Project Design Phase-I
Proposed Solution Template

Date	20 November 2022
Team ID	PNT2022TMID24176
Project Name	Emerging Methods for Early Detection of Forest Fire
Maximum Marks	2 Marks

Proposed Solution Template:

S.No.	Parameter	Description
1.	Problem Statement (Problemto be solved)	Forest fires are a major environmental issue, creating economic and ecological damage while endangering human lives. There are typically about 100,000 wildfires in the United States every year. Over 9 million acres of land have been destroyed due to treacherous wildfires. We have come with the new technology of identifying the forest fire with the help of machine learning.
2.	Idea / Solution description	Collecting the dataset for training and testing the model to detect the forest fire. With this, forest fire can be detected as early as possible and the damage of wildlife can be reduced. Exact location of fire is detected with the help of model and alert message will be send to the authorities to prevent forest fire from endangering the species. We have implemented the model to detect fire by capturing the live images from video. And it uses CNN (Convolutional neural network) and image preprocessing techniques.

3.	Novelty / Uniqueness	The real time computer program for detection of forest fire can detect earliest before it spread to dense area. Our model depends on AI. It is easier and cheaper for the forest management. Accuracy and efficiency of model using AI,CNN and API made it possible.
4.	Social Impact / Customer Satisfaction	The destroying homes, wildlife habitat and timber, and polluting the air with emissions harmful to human health. The proposed solutionfulfills the satisfaction requirements of the customer as it provides instant alerts on fire detection which helps the forest officers and authorities to take action as soon as possible.
5.	Business Model (Revenue Model)	The cameras are located in highly possible forest fire areas and other areas to capture the live images to detect whether there is any fire or not. We are using CNN algorithm to recognize the images from camera and using model, we can detect the forest fire and sending alert messages to the authorities and nearby fire station.
6.	Scalability of the Solution	The device should be compatible with a minimum of 4GB RAM and WINDOWS 10 (x64 bit) and 100 GB ROM to support usage of various software like PYTHON 3.6.5 and JUPYTER notebook Testing and training undergo using latest technology like KERAS, TENSORFLOW and NUMPY.