**Project Design Phase-II**

**Solution Requirements (Functional & Non-functional)**

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| Date | 03 October 2022 |
| Team ID | PNT2022TMIDxxxxxx |
| Project Name | Project - xxx |
| 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 | 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.

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| **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 |