

Project Design Phase-II

Solution Requirements

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| Date | 08 October 2022 |
| Team ID | PNT2022TMID24163 |
| Project Name | IOT based smart crop protection system for agriculture |
| Maximum Mark | 4 Marks |

Functional Requirements:

Following are the functional requirements of the proposed solution:

| FR No | Functional Requirement (Epic) | Sub Requirement (Story / Sub-Task) |
|-------|-------------------------------|--|
| FR-1 | User Visibility | Sensor animal's 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.

| 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. |
| 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 <i>critical production</i> application, which means that operations or production don't go down if the IOT solution is down. |

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| 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. |
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