

## **Project Design Phase – II**

### **Solution requirements (functional and non-functional)**

Date	22 October 2022
Team I'd	PNT2022TMID52354
Project name	Emerging Methods for Early Detection of Forest Fires
Maximum marks	4 marks

### **FUNCTIONAL REQUIREMENTS :**

Following are the functional requirements of the proposed solution .

<b>FR No.</b>	<b>FunctionalRequirement(Epic)</b>	<b>Sub Requirement (Story/Sub-Task)</b>
<b>FR -1</b>	Images surveillance start	Start surveillance from satellites is a trained model
<b>FR -2</b>	Image processing is being used to monitor the fire	Exact location monitoring through camera
<b>FR -3</b>	Detect the fire	Fire is detected through CNN model
<b>FR -4</b>	Alert	sending notification to the fire authorities

## **NON-FUNCTIONAL REQUIREMENTS:**

Following are the non-functional requirement of the proposed solution.

<b>NFr.no</b>	<b>Non-functional requirement</b>	<b>Description</b>
<b>Nfr-1</b>	<b>Usability</b>	Usability is a unique and significant perspective to analyse user requirements, which can further improve the design quality, according to AI devices with machine learning.
<b>Nfr-2</b>	<b>Security</b>	<ul style="list-style-type: none"><li>▪ HD and powerful CCTV cameras are used.</li><li>▪ The fire is found using image processing and 24-hour monitoring.</li></ul>
<b>Nfr-3</b>	<b>Reliability</b>	A real-time and dependable fire detection method for an early warning system is required to ensure an effective response to an incident.
<b>Nfr-4</b>	<b>Performance</b>	<ul style="list-style-type: none"><li>• The system is intended to monitor forest fires through image processing via a camera.</li><li>• CCTV cameras are used to process images and detect forest fires.</li><li>• The twilio module is used to send the forest officer an alert message.</li></ul>
<b>Nfr-5</b>	<b>Availability</b>	<ul style="list-style-type: none"><li>○ By progressing to a more advanced system that uses real-time CCTV cameras to detect and alert on fires.</li><li>○ The convolutional neural network algorithm is extremely useful for detecting fire in captured images.</li></ul>

<b>Nfr-6</b>	<b>Scalability</b>	By detecting forest fires early, we can prevent loss of life as well as resource damage while decreasing air pollution, landslides, soil erosion, and Emission emissions into the environment.