Project Design

Phase-I

Proposed Solution

Date	08.10.2022
Project Name	Emerging methods for early detection of forest fires
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Team Mates	Nithya D Vasanthakumar V Naveen Kumar S

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)**	AI based Emerging methods for early detection of forest fires
2.	**Idea / Solution description**	A solution is needed that detects fires early by detecting smoke, hydrogen and other gases released by pyrolysis in the early stages of a wildfire, buying firefighters valuable time to extinguish the fire before it spreads out of control. Sensing solutions from Bosch Sensor tech can help to reduce wildfires.
3.	**Novelty / Uniqueness**	Remote sensing Machine learning Wildfire prediction Data mining using **Artificial Intelligence**

4.	**Social Impact / Customer Satisfaction**	The most important factors in the fight against the forest fires include the earliest possible detection of the fire event, the proper categorization of the fire and fast response from the fire services. Several different types of forest fires are known, including ground fires, surface fires and crown / tree fires. Each of these types of forest fires is specific and the proper counteractions against it must be considered and implemented to successfully fight it. Over the years the detection of forest fires has been conducted in different ways, ranging from the use of forest outposts to fully automated solutions.
5.	**Business Model (Revenue Model)**	The annual losses from forest fires in India for the entire country have been moderately estimated at Rs.440 crores (US$107 million).
6.	**Scalability of the Solution**	Aerial-based systems gained recently a lot of attention due to the rapid development of UAV technology. Such systems provide a broader and more accurate perception of the fire, even in regions that are inaccessible or considered too dangerous for fire-fighting crews. In addition, UAVs can cover wider areas and are flexible, in the sense that they monitor different areas, as needed