



CLEW

CLUE CLEAN
THE TO INDIA

PROJECT FOR CODE HACK 3.0



Team
1219



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Project Introduction

We have prepared a revolutionary yet simple solution to sewage clogging and overflowing. Our product uses affordable technology to provide alerts and data regarding the sewage water levels. The mechanical aspect of our proposal is connected to an app which is open to the local sewage cleaning authorities as well users in that area. We use location, weather predictions and warning system as well.

Our Discussion

- How often have we faced issue with the sewage system not functioning efficiently?
- How sewage clogging also affects other important daily activities such as transportation.
- The more popularly known problems of hygiene, cleanliness.
- Our real-life experience with delay due to sewage clogging during rainy weather.

Articles

India's failing drainage system- A wake-up call

It's high time the government takes stringent actions towards the improvement of the drainage system in India as well as keeping in mind the menace of climate change and severe monsoons.

By [Nafisa Parween](#) - July 12, 2020

2566 0

Poor drainage system and planning to be blamed for flooding in Bengaluru: Experts

[India News](#)

Published on Nov 20, 2021 12:37 AM IST

Experts said that the short term planning can no longer help Bengaluru and complete rehaul in preparedness is needed to tackle changing weather patterns.

These technologies can end manual scavenging and save lives of sewage workers

REGINA MIHINDUKULASURIYA 30 September, 2018 10:45 am IST

Chandigarh's aging sewerage and stormwater drainage system set for an upgrade

[Chandigarh News](#)

Published on Jan 29, 2022 12:43 AM IST

The Chandigarh municipal corporation (MC) has started the process to upgrade and replace the city's 50-year-old sewerage system for the first time since the UT came into being

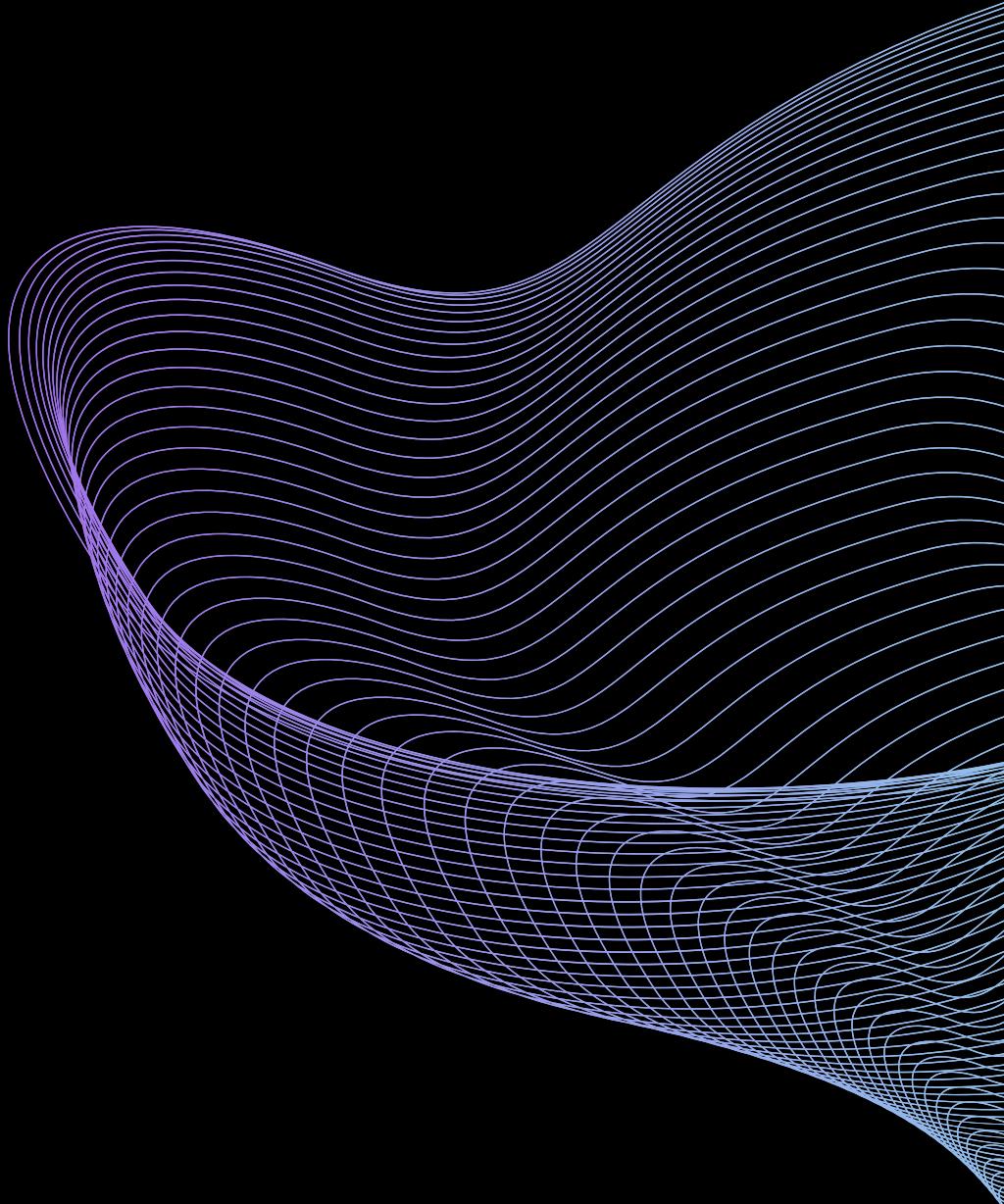
There are initiatives being led by the government to deal with this issue. Our project would provide help to these initiatives and provide information as well.

