



GI-PAT

Nature & Human Safety

**GPS & IoT enabled
POLLUTION ASSESSMENT TOOL**

Environment Challenge

Industry Pollution

Since the industrial revolution, we have achieved a lot; our manufacturing processes have become more efficient and productive, science has become much more advanced, and our life has transformed a great deal. But perhaps nothing comes without a price. All the advancement and development witnessed in the last few centuries have also brought with them a wide spectrum of problems, pollution being one of them.

Water & air pollution is caused by the discharge of harmful chemicals and compounds from various industries, which are polluting our natural resources and causing the human life.

Pollution

Air Pollution

- Pollutants like PM(Particulate matter) 2.5, PM 10, SO₂, NO₂ and CO₂ etc. cause air pollution.



Water Pollution

- Elements like lead, mercury, nitrates, oils and phosphates are the main water pollutants generated from the industrial waste.



Our Solution

GPS & IOT enabled, POLLUTION ASSESSMENT TOOL (GI-PAT)

GI-PAT is a IoT & GPS enabled platform that performs real time monitoring of Air and Water pollution caused by the industries by calculating the real time concentration of various pollutants like SO₂, NO₂, Particulate Matter, water ph level, turbidity etc.

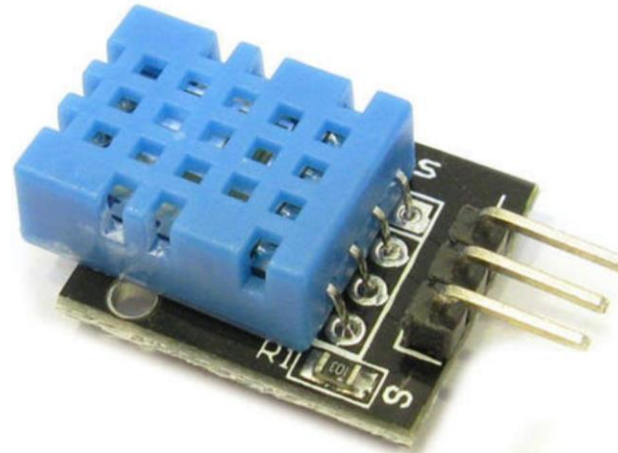
- ✓ Reduces the manual effort required for the industry license issue and renewal process
- ✓ Government can monitor the pollution levels of any industry on real time basis
- ✓ Send notifications of request accepted, request denied and request pending to the user accordingly.



GI-PAT Features

Platform Features

- Registration
- Apply new license
- License renewal
- Dashboard (*real time*)
- Reporting
- Previous year analytics



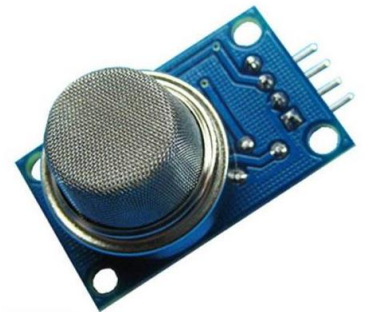
Technical Details

Technology: Python, Machine Learning, Data Analytics

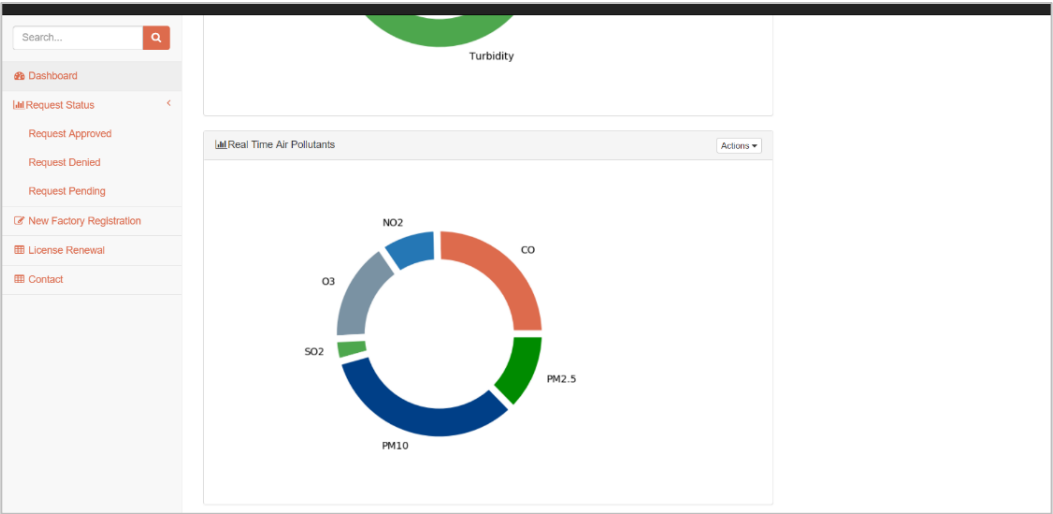
IoT Devices: Arduino Uno, Dht 11, pH Sensor, Turbidity Sensor, Gas Sensor MQ135, GPS Module

