ProjectObjectives

TeamID:PNT2022TMID30400

ProjectName:IOT BasedSmart Crop ProtectionSystemforAgriculture

By theendofthisprojectwewill:

- GainknowledgeofWatsonIoTPlatform.
- ConnectingIoTdevicestotheWatsonIoTplatformandexchangingthesensordata.
- GainknowledgeonCloudantDB
- GainKnowledgeonusing theClarifaiservice
- GainknowledgeofstoringimagesinIBMObjectStorageandretrievingimages
- CreatingaWebApplicationthrough whichthe userinteractswiththedevice.

ProjectFlow:

- ThedevicewilldetecttheanimalsandbirdsusingtheClarifaiservice
- If any animal or bird is detected the image will be capturedandstoredintheIBMCloudobjectstorage.
- ItalsogeneratesanalarmandavoidanimalsfromdestroyingthecropThe image URL will be stored in the IBM Cloudant DBservice
- Thedevicewillalsomonitorthesoilmoisturelevels,temperature, and humidity values and send them to the IBMIoTPlatform

- The image will be retrieved from Object storage anddisplayedinthewebapplication.
- Awebapplicationisdevelopedtovisualizethesoilmoisture,temperature,andhumidityvalues
- Userscanalsocontrolthe motorsthroughwebapplications.

Toaccomplishthis,wehavetocompleteallltheactivitiesandtasksliste dbelow:

- CreateandconfigureIBMCloud Services
  - CreateIBM Watson IoTPlatform
  - Createadevice&configuretheIBMIoTPlatform
  - CreateNode-REDservice
  - CreateadatabaseinCloudantDBtostorelocationdata
  - Createacloudobjectstorageserviceandcreateabu ckettostoretheimages
- Develop a python script to publish the sensor parameters likeTemperature, Humidity, and Soil Moisture to the IBM IoTplatform and detect the animals and birds in video streamingusingClarifai.
- Develop awebApplication usingNode-REDService.
  - Display the image in the Node-RED web UI and alsodisplay the temperature, humidity, and soil moisturelevels. Integrate the buttons in the UI to control theMotors.