

## **Web Objects Based Energy Efficiency for Smart Home IoT Service Provisioning**

### **ABSTRACT**

Reducing energy consumption while satisfying user living comfort is a challenging issue in IoT environment for utilities and service providers. Energy consumption needs to be reduced without compromising user comfort that depends not only on current environment condition but also real world knowledge, history data and user preferences. Web Objects based IoT environment allows objects virtualization and use of semantic ontology to create real world knowledge and applies cognitive functionalities to learn user preferences. Web Objects based IoT environment allows integration of connected objects and isolation of information from multiple application domains. Depending on user current situation, location, time, history data and future prediction, energy efficiency on WoO make intelligent decision to offer services for user comfort living and reduce energy consumption. This paper proposes an architecture that supports Web Objects based energy efficiency for smart home IoT services. To realize knowledge-based intelligent IoT services, a use case scenario has been studied.

### **EXISTING SYSTEM**

Due to a huge number of connected objects and available service features in the ubiquitous environment, offering Internet of Things (IoT) services becomes complex that consumes a lot of energy. Utilizing use of energy in households to reduce energy consumption while satisfying user comfort becomes an essential part of IoT ecosystem. Energy efficiency is an increasingly focus area in IoT environment for utilities and service providers. But it consumes high energy.

### **DRAWBACKS**

- Cost is high.
- It consumes lot of energy.

## PROPOSED SYSTEM

Satisfying user comfortable living environment and saving energy is a complex task. Energy consumption needs to be reduced without compromising user comfort. In WoO, energy efficiency is achieved by offering user comfort services that consider surrounding environment condition, user preferences and real world knowledge, and subsequent output is reducing energy usage by adjusting home appliances. Energy efficient services are provided through the efficient use of energy with energy-optimization capability for energy consumer and provider. This paper has proposed an architecture that supports energy efficient comfortable living services for the smart home. A conceptual ontology model has been designed using Protégé and finally, a use case scenario has been implemented.

## ADVANTAGES

- It saves energy.
- It provides user comfort.

## SYSTEM REQUIREMENTS

### H/W System Configuration:-

- Processor - Pentium –IV
- RAM - 4 GB (min)
- Hard Disk - 20 GB
- Key Board - Standard Windows Keyboard
- Mouse - Two or Three Button Mouse
- Monitor - SVGA

### S/W System Configuration:-

- Operating System : Windows 7 or 8 32 bit
- Application Server : Tomcat5.0/6.X
- Programming Language : Java
- Java Version : JDK 1.6 and above

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