Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	15 October 2022
Team ID	PNT2022TMID17409
Project Name	Emerging Methods for Early Detection of Forest Fires
Maximum Marks	4 Marks

Functional Requirements:

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User system	• The system shall take training sets of fire images and recognize whether there is a fire or the beginning of a fire or if there is no fire • The system shall send a notification to the admin when it recognizes a fire in the image given • The system shall take real inputs of satellite images and determine whether the image contains a fire or not
FR-2	User system identification	• The system shall be able to take images with a variety of sizes and convert it to one fixed image to be used throughout the application • The system shall run as a service on either a Windows or Linux operating system. • In the event that the computer on which the system is running shuts down, the system service should start automatically when the computer restarts
FR-3	System performance	• The system shall be able to analyze the image given has a fire or not in less than five minutes • The system shall have an accuracy rate of at least 90% when attempting to detect if a given image has a fire or not

Non-functional Requirements:

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Timely information about the appearance of fire reduce the number of areas affected by this fire and thereby minimizes the costs of fire extinguishing and the damage caused in the woods
NFR-2	**Security**	Blocked roads and railway lines, electricity, mobile and land telephone lines cut, destruction of homes and industries.
NFR-3	**Reliability**	Stay with outside fires until they are completely safe and dead out. Dispose of wood ashes in a metal bucket, soaking them with water before dumping them.
NFR-4	**Performance**	Use computer vision methods for recognition and detection of smoke or fire, based on the still images or the video input from the drone cameras.
NFR-5	**Availability**	Real time computer program detects forest fire in earliest before it spread to larger area.
NFR-6	**Scalability**	Computer vision models enable land cover classification and smoke detection from satellite and ground cameras