PROJECT
OBJECTIVES

Date	17 November 2022
Team ID	PNT2022TMID30932
Project Name	Iot based smart crop protection for agriculture

By the end of this project, we will:

- Gain knowledge of Watson Iot Platform
- Connecting Iot devices to the Watson Iot Platform and exchange the sensor data.
- Gain knowledge on Cloudant DB.
- Gain knowledge on using the Clarifai service.
- Gain knowledge of storing images in IBM object storage and retrieving images.
- Creating a web application through which the user interacts ith the devices.

Project flow:

- The device will detect the animals and bird suing the Clarifai service.
- If any animal or bird is detected the image will be captured and stored in the IBM cloud object service.
- It also generates an alarm and avoid animals and birds from destroyingthe crop.
- The image URL will be stored in the IBM Cloudant DB service.
- The device will also monitor the soil moisture level, temperature, and humidity values and send them to the IBM IOT platform.
- The image will be retrieved from object storage and displayed in the web application.
- A web application is developed to visualize the soil moisture, temperature,and humidity values.
- Users can also control the minters through web applications to accomplish this, we have to complete all the activities and tasks listed below:

  Create and configure IBM cloud services

  Create IBM Waston iot platform.

  Create a device & configure the IBM platform.create Node-RED service.

  Create a database in Cloudant DB to store location data.

Create a cloud object storage service and create a bucket to storethe images.

- Develop a python script to publish the sensor parameters like Temperature Humidity, and Soil moisture to the IBM Iot platform and detect he animals and birds in the video streaming using Clarifai.
- Develop a web application using Node=RED service,Display the image in the Node-RED web UI and also display the temperaturehumidity and soil moisture levels. Integrate the buttons in the UI to control the motors.