

MINI PROJECT USER REQUIREMENT SPECIFICATION

Water Pollution Management Database

SRN 1: PES1UG21CS687

SRN 2: PES1UG21CS708

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1. Introduction

Purpose of the project

The pollution in Indian water bodies like lakes and rivers is getting worse day by day. This project aims to facilitate regulatory bodies and environmental agencies to identify, control and prevent such pollution to ensure clean and safe water bodies.

Scope of the project

The scope of this project is to provide a centralized database to store the details of all the water bodies and pollution levels to be accessed by various government bodies and environmental agencies. It can also be accessed by the general public to view and know the pollution status of various water bodies in the country and raise requests to their respective governing bodies to take action.

2. Project Description

Project overview

This water pollution management web application plays a vital role in monitoring, protecting, and improving water quality by collecting, storing, and

providing access to critical data for decision-makers, researchers, and the public. It serves as a valuable tool in the effort to safeguard water resources and mitigate the harmful effects of pollution.

Major project functionalities

- 1) Signup/Login for government bodies
- 2) Viewing the pollution status for a water body
- 3) Finding the source of pollution
- 4) Giving remedies for a type of pollutant
- 5) Raising public request regarding a specific water body

3. System Features and Function Requirements

System feature 1: Signup/Login for government bodies

Description: Our web application will allow officials of various government bodies to login and check the pollution status of water bodies under their jurisdiction.

Functional Requirements:

- The web application will allow the government officials to login using their email or contact number. The entered details will be verified with the database.
- Each government body is uniquely identified by their Body_ID which is the primary key.

System feature 2: Viewing the pollution status of a water body

Description: The web application will allow users to check the state wise pollution status of lakes and rivers.

Functional requirements:

- The user after logging in, will be able to check the pollution status of lakes and rivers using the Lake Pollutant, River Pollutant and Pollutant relations.
- The user will input the state and will then be given information about the various water bodies present in the state along with their pollution information.

System feature 3: Identifying the source of pollution

Description: The user can select a water body and know the source of pollutants present in the water body.

Functional requirements:

- After selecting a particular lake or river the user will be able to identify its pollutants and their respective source.
- This will be done using the Lake, River, Pollutant and Man Made Structure entities.

System feature 4: Giving the remedies for a type of pollutant

Description: The user can get solutions for a type of pollutant present in a water body.

Functional requirements:

- The user can input a pollutant and check what remedies are available for the particular pollutant, its scale and the average price for implementing the solution.
- This will be done using the Remedy and Pollutant entities.

System feature 5: Raising public requests

Description: Users can raise requests to their respective governing bodies for the clean up and maintenance of water bodies.

Functional Requirements:

- User can upload requests to the respective governing bodies which is then stored in the database in the governing body entity.
- The governing bodies can look at and choose to address these requests.