Project Design Phase-II

# Solution Requirements (Functional & Non-functional)

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| Team ID | **PNT2022TMID26073** |
| Project Name | IoT based smart crop protection system for agriculture |

**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 Visibility | Sensen animals nearing the crop field and sounds alarm to woo them away as well as sends SMS to farmer using cloud service. |
| FR-2 | User Reception | The Data like values of Temperature, Humidity, Soil moisture sensors are received via SMS |
| FR-3 | User Understanding | Based on the sensor data value to get the information about present of farming land |
| FR-4 | User Action | The user needs take action like destruction of crop residues, deep plowing, crop rotation, fertilizers, strip cropping, scheduled planting operations. |

# 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 | Mobile support. Users must be able to interact in the same roles & tasks on computers & mobile devices where practical, given mobile capabilities. |
| NFR-2 | Security | Data requires secure access to must register and communicate securely on devices and authorized users of the system who exchange information must  be able to do. |

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| NFR-3 | Reliability | It has a capacity to recognize the disturbance near the field and doesn't give a false caution signal. |
| NFR-4 | Performance | Must provide acceptable response times to users regardless of the volume of data that is stored and the analytics that occurs in background. Bidirectional, near real-time communications must be supported.  This requirement is related to the requirement to support industrial and device protocols at the edge. |
| NFR-5 | Availability | IoT solutions and domains demand highly available systems for 24x7 operations. Isn't a *critical production* application, which means that operations  or production don't go down if the IoT solution is down. |
| NFR-6 | Scalability | System must handle expanding load and data retention needs that are based on the upscaling of the solution scope, such as extra manufacturing facilities and extra buildings. |