

Project Design Phase-II

Technology Stack (Architecture & Stack)

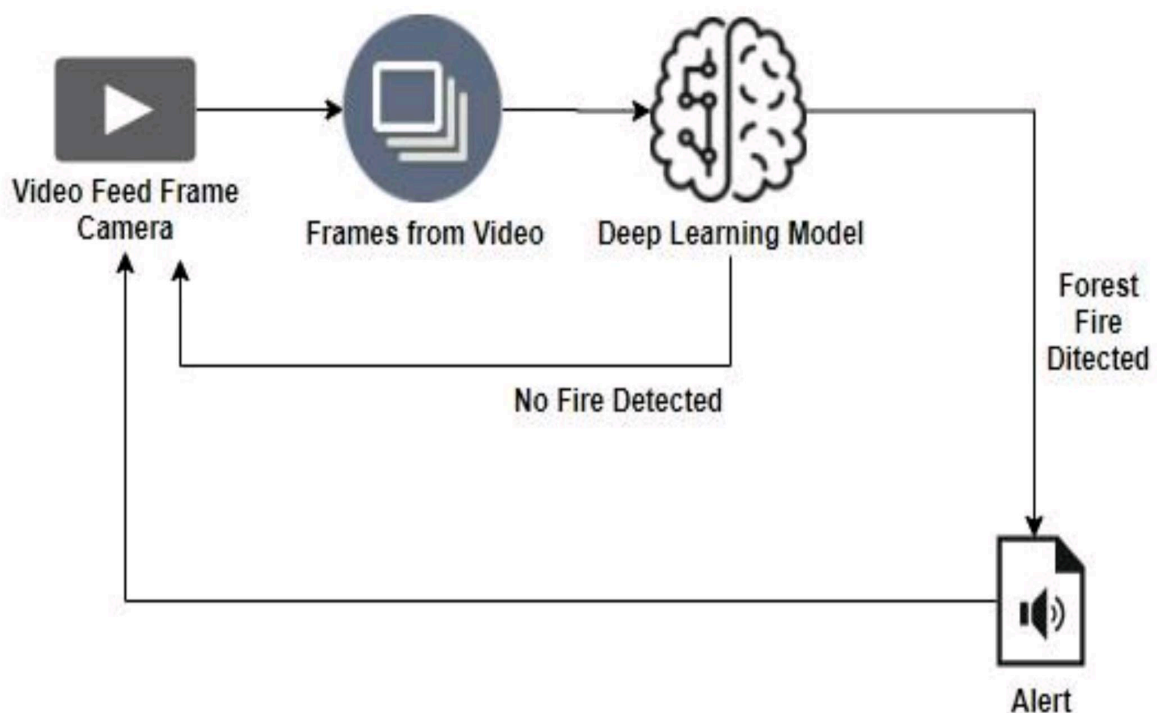
Date	17 October 2022
Team ID	PNT2022TMID39552
Project Name	Emerging Methods for Early Detection of Forest Fires.

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
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1.	Video feed frame camera.	Used to extract the frames from video.	HTML, CSS, JavaScript.
2.	Application Logic-1	Data collected by feed frame Camera.	Python.
3.	Application Logic-2	Using the deep learning process.	Python.
4.	Application Logic-3	Using the libraries to preprocessing the image.	Python libraries like sklearn, NumPy, pandas etc.
5.	Camera	Logic for a process in the application.	FPV Camera technology.
6.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
7.	Smoke sensor	Logic for a process in the application.	MQZ, etc
8.	Cloud Database	Database Service on Cloud.	IBM Cloud.
9.	File Storage	File storage requirements.	Local Filesystem.
10.	Deep Learning Model	Purpose of deep Learning Model (CNN,RNN,YOLO).	Object Recognition Model, etc.
11.	EFixed--wing UAV	Purpose of weather monitoring used in the application.	Aadhar API, etc.
12.	Infrastructure (Server / Cloud)	Application Deployment on Local System /Cloud Server Configuration:	IBM Cloud, Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S. No	Characteristics	Description	Technology
1.	Open-Source Frameworks	CNN, RNN, caffe2 to form the framework.	CNN, RNN.
2.	Scalable Architecture	Justify the scalability of architecture (3- tier, Micro-services)	Technology used.
3.	Availability	Cloud platform	IBM cloud.