Project Design Phase-II

Date	3 October 2022
Team ID	PNT2022TMID33482
Project Name	IOT Based Smart Crop Protection System for Agriculture
Maximum Marks	2 Marks

FUNCTIONAL REQUIREMENTS

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	**Inviolability**	The Smart protection system defines that this project helps the farmers to protect a land. The IOT device is used to alert the farmer by giving a message while, birds enter into the farm and we are used SD card module that helps to store a specified sound to fear the animal.
FR-2	**Remote equipment monitoring**	Tractors, pickups and harvesting machines and equipment are IoT enables with sensors. Installing, provisioning and managing IoT endpoints, securely and reliably connecting the same. Ingesting, managing, curating and analysing IoT data can be done remotely. With the help of smart farming system, moisture and fertility of soil along with crops growth rate can be monitored remotely
FR-3	**Analytics for livestock**	IoT in smart farming is not restricted to a particular section. Smart farming sensors can be placed right in the ground. There, it shall read and analysis the derived data and help improve farming practices. Primarily, the leaf to soil ratio and soil humidity help increase quantity and quality of the produce. Wearables for cattle are the best bet against poaching and cattle napping.
FR-4	**Irrigation Management**	Irrigation management uses sensors to detect when and how much water is needed by individual plants. This saves water and also reduces weeds and runoff.

FR-5	**Communication**	The transducer sends a message to the user via the IOT network.
FR-6	**Large-Scale Architecture**	Rationale for architecture scalability.

Non-functional Requirements:

FR No.	**Non-Functional Requirement**	**Description**
NFR-1	**Usability**	Usability is a unique and significant perspective to study user requirements, which can further improve the design quality, according to IOT device...
NFR-2	**Security**	It aids in preventing both material loss and bodily harm.
NFR-3	**Accuracy**	With so much data at their fingertips, farmers can monitor their crops. This allows them to detect any problems early on and take corrective action before they become serious. As a result, crops are healthier and produce higher quality yields.
NFR-4	**Less Man Power**	IoT can also increase productivity making farms more efficient. With the help of sensors and data analytics, farmers can reduce the effort human and water usage, fertilizers.
NFR-5	**Availability**	Through the development and deployment of resilient hardware and beautiful software, we empower companies to manage farmland...