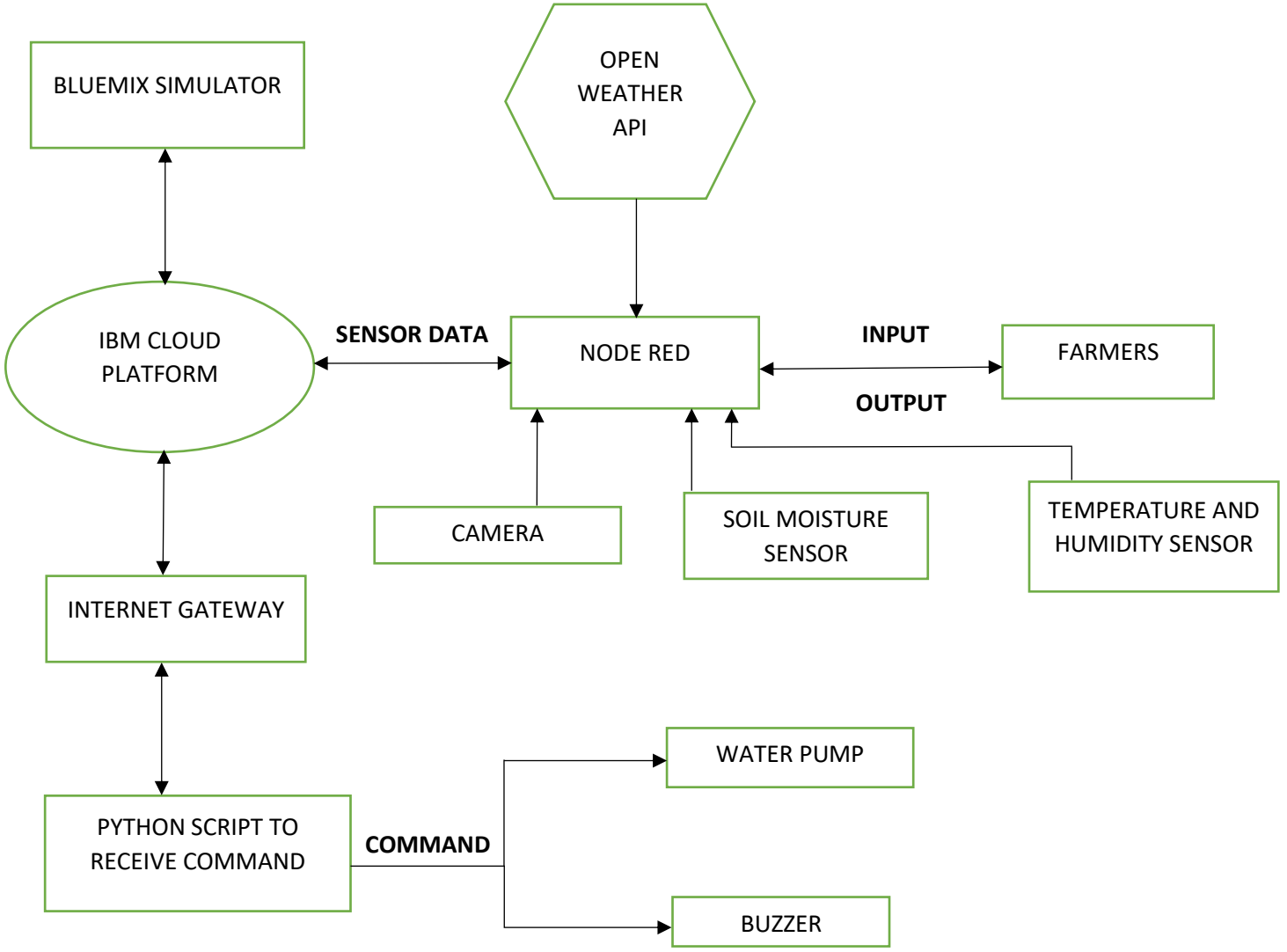
Project Design Phase-II

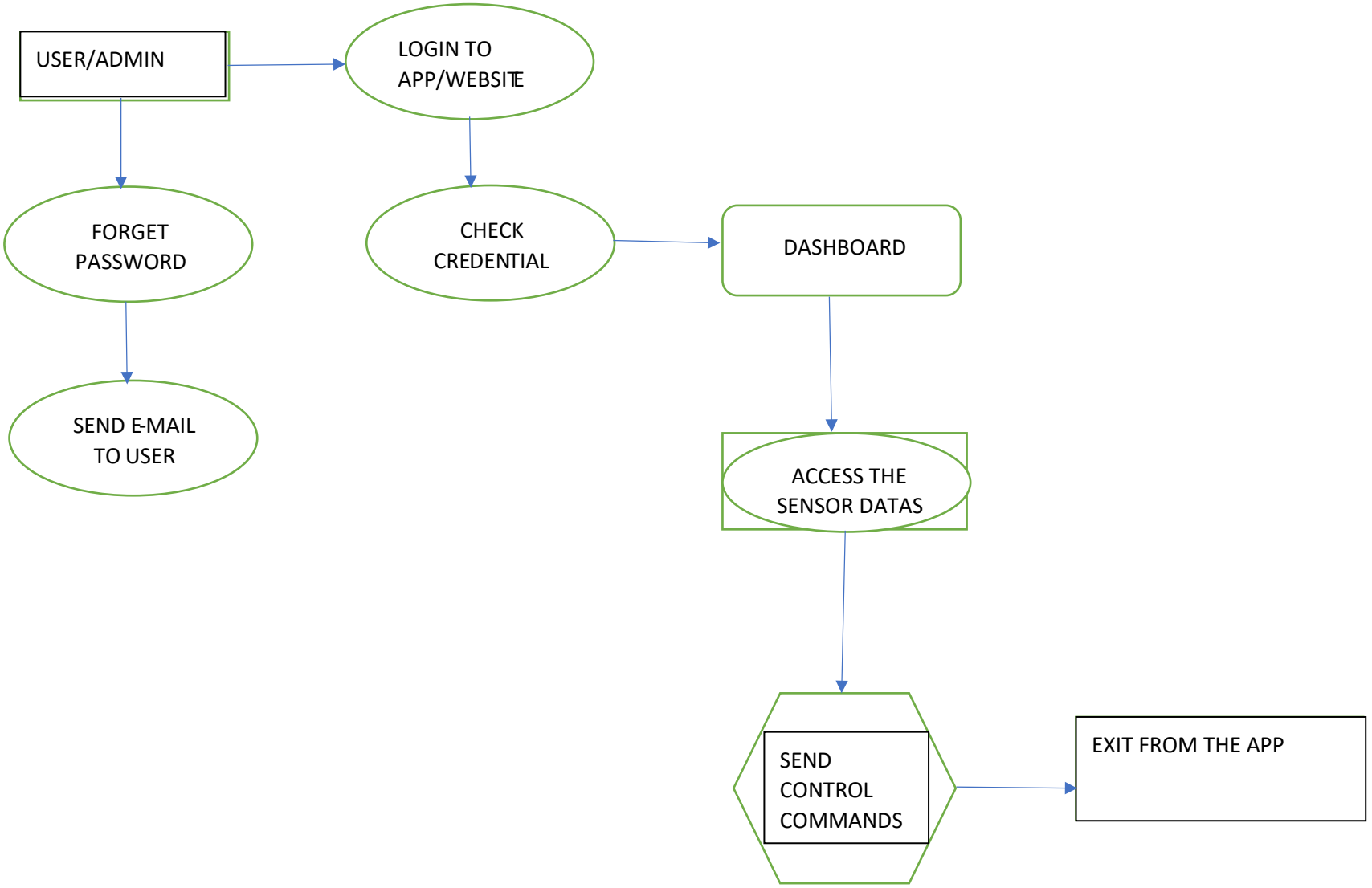
Data Flow Diagram & User Stories

Date	03 October 2022
Team ID	PNT2022TMID32791
Project Name	IoT Based Smart Crop Protection System for Agriculture
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.


BLUEMIX SIMULATOR
OPEN WEATHER API
IBM CLOUD PLATFORM
SENSOR DATA
NODE RED
INPUT
FARMERS
OUTPUT
CAMERA
SOIL MOISTURE SENSOR
TEMPERATURE AND HUMIDITY SENSOR
INTERNET GATEWAY
WATER PUMP
PYTHON SCRIPT TO RECEIVE COMMAND
COMMAND
BUZZER


USER/ADMIN
LOGIN TO APP/WEBSITE
FORGET PASSWORD
CHECK CREDENTIAL
DASHBOARD
SEND E-MAIL TO USER
ACCESS THE SENSOR DATAS
SEND CONTROL COMMANDS
EXIT FROM THE APP

- The different field parameters like temperature, soil moistures, humidity and movements of animals are sensed using different sensors and the data is sent to the IBM cloud. Camera is used to detect the type of animal and the images are sent to the processor to process the image.

- Raspberry pi-3 is used as a processing Unit that process the data obtained from the sensors, camera and whether 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 can also use the app to irrigate the crops manually with the data provided by the app.

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 email, password, and confirming my password.	I can access my account / dashboard	High	Sprint-1
	Login		As a user, I can log into the application by entering email & password	Log in to application.	High	Sprint-1
	Dashboard		By entering correct password, I could access the dashboard	Once logged in, User could the data.	Medium	Sprint-2
	Forget password		As a user, if I forget my password, I could use this option to get a new password.		Low	Sprint-2
Customer (Web user)	Registration	USN-2	As a user, I can register for the application by entering my email, password, and confirming my password	I can access my account / dashboard	High	Sprint-1
	Login		As a user, I can log into the application by entering email & password	Log in to application	High	Sprint-1
	Dashboard		By entering correct password, I could access the dashboard	Once logged in, User could the data	Medium	Sprint-1
	Forget password		As a user, if I forget my password, I could use this option to get a new password		Low	Sprint-2