# IOT BASED PREPAID ENERGY METER

- Meter(Wi-Fi enabled) to monitor our electricity usage from anywhere in the world and get an SMS/E-mail when energy consumption reaches to a threshold value.
- Reduce problems associated with billing consumers living in isolated areas and reduces deployment of manpower for taking meter readings.
- Provides credit based power, thereby reducing the need to worry about high electricity bill and checking the energy meter once in a while.

# THREE COMPONENTS OF THE PREPAID SYSTEM

## Metering Unit

Intelligent component that stores credit and consumption information, and makes up the element that either clears or switches off electricity supply.

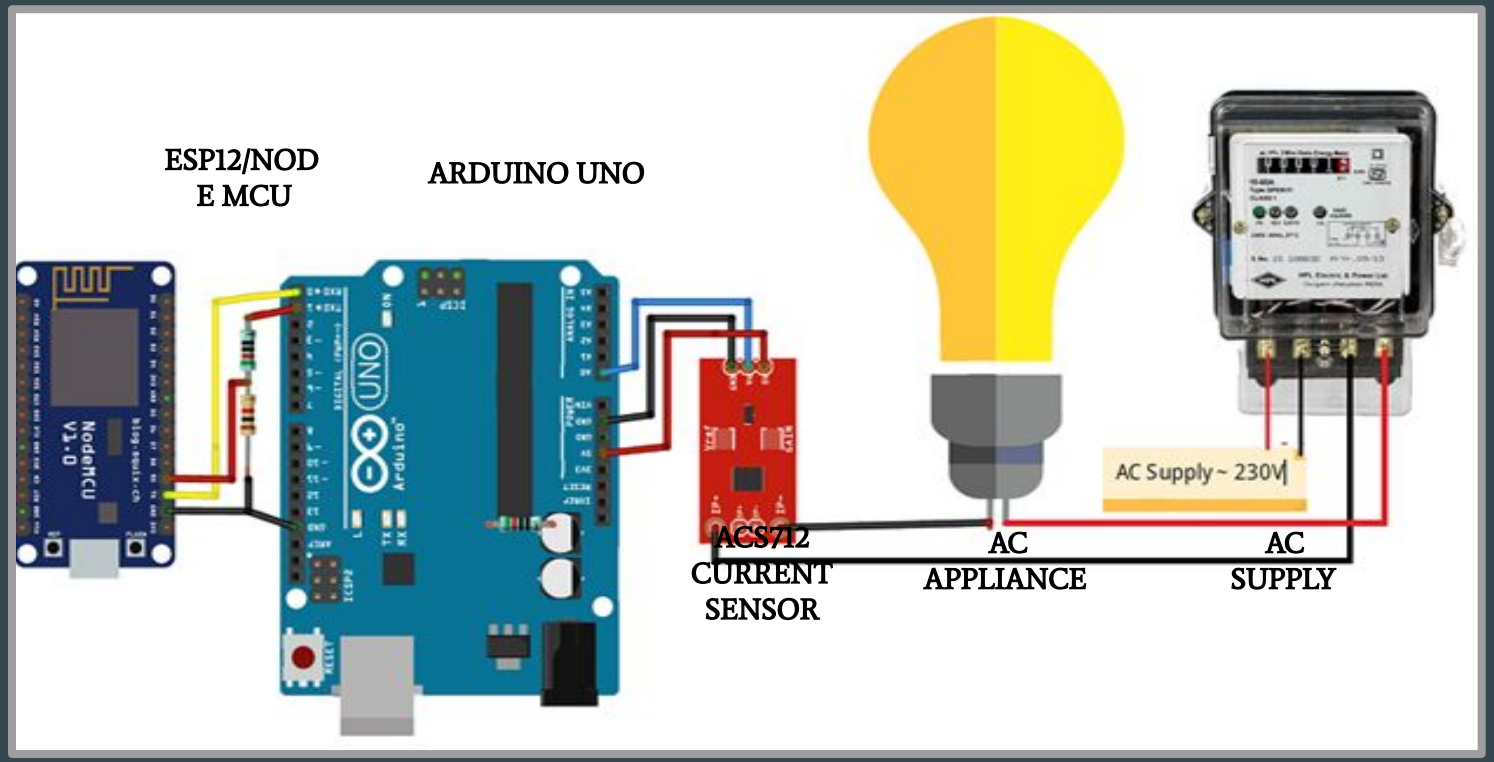
## Credit Dispensing Unit

Vending machine where consumers can purchase electricity credit. In general, these sales outlets are located at the utility's commercial offices, as well as in stores with long opening hours

## Supporting device

Links the various sales outlets to the utility's management system.

# CIRCUIT DIAGRAM



# Adafruit IO

- To monitor our *energy uses* over the internet, we have to use MQTT broker. We will use MQTT broker as AdaFruit IO platform. Adafruit is a cloud service that is primarily meant for storing and retrieving data.

- Dashboards are a feature integrated into Adafruit IO which allow you to chart, graph, gauge, log, and display your data.

- You can view your dashboards from anywhere in the world.

# IFTTT Platform

- **If This Then That**, also known as **IFTTT**, is a freeware web-based service that creates chains of simple conditional statements, called *applets*.
- An applet is triggered by changes that occur within other web services such as Gmail, Facebook, Telegram, Instagram, or Pinterest.
- It helps you connect all of your different apps and devices. In this project we will take the help of IFTTT Platform to link our WiFi to SMS/E-mail notification.

# ADVANTAGES

- Better customer service
- Reduced financial risks
- Improved operational efficiencies
- Improved cash flow management

# DISADVANTAGES

- The main disadvantage of the system is, because of huge electronic hardware involved in the system, the overall system consumes more electric energy.
- The consumer or the electrical department has to spend more amounts for installing this kind of smart energy meters. Economically it is not advised.

# CONCLUSION

- Prepaid systems have been proposed as an innovative solution to the problem of affordability in utilities services.
- Among the main arguments in favor of its dissemination are the advantages concerning lower costs of arrears, running costs and finance charges for the service provider and the better allocation of resources it implies for users.
- Prepaid meters with their advantages over conventional ones are likely to help power distributors to differentiate and offer value-added services to consumers.
- This project is a better solution for utility management and beneficial to consumers, power reforms and market. This project is user-friendly and flexible and in the coming future it will be applicable mostly everywhere with whatever enhancements necessary.