Project Design Phase – Ⅱ

Solution requirements (functional and non-functional)

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| DATE | 18-10-2022 |
| TEAM ID | PNT2022TMID40220 |
| PROJECT NAME | EMERGING METHODS FOR EARLY OF DETECTION FOREST FIRES |
| MAXIMUM MARKS | 4MARKS |

**FUNCTIONAL REQUIREMENTS :**

Following are the functional requirements of the proposed solution .

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| --- | --- | --- | --- | --- | --- |
| |  | | --- | | **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.

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| --- | --- | --- | --- |
| **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. |