Storage: Google Firebase

Access Platform: Windows, Mac OS, *Android & iOS Mobile (WIP)*

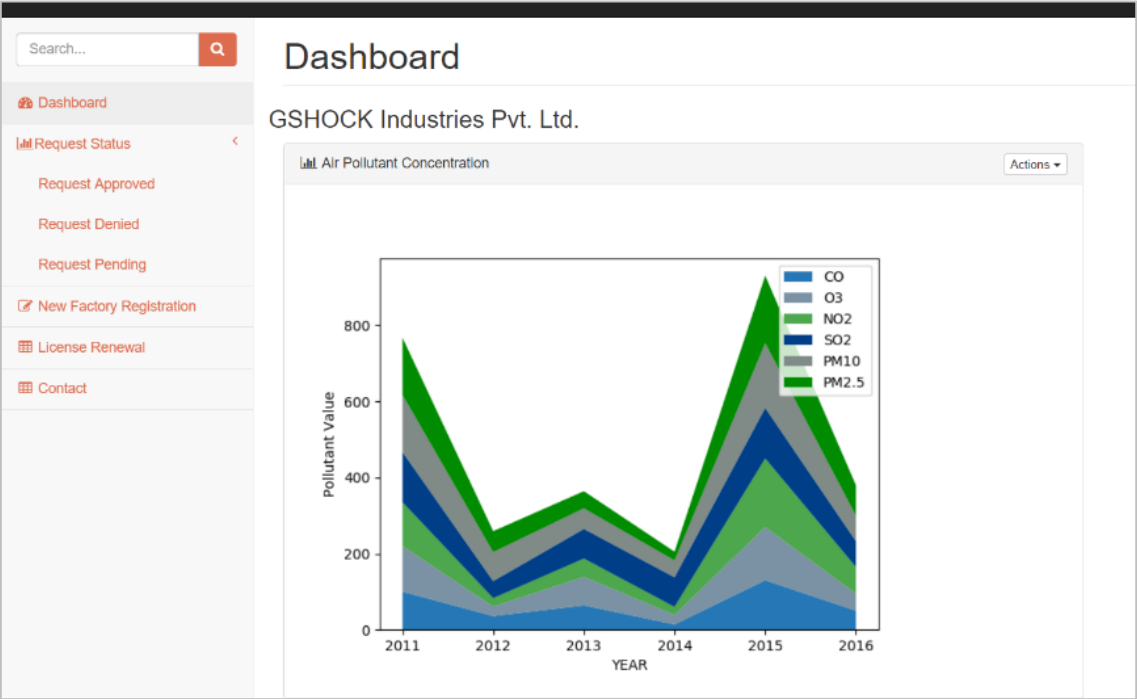


GI-PAT PLATFORM (WEB DEMO)

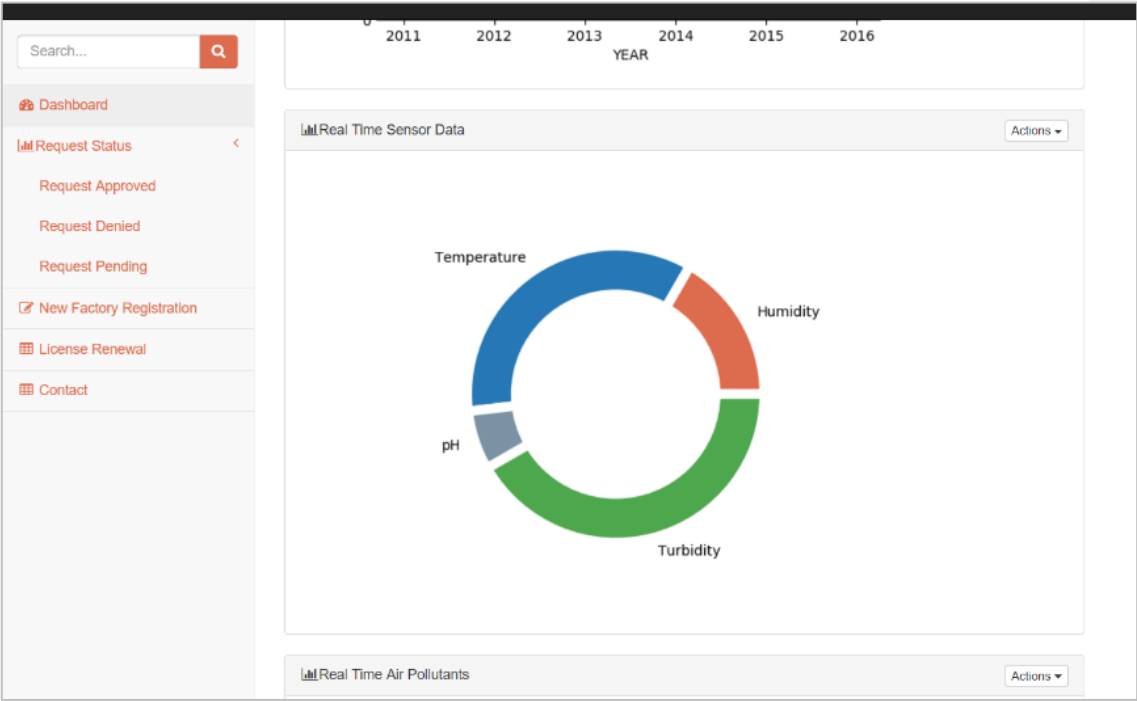


Dashboard

GI-PAT PLATFORM (WEB DEMO)

