FINAL YEAR PROJECT REPORT

Image Sensing Automatic Device Control

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Submitted by

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Image Sensing Automatic Device

Project Report submitted to the
Department of Electrical Engineering, University of Management and Technology
in partial fulfillment of the requirements for the degree of
Bachelor of Science
in
Electrical Engineering

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(26-12-2012)

Dedication

This project is dedicated to the most honorable person of this world, The Holy Prophet (P.B.U.H) who take all mankind from the deep darkness to the light of knowledge, who show us the right way of Allah Almighty.

After that our project is dedicated to our beloved Parents and respectable Teachers, who teach us how to live and survive in this tough world.

Our special dedication is to our Project Advisor Mr. Khan M. Nazir who familiarizes us with a field which was completely new for us and he helps us by correcting our mistakes.

Acknowledgement

We are greatly thankful to Allah Almighty who provides all the resources of every kind to us, so that we make the proper use for the benefit of mankind. May He keep providing us with all the resources, and the guidance to keep helping the humanity.

This project would not have been a success without the guidance and motivation of all our teachers. We would like to express our gratefulness to Mr. Khan M. Nazir, who acted as a mentor throughout our project for providing us valuable information and guidance.

Thanks also to many teachers and fellows also, who provide detailed technical solution of our problems, all of whom did their excellent job.

We would also like to thank the staff of our laboratory, for their advices and help every time, during our project.

Most of all, we are very grateful to our families for their unfailing encouragement and financial support they have given to us over the years.

Abstract

As we know, that a lot of energy is wasted when electrical appliances such as Fan, AC, TV etc. are left “ON” and there is no one in the room. So we proposed a mechanism which will sense the presence/absence of human being in the living area and turn “ON/OFF” the appliances accordingly to minimize the energy loss. In this project we are trying to reduce the waste consumption of electricity.

Our project is mainly consisting on the Image Processing through MATLAB. The major parts, that discussed in this report are: (1) Coding in MATLAB, (2) Serial Communication, (3) Hardware.

In this project the detection of object is done by Viola Jones Algorithms. So the details of this Algorithm, Coding and complete hardware description is also included in this report.

CONTENTS

Chapter 1 INTRODUCTION

1.1 Background

Since the beginning of the world, the human always try to get the energy and use it in their own accordance. There was an era, when fire was invented and the whole world was surprised on this marvel. But now a day's most of the energy is wasted due to the negligence of its importance. That's why from last century, extensive researches has been made on the energy savings. It is the reason that we decide to build a project which is used for that purpose.

1.2 Introduction

A lot of energy is wasted when electrical appliances such as Fan, AC, TV etc. are left "ON" and there is no one in the room. We proposed a mechanism which will sense the presence/absence of human being in the living area and turn "ON/OFF" appliances accordingly.

In this Project, we turn ON ceiling fan and bulb by detecting the presence of human body in the room. Through this project, we can implement the same logic to other appliances of our specific area to minimize the loss of energy.

We are using the MATLAB software for detecting the human body. And get the result in digital form for communication. After receiving that result, our control circuit will turn ON/OFF the desired appliance.

1.3 Why it Needs.

Our purpose is

- To introduce the people with new technology.
- To minimize the loss of energy.
- By implementing this project, anyone can save the energy in their respective places.

1.4 Block Diagram