

HOME SECURITY AND AUTOMATION USING ARDUINO UNO

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ABSTRACT

In today's world that is in 21st century where almost every household and industrial application is done by automation and plays an important role in the humanity life. The home security and automation provides a secure and an automated control over the household appliances such as fan, door, AC, TV, light and other day to day appliances. This also allows high security in the home. The home automation does reduces the manpower that is used but also reduces the energy consumption in home smartly thus reduces electricity bills. The main purpose of the home security and automation is to provide security and to reduce manpower of the handicapped and old aged humans that will make them to control the home and its functions effortlessly and to alert the user in appropriate situations.

KEYWORDS: home security and automation, Arduino uno, android, embedded systems

INTRODUCTION

The home automation refers to the automation of the home, house, or any household activity. The home automation and the security includes the centralized control all over the appliances of the home[1]. The centralized control refers to the heating, cooling, air conditioning, ventilation, lighting, and other important systems as per the requirement of the user[2].

The automation system provides comfort, energy saving, convenience, and security to the home and to the user. The basic idea and concept of the home automation and security is around for very long time and decades[3]. But there are no products that competes with all other systems in the market, because of lack in perfection. This system can provide disabled and elderly people an increased quality of life that might require care from other peoples or institutions.

The system is provided with a remote control or interface that controls the home appliances or the automation of the home itself via various remote protocols, or via internet, telephone cable, wifi, radio frequency or by any other means[4]. The remote control or the interface provides total control over the appliances with monitoring system through a smart phone or via any other means.

METHODOLOGY

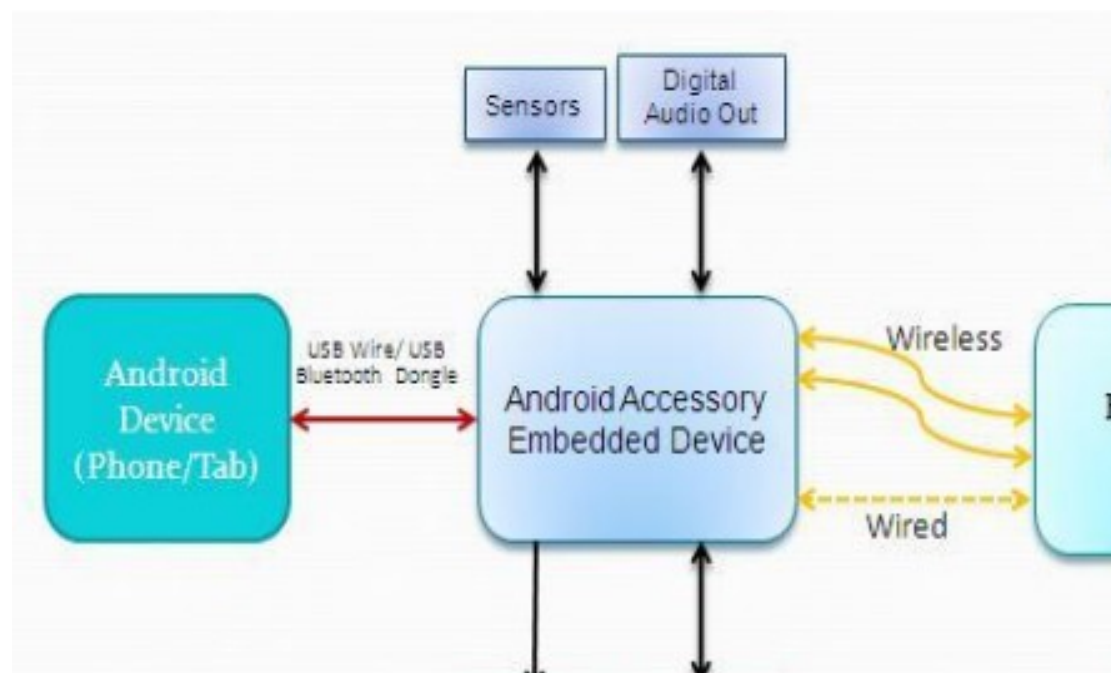
Android

For the implementation of the home automation an android phone is used and is selected as platform due to the open source software[5]. Android is an operating system for newly smart phones, this OS provides security as well as all other needs that is required in the system.

ArduinoUno

Arduino Uno is an open source microcontroller that is used to control the working or functions of the appliances[6]. The Arduino provides flexibility in the system and also due to the open source its community is very large to contribute in its advancement. The Arduino uno is chosen due to its simplicity.

PROPOSED MODEL



CONCLUSION

This system main objective is to assist old, elderly and disabled people. This system depicts the basic idea of the home automation and security that can be controlled via smart phones and tablets and by other means also. This system is based upon android and Arduino platform.

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