**Title of the Project :** SMART ENERGY MONITORING APPLICATION

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**ABSTRACT**

Internet of Things (IOT) is revolutionizing Industries faster than ever. IOT is the network of physical objects or things embedded with electronics, software, sensors, and network connectivity. It enables these objects to collect and exchange data. In this project, we will be developing a system which will automatically monitor all the currently operating appliances in a building. This system can generate alerts or take intelligent decisions using concept of IOT along with real-time data updating with cloud server. IOT has given us a promising way to build powerful industrial systems and applications by using Wi-Fi devices, LTE modems, smart relay switches and sensors. The main contribution of the project is that it summarizes the uses of IOT in organizations like colleges or schools. It also shows how we can monitor and control the appliance by increasing productivity and reducing expenses. Our system uses a microcontroller for processing all user commands and an EEPROM chip to save data. Digital Voltmeter, Ammeter, and Watt meter can be linked to the same IOT device without any additional circuits so thereby reducing cost. A Wi-Fi router and modem is linked to the IOT module to update each machine status. Appliance can receive user commands over Internet Protocol. On sending commands from mobile through the internet, it will be received by the modem linked with IOT circuit. The modem then decodes information and passes it to the microcontroller for further processing. We can get real-time data of the power consumed by appliance. We can extract data stored in the chip by importing it into a MS excel file. The chip can store data up to three months. It is also ensured that the hardware and technology used in the proposed idea are cheap, easily available, and replicable. The experimental results highlight its significance and validate the proof of the concept.