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

Date	16 October 2022
Team ID	PNT2022TMID44949
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.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Surveillance	The system shall take training sets of fire images and recognize whether there is a fire or a smoke or if there is no fire
FR-2	Data Prediction	The system shall take real inputs of satellite images and determine whether the image contains a fire or not
FR-3	Fire Detection	The system shall have an accuracy rate of at least 90% When attempting to detect if a given image has a fire or not
FR-4	Alert	The system shall alert the forest officials through calls

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Usage of the satellite images to observe, detect and report fire events.
NFR-2	**Security**	Trained on both dense and rainforests in detecting and predicting the chances of fire.
NFR-3	**Reliability**	An efficient and robust 3D modelling is used to augment the accuracy of the detection.
NFR-4	**Performance**	The orientation of the images is required, and that is obtained by computing the distance between the tree and other entities with the help of LiDAR.
NFR-5	**Availability**	Forest fire are common hazards in forests, particularly in remote or unmanaged areas. It is possible to detect forest fires, elevated CO2 and temperature levels using AI.
NFR-6	**Scalability**	Early detection and alerting users are done efficiently and in a faster means