Department of Electronics & Communication Engineering

IBM NALAIYA THIRAN

Team ID	PNT2022TMID16926
Project Name	Project – IOT ENABLED SMART FARMING APPLICATION SYSTEM
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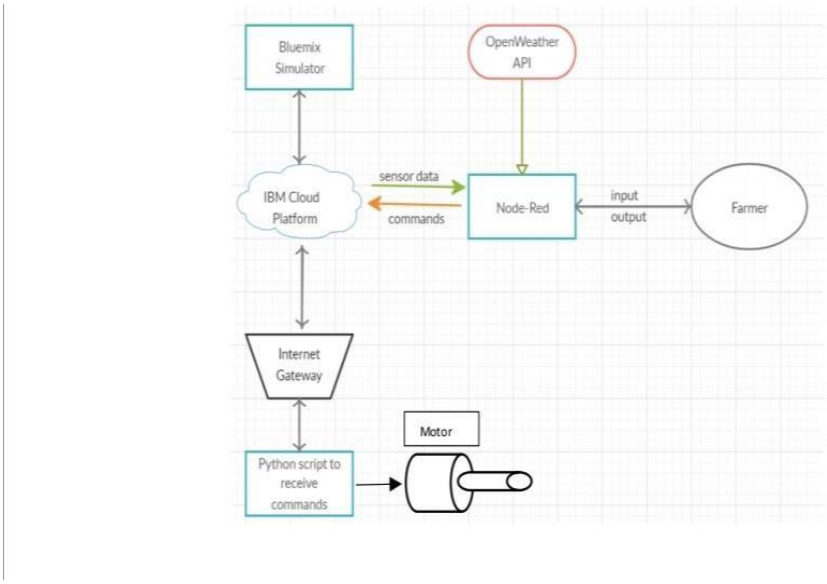
Technical Architecture:



Guidelines:

- Include all the processes(As an application logic / Technology Block)
- Provide infrastructural demarcation (Local / Cloud)
- Indicate external interfaces (third party API's etc.)
- Indicate Data Storage components / services
- Indicate interface to machine learning models (if applicable)
- The different soil parameters temperature, soil moistures and then humidity are sensed using different sensors and obtained value is stored in the ibm cloud.

- Aurdino UNO is used as a processing Unit that process the data obtained from the sensors 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 could make a decision through an app, weather to water the crop or not depending upon the sensor values. By using the app they can remotely operateto the motor switch

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App.	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Application Logic-1	Logic for a process in the application	Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson IOT service
4.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on Cloud	IBM Cloud
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	Purpose of External API used in the application	IBM Weather API, etc.
9.	Machine Learning Model	Purpose of Machine Learning Model	Object Recognition Model, etc.
10.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Local, Cloud Foundry, Kubernetes, etc.