MUTHAYAMMAL ENGINEERING COLLEGE

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IBM (Nalaiya Thiran) Project Ideas 2022

Team ID: PNT2022TMID19025

1. Weather Reporting System based on Raspberry pi

This **IoT project** provides real-time weather reporting by monitoring and updating weather conditions over the internet. This weather reporting system monitors three parameters – temperature, humidity, and rainfall. Backed by Raspberry Pi, this system has a raindrop sensor, a temperature sensor, an LCD screen, and a buzzer.

When this system is turned on, it sends data to the web server using WiFi. These values will be updated live on the online server system. This system can help in knowing the weather of the localized area. You can directly check the weather stats online. You can also set threshold values and alerts for particular instances and get notified every time the weather parameters cross that value.

2. IOT Based Smart Agriculture System

This is an excellent **IoT project for beginners**. This smart agriculture system allows you to monitor soil moisture, humidity, and water level; automatically irrigate a piece of land; and wirelessly spray fertilizers or pesticides using your smartphone.

Backed by Arduino, this system consists of wireless sensor networks that collect data from different sensors at various nodes and send it through the wireless protocol. It also has a temperature sensor, moisture sensor, water level sensor, DC motor, and GPRS module to provide information about agriculture fields. It

displays all information on an LCD screen and notifies users through SMS alerts on smartphones. This IoT-based system performs the routine agricultural tasks automatically and allows farmers to focus on more labor-intensive tasks.

3. Air & Noise Pollution Monitoring System

Environmental noise and air pollution levels are rising in urban areas and need to be controlled immediately. An IoT-powered air and noise pollution monitoring system can monitor the level of both air and sound pollution. This data can be saved on web servers for further use.

The system consists of air sensors that sense the presence of harmful gases and compounds in the air. It also monitors sound levels and reports them to the online server. The sensors interact with the microcontroller that transmits this data over the internet. The data can be used by authorities so that they can take measures to control the pollution.

4. Smart Street Light Monitoring System

One of the major challenges related to street lights is that they are left on even during daylight hours or when there's no one on the street. An IoT-powered street light monitoring system can help us handle this challenge. Besides, the system will also ensure consumption monitoring, low power consumption, and instant faulty light detection.

The Smart Street Light Monitoring System consists of LDR sensors to monitor the movement of people or vehicles on the street. If sensors detect any movement, they will signal the microcontroller, which will turn on the street light. It can also monitor the estimated power consumption and detect any fault in the lights and send the data over to the IoT monitoring system to fix it.