Project Design Phase-I

Proposed Solution

Date	19 September 2022
Team ID	PNT2022TMID10153
Project Name	Emerging Methods For Early Detection Of Forest Fires
Maximum Marks	2 Marks

Proposed Solution:

S.No.	Parameter	Description
1.	Proposed Statement (Problem to be solved)	Detection of forest fire and smoke in wildland areas is done through remote sensing-based methods such as satellites, high-resolution static cameras fixed on the ground, and unmanned aerial vehicles (UAVs).
2.	Idea / Solution Description	In the image processing based forest fire detection using YCbCr colour model, method adopts rule based colour model due to its less complexity and effectiveness. YCbCr colour space effectively separates luminance from chrominance compared to other colour spaces like RGB.
3.	Novelty / Uniqueness	in this paper image processing based forest fire detection using YCbCr colour model is proposed. The proposed method adopts rule based colour model due to its less complexity and effectiveness. YCbCr colour space effectively separates luminance from chrominance compared to other colour spaces like RGB and rgb(normalized RGB). The proposed method not only separates fire flame pixels but also separates high temperature fire centre pixels by taking in to account of statistical parameters of fire image in YCbCr colour space like mean and standard deviation. In this method four rules are formed to separate the true fire region.The proposed method can be used for real time forest fire detection with moving camera.
4.	Social Impact / Customer Satisfaction	Growing public alarm at the problem of large-scale forest fires, is evident from an assessment of their past and present repercussions on the population in general.

		Numerous and varied media reports indicate the extraordinary social and environmental impact of forest fires. Emergency situations caused by evacuations, physical injury and at worst, loss of human life are extensively covered in the media which moreover lists environmental damage and figures for the numbers involved in the suppression operations, plaice firemen, volunteers, army air and land resources etc… Blocked roads and railway lines, electricity, mobile and land telephone lines cut, destruction of homes and industries, and the way of life of many communities are annual news stories and the balance of the catastrophe caused by fire results in a wealth of articles, editorials and communications. A search in the newspaper archives reveals shocking figures, which we offer here to illustrate the magnitude of a problem which is now unsustainable and to which the managers and politicians responsible have become accustomed.
5.	Business Model (Revenue Model)	The service is designed to provide actual forest fire risk maps in the needed spatial and temporal resolution via web mapping services to support the users' decision making on the measures adoption. The improvement of the airborne patrol routing is based on the integration of the periodical forest fire risk monitoring into the flight path planning. The on-line tools to allow the users to plan an optimal path of the airborne survey.
6.	Scalability of the solution	It is useful to detect the early detection of forest fire.