Project Design Phase-II
Data Flow Diagram & User Stories
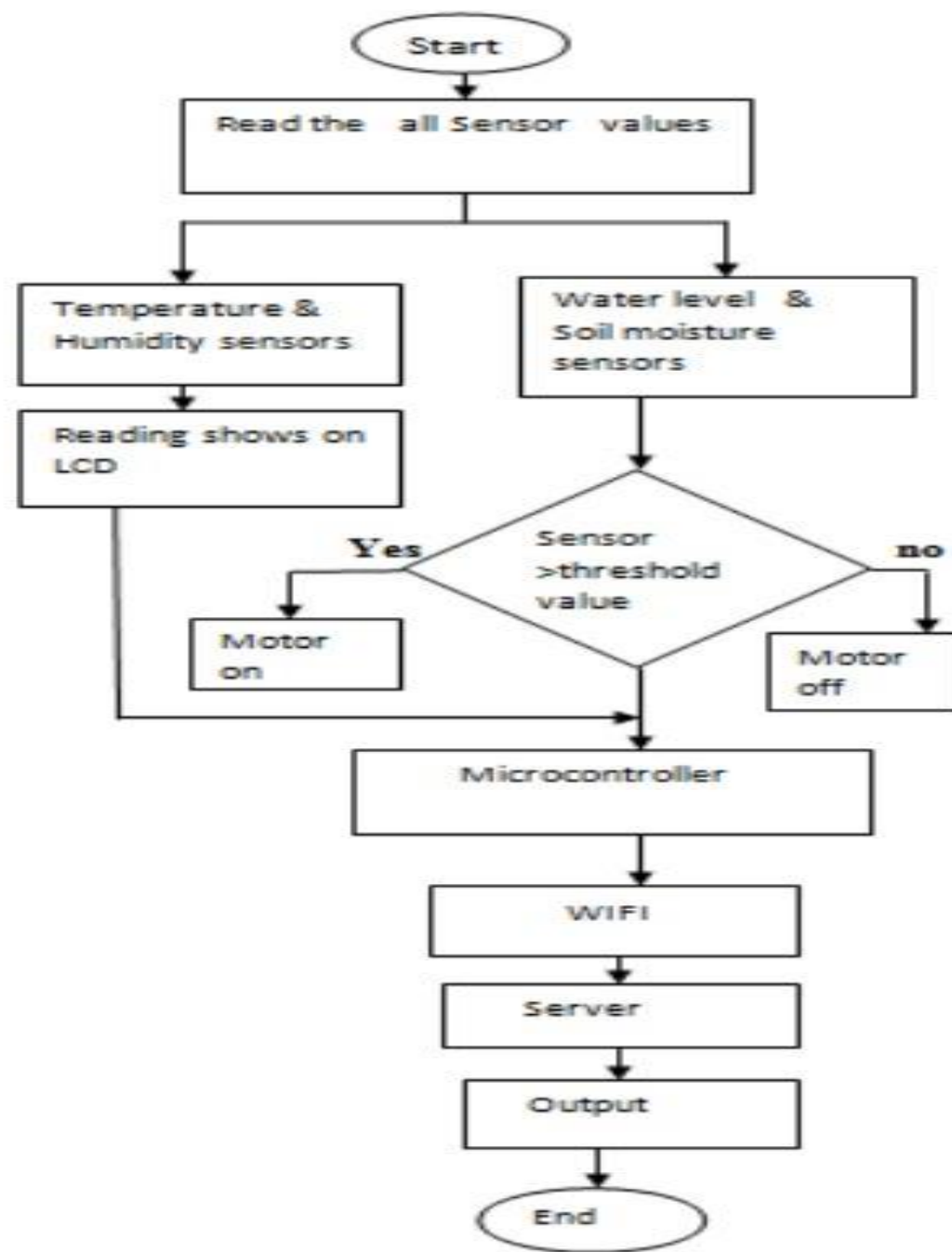
Date	12 October 2022
Team ID	PNT2022TMID46404
Project Name	Smart Farmer - IOT Enabled Smart Farming Application
Maximum Marks	4 Marks

Data Flow Diagrams:

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.

