

## Ideation Phase




### Brainstorm & Idea Prioritization Template

Date	19 September 2022
Team ID	PNT2022TMID14470
Project Name	Gas leakage monitoring and alerting system for industries
Maximum Marks	4 Marks



## Brainstorm & idea prioritization

TEAM ID : PNT2022TMID47483  
PROJECT NAME: Gas leakage monitoring  
and alerting system for industries

-  10 minutes to prepare
-  1 hour to collaborate
-  2-8 people recommended

1

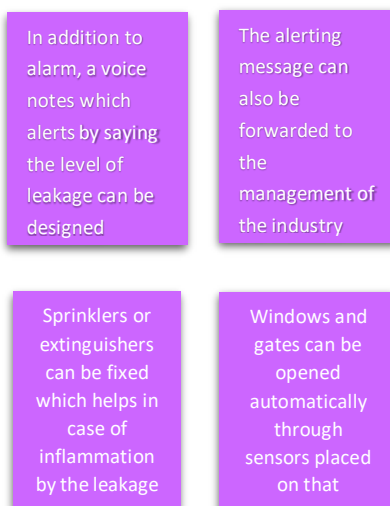
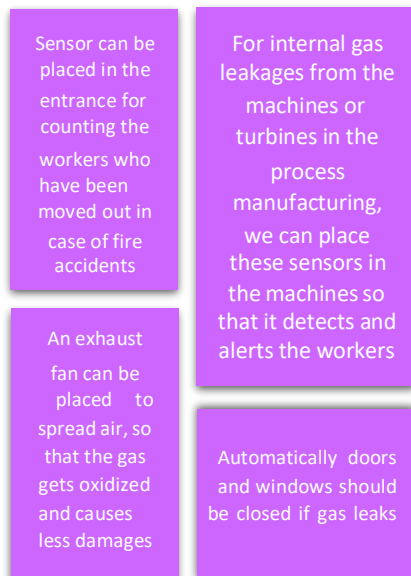
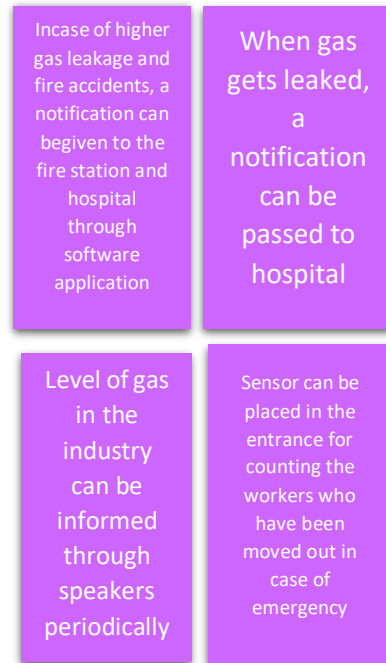
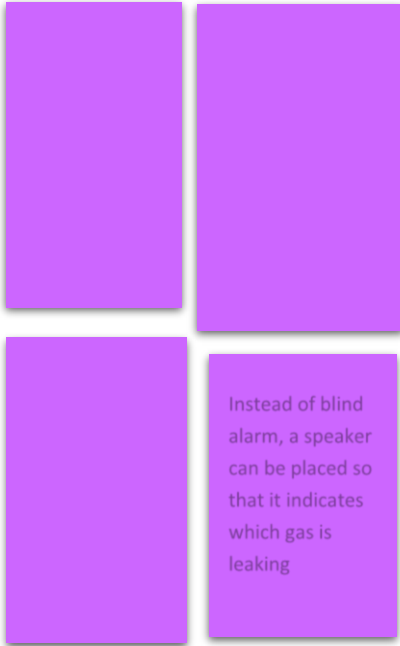
### Define your problem statement

How to overcome the gas leakage in industries by  
controlling and monitoring?

 5 minutes

PROBLEM

Gas leakage monitoring  
and alerting system for  
industries?



3

Group Ideas

20 minutes

## Flammable Gases

### Detection

Sensors like MQ3 (Alcohol), MQ5 (Hydrogen, LPG, Methane) can be used for detecting the gas leakage

### Alert

Instead of blind alarm, a speaker can be placed so that it indicates which gas is leaking

In addition to alarm, a voice notes which alerts by saying the level of leakage can be designed

The alerting message can also be forwarded to the management of the industry

### Remedy

In case of higher gas leakage and fire accidents, a notification can be given to the fire station and hospital through software application

Sprinklers or extinguishers can be fixed which helps in case of inflammation by the leakage

Windows and gates can be opened automatically through sensors placed on that

### Safety

Level of gas in the industry can be informed through speakers periodically

Sensor can be placed in the entrance for counting the workers who have been moved out in case of fire accidents

## Poisonous Gases

### Detection

Sensors like MQ3 (CO), MQ131 (Ozone), MQ137 (NH<sub>4</sub>), MQ136 (Sulphide gas) and MQ9 can be used for detecting the toxic gases

For internal gas leakages from the machines or turbines in the process manufacturing, we can place these sensors in the machines so that it detects and alerts the workers

### Alert

Alarm can be placed for alerting the workers to move out safely

### Remedy

When gas gets leaked, a notification can be passed to hospital

An exhaust fan can be placed to spread air, so that the gas gets oxidized and causes less damages

Automatically doors and windows should be closed if gas leaks

### Safety

Sensor can be placed in the entrance for counting the workers who have been moved out in case of emergency

