Software Engineering - IT314

LAB V

GROUP 32

Group members

201801081 KAPADIYA KAUSHAL GAUTAMBHAI
201801229 MISTRY SANKETKUMAR KIRANKUMAR
201801009 RAMANI NAYAN GOBARBHAI
201801054 TEJASWA ALIA
201801003 POPAT JAYESH CHANDRESHKUMAR
201801427 RIDDHI ATUL TANNA (Group leader)
201801074 RITIK MALAVIYA
201801224 ZANZARUKIYA JIGAR HEMUBHAI
201801159 JOSHI DIKSHEN RIPAL

Q.3. For the project, you have chosen as a part of your Software Engineering course, you have to provide a detailed overview of the project description, scope of the project, assumptions, and possible features. Answer the following questions: (and submit)

1. Identify all the stakeholders and users of the systems

- **Stakeholders**
  - End users
  - Developers
  - Instructor and teaching assistants

- **End users**
  - Environmentalists
  - Health conscious individuals
  - Casual users

2. List the various features exercised by each user of the system and describe all of them in detail (the user requirements and system requirements both)

- **User requirements**
  - Search/filter pollutant information based on location
  - Display Air Quality Index (AQI) by collecting data from APIs/scraping
  - Showing AQI and other environmental factors on maps
  - Display the overall exposure level of the user to pollutants along with details
  - Do’s, don'ts and other cautions based on AQI/pollution level/ any other criteria
  - Visualizations for AQI/other criteria along with ability to filter them according to time periods/intervals

- **System requirements**
  - The system should work well with heavy data traffic and it should be compatible with multiple browsers and devices.

3. Specify all the non-functional requirements for this system

- **Non - functional requirements**
    - **Latency:** application loads quickly
    - **Reliability:** Accuracy in the data provided
    - **Security:** User anonymity remains with the exception of geographic data
    - **Interface design:** Simplistic user interface to ensure smooth onboarding of novice users
    - **Performance and scalability:** Should work well with heavy data traffic
    - **Compatibility:** Compatibility of the application with multiple browsers and devices

4. Specify user interfaces for each user of the system

Landing page:

- Home - displays the current location statistics and visualizations along with health hazards and cautions.
    - Menu
        - Main dashboard
        - Compare
        - About
    - Search (for a particular city/state/location - user input)
        - City dashboard - visualizations and statistics regarding a particular city

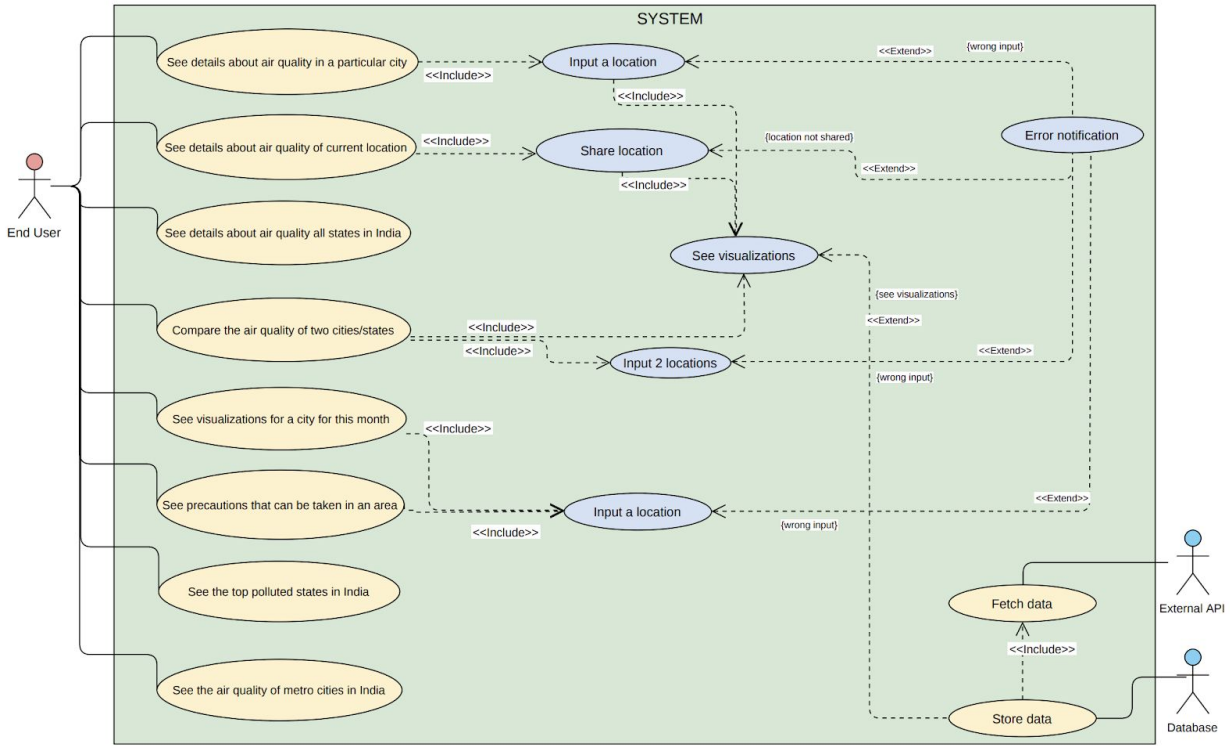
From Menu:

- Main Dashboard
    - State Wise details - visualizations in the form of graphs and maps
    - Top metro cities - visualizations and statistics
        - City dashboard - visualizations and statistics regarding a particular city along with health hazards and cautions.
- Compare
    - User input for the two cities/states to be compared
    - Display of visualizations and statistics comparing both of them
- About
    - About the application

5. ‘Open Issues’- issues those are identified but not taken care of

- Source of data is to be decided. (API/scraping)
- What can be done if we do not have data regarding a particular location that the user wants to see?
- What if we don’t have data about a particular time period for a location?

6. Develop use-case diagrams for your project.



7. Write 2-3 paragraphs describing the requirements/needs/objectives of your project.

- Our objective is to design a platform which collects toxic substance data and allows users easy access to their overall exposure levels of pollutants. Users can see the further breakdown of the quality of air around them through seamlessly integrated visualizations and other statistical data. This project will help people be more aware of the exposure they have to

pollutants around them, and in turn help them make better decisions about which areas to avoid.

- Our main requirements are access to data about pollutants and toxic substances in India and access to the user's current location (for some functions).