# NALAIYA THIRAN
# WEEK 4 REPORT

**Project Title**: IoT Based Smart Crop Protection System For Agriculture

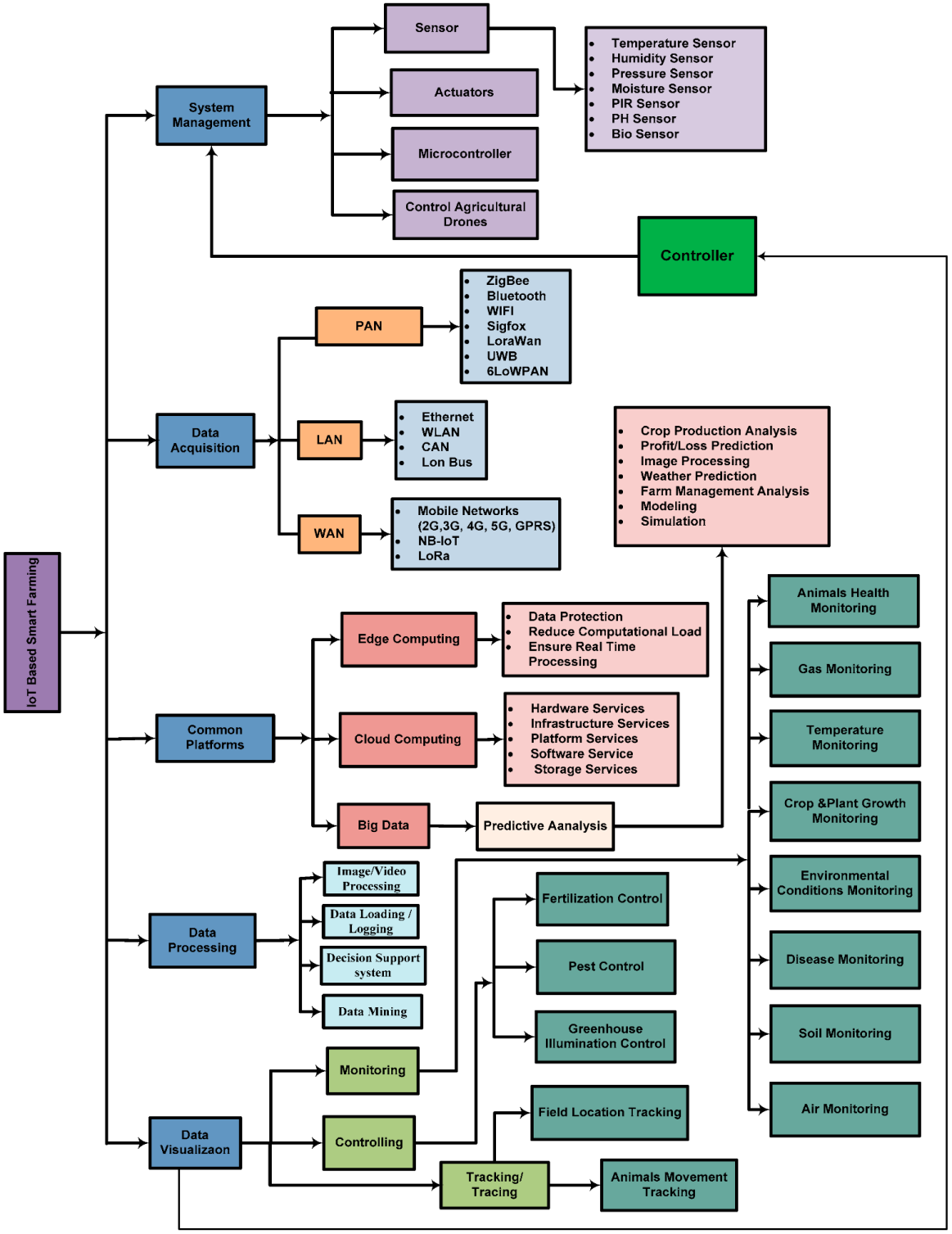
**Team ID**: PNT2022TMID15746

**GitHub ID**: https://github.com/IBM-EPBL/IBM-Project-24229-1659940305

**Mentor Name**: P. Ilampiray

**Team Members**: Madhushree K(Team Leader) – 111719104088
Kosuru Harshitha – 111719104081
Kongara Deepika – 111719104080
Kaluva Vandana – 111719104069

# BRAINSTORMING:


IoT Based Smart Farming
System Management
Sensor
Actuators
Microcontroller
Control Agricultural Drones
Temperature Sensor
Humidity Sensor
Pressure Sensor
Moisture Sensor
PIR Sensor
PH Sensor
Bio Sensor
Controller
Data Acquisition
PAN
ZigBee
Bluetooth
WIFI
Sigfox
LoraWan
UWB
6LoWPAN
LAN
Ethernet
WLAN
CAN
Lon Bus
WAN
Mobile Networks (2G,3G, 4G, 5G, GPRS)
NB-IoT
LoRa
Crop Production Analysis
Profit/Loss Prediction
Image Processing
Weather Prediction
Farm Management Analysis
Modeling
Simulation
Common Platforms
Edge Computing
Data Protection
Reduce Computational Load
Ensure Real Time Processing
Cloud Computing
Hardware Services
Infrastructure Services
Platform Services
Software Service
Storage Services
Big Data
Predictive Aanalysis
Animals Health Monitoring
Gas Monitoring
Temperature Monitoring
Crop &Plant Growth Monitoring
Environmental Conditions Monitoring
Disease Monitoring
Soil Monitoring
Air Monitoring
Data Processing
Image/Video Processing
Data Loading / Logging
Decision Support system
Data Mining
Fertilization Control
Pest Control
Greenhouse Illumination Control
Data Visualizaon
Monitoring
Controlling
Field Location Tracking
Tracking/ Tracing
Animals Movement Tracking

# IDEATION:

## Idea 1:

### Agricultural Drones:

Drones are used on the ground and in the air to evaluate crop health, track crops, grow crops, spray crops, and conduct field research. Drone technology has increased and found its way into the agricultural sector with proper strategy and preparation focused on real-time results.

Drones equipped with thermal or multispectral sensors detect areas that involve irrigation adjustments.

Sensors detect the health of the crops and measure their vegetation index until they begin to flower.

## Idea 2:

### Data Analytics:

The data obtained from IoT sensors need more storage than a traditional database system would provide. The smart agriculture framework relies heavily on cloud-based data storage and an end-to-end IoT platform. These programs are expected to play a significant role in enabling better operations to be carried out.

## Idea 3:

### Smart Greenhouse:

Sensors capture and relay real-time data, allowing for accurate real-time monitoring of the greenhouse state. The water consumption and greenhouse state can be tracked through emails

or SMS warnings thanks to the sensors. The IoT is used to carry out automatic and smart irrigation

**IoT-B4-4M6E (Morning Session)-Day-5 (15.09.2022)**