



MUTHAYAMMAL ENGINEERING COLLEGE

An Autonomous Institution,
Kakkaveri, Rasipuram, Namakkal District,
Tamil Nadu - 637 408

IBM (Nalaiya Thiran) Project Ideas 2022

THARUN R.S (MECR20EC514)

1. Smart Agriculture System

One of the best ideas to start experimenting your hands-on IoT projects for students is working on smart agriculture system. As the name suggests, this IoT-based project focuses on developing a smart agricultural system that can perform and even monitor a host of farming tasks. For instance, you can schedule the system to irrigate a piece of land automatically, or you can spray fertilizers/pesticides on the crops wirelessly through your smartphone.

Not just that, this IoT-based project can also successfully monitor soil moisture through a moisture sensing system, which can work to detect dry soil. Such an advanced system can handle the routine agricultural tasks, thereby allowing farmers and cultivators to focus on more manual-intensive agricultural tasks. Learners can implement a similar IoT simulation project or IoT research topics to monitor house gardens or indoor plants that often go untended.

2. Weather Reporting System

This is one of the excellent IoT project ideas for beginners. This IoT-based weather reporting system is specifically designed to facilitate the reporting of weather parameters over the Internet. This is one of the best IoT projects where the system is embedded with temperature, humidity, and rain sensors that can monitor the weather conditions and provide live reports of weather statistics.

It is an always-on, automated system that sends data via a microcontroller to the webserver using a WIFI connection. This data is updated live on the online server system. So, you can directly check the weather stats online without having to rely on the reports of weather forecasting agencies. The system also allows you to set threshold values and alerts for specific instances and notifies users every time the weather parameters cross the threshold value.

A few IoT projects for final year are aiming to evolve efficient usage of devices to reduce carbon footprint, which is a need of the hour. From consistent monitoring of carbon emissions to enforcing standard equipment and energy usage to operate under restricted levels, IoT's role is evolving. Developers are leveraging smart technologies to maintain a consistent balance between nature and technology.

3. Home Automation System

Home automation is perhaps the most talked of IoT projects. IoT-based home automation project aims to automate the functioning of household appliances and objects over the Internet. All the household objects that are connected over the IoT network can be controlled and operated through your smartphone.

This is not only convenient but also gives more power to the user to control and manage household appliances from any location in the world.

This IoT-based project uses a touch-based home automation system. The components of this project include a WiFi connection, an AVR family microcontroller, inbuilt touch sensing input pins. While the microcontroller is integrated with the WiFi modem to obtain commands from the user via the Internet, an LCD screen displays the system status. When the microcontroller receives a command, it processes the instructions to operate the load accordingly and show the system status on an LCD screen.

However, also Blockchain IoT allows homeowners to manage the home security system remotely from the smartphone. Mentioning IoT projects can help your resume look much more interesting than others.

4. Face Recognition Bot

This IoT project involves building a smart AI bot equipped with advanced facial recognition capabilities. This is one of the best IoT Projects where the intelligent AI bot is designed to recognize the faces of different people or a single person and also their unique voice.

The system includes facial recognition features like face detection (perceives faces and attribute the same in an image), person identification (matches an individual in your private repository containing hundreds and thousands of people), and also emotion recognition (detects a range of facial expressions including happiness, contempt, neutrality, and fear).

This combination of advanced recognition features makes for a robust security system. The system also includes a camera that lets users preview live streams through face recognition.

5. Smart Garage Door

Yes, you can use IoT technology to control and operate your garage door! The IoT-based smart garage door eliminates the need for carrying bulky keychains. All you need is to configure and integrate your smartphone with the home IoT network, and you can effortlessly open or close your garage door with just a few clicks of a button.

This smart garage door system incorporates laser and voice commands and smart notifications for monitoring purposes, and also IFTT integration that allows you to create custom commands for Google Assistant. The smart notification option can trigger alerts in real-time to notify as and when the garage door opens or closes, which is a nifty addition. This is one of the most straightforward IoT project ideas for you to work on.