UNIVERSITI TEKNOLOGI MARA

VIRTUSWITCH WITH CAPACITIVE TECHNOLOGY WITH BLYNK

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ABSTRACT

The rapid evolution of technology has ushered in a new era of convenience and efficiency in our daily lives. VirtuSwitch aims to develop the existing technologies which the conventional wall switch into online switch that can wirelessly turn on and off any electrical appliances. It allows the user to remotely control electrical appliances using a tablet, smartphone, or other network-connected devices. This project focus to help physically disabled people and elderly. They need physical effort to operate the convenience wall switch. So, developing home automation systems will reduce their burden by tapping the device to control the house. This project has ultrasonic sensor and capacitive switch compared to previous research. A capacitive switch is not a mechanical switch which lacks physical contact and makes it a longer lifespan. The sensor helps the user to find the switch if the user did not hold the online switch. This project has a huge potential to develop more in future because it can help our daily lives more efficient.

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I extend my appreciation to my family and friends for their unwavering support and understanding during the course of this project for assisted me with the ideas and solutions for the project. Thank you for being an integral part of the journey towards creating an innovative and functional VirtuSwitch using capacitive technology with Blynk.

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INTRODUCTION

1.1   Introduction

Since the late 1970s, there has been talk of home automation systems. However, as technology has advanced and smart services have become more accessible, people's expectations for how well a traditional house can be transformed into a smart home have changed significantly. These expectations have affected how people view home automation systems as well as what a home should be able to do and how services should be offered and accessed at home. The home automation systems concept is the ability to control all home appliances smartly. This technology was used to control all home appliances smartly. This technology was used to control the switch at home by only using the devices. When comparing various home automation systems over time, we can see that each one has tried to give homeowners quick, easy and secure access to their properties.

The recent development of wireless technologies like Wi-fi, Bluetooth and cloud networks are now used everywhere. These benefits wireless technologies can be used to make a great wireless system. Esp32 is the main component that have the ability to turn on or off the electrical appliances according to the mechanical and online switch condition. It also can develop the switch until it is capable to connected with Blynk as the online switch.

The implementation of online switch managed by Blynk contributes to the developing field of home automation systems. The user can control their electrical appliances by touching the button on their smartphones. With this development, the user can monitor the condition of the switch which can optimize the energy efficiency that aligns with the modern lifestyle.