Universiti Teknologi MARA (UiTM)

An Automated Roof Control System : Using Arduino

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ABSTRACT

Recent advances in technologies have attracted attention due to its wide range of applications that may has ability to control the home as well as other electrical appliances either automatically or through an Android device. The proposed solution aims at reducing human intervention, thus decreasing the job to be done in daily life. Unpredictable clime can be troublesome to individual to dry their clothes outdoor due to erratic weather condition such as rain. Based on this problem, an idea was developed to avoid dried clothes exposed to rain. This product can run automatically using microcontroller as the brain to control system function of the product. Main objective of this project are to design circuit that can sense rain and light and develop code using Arduino software to control system function thus automatically moving the roof forward on rainy days and moving backward on sunny day. The advantage of this product, it can function automatically without human intervention.

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CHAPTER 1

INTRODUCTION

This chapter provides the background and rationale for the study. It also gives details of the function that led to this proposal of research.

1.1 Background of Study

Today in modern era, most of the time we spend applying technologies operation with our fingertips. Therefore, there is a need that technology should has ability to control and monitor either automatically or through remotely.

The popularity of home automation has been increasing greatly in recent years due to much higher affordability and simplicity through smart phones and tablets connectivity. The concept of the "Internet of Things" has tied in closely with the popularization of home automation. Home automation or known as smart home may include centralized control of heating, ventilation and air conditioning (HVAC), lighting, appliances, security locks of gates and doors to provide improved convenience, comfort, energy efficiency and security.

1.2 Problem Statement

Common Malaysian terrace house do not provide awning. When people want to dry their clothes, they will hang it outside. However due to erratic weather, it can be difficult to dry the clothes in an open environment.

To overcome that issue, automated roof that can be controlled automatically without user intervention maybe helpful and potentially solve the proposed model from the previous roof technology.