SYNOPSIS

FOR THE DEGREE OF BACHELOR OF ENGINEERING

(COMPUTER SCIENCE AND ENGINEERING) IN

THE FACULTY

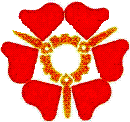
OF ENGINEERING & TECHNOLOGY OF

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI

**TITLE: WEB SERVER BASED HOME AUTOMATION USING INTERNET OF THINGS**

**STUDENT:**

**GUIDE: Prof. V. R. Shelke**



# Department Of Computer Science and Engineering Jawaharlal Darda Institute of Engineering & Technology, Yavatmal, (M.S), India-445001

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Abstract

With advancement of Automation technology, life is getting simpler and easier in all aspects. In today’s world automatic systems are being preferred over manual system. With the rapid increase in the number of users of internet over the past decade has made Internet a part and parcel of life, and IoT is the latest and emerging internet technology. Internet of things is a growing network of everyday object-from industrial machine to consumer goods that can share information and complete tasks while you are busy with other activities.

Wireless Home Automation system (WHAS) using IoT is a system that uses computers or mobile devices to control basic home functions and features automatically through internet from anywhere around the world, an automated home is sometimes called a smart home. It is meant to save the electric power and human energy. The home automation system differs from other system by allowing the user to operate the system from anywhere around the world through internet connection.

Keywords:

1. **Introduction**

In recent years, wireless systems like Wi-Fi have become more and more common in home networking. Also in home and building automation systems, the use of wireless technologies gives several advantages that could not be achieved using a wired network only.

Many existing, well-established home automation systems are based on wired communication. This does not pose a problem until the system is planned well in advance and installed during the physical construction of the building. But for already existing buildings the implementation cost goes very high.

1. **Literature Review & Related work:**

[1] Sirsath N. S, Dhole P. S, Mohire N. P, Naik S. C & Ratnaparkhi N.S

This project proposes a Home Automation system that employs the integration of multi-touch mobile devices, cloud networking, wireless communication, and power-line communication to provide the user with remote control of various lights and appliances within their home. This system uses a consolidation of a mobile phone application, handheld wireless remote, and PC based program to provide a means of user interface to the consumer.

[2] Basil Hamed

The main objective of this Paper is to design and implement a control and monitor system for smart house. Smart house system consists of many systems that controlled by LabVIEW software as the main controlling system in this paper. Also, the smart house system was supported by remote control system as a sub controlling system. The system also is connected to the internet to monitor and control the house equipment’s from anywhere in the world using LabVIEW.

[3] Deepali Javale, Mohd. Mohsin, Shreerang Nandanwar

The prime objective of this paper is to assist handicapped/old aged people. It gives basic idea of how to control various home appliances and provide a security using Android phone/tab. The design consists of Android phone with home automation application, Arduino Mega ADK. User can interact with the android phone and send control signal to the Arduino ADK which in turn will control other embedded devices/sensors.

1. **Analysis of Problem.**

Home automation systems face four main challenges, these are high cost of ownership, inflexibility, poor manageability, and difficulty in achieving security. The main objectives of this research is to design and implement a home automation system using IoT that is capable of controlling and automating most of the house appliances through an easy manageable app interface.

1. **Proposed Work and Objectives:**

The proposed system has a great flexibility by using Wi-Fi technology to interconnect its distributed sensors to home automation server. This will decrease the deployment cost and will increase the ability of upgrading, and system reconfiguration.

The proposed system is a distributed home automation system, consists of server, sensors. Server controls and monitors the various sensors, and can be easily configured to handle more hardware interface module (sensors). The Intel Galileo development board, with built in Wi-Fi card port to which the card is inserted, acts as web server. Automation System can be accessed from the web browser of any local PC in the same LAN using server IP ,or remotely from any PC or mobile handheld device connected to the internet with appropriate web browser through server real IP (internet IP). Wi-Fi technology is selected to be the network infrastructure that connects server and the sensors. Wi-Fi is chosen to improve system security (by using secure Wi-Fi connection), and to increase system mobility and scalability.

The proposed home automation system can control the following appliance:

* Lights on/off
* Fan on/off
* Regulate the appliances.
* On/off different appliances.
* Detect weather the appliances are on/off.

1. **References: (as per IEEE format)**

1. Sirsath N. S, Dhole P. S, Mohire N. P, Naik S. C & Ratnaparkhi N.S Department of Computer Engineering, 44, Vidyanagari,Parvati,Pune-411009,India University of Pune, “Home Automation using Cloud Network and Mobile Devices”.

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**Submitted by:** (Name & Sign**)**

Guide Head,

Department of Computer Science & Engg.