Current Status

As you all are aware the issue of sewage clogging is prevalent in major Indian cities and causes a plethora of problems ranging from unsanitary conditions to overflow of sewage all leading to potential health problems

- Build-up of toxic chemicals.
- Road deterioration.
- Contamination of water sources.
- Breeding sites of mosquitoes.
- Bad odour and unsightly.
- Cause unnecessary traffic jam.
- Destruction of houses.
- Soil erosion.

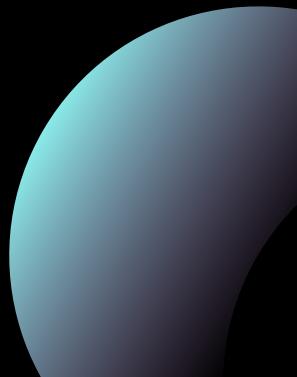
Our Solution





The Solution

The project is the solution to sewage water clogging and overflowing, utilising both physical and digital aspects to detect the water level of a sewage drain, while subsequently sharing this important data in the app which is accessible to users and organisations which clean the sewage drain. The project has 2 main elements to it :-

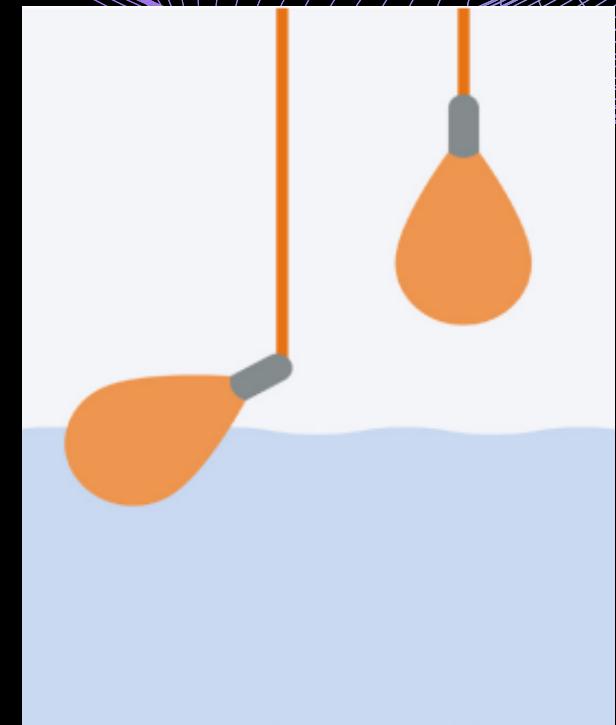
- 1) Float Switch
 - 2) The Mobile Application
- 

Mechanical Aspect

The Float switch is a low maintenance, affordable system. It is a type of contact liquid level sensor that uses a float to operate a switch. A float on a line contains an internal switch which is triggered when the float is tilted due to rising water level.

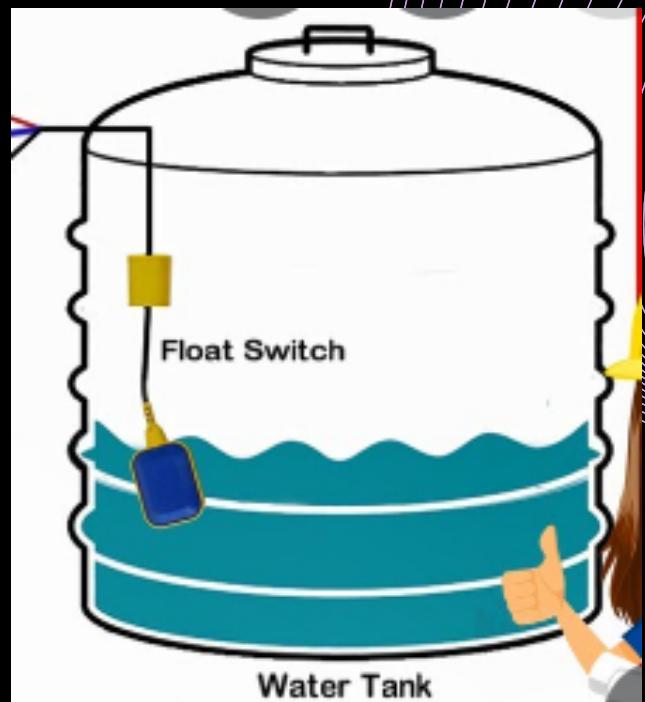
In our project the float switches will be installed in every sewage tank and when they will detect that the water level is rising they will transmit the information to the app.

