

PREPARATION PHASE

PROJECT FLOW

Team ID	PNT2022TMID30674
Project Name	Emerging methods for early detection of forests fires

A project flow is a measure of planned changes within a project over time. Shows the movement of the project product from conception and design to delivery and deployment. A project flow describes a set of preconfigured activities required to plan, create, deliver, and maintain a project product, along with the information, materials, and resources required for a project.

Project flow of this project are as follows:

- Users interact with webcams to capture video.
- When the input image is sent from the video frame to the model, if a fire is detected it will be displayed on the console, a warning sound will be generated and a warning message will be sent to the authorities.

In order to achieve these goals we need to complete the following tasks:

1.DATA COLLECTION:

It is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes. The data collection component of research is common to all fields of study including physical and social sciences, humanities, business, etc. While methods vary by discipline, the emphasis on ensuring accurate and honest collection remains the same.

- Collect the dataset or create the dataset.

2.IMAGE PREPROCESSING:

It is a method to perform some operations on an image, in order to get an enhanced image or to extract some useful information from it.

- Import Image Data Generator Library.
- Define the parameters /arguments for Image Data Generator class.
- Applying Image Data Generator on trainset and test set.

3.MODEL BUILDING:

Project Modelling is a wholly new method to the income and initiation section of a project. It lets in you to broaden extra correct plans in much less time, boost up the income process, and ultimately, force higher results in your clients.

- Import the model building Libraries
- Initializing the model
- Adding CNN Layers
- Adding Hidden Layer
- Adding Output Layer
- Configure the Learning Process
- Training and testing the model
- Optimize the Model
- Save the Model

4.VIDEO STREAMING AND ALERTING:

- OpenCV for video processing
- Creating an account in Twilio service
- Use Twilio API to send messages.

