PROJECT DESIGN PHASE-II
SOLUTION REQUIREMENTS

Team ID	PNT2022TMID31686
Project Name	IOT BASED SMART CROP PROTECTION SYSTEMFOR AGRICULTURE.

Functional Requirements:

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	**Safety of production**	➢ The IOT device is used to indicate the farmer by a message while someone enter into the farm and we are used SD card module that helps to store a specified sound to fear the animals. The smart protection system defines that this project help the farmers to protect a land. The IOT device is used to alert the farmer by giving a message while, enter into the farm and we are used SD card module that helps to store a specified sound to fear the animals.
FR-2	**Real time monitoring.**	➢ Crops in farms are many times ravaged by local animals like buffaloes, cows, goats, birds etc. This leads to huge losses for the farmer. Due to over population, it occurs a deforestation this results in shortage of food, water and shelter in forest areas. So, animal's interference in residential areas is increasing day by day which affects human life and property causes human animal conflict.
FR-3	**Eliminate man power.**	➢ The device can be check the soilwhether, it's wet or dry after checking in the device can be sent the message to there respective owner. Alarm system has been set to avoid conflicts.

FR-4	**Fast communication.**	➢ This system uses a motion sensor to detect wild animals approaching near the field and smoke sensor to detect the fire. In such a case the sensor signals the microcontroller to take action. The microcontroller now sounds an alarm to woo the animals away from the field as well as sends SMS to the farmer and makes call, so that farmer may know about the issue and come to the spot in case the animals don't turn away by the alarm.
FR-5	**Performance.**	➢ Using IOT network the sensor sends a message to the user. ➢ IoT smart farming solutions is a system that is built for monitoring the crop field with the help of sensors (light, humidity, temperature, soil moisture, crop health, etc.)
FR-6	**Scalable Architecture.**	➢ Justify the scalability of architecture.

Non-functional Requirements:

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	➢ IOT device verifies that usability is a special and important perspective to analyze user requirements, which can further improve the design quality. In the design process with user experience as the core, the analysis of user product usability can indeed help designers better understand users potential needs in gas leakage monitoring, behavior

		and experience.
NFR-2	**Security**	➢ It helps to prevent from material loss and human injuries
NFR-3	**Reliability**	➢ IOT Based Crop Protection System against birds and wild Animal Attacks Smart crop protection system from wild animals using Arduino Smart Crop Protection System from Animals and Fire using Arduino.
NFR-4	**Performance**	➢ This system uses a motion sensor to detect wild animals approaching near the field and smoke sensor to detect the fire. In such a case the sensor signals the microcontroller to take action.
NFR-5	**Availability**	➢ By developing and deploying resilient hardware and beautiful software we empower business to manage farm land.