Th



Structure

- Our float will be located on the ceiling of the pipes hanging vertically downwards
- The switch will be composed of a rubber ball inside a plastic case.
- It will hang with the support of a grade SAE 316 stainless steel pipe which has greater resistance to pitting corrosion
- All the float switches will be centrally connected to a server system which will provide data to our app via a transmitter placed inside the switch powered by the help of a battery



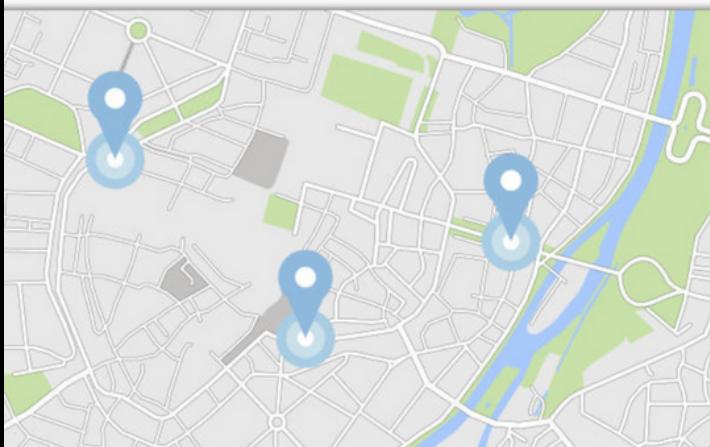
Introduction : App

Our app receives information from the float switch. Using this information it provides alerts, statistics and general information about a particular sewage or sewages in an area. Here the app also takes into consideration the weather of the region as well. It calculates the urgency of the sewage needed to be cleaned.



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COMPLAINT

Statistics

Weather

Location

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ALERT

90% water clogging in
sector 20. Rain expected

LOCATION :

Sector 20-A, Chandigarh
Idk man road.

URGENCY :

Red alert. Very urgent.

WEATHER :

Heavy rain predicted .

Contact: 1234567890



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°C |

°F
Precipitation: 20%
Humidity: 71%
Wind: 3 km/h

Temperature

Precipitation

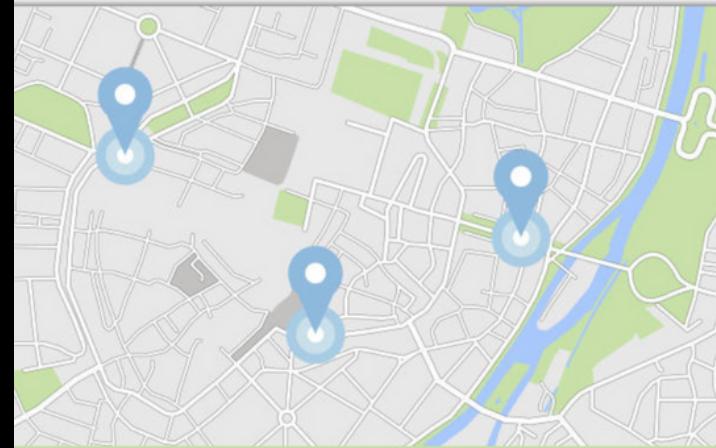
Wind



Weather

The sky is clear. No rainfall predicted.

Sewage levels will not overflow



Statistics

Water Level: 87%

Water Toxicity: Ph level 4.5
Treat with utmost care.

Real life application

Lets take an example if it rains heavily in Chandigarh:-

- 1)The rise in sewage level will cause the float switch will be activated
- 2)A signal will be sent to the app through which the user will be alerted.
- 3)The signal will reach two different consumers.
 - a. The concerned government body that is the Municipal Corporation in this case will be informed about the overflow and is required to take the necessary action.
 - b. The user will be informed about the overflow taking place at the road and guided on another path.

This will help make the situation easier to diffuse and our device will detect the situation in its early stage.

Our Vision

We hope to have collaboration with governments to improve the quality of life of people resulting in overall happiness of the society.'

If we are able to put our product at sewage entrances around India it will make the governments work a lot easier.

We also plan to work on an improved version of our project which uses ultra-sonic sensor. This model will be able to tell the speed of the water and also collect information about debris. This improved model will be placed at a higher cost due to its add-on features which will be incorporated in the app.

We also aim to power our central computer systems with renewable energy to help in the GREEN EARTH INITIATIVE.

This product will have an impact on society as well. Manual scavenging, with the large scale use of this product will not be required at all. The system shall help in early stage prevention.

The background features a dark, solid black area on the right side. On the left, there is a large, abstract graphic element consisting of numerous thin, light blue lines that curve and overlap to create a sense of depth and motion, resembling a wave or a series of concentric arcs. In the bottom right corner, there is a partial view of a circle with a gradient color scheme, transitioning from dark purple at the top to light pink at the bottom.

Thank You