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

Date	17 October 2022
Team ID	PNT2022TMID53546
Project Name	Project - Emerging Methods for Early Detection of Forest Fires.
Maximum Marks	4 Marks

Technical Architecture:

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

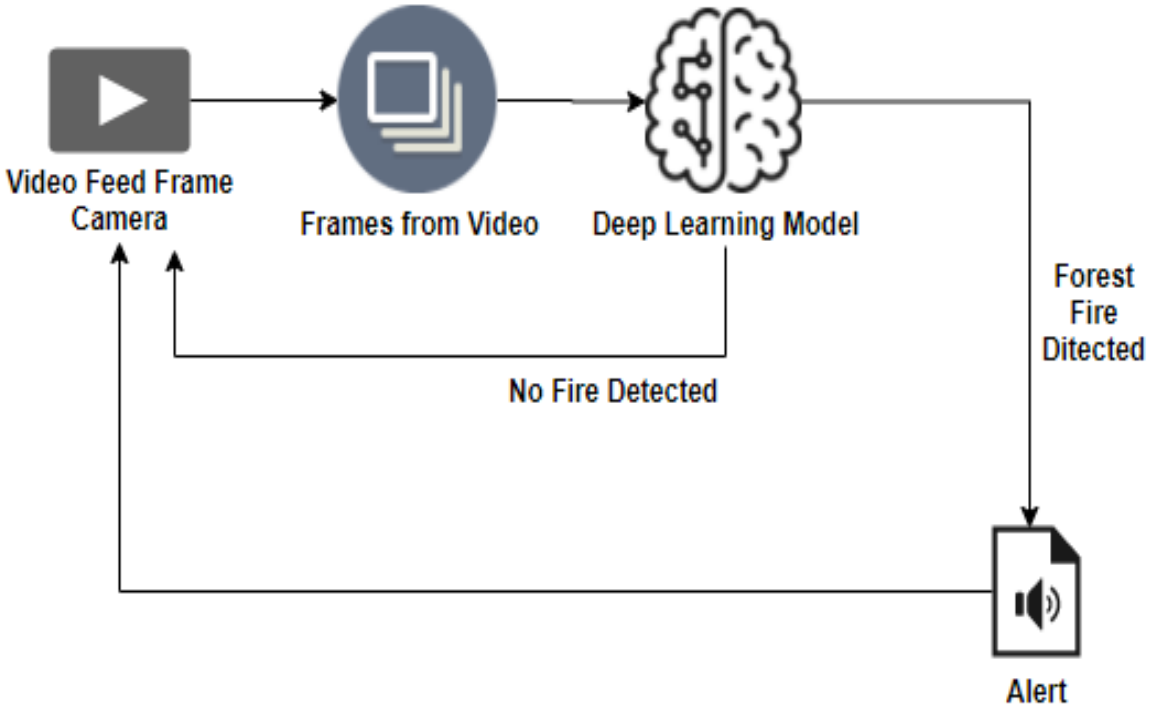

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	Video feed frame camera.	Used to exact 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 pre-processing the image	Python libraries like sklearn, NumPy, pandas etc.
5.	Application Logic-4	Different visualization techniques	Python libraries like matplotlib, seaborn etc
6.	Application Logic-5	For routing and rendering	Python flask
7.	Database	Data Type, Configurations etc.	NoSQL
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.	Video Streaming and alerting	OpenCV for video processing Use Twilio API to send messages.	OpenCV, Twilio API
12.	Infrastructure (Server / Cloud)	Application Deployment on Local System /Cloud Server Configuration:	IBM Cloud.

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\ SecurityImplementations	3 – tier	Python flask
3.	Availability	Cloud platform	IBM cloud
4.	Performance	Train and test the many requests at a time	Online deployment to IBM cloud