# UNIVERSITI TEKNOLOGI MARA

# INTEGRATED HOME CONTROL SOLUTION

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Thesis submitted in fulfillment
of the requirements for the degree of
**Diploma of Electrical Engineering**

**Centre for Electrical Engineering Studies**
**College of Engineering**

**FEB 2024**

# ABSTRACT

People are often busy with work, family, and other aspects of life, which can make it easy to forget simple things like turning off lights and fans before going to bed or leaving the house. This oversight can lead to higher electricity bills. Additionally, with Malaysia's frequent rain seasons, a common issue is leaving clothes outside during sudden weather changes. The Integrated Home Control Solution is designed to effectively tackle two key challenges. Firstly, it enables remote control and monitoring of lights and fans through the Blynk application, facilitating efficient energy management. Secondly, the system features an automated pulley clothesline equipped with a rain sensor, an indispensable tool in areas prone to sudden rainfall, such as Malaysia. This innovative feature aids in safeguarding clothes from unexpected rain. In this project, rain sensors and Light Dependent Resistors (LDR) are used as inputs, while the outputs include LEDs (lights), stepper motors, and fans. The rain sensors detect rain, and the LDRs measure light levels. To create and control this system, software platforms like Proteus, Blynk, and Arduino IDE are utilized. The LEDs indicate the system's status, the stepper motors manage the automated clothesline's movement, and the fans contribute to air circulation.

# ACKNOWLEDGEMENT

First of all, I would like to thank Allah S.W.T. for providing me with the chance to learn something new that is outside the scope of our current understanding and expertise. Where I never thought of learning to build my own prototype, coding, and everything to make my project “Integrated Home Control Solution” works like I want. I’m very thankful and grateful for the power and opportunity You gave me to complete it until the end.

Not to be overlooked also to my supervisor, Sir Mohd Sufian Ramli, who provided some assistance to me in completing my project. Keeping in mind Pn. Mastura Omar, my second supervisor, who has provided me with a great deal of assistance and project solutions They has resolved and corrected some coding and circuitry-related issues. In fact, they also offered suggestions for how to make this initiative more effective in order to avoid its failure to reach its full potential. I'm grateful to them for all the things and fresh information I learned while studying under them.

Last but not least, not forgetting my family members who have given support and help in terms of money. As well as all my friends who greatly aided in finding solutions and assistance throughout this final year project. Thank you to everyone involved and helping to make this Integrated Home Control Solution successful.

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# INTRODUCTION

## 1.1 Introduction

IoT Based Home System is basically the most useful and very helpful in a person's daily life. Especially for those who are busy and need something that is fast, easily accessible, and controlled remotely. They will therefore find it easier to manage their home with the help of this approach. There are several advantages of Integrated Home Control Solution in every house. Previously, switches at home can only be controlled manually where there is no use of IoT, coding, and sensors.

## 1.2 Background study

The majority of consumers frequently keep their fan and light on at home can which increases their electricity cost dramatically. This is because of their tendency to forget and rushing to leave house right away. The inclusion of IoT and other components can indirectly assist in reducing waste and avoiding that problems. For example, switches at home can be controlled anywhere by using the Internet of Things also known as IoT, which makes it easy to access everything in the house just by using a smartphone.

Auto-pulley clothesline in the yard will be useful to the people who cannot afford to buy dryer. Whether the user is at home or not, the auto clothesline is designed to prevent the clothes from being exposed to rain when they are dried outside. When the rain sensor detects rain in the daylight or at night, the clothesline will be lowered, and it will be raised again when the sky is clear and it is not raining. Consequently, users do not have to worry if it is raining or if they have a lot of work to complete.

Incorporating numerous technologies into a single system is what is meant by "Integrated Home Control Solution" which is not a single technology. It actually covers the whole house that has an auto pulley clothesline, fan and lamp switches, and auto temperature