Project Design Phase – 11

Solution requirements (functional and non-functional)

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| Date | 22 October 2022 |
| Team I’d | PNTIBMSm18 |
| 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 .

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| **FR No.** | **Functional Requirement (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. |

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| **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. |