

Brainstorm&Idea Prioritization Template

Team ID	PNT2022TMID44431
Project Name	Gas leakage monitoring and alarming system
Maximum Marks	4 Marks

Brainstorm & Idea Prioritization Template:

Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions.

Use this template in your own brainstorming sessions so your team can unleash their imagination and start shaping concepts even if you're not sitting in the same room.

Problem Statement:

[illegible]

Brainstorm, Idea Listing and Grouping:

Person 1

Liquid Petroleum Gas (LPG) is a highly flammable chemical that consists of mixture of propane and butane.

LPG is used for cooking at home, restaurant, and certain use for industry.

They have certain weaknesses that make the gas leakage occur.

The leakage of gases only can be detected by human nearby and if there are no human nearby, it cannot be detected

But sometimes it cannot be detected by human that has a low sense of smell.

Thus, this system will help to detect the presence of gas leakage.

Furthermore, gas leakage can cause fire that will lead to serious injury or death and it also can destroy human properties.

This system was developed by using IoT to give real-time response to the user and the nearest fire station.

To build a system that can detect the liquid petroleum gas leakage.

Person 2

Gas leaks cause a variety of consequences, including financial loss and human life.

The gas leaked by an LPG cylinder if inhaled can lead to suffocation, as well as cause difficulty in walking or speaking

This type of device is important because there are many gases that can be harmful to organic life, such as humans or animals.

Hissing or whistling sound near a gas line

Unpleasant scents in the form of traces of mercaptans are usually added, to assist in identifying leaks

gas explosion occurs when there is a gas leak in the presence of a spark or flame

natural gas has a flammability range of approximately 5 to 15 percent.

To detect a gas which is lighter than air, place the detector at a high level.

an explosion can occur when a gas pipe is leaking.

Person 3

Gas leaks can be hazardous to health as well as the environment.

Even a small leak into a building or other confined space may gradually build up an explosive or lethal concentration of gas.

fatigue, severe headaches, memory problems, loss of concentration, nausea, loss of consciousness, and suffocation.

Only one gas can be measured with each instrument

If gas appliances, such as ovens, cookers and boilers, are not properly installed and maintained,

a gas leak from the cylinder or regulator gets mixed with air, forming a combustible mixture

Natural gas is also highly flammable, and should there be leaks, the risk of fire and explosion increases substantially

they pose serious risks of carbon monoxide poisoning in people and animals

there is a danger of fire, explosion, gas leaks and carbon monoxide (CO) poisoning.

Person 4

Gas leakage leads to various accidents resulting into both financial loss as well as human injuries

In humans daily life environment gives the most significant impact to their health issues

In human's daily life, environment gives the most significant impact to their health issues.

Gas leakage leads to various accidents resulting into both financial loss as well as human injuries.

The risk of firing, explosion, suffocation all are based on their physical properties such flammability, toxicity etc

The number of deaths due to the explosion of gas cylinders has been increasing in recent years.

The reason for such explosion is due to sub standard cylinders, old valves, worn out regulators

lack of awareness using gas cylinders add to the risks.

Inspections by oil companies found that many LPG consumers are unaware of safety checks of gas cylinders

Person 5

To detect the changes of temperature caused by fire.

This project modifies the existing safety model installed in industries and this system also can be used in homes and offices

Technology has not merely established our lives simpler, but also offers a high level of safety and security wherever required.

someone enters from door or tries to break the windows the owner will come to know about it

cost gasses used or industrial activities are high in inflammable and can burn even at some distance from the source of leakage.

The main objective of this project is using microcontroller based gas leakage detecting system.

Udhampur gas tragedy was an example of gas leakage accident in India. This was world's worst gas leakage industrial accident

Gas leakage detection is not only important but also alerting the people involved is equally essential.

To send the information to the nearest fire station through Internet of Thing (IoT).

Idea Prioritization:

4

Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

🕒 20 minutes

