Project Design Phase-II

Solution Requirements (Functional & Nonfunctional)

Date	20 October 2022
Team ID	PNT2022TMID25756
Project Name	Smart farmer-IOT enabled smart farming application
Maximum Mark	4 Marks

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No	Non-Functional Requirement	Description
NFR-1	Usability	➢ Mobile assistance. Given the capabilities of mobile devices, users must be able to interact in the same roles and tasks on PCs and mobile devices when practicable.
NFR-2	Security	➢ Authorized users of the system who share information must be able to register and communicate securely on devices with data.

FR No	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Visibility	➢ Sensing animals near the crop field, the device sends the farmer an SMS and plays an alert to scare them away.
FR-2	User Reception	➢ Data such as sensor readings for temperature, humidity, and soil moisture are received by SMS.
FR-3	User Understanding	➢ Based on the sensor data value to get the information about present of farming land.
FR-4	User Action	➢ Actions that must be taken by the user include crop residue destruction, deep ploughing, crop rotation, fertiliser application, strip cropping, and scheduled planting operations.

Non-functional Requirements:

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

NFR-3	Reliability	➢ It has the ability to detect disturbances close to the field and doesn't issue an erroneous warning signal.
NFR-4	Performance	➢ Regardless of the amount of data that is saved and the background analytics, it must offer users acceptable response speeds. ➢ Communications that are bidirectional and nearly real-time must be supported. The necessity to support industrial and device protocols at the edge is connected to this requirement.
NFR-5	Availability	➢ For 24x7 operations, IOT solutions and domains require highly available systems. is not a vital production application, thus if the IoT solution goes down, neither operations nor production are affected.
NFR-6	Scalability	➢ System must manage increasing load and data retention requirements based on the scalability of the solution, such as additional buildings and manufacturing facilities.