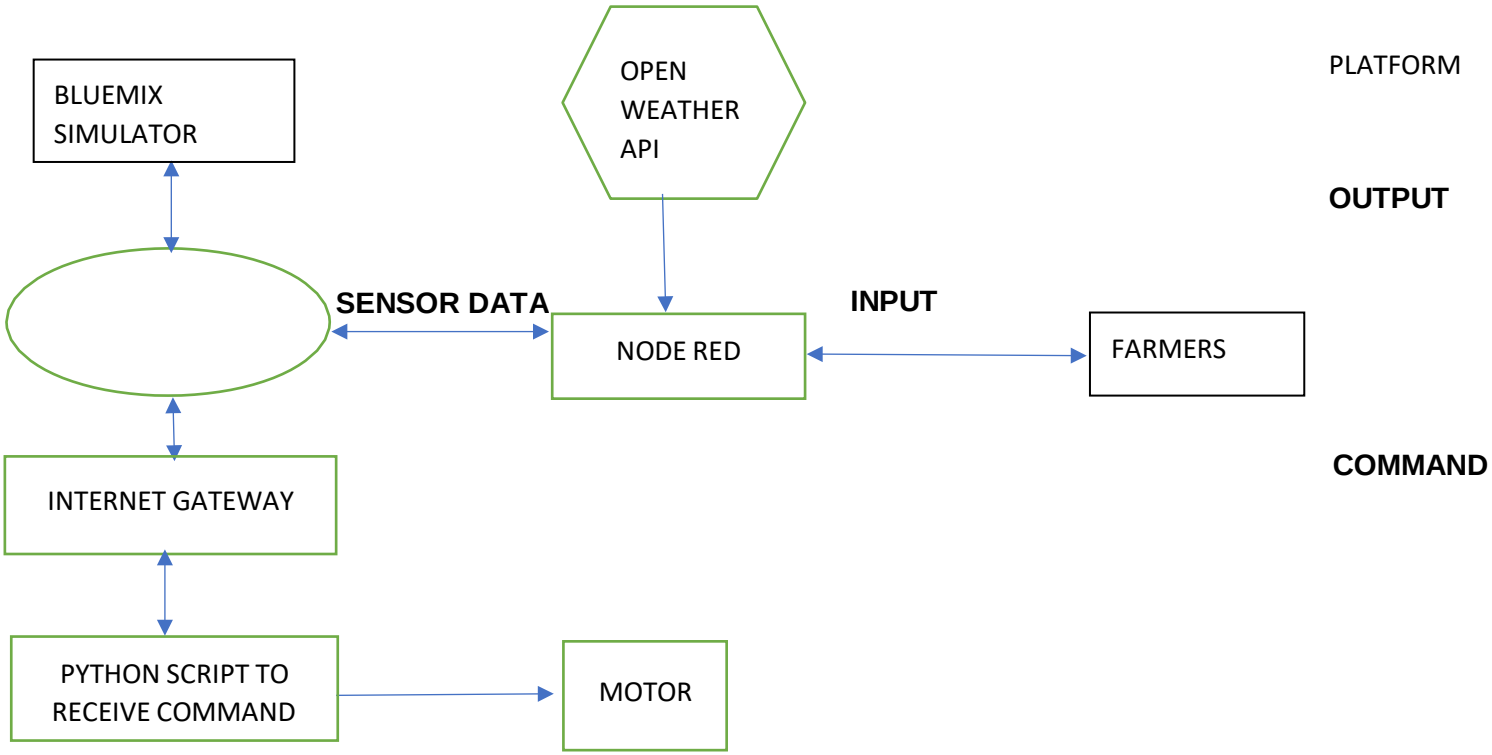
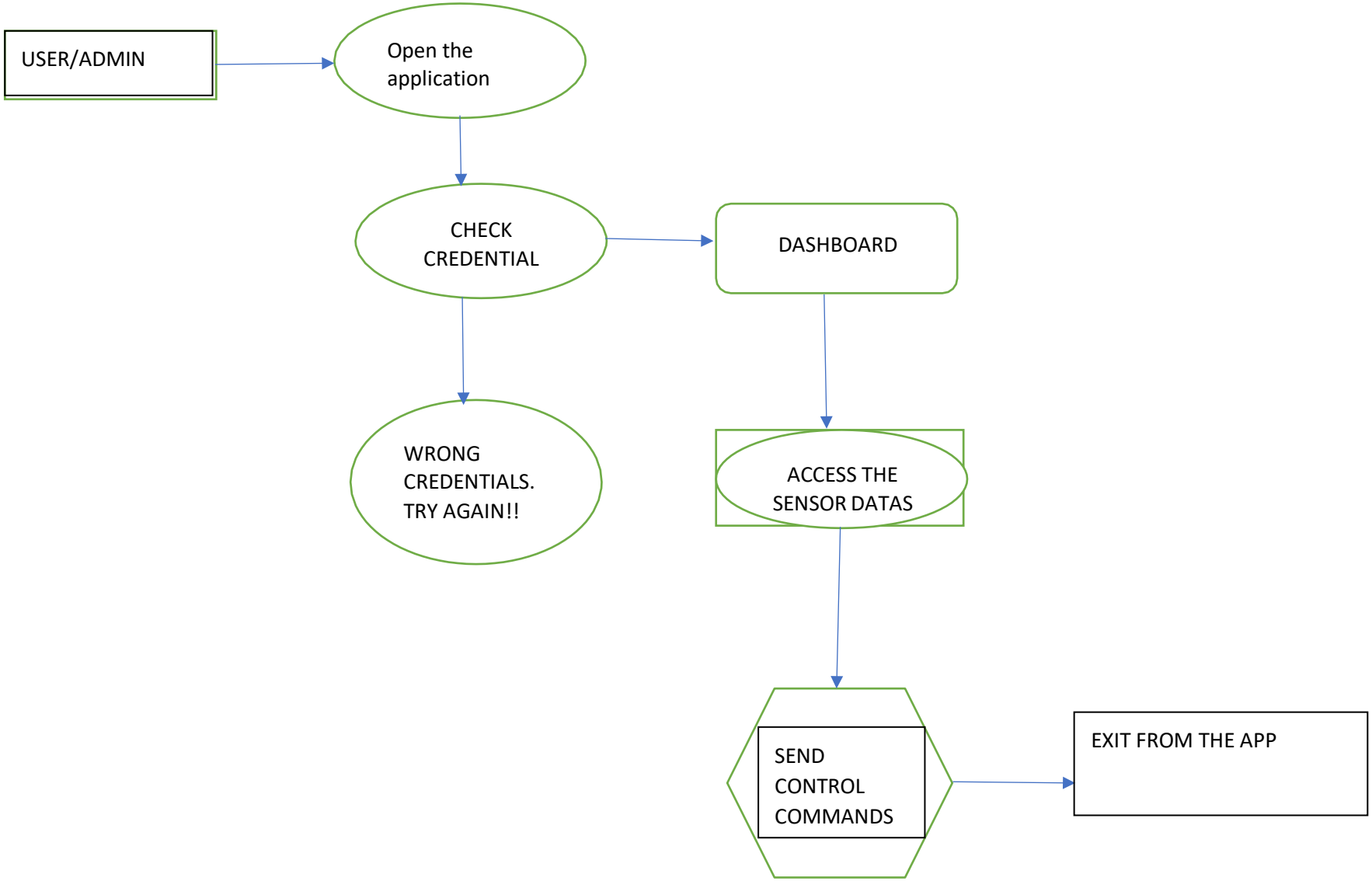
Project Design Phase-II
Data Flow Diagram & User Stories

