



BASIC DETAILS OF THE TEAM AND PROBLEM STATEMENT

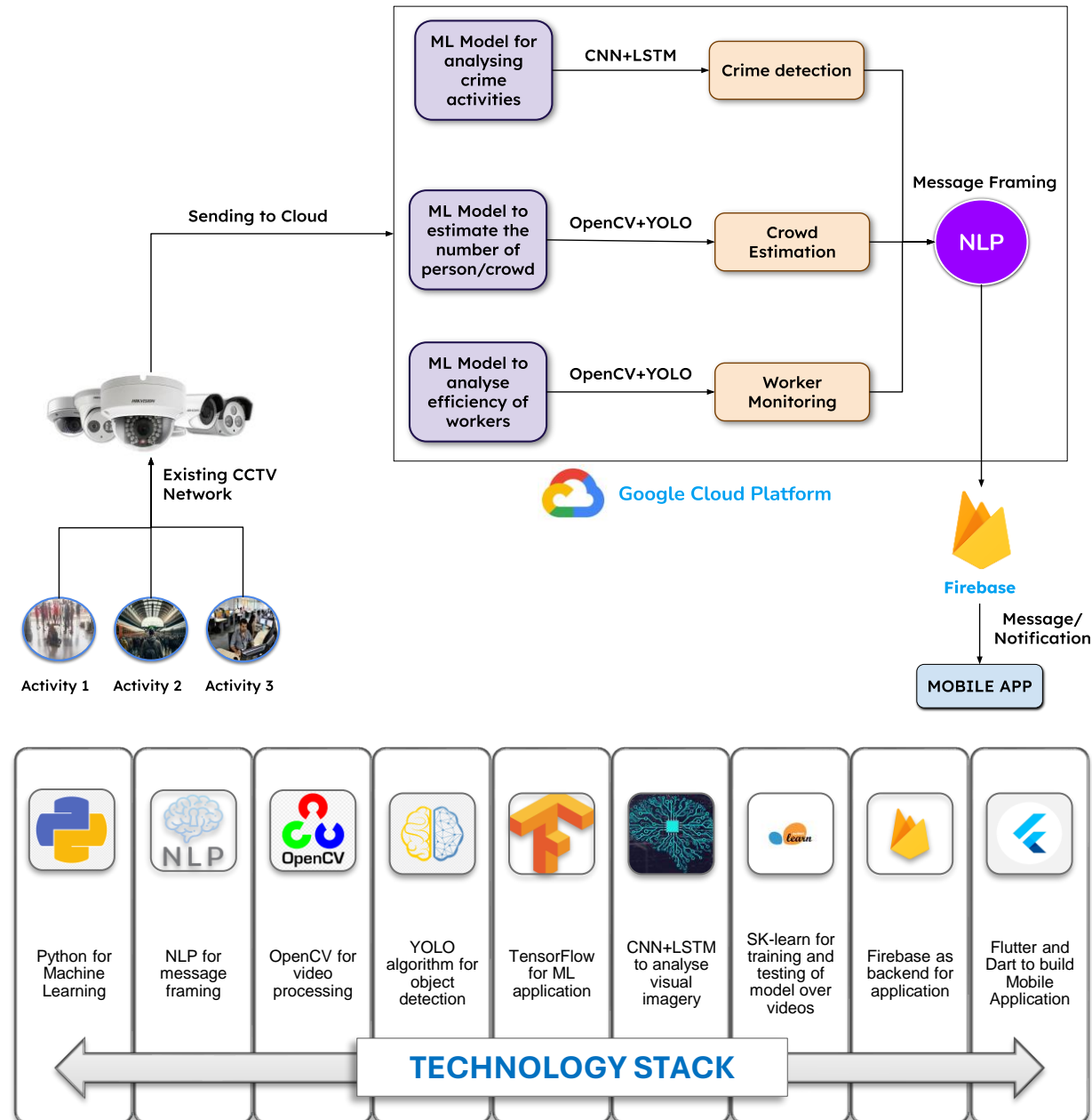
ORGANIZATION NAME:	Ministry of Railways
PS CODE:	SIH1349
PROBLEM STATEMENT TITLE:	Using existing CCTV network for crowd management, crime prevention, and work monitoring using AI/ML
TEAM NAME:	Team-Velocity_2k23
TEAM LEADER NAME:	Harsh Kamde
INSTITUTE CODE (AISHE):	C-35967
INSTITUTE NAME:	Sagar Institute of Science Technology & Research (SISTec-R), Sikandrabad, Near Ratibad, Bhopal
THEME NAME:	Smart Automation

