

## **An Integrated Disease Surveillance and Response Platform**

### **1. Surveillance Module:**

- Integration of genomic surveillance tools to monitor the evolution and spread of pathogens.
- Collaboration with Kudumbasree for community-driven data collection, leveraging their network for real-time reporting.

### **2. Forecasting Tools:**

- Development of a predictive analytics engine that considers climate data, historical patterns, and demographic information to forecast disease outbreaks.
- User-friendly dashboards for health officials to visualize and interpret forecasting data.

### **3. Data Modeling and Analytics:**

- Implementation of machine learning algorithms to analyze epidemiological data, identifying potential trends and hotspots.
- Creation of an analytics platform for researchers and healthcare professionals to gain insights into disease transmission dynamics.

### **4. Community Engagement and Decision Support:**

- Design and deployment of a mobile application for community members to report symptoms and contribute to early detection.
- Integration of private stakeholder data into the platform, ensuring a comprehensive understanding of disease prevalence.

### **5. Training and Capacity Building:**

- Training programs for healthcare professionals, community health workers, and Kudumbasree members on using the platform effectively.
- Continuous capacity-building initiatives to keep stakeholders updated on the latest advancements.

### **Collaboration with Kudumbasree:**

- Establishing training programs to empower Kudumbasree members in disease surveillance and data reporting.
- Providing incentives or recognition for active community participation in the surveillance process.

## **USERS**

### **1. Health Officials and Administrators:**

- Access to comprehensive dashboards displaying real-time disease surveillance data.
- Tools for analyzing and interpreting epidemiological trends and patterns.
- Forecasting tools to anticipate potential disease outbreaks.
- Decision support features for resource allocation and response planning.

### **2. Community Health Workers (Kudumbasree Members):**

- Training modules on disease surveillance and reporting using the platform.
- Mobile application for easy reporting of symptoms and community-level data collection.
- Access to educational resources and guidelines for community awareness.
- Access to the module for scheduling and recording water source cleaning activities.
- Mobile application features to input cleaning details, including date, time, and specific actions taken.
- Training materials on proper cleaning procedures and hygiene practices.

### **3. Researchers and Analyst:**

- Advanced analytics platform for in-depth analysis of disease transmission dynamics.
- Access to historical data, genomic information, and forecasting results for research purposes.
- Collaboration tools for sharing findings and insights.

### **4. General Public:**

- Access to a public-facing website or app for information on disease prevention, symptoms, and local outbreaks.
- Alerts and notifications about potential risks and preventive measures.
- Access to information on the importance of clean water sources and the scheduled cleaning program.
- Public awareness campaigns through the platform about the role of community members in maintaining clean water.

### **5. System Administrators:**

- Management of user accounts, permissions, and system configurations.
- Monitoring and maintenance of the platform's infrastructure and security.

- Monitoring tools to track the frequency and effectiveness of water source cleaning across communities.
- Dashboard displaying aggregated data on cleaned water sources, helping in decision-making for resource allocation.
- Alerts and notifications for irregularities or missed cleaning schedules.

## **FUNCTIONALITIES**

### **1. Data Collection and Reporting:**

- Mobile application for community members to report symptoms and contribute to real-time data collection.
- Web portal for health officials to review and validate reported data.

### **2. Surveillance and Monitoring:**

- Integration of genomic surveillance tools for monitoring pathogen evolution.
- Real-time dashboards displaying disease prevalence, hotspots, and trends.

### **3. Forecasting and Predictive Analytics:**

- Development of algorithms for forecasting disease outbreaks based on climate data, historical patterns, and demographic information.
- Visualization tools for health officials to interpret forecasting results.

### **4. Data Analysis and Research:**

- Analytics platform for researchers and epidemiologists to conduct in-depth analysis.
- Collaboration tools for sharing research findings and insights.

### **5. Community Engagement:**

- Training modules and resources for community health workers (Kudumbasree members).
- Incentives or recognition programs to encourage active community participation.

### **6. Integration with Private Stakeholders:**

- Secure data-sharing mechanisms for private stakeholders to contribute relevant data.
- Collaboration opportunities to ensure a comprehensive understanding of disease prevalence.

#### 7. Education and Awareness:

- Public-facing website or app with information on disease prevention, symptoms, and local outbreaks.
- Alerts and notifications for the general public about potential risks and preventive measures.

#### 8. System Management:

- User account management, permissions, and access control.
- Monitoring and maintenance of the platform's infrastructure and security.

#### 9. Cleaning Schedule Management:

- User-friendly interface for community health workers to schedule routine cleaning of water sources, including old bottles.
- Automated reminders for upcoming cleaning tasks.

#### 10. Cleaning Activity Recording:

- Mobile application features for recording details of each cleaning activity, such as date, time, and actions taken.
- Photo or video documentation of the cleaning process for verification and assessment.