POLITEKNIK MALAYSIA
Sultan Salahuddin Abdul Aziz

IOT AIR SANITIZER BY MONITORING BY MOBILE PHONE

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JABATAN KEJURUTERAAN ELEKTRIKAL

SESI 1 2021/2022

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AHMAD NABIL ADLI BIN MOHD SUMAILI	08DEU19F2010

This report submitted to the Electrical Engineering Department in fulfillment of the requirement for a Diploma in Electrical Engineering

JABATAN KEJURUTERAAN ELEKTRIK

SESI 1 2021/2022

CONFIRMATION OF THE PROJECT

The project report titled "Design a Fingers Exergame to Improve Fine Motor Skill for Autistic Children Using Arduino" has been submitted, reviewed and verified as a fulfills the conditions and requirements of the Project Writing as stipulated

Checked by:

Supervisor's name : USTAZ KHAIRUL NAPISHAM BIN ABD RAZAK

Supervisor's signature :

Date :

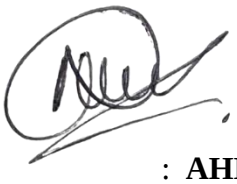
Verified by:

Project Coordinator name :

Signature of Coordinator :

"I acknowledge this work is my own work except the excerpts I have already explained i

to our source"



1. Signature :

Name : **AHMAD NABIL ADLI BIN MOHD SUMAILI**

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Date : 25/12/2021

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TITLE : IOT AIR SANITIZER BY MONITORING BY MOBILE PHONE

SESSION: SESI 1 2021/2022

1. I, **1. AHMAD NABIL ADLI BIN MOHD SUMAILI (08DEU19F2010)**

   is a final year student of **Diploma in Electrical Engineering, Department of Electrical, Politeknik Sultan Salahuddin Abdul Aziz Shah**, which is located at **Persiaran Usahawan, 40150 Shah Alam, Selangor**. (Hereinafter referred to as 'the Polytechnic').

2. I acknowledge that 'The Project above' and the intellectual property therein is the result of our original creation /creations without taking or impersonating any intellectual property from the other parties.

3. I agree to release the 'Project' intellectual property to 'The Polytechnics' to meet the requirements for awarding the **Diploma in Electrical Engineering** to me.

Made and in truth that is recognized by;

a) **AHMAD NABIL ADLI BIN MOHD SUMAILI**
(Identification card No: - 010105-10-0139)

. ....……
) **AHMAD NABIL ADLI BIN MOHD SUMAILI**

In front of me, **USTAZ KHAIRUL NAPISHAM BIN ABD RAZAK** (Click here to enter text.)
As a project supervisor, on the date:

)
....……
) **USTAZ KHAIRUL NAPISHAM BIN ABD RAZAK**

ACKNOWLEDGEMENTS

Praise be to Allah SWT for the owners of nature, be grateful for the Divine Presence for His Taqik and His guidance, has given my permission to complete the Final Year Project Report, my final year project report book is a tribute to all parties involved in helping and providing guidance useful when I complete my Final Year Project, during semester 4 until the 5th semester in 2021/2022.

I want to take this opportunity to express my appreciation to all those who have a lot of helping me throughout my performance in the Final Year Project. I would like to extend my sincere gratitude to my supervisor, Ustaz Khairul Napisham Bin Abd Razak for his assistance and guidance towards the progress of this thesis project. Throughout the year, Ustaz Khairul Napisham Bin Abd Razak has been patiently monitoring my progress and guiding me in the right direction, and offering encouragement. Obviously, the progress I had now will be uncertain without his assistance.

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ABSTRACT

The development of technology is very rapid at present, especially in the field of medical engineering. This Hand hygiene is of utmost importance as it may be contaminated easily from direct contact with airborne microorganism droplets from coughs and sneezes. Particularly in situations like pandemic outbreak, it is crucial to interrupt the transmission chain of the virus by the practice of proper air sanitization. It can be achieved with contact isolation and strict infection control tool like maintaining good air hygiene in hospital settings and in public After that, the success of the spray sanitization solely depends on the use of effective surface disinfecting agents formulated in various types and forms such as antimicrobial soaps, water-based or alcohol-based hand sanitizer, with the latter being widely used in hospital settings. To date, most of the effective surface sanitizer products are alcohol-based formulations containing 62%–95% of alcohol as it can denature the proteins of microbes and the ability to inactivate viruses. This systematic review correlated with the data available in PubMed, and it will investigate the range of available surface sanitizers and their effectiveness as well as the formulation aspects, adverse effects, and recommendations to enhance the formulation efficiency and safety. Further, this article highlights the efficacy of alcohol-based surface sanitizer against the coronavirus.

