

**Project Design Phase-I**  
**Proposed Solution Template**

Date	23 September 2022
Team ID	PNT2022TMID48153
Project Name	Emerging methods for Early detection of forest fires
Maximum Marks	2 Marks

**Proposed Solution Template:**

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to 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. It is difficult to predict and detect Forest Fire in a sparsely populated forest area and it is more difficult if the prediction is done using ground-based methods like Camera or Video-Based approach. Satellites can be an important source of data prior to and also during the Fire due to its reliability and efficiency. The various real-time forest fire detection and prediction approaches, with the goal of informing the local fire authorities
2.	Idea / Solution description	The user interacts with a web camera to read the video. Once the input image from the video frame is sent to the model, if the fire is detected it is showcased on the console, and alerting sound will be generated and an alert message will be sent to the Authorities
3.	Novelty / Uniqueness	AI assess in real time massive amounts of camera and satellite footage and identify smoke and flames from new wildfires. The systems then alert local authorities and dispatchers of the new ignition
4.	Social Impact / Customer Satisfaction	Monitoring of the potential risk areas and an early detection of fire can significantly shorten the reaction time and also reduce the potential damage as well as the cost of fire fighting. Tribal people who live in forest and forest department. Saving the most essential Forest cover
5.	Business Model (Revenue Model)	Supply chain, power & supply, Fires stations and government by providing services

6.	Scalability of the Solution	This study proposes an effective forest fire detection method using image processing techniques including movement containing region detection based on background subtraction and color segmentation. The algorithm uses YCbCr color space which is better in separating the luminance from the chrominance and has good detection rate
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