Basic Details of the Team and Problem Statement

Problem Statement Title: **Threat zone of an explosion particularly in oil and gas handling industries or refineries**

Theme Name: **Disaster Management**

Team Name: **CODATHON**

Team Leader Name: **Dhruv Kumar**

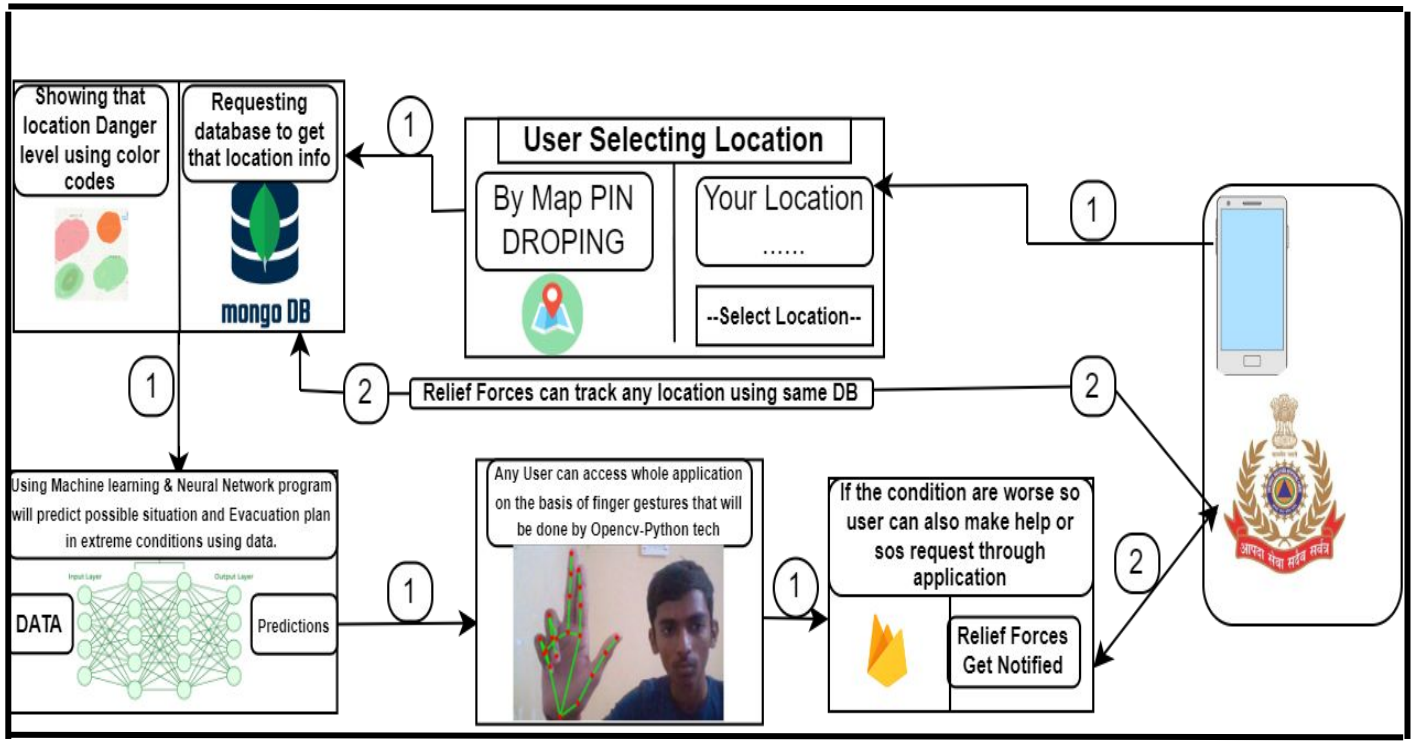
School Code: **270046**

School Name: **Dr. Rajendra Prasad Kendriya Vidyalaya**

Idea/Approach Details

- *Safety Zone Identification: Our platform offers residents in proximity to oil and gas handling industries or refineries the ability to input their location and instantly assess if they are in a **potential danger zone.***
- *Advanced Machine Learning: Using cutting-edge **machine learning algorithms, & Neural Network** our platform can predict the possibility of accidents or explosions in specific areas based on Industry data, environmental factors Data.*
- *Precautionary Measures: Upon identifying a **danger zone**, the platform provides tailored recommendations or **Evacuation Plan** for precautionary measures that residents and businesses can take to **minimize risks**, ensuring their **safety.***
- ***Emergency Response Integration**: In the event of an emergency, users can instantly alert **relief forces** through our application, providing real-time data on the situation and helping minimizing **response times**.Also User can access whole application using **hand gestures.***
- ***Request Assistance**: Users can request assistance or evacuation if needed, streamlining communication with authorities and ensuring swift response to critical situations.*

Architecture



Technology stack :

- React JS :- For an Interactive Front End Development
- Node Js :- For Designing the working architecture or functions.
- Mongo-DB :- To store the data collected from Industries and to get that data for predictions.
- Firebase or AWS :- Cloud Services
- Python (OpenCV) :- To Enable Gestures in Application

Idea/Approach Details

Use Cases

- Oil and Gas Industry: Workers and residents in proximity to oil and gas facilities can use the platform to assess their safety and receive real-time alerts in case of potential dangers.
- Predicting Accidents : Predicting Accidents or disaster can be caused by Oil Gas Handling Industry so that there is no harm to living and anyone even illiterate can use application by hand gestures.
- Urban Development: City planners can use the platform to identify potential safety issues in proposed construction projects and implement safety measures.

Dependencies

- Availability of industry data,and environmental factors and its quality data is important for Accurate predictions.
- The Working of the platform depends on users giving their location and using the application.
- A lack of resources, such as funding or skilled personnel, can halt development and implementation.
- Compliance with data privacy and security regulations, as well as industry-specific regulations, is essential.
- Resistance from oil and gas industries or refineries to share data or collaborate may hinder accurate predictions.

Team Member Details

Team Leader Name: Type: Dhruv Kumar

Class (6th to 12th): 9 Stream* (Arts/Science/Commerce etc): NA Age (in number): 14 Gender (M/F): MALE

Team Member 1 Name: Deepanshu Jha

Class (6th to 12th): 9 Stream* (Arts/Science/Commerce etc): NA Age (in number): 14 Gender (M/F): MALE

Team Member 2 Name: Vanshika Bhatt

Class (6th to 12th): 9 Stream* (Arts/Science/Commerce etc): NA Age (in number): 14 Gender (M/F): FEMALE

Team Mentor 1 Name: Dr. Swati Kamlesh Bisht

Category (Academic/Industry/Parents): Academic Expertise (AI/ML/Blockchain etc): Biology Domain Experience (in years): 12

Team Mentor 2 Name: Mrs. Himani Saini

Category (Academic/Industry/Parents): Academic Expertise (AI/ML/Blockchain etc): AI, IOT,PYTHON Domain Experience (in years): 1