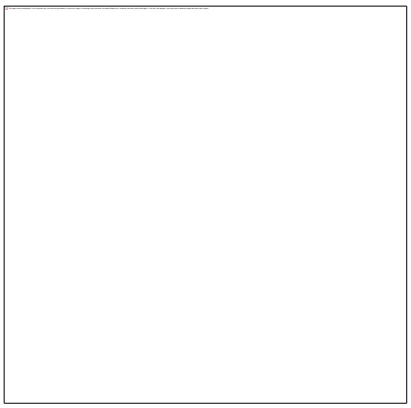
FINAL YEAR PROJECT REPORT

COLOR DETECTING AUTO SORTING ROBOT



Project Advisor

Mr. Saleem Ata

Submitted By

MUHAMMAD ANAS JAVAID	071020095

MUHAMMAD ZUBAIR	071020048
JAMAL ANWAR	070920023

Department of Electrical Engineering

School of Science and Technology

University of Management and Technology

COLOR DETECTING AUTO SORTING ROBOT

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

by

MUHAMMAD ANAS JAVAID	071020095
MUHAMMAD ZUBAIR	071020048
JAMAL ANWAR	070920023

August 12, 2011

Abstract

The goal of this project is to construct and design a color detecting auto sorting robot. That robot detects the color of an object and automatically sorts the object according to the specific color. It uses RGB Technology. It can detect 12 colors but is flexible for detecting more colors. It can be used vastly in industries e.g. the car manufacturer pays lot of money to an employee for maintaining the paint job of cars this robot can detect the color difference in paint job more precisely then human for 24 hours.

Acknowledgements

First of all, we would like to thank Al-Mighty **ALLAH** for giving us strength to complete our final year project. After that, we truly acknowledge the cooperation and help make by Mr. SALEEM ATA, Project Advisor, University of Management and Technology. He has been a constant source of guidance throughout the course of this project. We are also thankful to our friends and families whose silent support led us to complete our project.

MUHAMMAD ANAS JAVAID 071020095

MUHAMMAD ZUBAIR 071020048

JAMAL ANWAR 070920023

Date

August 12, 2011

Table of Contents

List of Figures

List of Tables

CHAPTER 01

Introduction

1.1 Color Detector

For the final project, we designed and constructed a Color Detecting Auto Sorting Robot. The basic function of this robot is to detect the color of an object and perform desire logic on a specific color.

By shining light of a certain color on the object and looking at how much light is reflected back, we can tell what color the object is. For example, if someone shines a red light on a red object, most of that light will be reflected back. If someone shines a blue light on a red object, the object will absorb some of that light and less of it will be reflected back.

Our Device distinguishes the color of an object using RGB technology with the help of microcontroller automatically. An LCD is displaying the color that is passing by the device and sorts the object to its particular location.

1.2 Purpose

The purpose of the project is to construct and design a color detecting auto sorting robot. The robot detects the color of an object and performs desire logic on a specific color. Color detection is widely needed in different industries and unfortunately there are less cheap solutions available.

A simple three color detector costs PKR 25,000 and it is not capable for sorting. So we made a cheap solution to detect huge variety of colors and our machine can sort 12 colors at a time for production lines itself.

1.3 Scope

Our project can be used in industry. In a candy manufacturing company like Candy Land where different sweets are made. Sorting sweets of different flavors on the basis of their color like an orange candy will be sorted among bunch of different candies by using this robot.