Project Design Phase-II

Solution Requirements (Functional & Non-functional)

Date	18 October 2022
Team ID	PNT2022TMID13036
Project Name	Emerging Methods for Early Detection of Forest Fires

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through the registered government ID
FR-2	User Confirmation	Confirmation via OTP
FR-3	User Login	Login using credentials
FR-4	User Search	Search for Info on forest fire occurrence
FR-5	User Profile	User shall be given a live feed of the forest
FR-6	Overall Surveillance Report	Helps to understand the current scenario in the forest by giving report as “no fire” or “negative”.
FR-7	Cloud Server Access	To save and run the model from the camera footage
FR-8	Live Camera Feed	Real-time monitoring by the forest officials
FR-9	GSM Module	To alert the nearest forest range officer and the local fire department
FR-10	Alert	The system will send notification to the user when fire is detected

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	Governments who manage reserve forests, large corporations that own acres of land where they grow trees for profit, NGOs that work to

		conserve forests, and the forest department can all make use of this project as a service to track the activity of endangered species.
NFR-2	**Security**	The server is an IBM cloud, which has very excellent encryption standards, to assure security in the monitoring process. Only government of company's officials have access to these files. OTP will conduct additional security checks as confirmation. The backup videos will be kept on the IBM cloud server.
NFR-3	**Reliability**	The project is very much reliable compared to an previous generation open-source forest monitoring system where the data can be easily manipulated and this is much robust as the initial cost is higher while there will be no need for any maintenance cost
NFR-4	**Performance**	This initiative outperforms other technologies for detecting forest fires, such as satellite monitoring, IOT sensors, and the usage of IR sensor-based cameras. Over time, this model becomes more accurate.
NFR-5	**Availability**	This data is only accessible to officials since it contains sensitive information about thousands of acres of forest lands. As the AI model is connected to the IBM server, this can therefore be opened anywhere by the authorised individual.
NFR-6	**Scalability**	The initial setup costs more than other ways, but there will be reduced or no maintenance costs, and the cost to halt a forest fire and the pollution and wildlife lost is considerably greater than the initial setup costs. Given that they are much easier to implement, the project can readily be scaled to encompass bigger areas of the forests.