PROJECT ROADMAP

Project: Using existing CCTV network for crowd management, crime prevention, and work monitoring for Railway Stations.

Team Name: Meta Minds

Date 17.01.2024

Problem Statement

Clearly identify the specific problem your project addresses.

Using existing CCTV network for crowd management, crime prevention, and work monitoring at Railway Stations..

Target Audience

Define who will benefit from your solution

Railway administrations.
Victim people to thefts and crimes.
Smooth administration for travellers.

Value Propositions

What is the value added by your project?

- Promptly notify employees of criminal activities for swift response and action.
- Provide data-driven insights for optimizing waiting areas, parking, and crowd management.
- Offer intuitive, graphical displays for informed decision-making.
- Preventing Accidental Pushing Incidents and Suicidal Activities.
- Provided monitoring data for flexibility of available services allocation.

AI Approach

Briefly describe the chosen AI methods or models and their role in the solution

- Employing YOLO ML model on CCTV networks for detecting the crowd count and crowd management.
- Detecting criminal activities in CCTV footage using CNN and RNN techniques and alerting respective authorities promptly, and maintaining records of case resolutions.
- dentification and prevention of suicidal activities by object detection at unrestricted places.
- Providing graphical analysis for the aforementioned data using Matplotlib and PyTorch.

Technical Stack

Specify the programming languages, frameworks, and tools used for development.

- Programming languages: Python
- Libraries: Matplotlib,Seaborn,Numpy,Pandas,cv,imageio,keras .
- Machine learning frameworks: TensorFlow, scikit-learn,YOLO.
- UI: React
- Backend: Node.js, Express.js
- Database: MongoDB
- Cloud platform/Website deployment: AWS

Data and Resources

Describe the data utilized and any additional resources needed (e.g., APIs, cloud platforms).

- Publicly available crime detection dataset on Kaggle and UCF.
- Amazon Sagemaker for deployment of Anomaly detection and crowd management models.
- MongoDB Atlas cluster configuration and connection string.

Team

Introduce team members, their skills, and their assigned roles in the project.

- Kaushik Aduri(Data Scientist): Expertise in LLM and deep learning.
- Shreya Kumar (Data Scientist): Experience in data exploration and model training
- Reva Sartape(UX Designer): Focus on designing a user-friendly and interactive content.
- Meghna Jha(Frontend developer): Development of website and integrating design ideas.
- Himanshu Sangshetti(Backend and Cloud): Integration of models and Cloud deployment.

Success Criteria

Define what constitutes a successful outcome for your project.

- Achieve an accuracy of over 70% in identifying crimes.
- Immediate response/updates on identification of Anomalies.
- Provision of accurate graphical analysis by collection of logs.
- Providing user friendly interface.