HOME AUTOMATION AND SECURITY SYSTEM WITH NODEMCU USING IOT

A Project Report

Submitted in partial fulfillment of the

Requirements for the award of the degree

BACHELOR OF TECHNOLOGY

In

ELECTRONICS AND COMMUNICATION ENGINEERING

By

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(2018-2022)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This is to certify that the project report entitled **"HOME AUTOMATION AND SECURITY SYSTEM WITH NODEMCU USING IOT"**, submitted by **M. GOWTHAMI MEGHANA (19E95A0406), S. DIVYA (18E91A0412), B. SAI SIRISHA (19E95A0412), G. PRUDHVI (18E91A0437)** in partial fulfillment for the award of degree of Bachelor of Technology in Electronics and Communication Engineering, from Chirala Engineering College, Chirala affiliated to the Jawaharlal Nehru Technological University (JNTU), Kakinada, is a record of bonafide work carried out by them under my guidance and supervision. The results embodied in this project report have not been submitted to any other university or institute for the award of degree.

PROJECT GUIDE **HEAD OF THE DEPARTMENT**

Date of Viva-Voce :

INTERNAL EXAMINER **EXTERNAL EXAMINER**

CERTIFICATE OF AUTHENTICATION

We solemnly declare that this project report **"HOME AUTOMATION AND SECURITY SYTEM WITH NODEMCU USING IOT"** is the bonafide work done purely by us, carried out under the supervision of **Mrs. A. TRIVENI** towards partial fulfillment of the requirements of the Degree of **Bachelor of Technology in Electronics and Communication Engineering** from Jawaharlal Nehru Technological University, Kakinada during the year 2021 – 2022.

We also declare that no part of the document has been taken up verbatim from any source without permission from the author(s)/publisher(s). Wherever few sentences, findings, images, diagrams or any other piece of information has been used for the sake of completion of this work, We have adequately referred to the document source. In the event of any issue arising hereafter about this work, we shall be personally responsible.

It is further certified that this work has not been submitted, either in part of in full, to any other department of the Jawaharlal Nehru Technological University, Kakinada, or any other University, institution or elsewhere, or for publication in any form.

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ABSTRACT

Internet of Things is composed of things that have unique identities and are connected to each other over internet. It is simply connecting and monitoring various devices and sensors through Internet. This paved the way for home automation and monitoring which makes human life more comfortable and secured. This paper describes the overall notion of the IOT based sensing systems and monitoring systems for implementing an automated home. The proposed prototype uses Node MCU board with internet being remotely controlled by Android OS smart phone. Node MCU is the heart of this system and it can perform as a micro web server and it acts as an interface for the wide range of hardware modules. To control lights, fans and other home appliances which are connected to the relay system, the system offers switching functionalities. It is also used for environmental monitoring by sensing and analyzing data about temperature and humidity. Another notifying feature in this system designed is the intrusion detection which is offered by this system using motion sensor. All these activities are controlled by using Android mobile appBlynk.

The main objective of this project is to develop a home automation system using an Arduino board with Bluetooth being remotely controlled by any Android OS smart phone. As technology is advancing so houses are also getting smarter. Modern houses are gradually shifting from conventional switches to centralized control system, involving remote controlled switches. Presently, conventional wall switches located in different parts of the house makes it difficult for the user to go near them to operate. Remote controlled home automation system provides a most modern solution with smart phones. In order to achieve this, a Bluetooth module is interfaced to the Arduino board at the receiver end while on the transmitter end, a GUI application on the cell phone sends ON/OFF commands to the receiver where loads are connected. By touching the specified location on the GUI, the loads can be turned ON/OFF remotely through this technology.

Index Terms – Node MCU, IOT, Blynk app, Sensors, Security.

CONTENTS

LIST OF FIGURES

LIST OF TABLES