PROJECT OBJECTIVES

Team id:	PNT2022TMID52180
Project name:	IoT based smart crop protection system for agriculture

- The main aim of this is to gain knowledge of Watson IoT Platform.
- Connecting IoT devices to the Watson IoT platform and exchanging on cloudant database.
- Gain knowledge on cloudant database.
- Gain knowledge on using the Clarifai services.
- Gain knowledge of storing Images in IBM object storage and retrieving images.
- Creating a web application through which the user interacts with the device.

Project flow:

- The device will detect the animals and birds using the Clarifai services.
- If any animal or bird is detected the image will be captured and stored in the IBM Cloud object storage.
- It also generates alarm and prevents animals from destroying the crop.
- The image URL will be stored in the IBM Cloudant DB services.
- The device will also monitor the soil moisture levels, temperature and humidity values.
- Users can also control the motors through web applications.

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

➢ Create and configure IBM cloud services.

Create IBM Watson IoT Platform

Create a device and configure the IBM IoT platform

Create a NODE_RED service

Create a database in Cloudant DB to store location data

Create a cloud object storage service and create a bucket to store the images

➢ Develop a python script to publish the sensor parameters like temperature, humidity and soil moisture to the IBM IoT platform and detect the animals and birds in video streaming using Clarifai.

➢ Develop a web application using NODE_RED Services.

Display the image in the NODE_RED web UI and display the temperature, humidity and soil moisture levels. Integrate the buttons in the UI to control the control the motors.