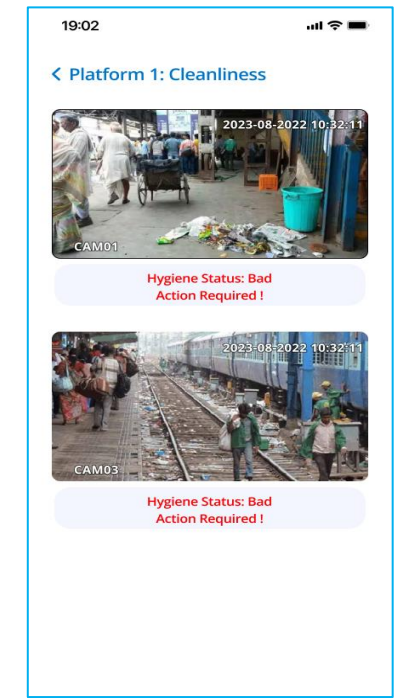
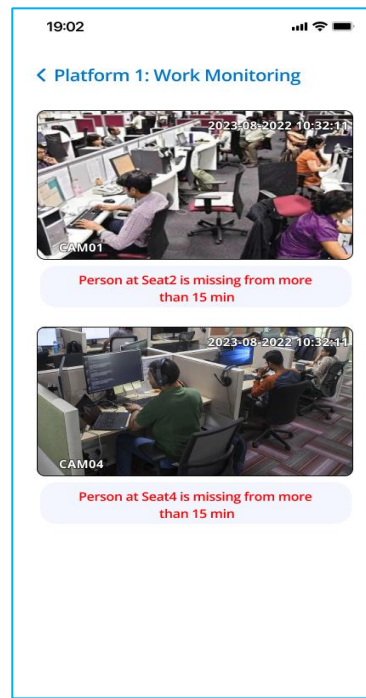
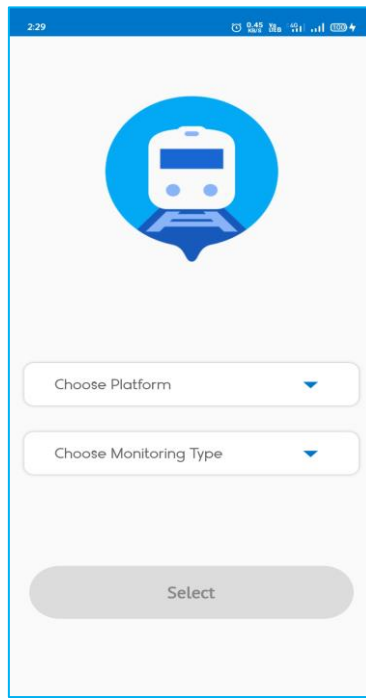
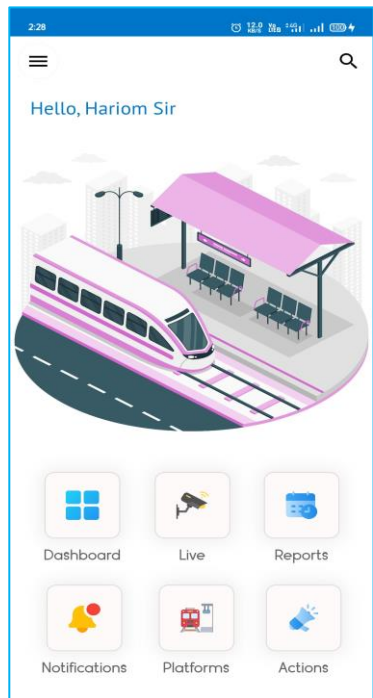
IDEA/APPROACH DETAILS

As the Millions of the passengers travel from the Indian Railways on the daily basis. Criminal activities, High crowd, Cleanliness and Work inefficiency are the key challenges which can be solved using our solution **Rail-Netra** as:

- **Step 1 :** Collects real time videos from the **Existing CCTV Network** across the platforms and send them to **Cloud**.
- **Step 2 :** Apply Pre-trained **Deep Learning** Model on the videos and detect the **Criminal Activities, Realtime Crowd Variations, Cleanliness** and **Work Efficiency of Workers** in Realtime video.
- **Step 3 :** If any **Criminal Activity** or criminal found then the model itself Captures the Entity who is criminal and also the victim (in case of fight), count **Crowd Variation** on platforms, monitor **Cleanliness Status** and worker's working status as well.
- **Step 4 :** Send an **Alert or Notification** messages to the **CCTV Control Room** situated near the suspected area at real time if Crime is Detected, Crowd is High, Platform hygiene status is bad or Worker is missing for more than 15min.

Working of Rail-Netra





Use Cases

Here are some following main use cases of our solution:

- ✓ **Crime Management** like robbery, shooting, stealing etc. at **railway stations** can be reduced.
- ✓ **Passengers Safety** can be ensured.
- ✓ **Cleanliness** at the **platforms** can be ensured.
- ✓ With this model **Work Monitoring** be done easily as result **Work efficiency** can be increased.
- ✓ **Crowd Management** on the **platform** can be done in a **efficient way**.

Required dependencies

Here are some dependencies to develop this solution :

- ✓ Real time CCTV access
- ✓ Internet
- ✓ Smart Phone
- ✓ Firebase
- ✓ ML Dataset

TEAM MEMBER DETAILS

Team Leader Name: Harsh Kamde

B.Tech CSE 3rd Year

Team Member 1 Name: Hariom Singh

B.Tech CSE 3rd Year

Team Member 2 Name: Kapil Kumar

B.Tech CSE 3rd Year

Team Member 3 Name: Lata Takem

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Team Member 4 Name: Anand Patel

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Team Member 5 Name: Mohit Yadav

B.Tech CSE 3rd Year

Team Mentor 1 Name: Rohit Bansal

Academic AI/ML 7 years of experience

Team Mentor 2 Name: Dharmendra N. Jha

Academic AI/ML 4 years of experience