Date	21 October 2022
Team ID	PNT2022TMID46489
Project Name	SmartFarmer-IoT Enabled SmartFarming 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.


IBM CLOUD
PLATFORM
BLUEMIX
SIMULATOR
OPEN
WEATHER
API
OUTPUT
SENSOR DATA
INPUT
NODE RED
FARMERS
INTERNET GATEWAY
COMMAND
PYTHON SCRIPT TO
RECEIVE COMMAND
MOTOR


USER/ADMIN
Open the application
CHECK CREDENTIAL
DASHBOARD
WRONG CREDENTIALS. TRY AGAIN!!
ACCESS THE SENSOR DATAS
SEND CONTROL COMMANDS
EXIT FROM THE APP

- The different soil parameters temperature, soil moistures and then humidity are sensed using different sensors and obtained value is storedin the IBM cloud.

- Arduino UNO is used as a processing Unit that process the data obtainedfrom the sensors and weather data from the weather API.

- NODE-RED is used as a programming tool to write the hardware,software, and APIs. The MQTT protocol is followed for the communication.

- All the collected data are provided to the user through a mobile application that was developed using the MIT app inventor. The user could plan through an app, weather to water the crop or not dependingupon the sensor values. By using the app they can remotely operate to the motor switch.

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	Release
Customer (Mobile user)	Registration	USN-1	As a user, I can register for the application by entering my Username , password, and confirming my password.	I can access my account / dashboard	Low	Sprint-1
	Login	USN-2	As a user, I can log into the application by entering User name & password	Log in to application.	High	Sprint-1
	Dashboard	USN-3	By entering correct password, I could access the dashboard	Once logged in, User could the data.	Medium	Sprint-2
	Alert message	USN-4	As a user, I receive alert message regarding the field parameters.	After successful log in, user will receive alert messages.	High	Sprint-3
	Data Storage	USN-5	As a user, I will be able to store parameter values.	Using IBM cloud the data could be stored.	High	Sprint-4
	Decision	USN-6	As a user, I can operate motor remotely using the mobile application.	Using the mobile application, I can operate motor remotely	High	Sprint-4
Customer (Web user)	Login	USN-7	As a user, I can log in to the application.	Log in to application	High	Sprint-1
	Dashboard	USN-8	I could access the dashboard	Once logged in, User could the data	Medium	Sprint-1
	Alert message	USN-9	As a user, I receive alert message regarding the field parameters.	After successful log in, user will receive alert messages.	High	Sprint-3
	Data Storage	USN-10	As a user, I will be able to store parameter values.	The data could be stored.	High	Sprint-4
	Decision	USN-11	As a user, I can operate motor remotely using the mobile application	Using the mobile application, I can operate motor remotely	High	Sprint-4