- **PROJECT DESIGN PHASE – I (PROPOSED SOLUTION)**

Date	05 October 2022
Team ID	PNT2022TMID27160
Project Name	Emerging Methods For Early Detection Of Forest Fires.
Team Leader	Kamalraj.G
Team Mates	Udhaya.L , Dhusyanth.R , Srinivas.A
Maximum Marks	2 Marks

- **PROPOSED SOLUTION TEMPLATE:**

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

S.No.	Parameter	Description
1.	**PROBLEM STATEMENT (Problem To Be Solved)**	AI based Emerging methods for early detection of forest fires
2.	**IDEA / SOLUTION DESCRIPTION**	• A great deal of attention was recently given for developing the suitable systems that can reactively and proactively act against forest fires. • Although progress has been made in the field of wildfire fighting in the last decades, there is still a need to strengthen the disaster response capacity, including early warning systems and improvements in real time exchange of data at all stages and levels of a forest monitoring scheme. • Technological breakthroughs will be a key force driving change in wildland fire fighting.
3.	**NOVELTY / UNIQUENESS**	• Due to the complex background and large space of the forest fire image, certain difficulties are brought to the forest fire identification process. • Applying the convolutional neural network (CNN) technology to image recognition can avoid the blindness and randomness to a large extent in the feature extraction process, and theoretically extract deeper features, which can greatly improve the accuracy of flame image recognition. CNN technology has been applied to fire image recognition by many researchers

4.	**SOCIAL IMPACT / CUSTOMER SATISFACTION**	• By detecting a fire quickly and accurately (i.e., by not sacrificing speed or causing false alarms) and providing early warning notification, a fire-detection system can limit the emission of toxic products created by combustion, as well as global-warming gasses produced by the fire itself. • Detection and alarm systems are an important part of your overall fire protection process. Discovering fires early contributes to protecting wildlife, limiting ecosystem damage and prevents loss of flora and fauna.
5.	**BUSINESS MODEL (REVENUE MODEL)**	• This idea is helpful for Fire fighters and Forest Services to prevent disasters. • The annual losses from forest fires in India for the entire country have been moderately estimated at Rs .440 crores (US$ 107 million). • To counter this , we use artificial intelligence based CNN model . The primary source of revenue for CNN is subscription fees. The revenue from subscription fees accounts for 50 per cent of its total revenue, whereas the other 50 per cent is held by advertising and ancillary revenue streams. • Revenue model comprising subscriber and advertiser fees form the backbone of CNN.
6.	**SCALABILITY OF THE SOLUTION**	• Millions of hectares of forest are destroyed by fire every year. Areas destroyed by these fires are large and produce more carbon monoxide than the automobiles. Monitoring 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. • Its geographically scalable system keeps its usability and usefulness intact, regardless of the physical distance of resources and users.