

Project Design Phase-II

Solution Requirements (Functional & Non-functional)

Date	15 October 2022
Team ID	PNT2022TMID38557
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	This smart agriculture using IOT system is powered by Arduino, it consists of Temperature sensor, Moisture sensor, water level sensor, DC motor and GPRS module. The IOT based agriculture monitoring system starts it checks the water level, humidity and moisture level.
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. Re

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.
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.