

Nonintrusive Appliance Load Monitoring (NALP) Power Data Aggregation System

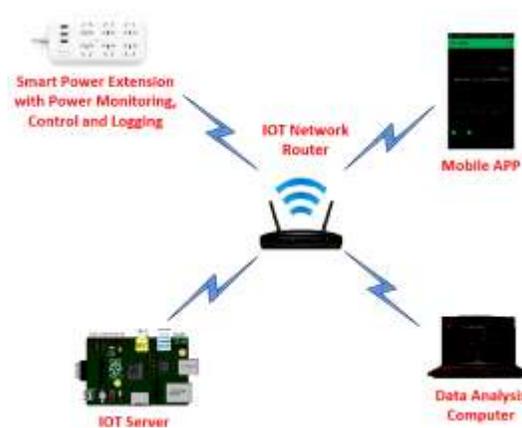
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Abstract

A Nonintrusive Appliance Load Monitor (NALM) is designed to monitor an electrical circuit that contains a number of devices (appliances) which switch on and off independently. By a sophisticated analysis of the current and voltage waveforms of the total load, the NALM estimates the number and nature of the individual loads, their individual energy consumption, and other relevant statistics such as time-of-day variations. No access to the individual components is necessary for installing sensors or making measurements. This can provide a very convenient and effective method of gathering load data compared to traditional means of placing sensors on each of the individual components of the load. The aim of this project is to create a small scale prototype WiFi network integrated with IOT platform for NALM data gathering by developing a smart extension for load connection.



Test Rig Configuration

Keywords

Load Monitor, IOT, NALM and Nonintrusive Appliance.

Biographies

Arkan Bawazeer, Murtadha Mohammed and Ibrahim Binbokr are final year undergraduate students. They are studying electrical engineering. They are expected to graduate in 2020. They are working in Biogas power generation for their final year project.

Aamir Khan is a lecturer at Electrical and Electronics department, Yanbu Industrial College. He has taught courses in machinery, microcontrollers and power electronics for engineers. Mr. Aamir is the main supervisor for this project.

Mohammed Alsumiri is an assistant professor at Electrical and Electronics department, Yanbu Industrial College. He has taught courses in power electronics, electrical machinery and renewable energy for engineers. Dr. Alsumiri is the second supervisor for this project.