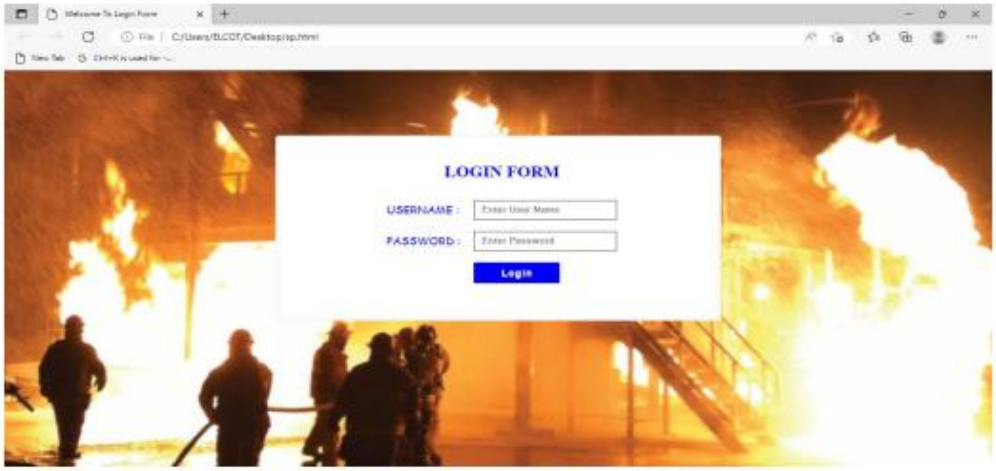

Screen1
TEMPERATURE
29.9
HUMIDITY
38

5.4: SPRINT -4:

SPRINT-4

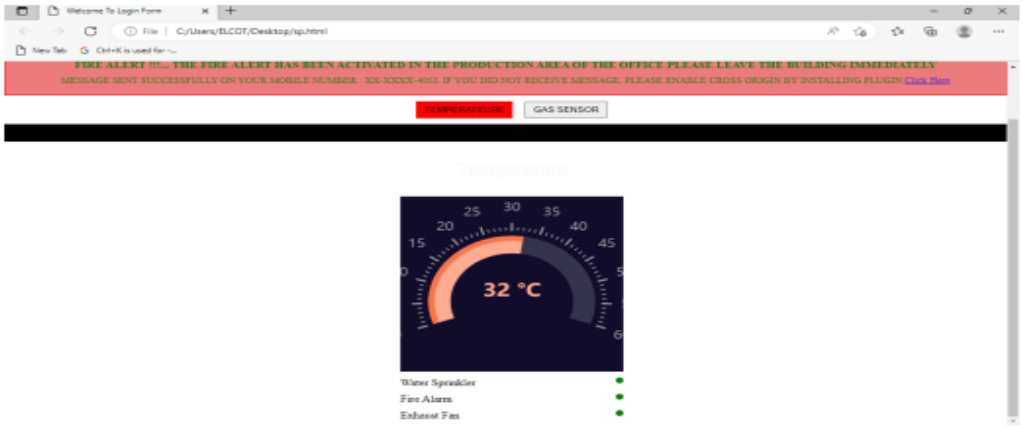
TEAM ID	PNT2022TMID10968
PROJECT NAME	INDUSTRY - SPECIFIC INTELLIGENT FIRE MANAGEMENT SYSTEM
IBM ID	IBM-Project-62210-1658823576

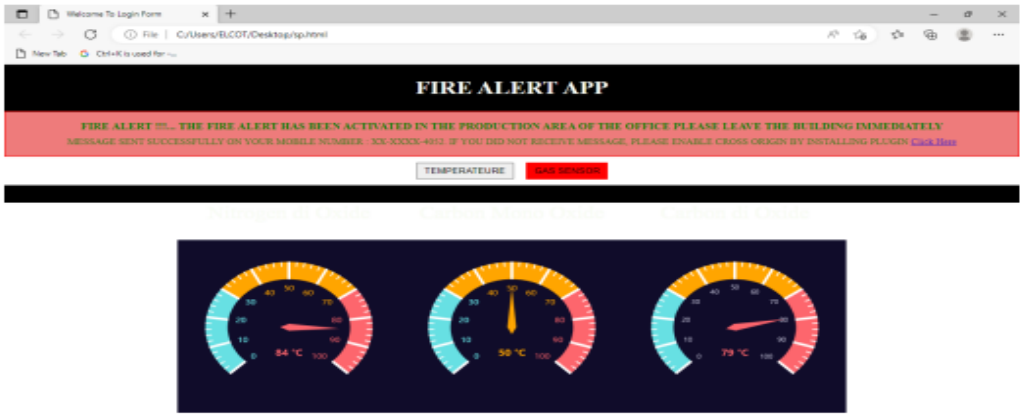
OUTPUT:


LOGIN FORM
USERNAME :
PASSWORD :
Login


FIRE ALERT APP
FIRE ALERT !!!... THE FIRE ALERT HAS BEEN ACTIVATED IN THE PRODUCTION AREA OF THE OFFICE PLEASE LEAVE THE BUILDING IMMEDIATELY
GAS SENSOR


34 °C





CONCLUSION:

In this project, we described an idea to protect the industry employees and machineries from huge fire accident and losses. This idea is accomplished by using IoT and sensor technology. We hope our idea provides a good impact on society.