IBM IoT-Enabled Smart Farming Application

Project Objectives

DOMAIN	INTERNET OF THINGS
TOPIC	IoT-ENABLED SMART FARMING APPLICATION
TEAM ID	PNT2022TMID16477
TEAM MEMBERS	KANAGARAJ.P(TL) AKASH.R(™) MANOJKUMAR.R(™) MOUNIESH M.K(™)

By the end of this project you will:

- Gain knowledge of Watson IoT Platform.
- Connecting IoT devices to the Watson IoT platform and exchanging the sensor data.
- Explore python client libraries of Watson IoT Platform.
- Gain knowledge on IBM Cloudant DB
- Configuring APIs using Node-RED for communicating with a mobile application.
- Creating a Mobile Application through which the user interacts with the IoT device.

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.

To accomplish this, we have to complete all the activities and tasks listed below:

- **Create and configure IBM Cloud Services**
  - Create IBM Watson IoT Platform
  - Create a device & configure the IBM IoT Platform
  - Create Node-RED service
  - Create a database in Cloudant DB to store all the sensor parameters
- Develop a python script to publish and subscribe to the IBM IoT platform
- Configure the Node-RED and create APIs for communicating with mobile application
- Develop a mobile application to display the sensor parameters and control the motors