**Project Design Phase-II**

**Data Flow Diagram & User Stories**

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| Date | 03 October 2022 |
| Team ID | PNT2022TMID34083 |
| Project Name | Smart Farmer - IoT Enabled Smart Farming Application |
| Maximum Marks | 4 Marks |

**Data Flow Diagram:**

Start

Measure Temperature, Humidity, Soil Moisture, livestock monitoring using sensors and drones

Detect noise level of pest and motion of pest using Acoustic Sensor and PIR sensor

Send the data obtained by measuring the sensors to the Arduino

Temperature=C  
Humidity=%  
Soil Moisture>=0

Find pest attack

Water pump  
OFF

Water pump   
 ON

YES NO

**YES NO**

Send information and notify the farmers via SMS   
(GSM module)

Inform Arduino

Show measured data on LCD and send information to farmers via SMS (GSM module)

End

**User Stories:**

| **User Type** | **Functional Requirement (Epic)** | **User Story Number** | **User Story / Task** | **Acceptance criteria** | **Priority** | **Release** |
| --- | --- | --- | --- | --- | --- | --- |
| Farmer | Soil monitoring | USN-1 | User can get maximum yield and reduce the disease in crops which are caused due to problems in soil. | Can protect crop from diseases and can maximize the yield. | High | Sprint-1 |
| Farmer | climate monitoring | USN-2 | Help farmers to identify that "what type of climate condition is suited for particular crop". | Farmers get more yield | High | Sprint-2 |
| Farmer | Temperature monitoring | USN-3 | It is useful to determine the temperature level thus can provide proper amount of water to crops. | We can prevent crops from dryness. | High | Sprint-1 |
| Farmer | Soil humidity monitoring | USN-4 | DHT Sensor for automatically irrigate water based on the  Moisture level in the soil. | Can reduce water wastage | High | Sprint-1 |
| Farmer | Pest Detection | USN-5 | By a user, I can protect the crops from pest attack by using acoustic and PIR sensors. | Can prevent from crop damage by overcoming the pest attack | Medium | Sprint-2 |
| Farmer | Drones | USN-5 | Flyover field locating weeds pathogens and sick animals which enables precise application of inputs | Can collect data about the development of crops and their needs. | Low | Sprint-3 |
| Farmer | Livestock monitoring | USN-5 | It help the farmers to keep a check on their farm animals remotely and alter farmers when a cow develops infections. | It helps to increase herd survival and  Milk yield. | Low | Sprint-3 |
| Farmer | GSM module | USN-5 | Used to send alert message to farmers. | Farmers can take proper actions to overcome the problem immediately. | High | Sprint-4 |