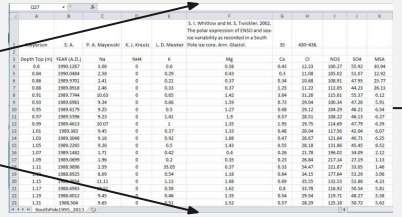
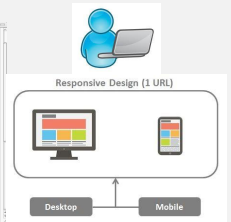
Idea/Solution:-

Proposed PPT

" Monitoring and visualizing the live status of sewage treatment plant in a Dashboard by posing it's running status."

- *Inlet/Outlet Water Quality monitoring. (OBD/pH/TDS levels)*
- *Quantity of treated/untreated water. (MLD)*
- *Time of open and close STP function.*





Technology Bucket : Software - Web App development

Category: Software

Company Name/ Ministry Name: Ministry of Water Resources

Problem Code : GG6

Team Leader Name : Jayant Waldia

College Code : 1-3511052467

The description about the problem statement :-

The idea is to create a Dashboard web app through which the workers or the concerned authority member can easily visit/check, analyze and create a conclusion about the overall functioning of the STP at any time based on the real-time data recorded from the Sewage Treatment Plant.

- *Inlet/Outlet Water Quality monitoring. (OBD/pH/TDS levels)*
- *Quantity of treated/untreated water. (MLD)*
- *Time of open and close STP function.*

What’s new?

As there are many application and ideas working for this same very problem. This gives us basic idea for the additional features to the application which would definitely increase the efficiency and decrease the complexities of large STP data.

We have added different mathematical approaches used to tackle large amount of data.
Tools used:-

1) Graphical approach and further analysis of data.
2)use of interactive themes of similar projects running currently in the government.
3)Login security service provided.
4)Different sections of STP data and its analysed form will be arranged in understandable manner for the regular workers to increase the efficiency of the work which is supported by the application.
5)The devices and their functioning used for the inlet/outlet controls will be described to the users of the application for better understanding.

Problems to solve

The idea is to create a Dashboard web app through which the workers or the concerned authority member can easily visit/check, analyze and create a conclusion about the overall functioning of the STP at any time based on the real-time data recorded from the Sewage Treatment Plant.

Imposed Solutions :

STPs are costly affairs, and can only be maintained when there is a comprehensive structure for maintenance. This is only possible when each of the following expenses is met regularly :

1. Having a proper O&M program that can reflect efficiency of the running STP's.
2. Easy to trace secured dashboard, for viewing the current as well as the past status of the plant functioning, hence can acknowledge a sharp idea about :

   Total productivity of the plant with the help of properly generated statistics.

   An easy way to relate the progress or the depletion with the past data and results.
3. Gathering real time information for the analytics and visualization, which can be best posed in the form of easily understandable graphical tracks, with the live data acquired.

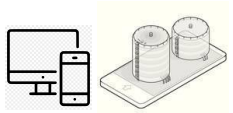
Technology Stack :

Most of the development work will be done on Python and backend part on Django.

HTML/CSS and Javasript will be used for creating interactive Dashboard site for browser.

