Project Planning Tool

Date	08 November 2022
Team ID	PNT2022TMID17224
Project Name	Project - IoT based Industry -Specific Intelligent Fire Management System
TEAM LEADER	GAUTHAM K
TEAM MEMBERS	GOKULA KRISHNAN A GOWTHAM A GOWTHAM S

In our system, we use several components like,

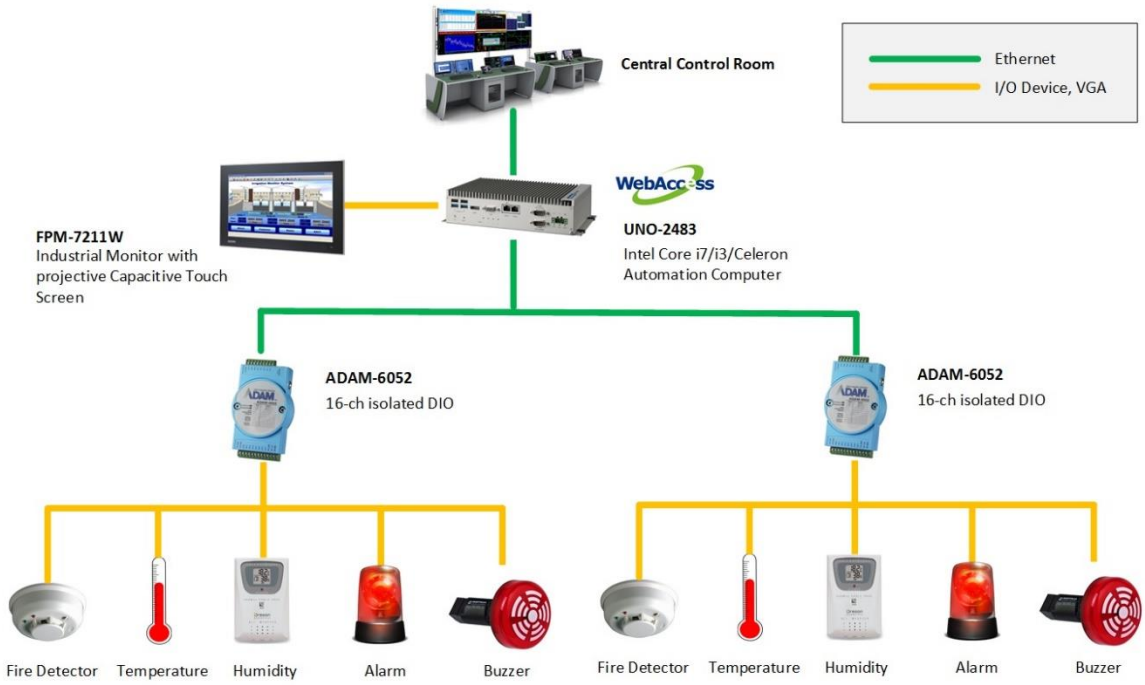
1. Fire Alarm Control Panel (FACP)
2. Initiating Devices.
3. Notification Device.
4. Primary Power Supply
5. Backup Power Supply.

Fire Alarm Control Panel (FACP):

The fire alarm control panel is the brains of the whole operation, the system hub that monitors system integrity, inputs, outputs and relays all information. When an initiating device is triggered, it sends a signal to the fire alarm control panel, which then triggers the notification devices or the alarm. conventional fire alarm control panels might contain standard branch circuit wiring with replaceable circuit cards, with one for each designated zone. More advanced systems might contain digital circuits to transmit data to all devices that can be programmed for zones. All FACPs will display the status of your system with troubleshooting codes that may allow you to make manual adjustments like disabling an alarm or resetting the system after an issue. Always check with your fire alarm system provider with any questions on status alerts.

Adaptive Multimodal Wireless Sensor Network for Energy-Efficient Fire Monitoring

We proposed a wireless sensor network (WSN) for monitoring indoor air quality, which is crucial for people's com-fort, health, and safety because they spend a large percentage of time in indoor environments. A major concern in such networks is energy efficiency because fire sensors are power-hungry, and the sensor node must operate unattended for several years on a battery power supply. A system with aggressive energy management at the sensor level, node level, and network level is presented. The node is designed with very low sleep current consumption (only 8 μA), and it contains a metal oxide semiconductor fire sensor and a pyroelectric infrared (PIR) sensor. Furthermore, the network is multimodal; it exploits information from auxiliary sensors, such as PIR sensors about the presence of people and from the neighbour nodes about fire concentration to modify the behaviour of the node and the measuring frequency of the gas concentration. In this way, we reduce the nodes' activity and energy requirements, while simultaneously providing a reliable service. To evaluate our approach and the benefits of the context-aware adaptive sampling, we simulate an application scenario which demonstrates a significant lifetime extension (several years) compared to the continuously-driven sensor. In March 2012, we deployed the WSN with 36 nodes in a four-story building and by now the performance has confirmed models and expectations.


Central Control Room
Ethernet
I/O Device, VGA
FPM-7211W
Industrial Monitor with projective Capacitive Touch Screen
UNO-2483
Intel Core i7/i3/Celeron Automation Computer
ADAM-6052
16-ch isolated DIO
ADAM-6052
16-ch isolated DIO
Fire Detector
Temperature
Humidity
Alarm
Buzzer
Fire Detector
Temperature
Humidity
Alarm
Buzzer