Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	15 October 2022
Team ID	PNT2022TMID38040
Project Name	Emerging Methods for Early Detection of Forest Fires
Maximum Marks	4 Marks

Technical Architecture:

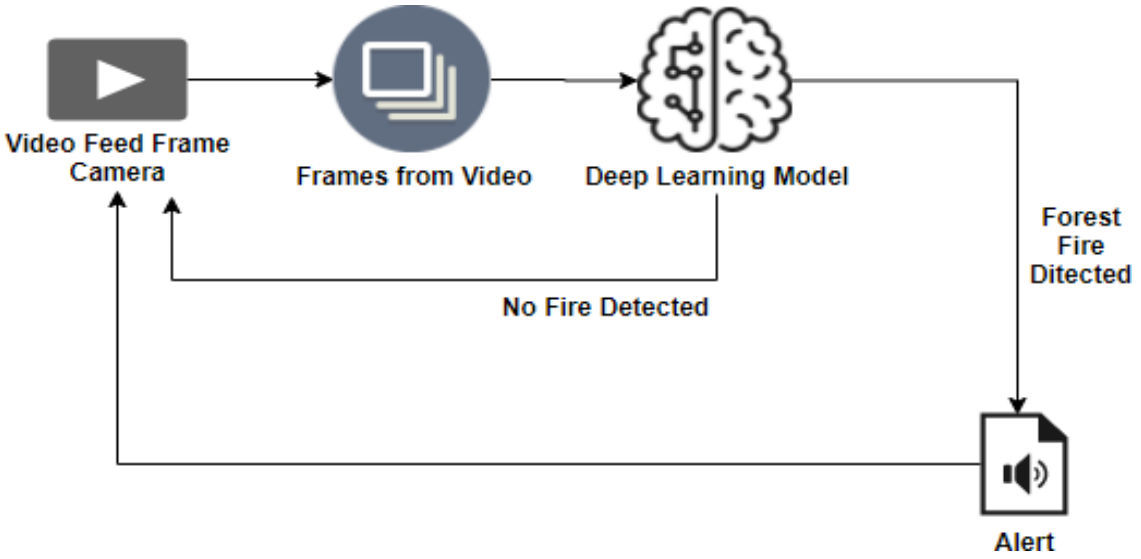

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	Web camera
2.	Application Logic-1	Logic for a process in the application	Python
3.	Application Logic-2	Logic for a process in the application	Deep learning
4.	Application Logic-3	Logic for a process in the application	Data science and machine learning
5.	Database	Data Type, Configurations etc.	CNN, Anaconda, Keras , Tensorflow,
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	Purpose of External API used in the application	IBM Weather API, etc.
9.	External API-2	Purpose of External API used in the application	Twilio API, etc.
10.	Machine Learning Model	Purpose of Machine Learning Model	Video Recognition Model, etc.
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:f

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	OpenCV, Jupyter notebook
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	Drones, Robots, Satellites

S.No	Characteristics	Description	Technology
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Computer vision models
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	Real time computer program detects forest fire in earliest before it spread to larger area.
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	computer vision methods