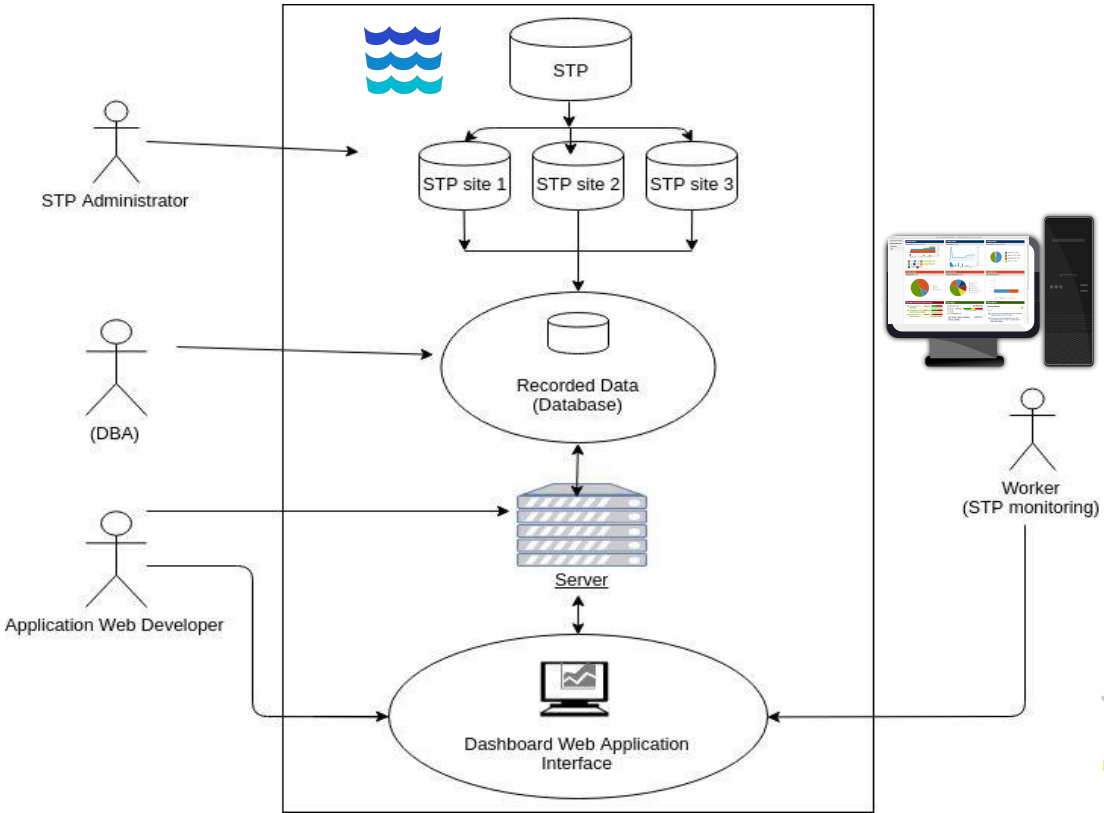
For keeping the Data in the database.

Major data science tools and libraries to manipulate, edit and visualizing the data.



Use Cases :

The idea is to keep the information precise, useful, and one tap away through our dashboard to the users for monitoring.



Dependencies/Showstopper :

Sample data requirement needs to be required from the organization end, till then our team will be relying on cooked data for implying it in our application..

Data can be provided in the assets, for example :

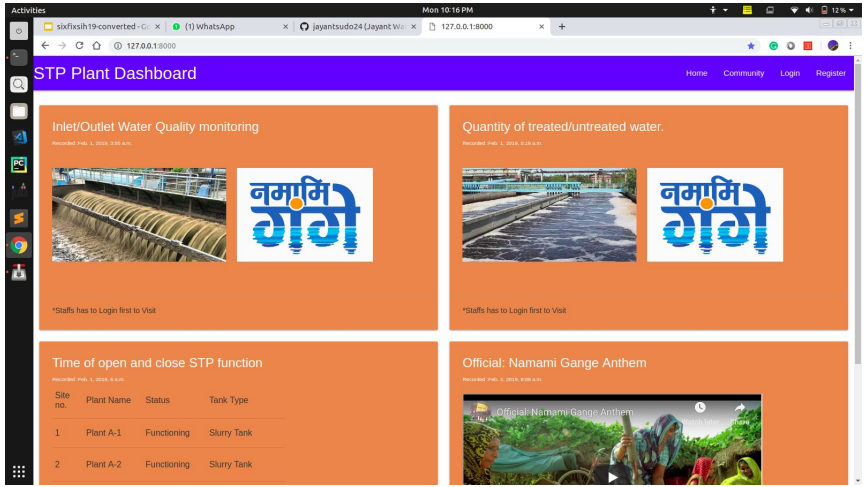
- MLD(Million LItres per Day)
- Settling Tank working functioning (Sludge)
- Biochemical Oxygen Demand (BOD)
- Range of BOD conversion treated/untreated.

