

# ADVANCED DRAINAGE SYSTEM

## Objectives:

The objectives of the proposed project is to save the lives of the manual scavengers by

- a. Detecting the block in lesser time and removing the block in the drainage system.
- b. Monitoring the hazardous gas levels like methane and hydrogen sulfide thus preventing asphyxiation of manual scavengers.
- c. Managing the drainage system using IoT .

## Summary of the project:

There are reported cases of asphyxiation of manual scavengers who have lost their precious lives while trying to desilt drains and during finding the blocks in the drains.

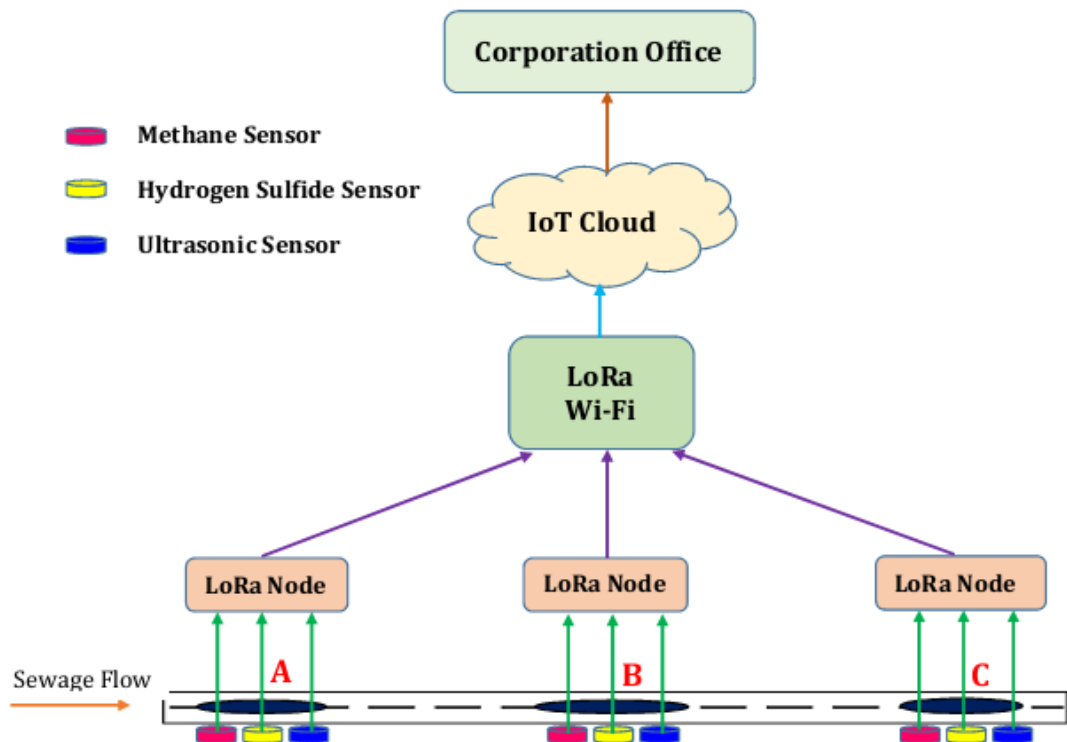
The proposed method uses ultrasonic sensors to detect the location of the block. Once the rise in level of the drainage reaches a certain predefined threshold, the information is updated and alerted using IoT so that the authorities take further action immediately before spillage occurs. After detection, removal of the block is done by the proposed retractable system, simultaneously monitoring the hazardous gases present in the sewage canal.

To remove the clog, we have proposed a retractable equipment which is fitted with a camera to identify the location of the block. Once identified, a turbine is activated to dislodge and remove obstructions. Moreover, a jet of water is gushed with high intensity through a nozzle to remove the obstructions.

## Applications of the devices:

- a. To monitor the amount of hazardous gases like methane and hydrogen sulfide in the drainage system.
- b. To detect and inform the rise in level of the sewage before spillage.
- c. To locate and remove the block present in the drainage system.
- d. To inform and update the gas levels and sewage levels to the authorities concerned using IoT.

## METHODOLOGY:



## Expected output:

- Hazardous gas indication
- Intimation of the block before spillage
- Updated status on to the cloud
- Mobile application provision

## Conclusion:

**Health is not valued till sickness comes.....**

A small dedication work to one our visible god "drainage & other corporation workers" who helps to live a hygienic life by losing their hygienic :) :) :)