Example: (Simplified)

```
                        ┌──────────┐
                        │  Start   │
                        └────┬─────┘
                             │
                    ┌────────▼─────────────────┐
                    │ Read the  all Sensor values │
                    └────────┬─────────────────┘
             ┌───────────────┴───────────────┐
             │                               │
    ┌────────▼──────────┐          ┌─────────▼──────────┐
    │ Temperature &     │          │ Water level  &     │
    │ Humidity sensors  │          │ Soil moisture      │
    │                   │          │ sensors            │
    └────────┬──────────┘          └─────────┬──────────┘
    ┌────────▼──────────┐                    │
    │ Reading shows on  │              ┌─────▼──────┐
    │ LCD               │              │   Sensor   │
    └────────┬──────────┘     Yes      │ >threshold │     no
             │          ┌──────────────◇   value    ◇──────────┐
             │          │              └─────┬──────┘          │
             │    ┌─────▼─────┐              │           ┌─────▼─────┐
             │    │ Motor     │              │           │ Motor     │
             │    │ on        │              │           │ off       │
             │    └───────────┘              │           └───────────┘
             └──────────────────────────────┤
                               ┌─────────────▼──────────────┐
                               │      Microcontroller       │
                               └─────────────┬──────────────┘
                               ┌─────────────▼──────────────┐
                               │           WIFI             │
                               └─────────────┬──────────────┘
                               ┌─────────────▼──────────────┐
                               │          Server            │
                               └─────────────┬──────────────┘
                               ┌─────────────▼──────────────┐
                               │          Output            │
                               └─────────────┬──────────────┘
                                       ┌──────▼──────┐
                                       │    End      │
                                       └─────────────┘
```
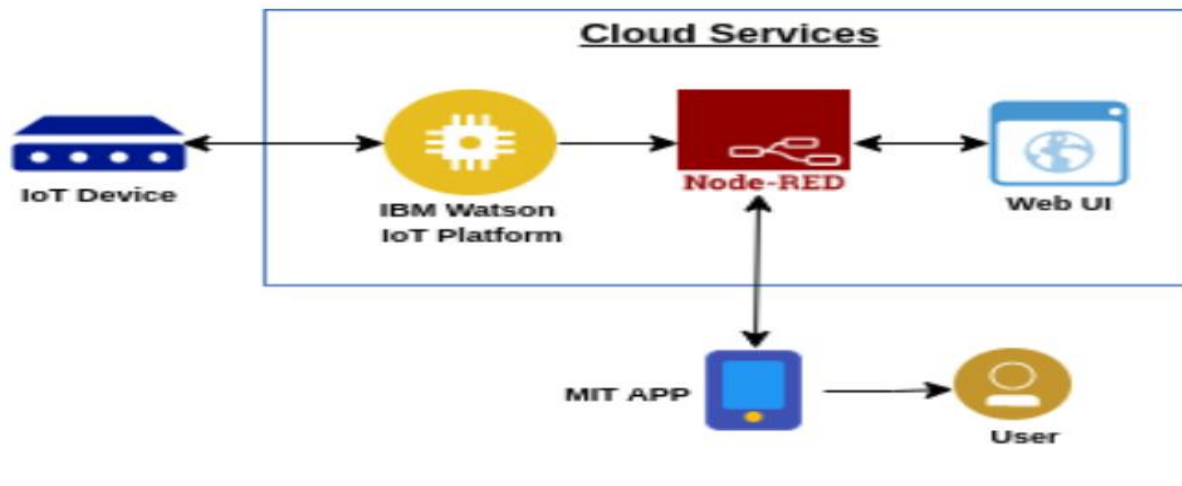
Project flow:

- ❖ The parameters like temperature, humidity, and soil moisture are updated to the Watson IoT platform

- ❖ The device will subscribe to the commands from the mobile application and control the motors accordingly

- ❖ APIs are developed using Node-RED service for communicating with Mobile Application

- ❖ A mobile application is developed using the MIT App inventor to monitor the sensor parameters and control the motors.

User Stories

Use the below template to list all the user stories for the product.

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority
Customer (Mobile user)	Download the database	USN-1	As a user, I can register for the application by entering my email, mobile, password and conforming my password.	I can access my account / dashboard.	High
	Acknowledgement	USN-2	As a user, I will receive confirmation email once I have registered for the application.	I can receive confirmation email & click confirm.	High
	Register	USN-3	As a user, I can register for the application through email, password and conforming the password.	I can register & access the dashboard with Facebook Login.	Low
	Login	USN-4	As a user, I can log into the application by entering email & password.	I can login by using the credentials which I used above while registering.	High
	Dashboard	USN-5	As a user, I can open the dashboard and monitor the activity in the farm land.	I can login by using the credentials.	High
Customer (Web user)	The functional requirements are same as mobile user	USN-6	Web user provides the user friendly platform to access and monitor the functionalities in the farm.	I can login by using the credentials.	High
Customer Care Executive	The functional requirements are user friendly.	USN-7	As a user, if we face any technical issue we can receive the details and can log to monitor the farm.	I can login by any device.	Low