Keywords: virus ,hygiene, sanitizer, microorganism, good air

ABSTRAK

Perkembangan teknologi sangat pesat pada masa ini, terutamanya dalam bidang kejuruteraan perubatan. Kebersihan tangan ini amat penting kerana ia mungkin mudah tercemar daripada sentuhan terus dengan titisan mikroorganisma bawaan udara daripada batuk dan bersin. Terutamanya dalam situasi seperti wabak pandemik, adalah penting untuk mengganggu rantaian penularan virus dengan amalan sanitasi udara yang betul. Ia boleh dicapai dengan pengasingan sentuhan dan alat kawalan jangkitan yang ketat seperti mengekalkan kebersihan udara yang baik di persekitaran hospital dan di tempat awam Selepas itu, kejayaan sanitasi semburan semata-mata bergantung pada penggunaan agen pembasmi kuman permukaan yang berkesan yang dirumuskan dalam pelbagai jenis dan bentuk seperti sabun antimikrob, pembersih tangan berasaskan air atau berasaskan alkohol, dengan yang kedua digunakan secara meluas dalam tetapan hospital. Sehingga kini, kebanyakan produk sanitizer permukaan yang berkesan adalah formulasi berasaskan alkohol yang mengandungi 62%–95% alkohol kerana ia boleh menyahtukarkan protein mikrob dan keupayaan untuk menyahaktifkan virus. Kajian sistematik ini berkorelasi dengan data yang tersedia dalam PubMed, dan ia akan menyiasat julat pembersih permukaan yang tersedia dan keberkesanannya serta aspek perumusan, kesan buruk dan cadangan untuk meningkatkan kecekapan dan keselamatan perumusan. Selanjutnya, artikel ini menyerlahkan keberkesanan pembersih permukaan berasaskan alkohol terhadap coronavirus.

Kata kunci: tempat awam, wabak pendemik, sanitizer, bersih.

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LCD – Liquid Crystal Display

CHAPTER 1

1 INTRODUCTION

1.1 Introduction

My project is called Air Sanitizer Spray via app phone. This project is focus on public area and any crowded place cause the area may contain many bacteria or virus that we can't see using eyes. This Air sanitizer may help people to get not get any bacteria or virus that live in surface area. The project is same as fogging but its permanently at the public area that always can be on anytime by using app on the phone and does not need to be monitored on a continual basis.

This project I made is useful on public transport, clinic, hospital, mosque, or any place that easily can spread virus or bacteria. The suggestion from current scenario is that SARS-CoV-2 are alive for hours to days on various surfaces. Beside vaccine that can give immune to protect us from virus, sanitize also can help stop spreading the virus easily cause this sanitizer contains liquid that able to kill the virus. This machine i do not to carry sanitizes when it comes to pick hour.

Next, It's also saved time for them to sanitize the area on the spot no need to wait for call. It also can use for paramedic at the ambulance department. When this air sanitize is needed to use is only refill the liquid and can start using by phone. This machine also equips with via app phone that help people to make it easy when we not need to go and touch the machine to start the air sanitize. This machine also has a charging port that can charge or permanently.

1.2 Background Research

Currently, almost all citizens in the world are facing an outbreak of the SARS CoV2 coronavirus or the Covid-19 virus, including in Indonesia. At least 220 countries have been exposed to the virus, which first appeared in Wuhan, China (World Health Organization, 2021). With the number of patients who continue to increase until now. One way to prevent the transmission and spread of Covid-19 is to always keep ourselves and our environment clean. Maintaining personal and environmental hygiene can be done by using antiseptics and disinfectants. Disinfectants are substances that can kill pathogens in the environment and usually contain glutaraldehyde and formaldehyde

1.3 Problem Statement

- People need to carry heavy spray to sanitized
- People need to be at the places to sanitizer
- Need to prepare PPE (Personal Protective Equipment)
- Need a worker to sanitize

1.4 Research Objectives

The main objective of this Project is to ensure that when we sanitizer the area is more safety and efficient. Maintaining personal and environmental hygiene can be done by using antiseptics and disinfectants More specifically the principle objective of this research are:

1. Can reduce the risk of covid-19 spread
2. Upgrading system that can monitoring from phone
3. To design a machine that people don't need to carry heavy machine
4. Easy and save time in somewhere

1.5 Scope of Research

This project has been design that using a microcontroller circuit board that already has a wifi module in it which functions to connect the microcontroller to a wifi network. Which can also function as a client or server depending on the commands programmed in the microcontroller, that function as on off button by sing app from phone. This project can kill germs that lives in air during pandemics and To make sure that surface is free from bacteria and virus.

1.6 Project Significance

The problem is disinfectants that are not used properly will be bad for humans. Disinfection is a decontamination process that removes or kills all things related to microorganisms both viruses and bacteria on inanimate objects. Personnel preparing or using disinfectants in health care facilities require special Personal Protective Equipment PPE because of the high concentration of disinfectants used in these facilities and the duration of exposure to the disinfectant during work. Although there

is still a chance of risk to humans who do this manual spraying. The use of disinfectant liquid will have an impact if it comes into contact with the skin when spraying so this project is to secure of spreading and didn’t have to caring the sanitizer machine and this is relevant during pandemics seasons.

1.7 Chapter Summary

In this first chapter, I have illustrate the background of the original idea for the beginning of this project. After that, I identified the problems that are happening nowadays, In addition. I have demonstrated the objective of this project and I also remember that significance of the study objective. Finally, I came up with a project.