

## Project Design Phase – II

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

Date	22 October 2022
Team I'd	PNT2022TMID41411
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 .

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