Abstract

Use of smart home technology offers significant potential for everyday energy savings for each citizen. There are numerous schemes successfully implemented in western countries related to energy conservation. In Indian context, the issues encountered are that of diversity and consumer literacy about electricity consumption. In this paper, a novel approach is presented to address this issue on an interface designed to provide users with the real time energy consumption of appliance specific data. The proposed system uses wireless sensor networking for sensing and transmitting remotely monitored data gathered from an intelligent hardware system comprising of current sensors followed by a current calculating unit and a cloud server for communication and storage of data. XBee® transceivers, which are economical and reliable, are installed on electric appliances and a commonly available open source platform of Arduino micro-controller which calculates the current readings gathered by Hall Effect current sensor ACS712. The software system transfers the UID (Unique Identification) of each appliance to the cloud in order to uniquely identify each appliance. A user-friendly interface is developed to
provide timely updates of the electricity consumption of the connected appliances. The system provides a real time analysis of the electricity consumed by individual appliances connected to the system.

References

9. Use people power to cut your energy bills, consumers urged: Record levels of discontent with Big Six providers is revealed

**Index Terms**

Computer Science  Wireless

**Keywords**

Current sensor, Zigbee® protocol, Arduino UNO® micro-controller, Data processing, current sensing mechanism, data analysis, android application, XBee®