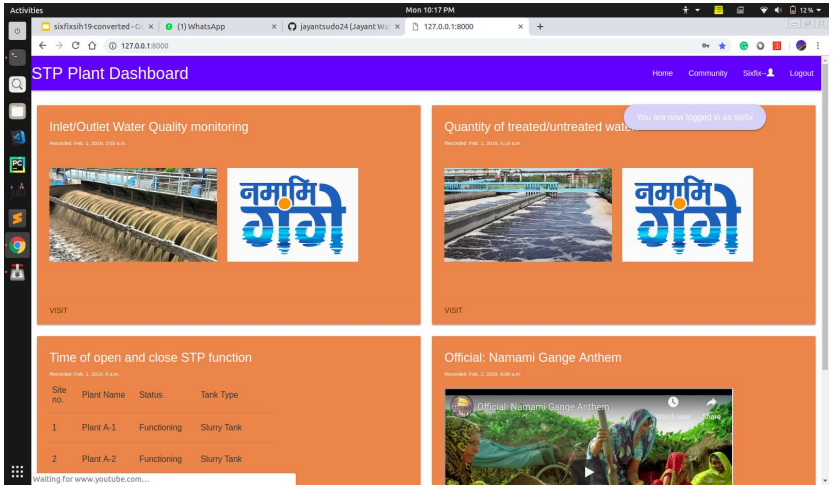
(* strictly as per the Organization's direction and requirements.)

A Sample Prototype of the Dashboard can be seen on the link below

Link : < sih19sixfix >

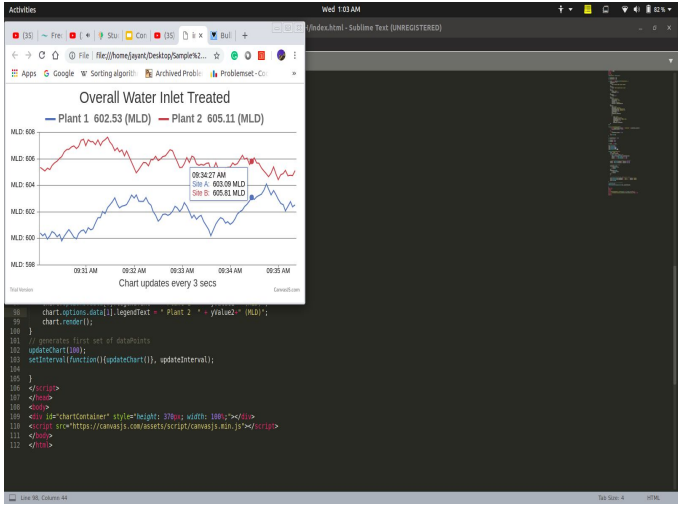
General view of Dashboard:-

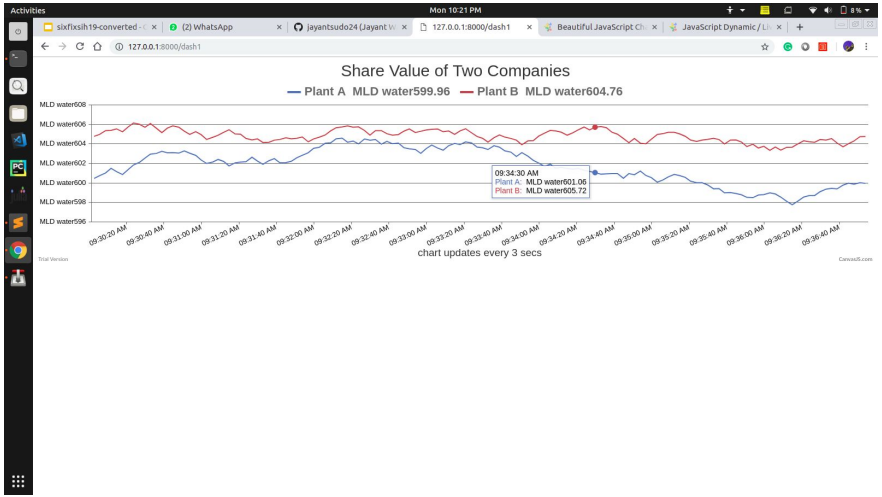




The following dashboard have different sections according to the need of the user.
It also contains the security measures by providing logins to the authorised persons.

The representation of record data:-





The features and methods that have been added to the dashboard to make it different from the conventional dashboard is that it will represent the data in the graphical manner and analysis of the data is done on the basis of the graph.