

University of Science and Technology
Faculty of Information Technology and Computer
Science
Collage of Postgraduate Studies
MSC in Information System

Thesis submitted in-partial fulfillment of the requirement
of
The degree of MSC in Information System

Home Automation Systems (HAS)

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June-2013

ABSTRACT

The project aims at the investigation the possibility of introducing the remote control in the home electric equipment using computer, instead of the traditional control system.

A technical experiment has been done for the sake of implementation the remote control system in such electric equipment by using a designing drawing face in visual basic programming language besides an electrical circuit designation linked with that equipment for the purpose of control.

The project includes some basic concept of home electric equipment and how to be controlled.

The most important finding attained by the researcher in this project, is that; the remote control system is more applicable and possible on the home lighting equipment. It is also possible to control any other electric equipment which linked with the same electric circuit proposed in the project by turning the intended equipment on or off.

المستخلص

يهدف المشروع الي امكانية ادخال نظام التحكم من علي البعد بالاجهزة الكهربائية المنزلية بواسطة الحاسبات الآلية بدلاً عن التحكم بواسطة مفاتيح التحكم التقليدية.

تم عمل تقنية لتنفيذ عملية التحكم عن بعد بتلك الأجهزة الكهربائية باستخدام واجهة رسومية مصممة بلغة الفيچول بيسك وتصميم دائرة كهربية متصلة بتلك الأجهزة للتحكم بها.

يقوم المشروع بتقديم بعض المفاهيم الاساسية عن الأجهزة الكهربائية المنزلية وكيفية التحكم فيها.

من أهم النتائج التي توصل اليها الباحث في هذا المشروع هي أن التحكم في أجهزة الاضاءة المنزلية من علي البعد ممكناً، كما يمكن التحكم بأي جهاز كهربائي آخر متصل بتلك الدائرة الكهربائية المصممة في المشروع وذلك بفتح واغلاق الجهاز المتصل بها.

1.1 Introduction

Home Automation is the ability to control lighting and household appliances remotely. It includes the remote control and monitoring of domestic appliances, home security and energy management.

1.2 Research Problem

Traditional home has many problems such as the following:

- Insecure (no security equipments such as fire detection, motion detection, waterproofing sensors).
- Unable to control the electricity equipments such as lights air-conditioner. automatically.
- Unable to manage the energy consumption (Wasting money).
- Requires physical attend by his owner (unable to control remotely).

1.3 Research Objective

To achieve the research objectives, we should use both the technical engineering and it' s studies in order to construct the system program to developed the application.

1.4 Research Methodology

In this project we used technical engineering and the studies that depend over it to construct the system by programmatically ways to develop an application to achieve research objectives.

1.5 Thesis structure:

The second chapter gives a general introduction to the home automation technology and historical view of automation. Chapter three introduces an over view of communication networks and technologies of home automation system. Chapter four introduces the design and implementations of the home automation system and discuss the control equipment details, testing procedure, and results achieved. Chapter five is dedicated to conclusions and suggestions for future work.