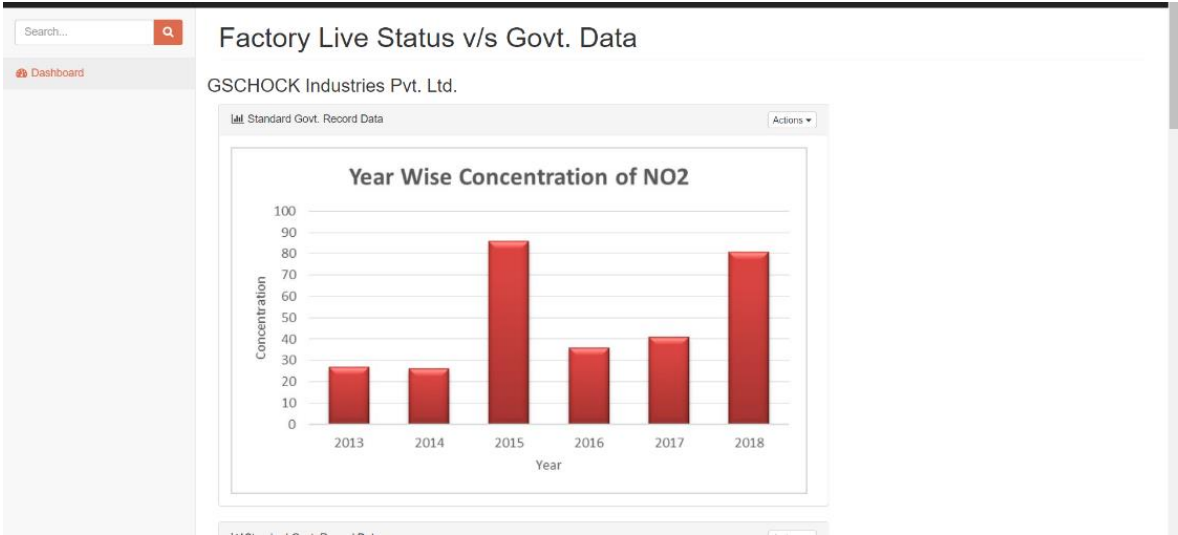


Realtime Air Pollution

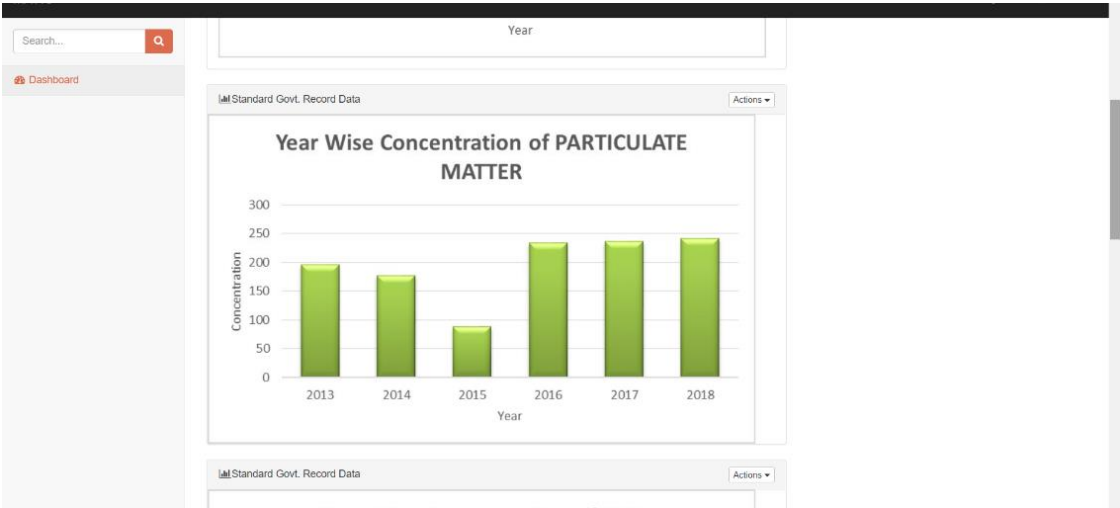


Realtime Sensor Data

GI-PAT PLATFORM (WEB DEMO)



Year wise NO2 Analysis



Year wise PM Analysis

USE CASE

- ✓ State Government Departments
- ✓ Industries (internal & external areas)
- ✓ Road side (Traffic junctions)

