A Review Report on

“AIR AND WATER QUALITY MONITORING SYSTEM”

IT systems

Batch # 01

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Use cases and Test cases Description

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1. **List of users, Use Cases and Test cases:**

S.NO	User / Actor	Use Cases	Test Cases
1	Citizens	1. Visualize the complete live data 2. Visualize specific region wise data	Navigate to home page Select region 1
2	Pollution Control Board	1. Authentication 2. Visualize data as per threshold values	Enter valid login details Check with input threshold values
3	DB Admin	1. Managing device DB 2. Validations	Add / Delete devices Checks for authentication

2. Use Case Summary Diagram:

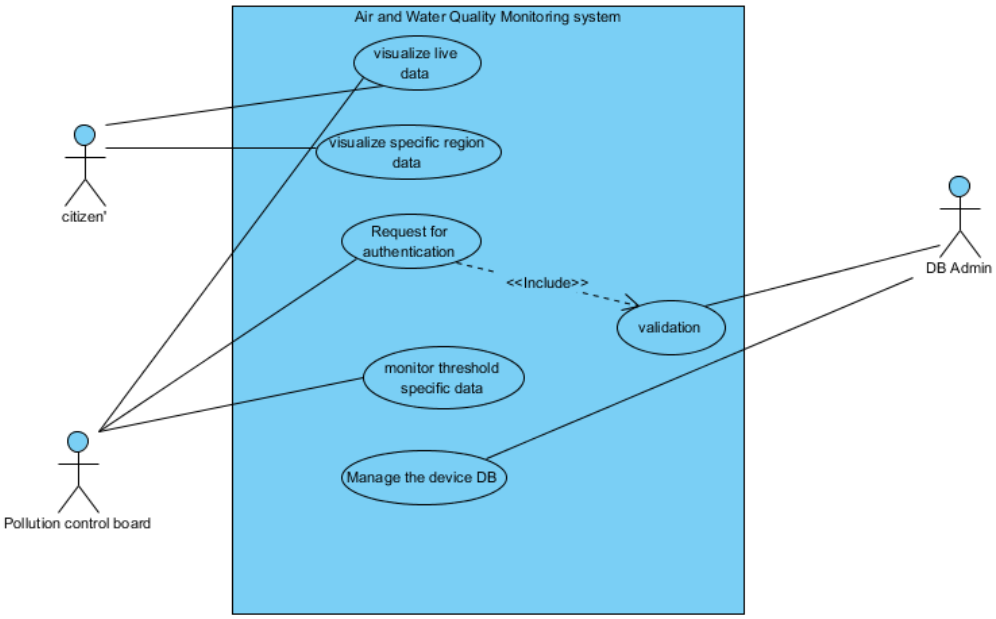

Figure: Use case diagram describing the overview of Air and Water Quality Monitoring system

3. **For Each Use Case:**

i) Informal use case:

Actor: Citizen

- User can open the browser and enter valid URL to visualize the live data
- They can also select specific region to view data only of that region.

Actor: Pollution Control Board

- Authorized users can login with valid details for data access.
- Government organizations like pollution control boards can input the threshold ranges with required parameters and visualize the data

Actor: DB Admin

- Data Base admin can validate the user request for data access
- Admin can manage the updations related to devices and data

ii) Formal use case:

Actor: Citizen
- Visualize the overall data collected from all sensors
- Can select region specific data

Actor: Pollution Control Board
- Requests Access to admin for complete data
- Input threshold values as inputs for visualization

Actor: DB Admin
- Managing the devices DB (Add / Remove the devices)
- Validation for providing user access to data

Success Scenario:
Real time dynamic streaming of data collected from sensors to be updated
Ability to give visualizations as per threshold values

Failure Extensions:
To check if any node functionality errors

4. **For Each Test Case**:

Actor: Citizen

1. Input by tester: Open browser and input valid URL.
   Expected output: Should navigate to the home page and display overall graphical representation.

2. Input by tester: Select region specific data to visualize.
   Expected output: should display the region specific data for further visualizations.

Actor: Pollution control board:

1. Input by tester: login with the correct login details.
   Expected output: request to admin must be sent successfully and provide data access.

2. Input by tester: Input the threshold ranges
   Expected output: Should display the data only as per threshold ranges for visualization.

Actor: DB Admin:

1. Input by tester: To check and validate data access requests
   Expected output: Must authenticate the access requests and authorize to data access.

2. Input by tester: To add / remove device and update data
   Expected output: Should be able to add / remove devices and update the data frequently.