SMART CURTAIN

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ABSTRACT

This curtain controller uses an Arduino UNO as the brain to control the opening of curtain veils, thus enabling the control of light intensity in the room. It features both automatic mode and manual override mode. In the automatic mode, we can set the preferred intensity level in the room using a pot and the control system will adjust the veils suitably to maintain the user set intensity level always. As the name indicates, in the manual override mode the user is free to choose any opening of the veils.

The working of the circuit is fairly simple. When the mode switch is open, the system is in automatic mode. In this mode, the analog voltage at pin at Arduino which is set by the potentiometer is compared with the analog voltage output of the light dependent. If the output of the light dependent resistor is lower than the potentiometer, this means that the light intensity inside the room is less than the value required. So the veil should open up till these two values matches. Similar is the case when the output of LDR is higher than pot, thus causing the veil to close till the equilibrium reaches.

When the mode switch is in closed position the system is in manual override. Now the control algorithm is disabled and the user can set the veil to any position of his/her choice. The mode will be indicated by the liquid crystal display (LCD) connected to the microcontroller for easier reference to use.

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CHAPTER 1

INTRODUCTION

Curtain is among the common and important thing inside every house used for privacy and control lighting. Without it, people from the outside can see what is happening inside the house and the intensity of light inside of the house cannot be controlled. So curtain is used to overcome those problems. For an upgrade, Smart Curtain is invented to give easier life for the human to overcome the hassle to move the curtain every time manually which is a waste of time and energy.

1.1 Introduction

Smart curtain is a project that provides to move curtain automatically using motors instead of moving it manually using hands which is a hassle for human to do it all the time. The Smart Curtain has both automatic mode and manual. For automatic mode the microcontroller acts as a brain for the circuit to control all the function in the circuit. The circuit consist of three switches that act as a control, an LDR which function as a light detector and motor which is used to move the curtains. The movement of curtains is based on the light intensity of the room which the amount of the light intensity will determine the opening or closing of the curtain. If the LDR detect less light intensity from the se amount, it will open the curtain until the amount of light intensity is reached or vice versa. However the Smart Curtain also provides the manual mode which can be used any time for other circumstances such as privacy. The mode can be change from the first button from automatic to manual mode and