Project Design Phase-I
Solution Architecture

Date	24 September 2022
Team ID	PNT2022TMID21245
Project Name	Industry-specific intelligent fire management system
Maximum Marks	4 Marks

Solution Architecture:

- 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.

Solution Architecture Diagram:

EXHAUST FAN

SPRINKLER

FIRE STATION
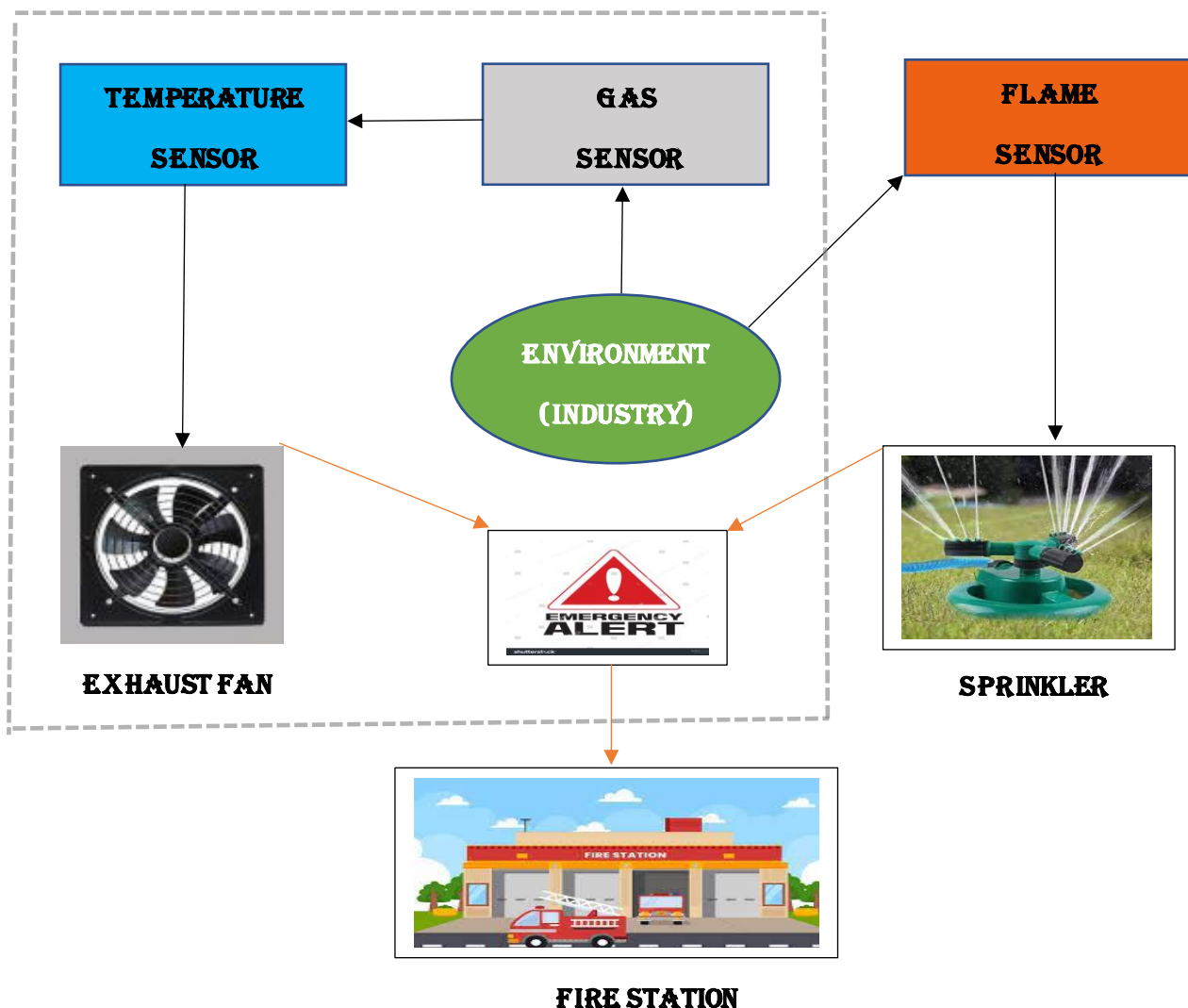
Working of the architecture:

The smart fire management system consists of the sensors which includes flame sensor, gas sensor, temperature sensor.

These sensors are used to detect any changes in the environment.

When there occurs any fire accident it will expose some sort of gas in that area which will detected by the gas sensor.

They can be able to identify the gas by means of the temperature readings using the temperature sensor.

So, if any gases present in that industry which has been identified by the gas sensor, immediately the exhaust fan will be powered on.

After that it will give alert message to the fire station.

Similarly, if any flame is detected in that industry, it will be detected by the flame sensor.

After that the sprinkler will automatically switched on.

Then immediately the alert message will be sent to the fire station.

By this way the sensors will be very helpful for the fire management system in industry.