Project Design Phase-II

Solution Requirements (Functional & Non-functional)

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| Date | 16 October 2022 |
| Team ID | PNT2022TMID40862 |
| Project Name | Emerging Methods for Early Detection of Forest Fire |
| 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 | User Registration | Registration through Application |
| FR-2 | User Confirmation | Confirmation via Email or message Confirmation via OTP |
| FR-3 | User Alert | The warning to user is provided through Alarm |
| FR-4 | User Connection | Surveillance is provided by Camera or Drone |
| FR-5 | Fire Detection | The camera output is verified by Artificial Intelligence |
| FR-6 | Signal Transmission | The information processed can transferred to different destinations by internet and network towers |

# Non-functional Requirements:

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

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| **FR No.** | **Non-Functional Requirement** | **Description** |
| NFR-1 | **Usability** | Provides early warning of forest fire to avoid massive forest damage and to protect life in forest |
| NFR-2 | **Security** | Provides protection and security to the tribal people , animals in the forest and also the entire forest |
| NFR-3 | **Reliability** | The system is reliable and trust worthy due to fast and accurate fire detection process via camera using Artificial Intelligence and wireless transmission for signal and alert over areas . The system components and cameras are durable that can mostly survive disaster conditions |
| NFR-4 | **Performance** | The system detects small sparks of fire in a location and identified by Artificial Intelligence with high accuracy and speed |
| NFR-5 | **Availability** | The surveillance provided by system camera are 360 degree and also can be drones watch over the forest 24\*7 (all the time). The power source for camera and transmitting components can be  taken from solar energy , so they don’t run out of battery. |
| NFR-6 | **Scalability** | A large area of the forest can be covered under surveillance by using Drones and 360 degree cameras. |