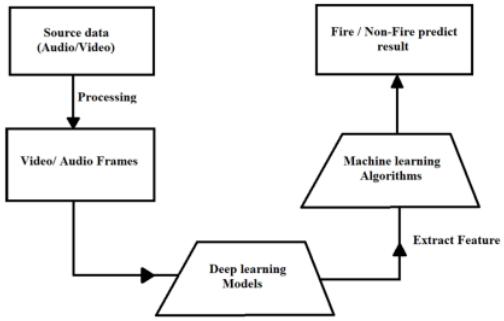
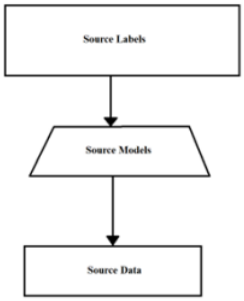
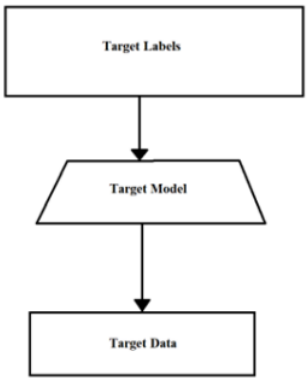
Project Design Phase-II
Technology Stack (Architecture & Stack)

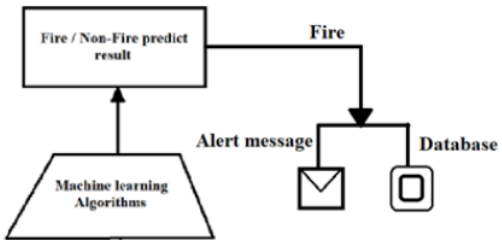
Date	26 October 2022
Team ID	PNT2022TMID01865
Project Name	Project - EMERGING METHODS FOR EARLY DETECTION OF FOREST FIRES
Maximum Marks	4 Marks

TECHNICAL ARCHITECTURE:

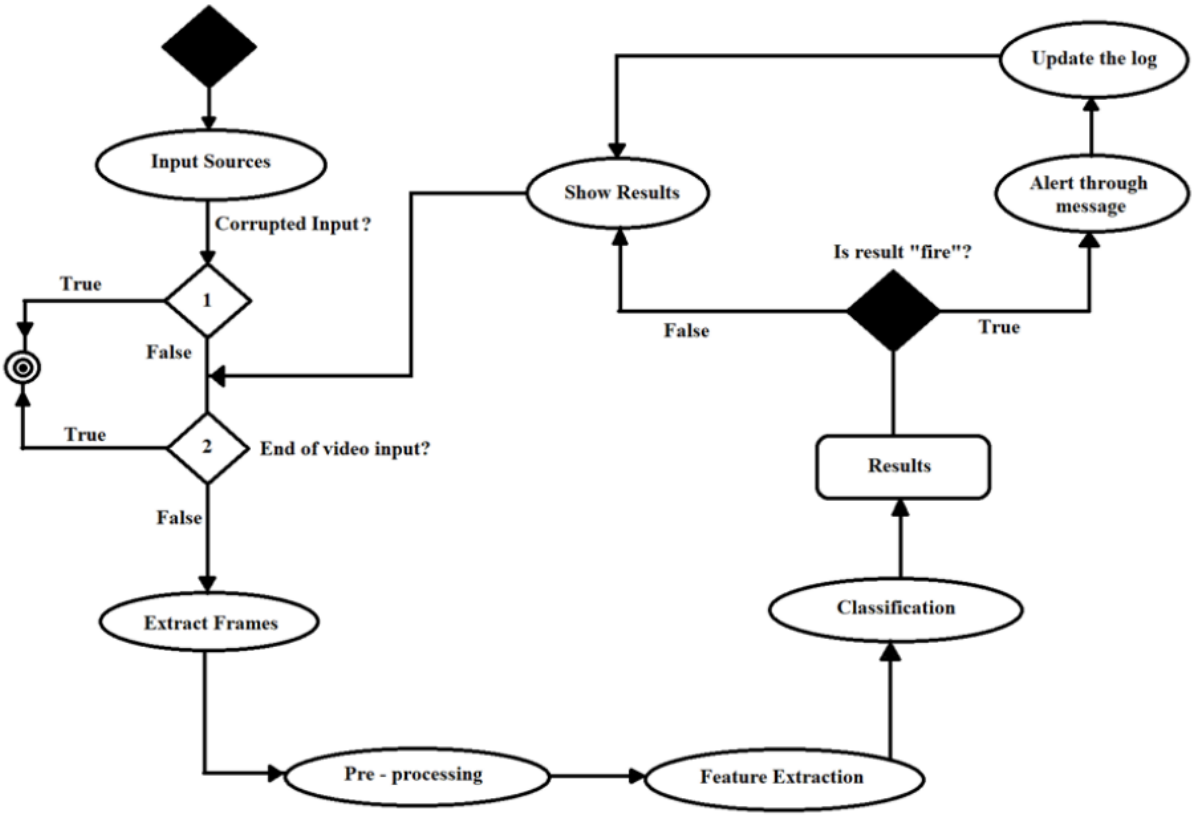








PROBLEM SOLUTION DIAGRAM:



Components & Technologies:

S.No	Component	Description	Technology
1	User Interface	This project will work with a real-time camera.	Image Processing
2	Application Logic	This project's process logic.	Python
3	Camera	Data Processing	CCTV camera
4	Database	Train and test data folder	Labelled dataset ,From kaggle
5	Cloud Database	Database Service on Cloud	IBM
6	Database system	File storage requirements	Local Filesystem on computer or PC.
7	Deep Learning Model	Purpose of Model	Real time object detection and image processing
8	Infrastructure	Deployment	Local and IBM server

Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	We make use of open source frameworks, libraries, and modules.	Python,tensorflow Keras,keras,api,opencv
2.	Security Implementations	We detect the fire and send the data using a real-time camera.	Twilio sms module,opencv,python
3.	Scalable Architecture	We employ an image processing technique.	CNN(convolutional nueral network).
4.	Availability	We use this application everywhere, especially in forests and other high-risk areas.	Cctv camera,image/video processing technique called cnn
5.	Performance	In comparison to other machine / deep learning algorithms, the CNN algorithm detects fire with high accuracy.	CNN(convolutional nueral network),image processing.