



Home Energy Monitoring System Using Internet of Things

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ABSTRACT

This paper presents home energy varying time to time and date wise in graphical representation when ever required through internet. The proposed system evolves the home energy to the next level we can see the data using internet. We should login to access the data by this our data is safe and not hack able. We can see the data on the daily basis check for alteration in the current voltage, temperature, light values for respective loads connected to the system.

KEYWORDS: Arduino, Internet of things, Triac, Current sensor, voltage Sensor, Temperature Sensor, Light dependent Sensor.

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I. INTRODUCTION

Now -a-day's generation runs with internet in this advanced generation we are using the widely useable and useful technology called Internet of Things. We made communication here through Wi-Fi module. Imagine a world where billions of objects can sense, communicate and share information, all interconnected over public or private Internet Protocol (IP) networks. These interconnected objects have data regularly collected, analyzed and used to initiate action, providing a wealth of intelligence for planning, management and decision making. This is the world of the Internet of Things (IOT).

Home energy:

A Home Energy Rating is a measurement of a home's energy efficiency. A home energy rating can be used to gauge the current energy efficiency of a home or estimate the efficiency of a home that is being constructed or improved. A home energy rating of a home prior to construction or improvement is called a "projected rating." A home energy rating that is used to determine a home's current efficiency is referred to as a "confirmed rating." Energy assessments take into account

different climatic conditions in different parts of the country and are benchmarked according to average household energy consumption particular to a given climatic region.

II. PROPOSED SYSTEM

In the proposed system Home energy monitoring system consists of different analog and digital devices with various regulating voltages. The project helps to monitor the values in the home loads. The project has indicator for heavy temperature when the temperature reaches the threshold level the indicator tells by rotating dc fan with a switch type connection. The effect of temperature never lies for longer time so it just indicates and turns of when it crosses the base level or threshold level set by the code which we have written. By this we can turn off the devices or turn on the temperature sensitivity devices as per the requirements.

To measure required parameters and send the required data to specified storage location through internet we modified the previous system by using the latest technology internet of things. The project mainly deals with uploading values of voltage, current, temperature, light intensity into online

storage sever and can be accessible to required persons by username and password.

Block diagram:

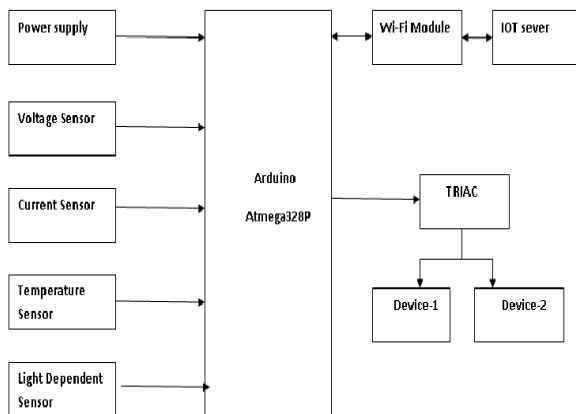
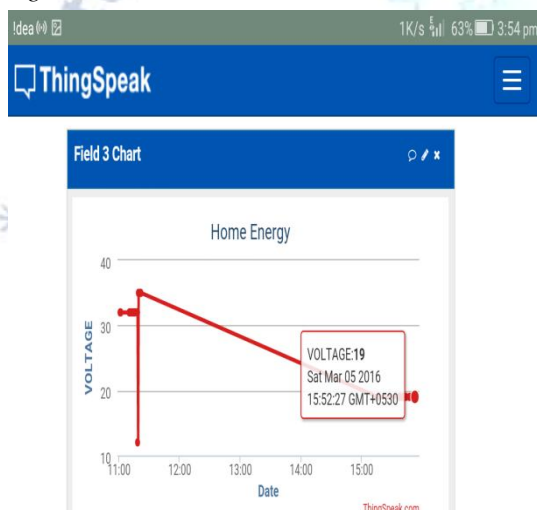


Fig: Block Diagram

III. RESULTS AND DISCUSSION

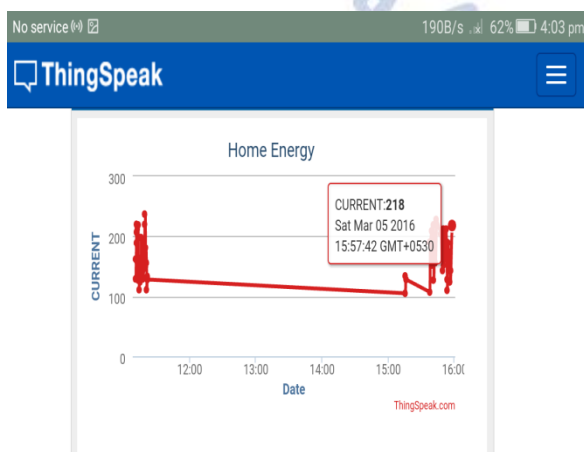
Our result consists of four different parameters. They are

A. Voltage values:



The above graph represents the voltage values at different hours in the same day.

B. Current values:



The above graph represents the current values at different hours in the same day.

C. Temperature values:



The above graph represents the temperature values at different hours in the same day.

D. Light dependent resistor values:

The below graph represents the Light Dependent Resistor values at different hours in the same day.



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