HOME AUTOMATION CONTROL SYSTEM USING ARDUINO

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ABSTRACT

Energy saving is an important issue in the times of increasing energy prices. Products and services provided by the information and communication technology (ICT) can support energy efficiency and emissions reductions.

The synergy of ICT and a residential area gives rise to the home automation control system environment. Ecological and home automation control system network applications could improve the peoples life satisfaction in the domain of health care, security protection, and efficient management of energy and resource consumption. A home automation control system in the smart grid is the latest addition to a family of ideas emerging in relation to the ICT usage in the home. This paper presents an overview of the home automation control system concept and some challenges that ICT faces in that environment.

A home automation control system is a residence equipped with technology that could observes the residents and provides proactive services. With the availability of inexpensive low-power sensors, radios, and embedded processors, current home automation control system are typically equipped with a large amount of networked sensors which collaboratively process and make deductions from the acquired data on the state of the home as well as the activities and behaviors of its residents.

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Table of Content

CHAPTER 1

INTRODUCTION

1.1 Background Of Study

A control system is a device or set of device to manage, command, direct or regulate the behavior of other devices or system. The term "control system" may be applied to the essentially manual controls that allow an operator for example to close and open hydraulic press, perhaps including logic so that it cannot be moved unless safety guards are in place. An automatic sequential control system may trigger a series of mechanical actuators in the correct sequence to perform a task. In the case of linear feedback system, a control loop including sensors, control algorithms and actuators is arranged in such a fashion as to try to regulate a variable at a setpoint or reference value.

Home automation is the residential extension of "building automation". It is automation of the home, housework or household activity. Home automation may include centralized control lighting, HVAC (**H**eating, **V**entilation and **A**ir **C**onditioning), appliances and other systems to provide improved convenience, comfort, energy efficiency and security. A home automation system integrates electrical devices in a house with each other. The techniques employed in home automation include those in building automation as well as the control of domestic activities. Device may be connected through a computer network to allow control by a personal computer and may allow remote access from the internet. Through the integration of information technologies with the home environment, systems and appliances are able to communicate in an integrated manner which results in convenience, energy efficiency and safety benefits.