



**ENERGY MANAGEMENT SYSTEM USING HOUSE AUTOMATION**

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**CLIENT PROFILE**

Our client is a leading electronics manufacturer and house automation solution provider. The company deals in extensive range of devices used for automatic controls in residential and commercial buildings.

**BUSINESS CHALLENGE**

In growing world with increased population, the need for energy is increasing year by year resulting in growing demand and thus increase in price. Increase in cost of energy is experienced by almost everyone. Our client wanted a system that could help the end users keep track of their energy consumption and at the same time open possibility of making intelligent control and regulation. The system should be able to control, regulate and monitor functions such as heating, ventilation and light based on the weather and time by interacting with different types of control boxes manufactured by the client. The system should give the user an easy plug & play experience with complete control through the internet via, computer, smart phone or tablet.

**SURETEK SOLUTION**

Suretek along with its client put together the business requirements through a series of brainstorming meetings and developed a technical solution to realize the business vision. Suretek proposed use of IOT over cloud (Azure) to control the devices and enabling automation through internet. The user commands are received over the internet and then passed on to the microcontroller.

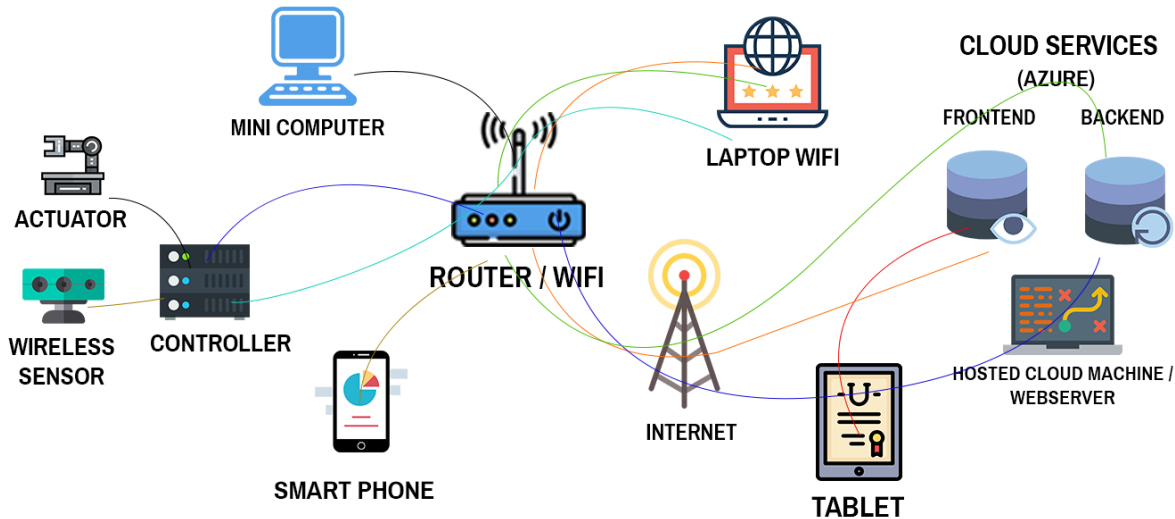
We developed a platform which connects the smart devices with appliances that can be connected to a local area network (LAN) via Ethernet or WiFi. A complete range of devices used in residential and commercial building are supported in the system.

**Suretek's contribution and work profile:**

- Developed an extensible and scalable home automation framework supporting multiple home automation devices and protocols such as MODBUS, TCP/IP or RS485.
- Developed an intuitive and easy to use web interface to monitor and control all the connected devices.
- Also developed Android and IOS app for ease of access to the devices from mobile

phones and tablets

- Developed an alarm system with wireless energy harvesting sensors
- Developed a tool to setup/configure the various devices and controller
- A diagnostic tool was developed specifically for site engineers to identify any issues in the system



## TECHNOLOGIES USED

**For Control Box (ghielectronics module G120):**

C#, .Net MicroFramework 4.3

**For web application:**

C#, .Net Framework 4.5, MVC 4, Asp.Net, HTML5, Ajax, JavaScript, J-Query, Sql Server 2012

**For Android App:**

Xamarin, Android Development Framework .

**For Apple App:**

iOS Framework