

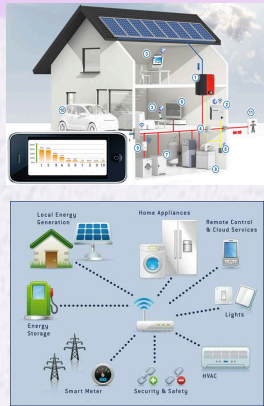
# IoT-Enabled Smart Metering Home Automation System

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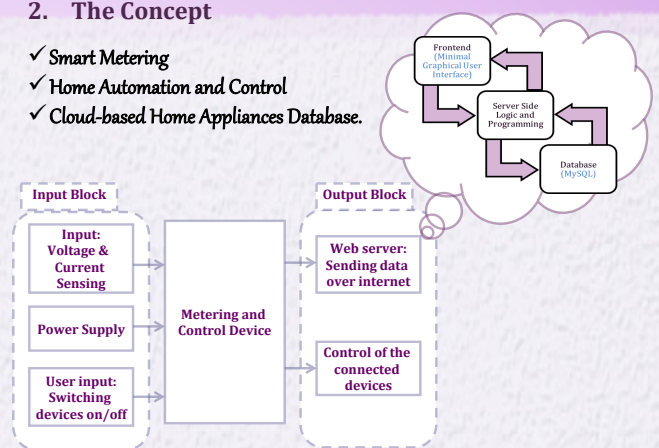
## 1. Introduction

- Energy management is crucial for government, industries and individuals to identify wastage, conserve resources and optimize operational efficiencies.
- The IoT framework offers a system of integrated sensing and actuation devices connected over the internet for real-time monitoring.
- This project presents an energy management system comprising of
  - an affordable smart meter**
    - to collate and send energy information via the internet and
    - switch devices on and off via remote commands.
  - cloud-based database** of home appliances for accessing real-time energy profiles.



## 2. The Concept

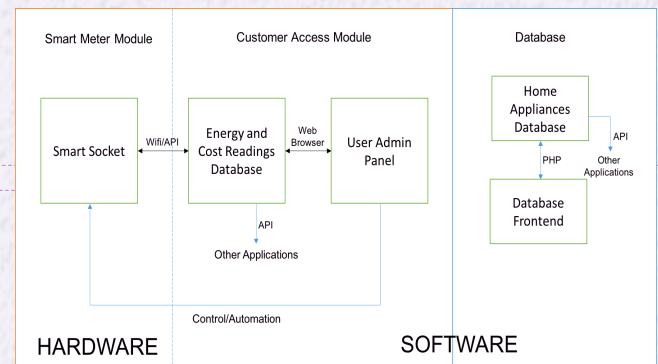
- ✓ **Smart Metering**
- ✓ **Home Automation and Control**
- ✓ **Cloud-based Home Appliances Database.**



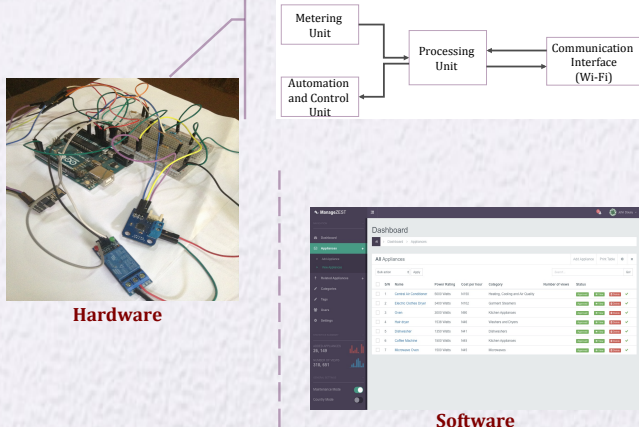
## 3. System Features

- Affordable and Easy-to-Install Smart Meter (prototype cost ~\$60)
- Accurate Energy Consumption Data for Decision Support
- Access to Real-time Energy Profiles of Domestic and Residential Buildings
- Simple GUI for Proper Monitoring of Power Usage
- Automatic Switch Control
- Applicable for water metering and gas metering as well as home and industrial security and automation systems.
- Cloud computing allows seamless integration of various metering services from multiple power companies, water and gas metering all in a central Server.

## 4. Architecture of the Energy Monitoring System



## 5. The Implementation



## 6. The Prototype

