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SMART POWER CONSUMPTION ANALYSER AND CONTROLLER -A SURVEY

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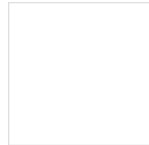


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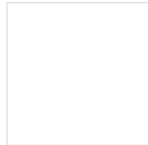
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Abstract and Figures

While the cost of living continues to rise, there is a rising emphasis on using technology to reduce those costs. With this in mind, this project enables users to construct and manage a home that is smart enough to conserve energy. In this project, we plan to build firmware for smart control that can be successfully automated while minimizing human contact in order to maintain the integrity of entire electrical devices in the home. Wireless technology is used in the main control system to provide remote access via cell phones. Controlling all electrical appliances, checking the room quality inside the home, and analyzing the power usage in units for various devices are just a few of the functions offered by our project. For persons who have a habit of forgetting things, controlling electrical appliances such as a washing machine is a good idea. The state of the system can be tracked based on user requests. With a low-cost design, a user-friendly interface, and ease of installation, the system is meant to control electrical appliances and devices in a home. The status of the appliance, as well as control via a web application, would be available. This approach is intended to aid and support the elderly and disabled in meeting their requirements at home. Furthermore, the smart home concept raises the standard of living reception.



Flowchart



User Interface

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SMART POWER CONSUMPTION ANALYSER AND CONTROLLER - A SURVEY

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Abstract: While the cost of living continues to rise, there is a rising emphasis on using technology to reduce those costs. In this project, we plan to build firmware for smart control that can be successfully automated while minimizing human contact in order to maintain the integrity of entire electrical devices in the home. Wireless technology is used in the main control system to provide remote access via cell phones. Controlling all electrical appliances, checking the room quality inside the home, and analyzing the power usage in units for various devices are just a few of the functions offered by our project. For persons who have a habit of forgetting things, controlling electrical appliances such as a washing machine is a good idea. The state of the system can be tracked based on user requests. With a low-cost design, a user-friendly interface, and ease of installation, the system is meant to control electrical appliances and devices in a home. The status of the appliance, as well as control via a web application, will be available. This approach is intended to aid and support the elderly and disabled in meeting their requirements at home. Furthermore, the smart home concept raises the standard of living reception.

Index Terms - Google Voice Assistant, GSM, IoT, Power consumption analyzer, Smart Automation, Wi-Fi.

I. INTRODUCTION

Internet of Things (IoT) is a concept where each device is assigned to an IP address and through that IP address, anyone can identify that device on the internet. The mechanical and digital machines are given unique identifiers (UIDs) and therefore have the ability to transfer data over a network without requiring human-to-human or human-to-computer interaction. The recent developments in technology that permit the use of wireless controlling environments like Bluetooth and Wi-Fi have enabled different devices to have the capabilities of connecting. While the value of living goes up, there's a growing focus to invest in technology to lower those prices. So, keeping up with the current trends in technology we have decided to come up with a project named Smart Power Consumption Analyzer and Controller which adds to the standard of living of a common man. In this project, we plan to build firmware for smart control that can be successfully automated while minimizing human contact in order to maintain the integrity of entire electrical devices in the home. Wireless technology is used in the main control system to provide remote access via cell phones. Controlling all electrical appliances, checking the room quality inside the home, and analyzing the power usage in units for various devices are just a few of the functions offered by our project. For persons who have a habit of forgetting things, controlling electrical appliances such as a washing machine is a good idea. The state of the system can be tracked based on user requests. With a low-cost design, a user-friendly interface, and ease of installation, the system is meant to control electrical appliances and devices in a home. The status of the appliance, as well as control via a web application, will be available. This approach is intended to aid and support the elderly and disabled in meeting their requirements at home. Furthermore, the smart home concept raises the standard of living reception.

II. METHODOLOGY

Initially, we began gathering requirements by consulting a number of other existing smart home applications. The majority of the applications only provided the ability to turn on and off various appliances.



types of applications more practical, we decided to provide control capability, which allows you to change the characteristic each device. We also included a power usage analyser module. We are creating a low-cost user-friendly application with this project that allows one to quickly operate many devices while identifying the power spent by each item. It allows users to take the required precautions in terms of power conservation thereby helping the environment by conserving energy, and it also has Alexa and Google Assistant integration to make it user-friendly. The user interface design was completed after the requirements were identified. The database design for the interface was completed. The connection between the user interface and the database was completed. After the connection

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Smart electricity monitoring and analysing an IoT system with a mobile application

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A. I. R. Fernando · M. D. R. Perera

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IoT based Online Power Consumption Monitoring of a Distribution transformer feeding Domestic/Commercial Consumer loads

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Saji T Chacko · Vikas Deshmukh

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Sanket Thakare and Akshay Shriyan Electronics and Telecommunication Engineering, F.C.R.I.T., India "Implementation of an energy monitoring and control device based on IoT"

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February 2023 · PISTON Journal of Technical Engineering

Gerry Italiano Wowiling

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June 2003

● Brad A. Myers

With today's wireless technologies, such as BlueTooth and IEEE 802.11, connecting handheld devices and conventional computers together is no longer an occasional event for synchronization. Instead, devices can be frequently in close, interactive communication. Many environments, such as offices, meeting rooms, and classrooms already contain computers, and the smart homes of the future will have ... [\[Show full abstract\]](#)

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Taking handheld devices to the next level

January 2005 · Computer

● Brad A. Myers · ● Jeffrey Nichols · ● Jacob Wobbrock · Robert C. Miller

Wireless technologies such as Bluetooth and IEEE 802.11 (Wi-Fi), handheld devices are communicating more frequently with conventional computers in offices, meeting rooms, classrooms, and homes. The smart homes of the future will have ubiquitous embedded computation, and an increasing number of appliances can already communicate wirelessly. The authors launched the Pebbles project to determine ... [\[Show full abstract\]](#)

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Development of a Visualisation Software, Implemented with Comfort Smart Home Wireless Control System

January 2015 · Lecture Notes in Electrical Engineering

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For the control of operational and technical functions in Smart Home or in Smart Home Care was used the xComfort wireless technology, which was implemented with the developed visualization application software "Smart HomeApp". Visualization application software "SmartHomeApp" was designed with regard to web interface requirements, ability to control phone and also with ... [\[Show full abstract\]](#)

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