Project Design Phase – II

Solution requirements (functional and non-functional)

Date	23 October 2022
Team I'd	PNT2022TMID52514
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/Sub-Task)
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.

NFr.no	Non-functional requirement	Description
Nfr-1	**Usability**	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.
Nfr-2	**Security**	▪ HD and powerful CCTV cameras are used. ▪ The fire is found using image processing and 24-hour monitoring.
Nfr-3	**Reliability**	A real-time and dependable fire detection method for an early warning system is required to ensure an effective response to an incident.
Nfr-4	**Performance**	• The system is intended to monitor forest fires through image processing via a camera. • CCTV cameras are used to process images and detect forest fires. • The twilio module is used to send the forest officer an alert message.
Nfr-5	**Availability**	○ By progressing to a more advanced system that uses real-time CCTV cameras to detect and alert on fires. ○ The convolutional neural network algorithm is extremely useful for detecting fire in captured images.

Nfr-6	**Scalability**	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.