

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

Date	05/10/2022
Team ID	<b>PNT2022TMID01998</b>
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)	<p><b>Statement:</b> To find emerging methods for early detection of forest fires using artificial intelligence.</p> <p><b>Description:</b> This technology is to be implemented to locate a forest or a bush fire based on the concept of deep learning and YOLO algorithm. After detecting, authorities are to be alerted immediately to mitigate any damage.</p>
2.	Idea / Solution description	<ol style="list-style-type: none"> <li>1. In case of forest fire detection the burning substances are primarily identified as sceptical flame regions using a division strategy to expel the non-fire structures and results are verified by a deep learning model.</li> <li>2. The technology used to locate a forest or a bush fire is based on the concept of deep learning and YOLO algorithm. This deep learning model is deployed on a UAV which help in detection of fire, meanwhile it can be monitored by web application in order to prevent it at advance.</li> </ol>
3.	Novelty / Uniqueness	<ol style="list-style-type: none"> <li>1. Accurate and reliable recognition of sceptical flame regions by means of using YOLO v3 algorithm.</li> <li>2. Unlike previous algorithms, the exact location of the origin of the forest fire is also detected and sent to the web-app.</li> </ol>
4.	Social Impact / Customer Satisfaction	<ol style="list-style-type: none"> <li>1. Because of earlier prediction, loses of life, destruction of various environmental, geographical and essential resources can be avoided.</li> <li>2. By detecting a fire quickly and accurately, this system can limit the emission of toxic products created by combustion, as well as global-warming gases produced by the fire itself.</li> </ol>
5.	Business Model (Revenue Model)	<ol style="list-style-type: none"> <li>1. The software platform to provide the fully autonomous processing of data received from the camera of UAV to obtain live feed in web-App.</li> <li>2. This can also be implemented as a mobile application where the services can be accessed on subscription basis.</li> </ol>

6.	Scalability of the Solution	<ol style="list-style-type: none"><li>1. This application can be developed as the world wide surveillance system to monitor the several sections of different forests..</li><li>2. Filtration of false positive result by comparing the dataset with the video feed obtained.</li></ol>
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