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## Personal Energy Footprint Management System

Tech ID: 23118 / UC Case 2013-372-0

### BRIEF DESCRIPTION

University researchers have developed a system and method to utilize multiple context clocks, which are event-driven activities such as user behavior, network status and variable electricity rates, combining with internal electronic clocks to adjust the duty cycle of an electronic system, such as plug-load devices and appliances.

### FULL DESCRIPTION

The present invention is a method in which electricity usage context information is utilized in an external or internal clock system to govern the duty cycle of a plurality of electronic devices and appliances. The clock is a combination of more than two clock inputs. The clock signal can be generated both by electronic clock and event-driven activities. For example, it can originate from traditional electronic circuits for timing purpose, biological clock by personal daily activities, environmental clock by detecting ambient condition change, network system clock such as information download, authorization, etc. as mandated by a system provider, variable electricity rate clock set up by utilities, and user pattern clock determined by routine practice. This proposed method of any combination of two or more clocks, i.e. electronic and non-electronic clocks, allows for an electronic controller to adjust a duty cycle of a given electronic appliance or device for achieving better use of the device in both energy efficiency and user experience, while the user-experienced feature and function of the device is unaffected. The clock system can further recommend and acknowledge efficient usage habits via an intelligent intervention algorithm, and influences plug-load device usage and purchase decisions, in accordance with energy policies and incentive programs.

### SUGGESTED USES

This invention has utility in providing low-cost retrofitting solutions for existing electronic devices and appliances.

### ADVANTAGES

Empowers consumers in managing a plurality of power and functional states of plug-load devices without frequent user intervention, for better energy efficiency and lower power consumption.

### PATENT STATUS

| Country                  | Type          | Number    | Dated      | Case     |
|--------------------------|---------------|-----------|------------|----------|
| United States Of America | Issued Patent | 9,915,991 | 03/13/2018 | 2013-372 |

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### OTHER INFORMATION

### KEYWORDS

Energy efficiency, Consumer appliances

### CATEGORIZED AS

- » **Energy**
- » Other
- » **Environment**
- » Other

» **Semiconductors**

» Design and  
Fabrication

## RELATED CASES

2013-372-0, 2013-290-0

## ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

► [Web-Enabled Devices](#)

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