

POLITEKNIK

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AUTOMATIC DISINFECTANT ROBOT

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JABATAN KEJURUTERAAN ELEKTRIK

DECEMBER 2021

AUTOMATIC DISINFECTION ROBOT

NAME

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REGISTRATION NO

08DJK19F2005

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

JABATAN KEJURUTERAAN ELEKTRIK

NOVEMBER 2021

CONFIRMATION OF THE PROJECT

The project report titled "Iot disinfection robot semi-autonomous using Arduino" has been submitted, reviewed and verified as it fulfills the conditions and requirements of the Project Writing as stipulated

Checked by:

Supervisor's name : PN.SITI HAJAR BT ABDUL HAMID

Supervisor's signature:

Date :

Verified by:

Project Coordinator name :

Signature of Coordinator :

Date :

"I acknowledge this work is my own work except the excerpts I have already explained to our source"

1. Signature : 

Name : CS.KISHAN SAEKHARAN

Registration Number : 08DJK19F2005

Date :

DECLARATION OF ORIGINALITY AND OWNERSHIP

**TITLE : DISINFECTION ROBOT SEMI-AUTONOMOUS
USING ARDUINO**

SESSION: SESI 1 2021/2022

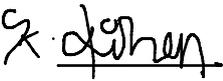
1.

I, Kishan saekharan from class 08djk19f2005 is a final year student of Diploma in Electrical Engineering, Department of Electrical, Polytechnic Sultan Salahuddin Abdul Aziz Shah, which is located at Persiaran Usahawan, 40150 Shah Alam, Selangor. (Here in after 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) KISHAN SAEKHARAN
(Identification card No: - 010320101927)


(.....)

KISHAN SAEKHARAN

In front of me, PN.SITI HAJAR BT ABDUL)

HAMID (Click here to enter text.))

As a project supervisor, on the date:

.....
PN.SITI HAJAR BT
ABDUL

ACKNOWLEDGEMENTS

I have taken efforts in this Project. However, it would not have been possible without the kind support and help of many individuals and organizations. I would like to extend my sincere thanks to all of them. I am highly indebted to my project supervisor for their guidance and constant supervision as well as for providing necessary information regarding the Project & also for their support in completing the Project.

I would like to express my gratitude towards my parents & member of (project supervisor for their kind co-operation and encouragement which help me in the completion of this Project. I would like to express my special gratitude and thanks to industry persons for giving me such attention and time.

My thanks and appreciations also go to my colleague in developing the project and people who have willingly helped me out with their abilities.

ABSTRACT

Coronavirus disease (COVID-19) is an infectious disease caused by the SARS-CoV-2 virus. Most people who fall sick with COVID-19 will experience mild to moderate symptoms and recover without special treatment. However, some will become seriously ill and require medical attention. Currently, many people are affected by this disease in our nation and people are also dying, to avoid this one of the step we should do is keep the environment clean and hygienic. When the environment keeps always clean and hygienic the chances of infecting the disease is very low. But there is a problem when comes to cleaning the environment, because if practising clean by manpower to the place is a high risk to contact with the virus because the virus is not visible. to solve this problem we could use a machine power or robot to do the task because robots cannot infect by the virus since it is not a human, so it is safe when using a robot to clean the environment. practising this way will solve many problems indirectly for example if the robot doing the cleaning task humans do not contact the virus if do not contact the virus the spread of disease among humans will be decreased and in the end, we all could live a life without virus disease fear.

Commented [FAP1]: The abstract must be simple, written in one paragraph and not more than 200 words in one page. The abstract should be written in single spacing. The abstract should contains, **an introduction, problem statement, research objectives, results and conclusion (optional)**

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Coronaviruses are a family of viruses that can cause respiratory illness in humans. They are called “corona” because of crown-like spikes on the surface of the virus. Severe acute respiratory syndrome (SARS), Middle East respiratory syndrome (MERS) and the common cold are examples of coronaviruses that cause illness in humans. The new strain of coronavirus COVID-19 was first reported in Wuhan, China in December 2019. The virus has since spread to all continents.

The spread of covid 19 fluctuated time to time in almost every country, experts and researchers are work hard to end this pandemic and safe people life. The evidences was not showing a good result with effort of experts and researchers, in first phase all countries are studying this virus to do effective step control it.unfortunely, we all unable control the virus spread among public and the grow fast drastically bring the country to fully lockdown. in lockdown phase country economy badly effected due no businesses were open for long time.

In next phase all of us gets enough experience living with the virus and many people are vaccinated to minimize the severe hospitalise. The disinfection method and cleaning routine was change to keeps public place to visit safely without fear covid 19.in this time of period many invention were created for fight against covid 19.as a result the statistic shows the reduction of covid infection and death cases. According the research robots are being used in infection activity and it make manpower do not require to do the risky job in contaminated places. The helped with mobile robot we could clean the places with machine power and do not risk people lives.

1.2 Background Research

Most of the covid-19 cases reported at working or in enclosed space. Reason the virus spread among this place because the environment is not clean or disinfect. When the space is not sterilized there is high chance virus at the surrounding space. Consequently, the virus will spread all round and infected to human. To avoid this happen we should always keep clean and sterilized the living space.

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1.3 Problem Statement

Cleaning and sterilized a space is a good thing to practice but the problem is when doing the cleaning process we expose self directly to the virus if using manpower. Doing the cleaning process, we couldn't identify the virus were there or not because virus is a seamless organism by this the person could infected the virus. The best solution for this issue is use a machine power or robot rather than manpower. Using a robot to sterilize a place is a best ideal option because robot do not infect the virus since it not a human and robot will perform a task as programmed in loop. Robot do not need rest or break time to do any task it can do infinite until user change the output.

1.4 Research Objectives

The main objective of this Project is to protect humans from coronavirus disease
More specifically the principal objective of this research are:

1. To design a robot, replace manpower
2. To implement a simple idea to solve the big problem
3. To develop a system to do the cleaning task semi-autonomously

1.5 Scope of Research

1. This Project is focusing clean a surface with disinfectant solution
2. The emphasis is to clean the high-risk place environment without manpower
3. The main controller is using Arduino and motor driver to move the robot

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1.6 Project Significance

This project will useful for our current living situation due a disease pandemic, this project will ease to disinfect contaminated places and manpower do not required to enter and clean the places high risk of covid 19. recently many project were develop to disinfect microorganisms. The design and functionality may different but the main purpose to invented this robots are to overcome the covid 19 spread and replace manpower to mobile robot to do such disinfecting activities.

There are many projects can found in article and journals as similar of objective with mine. For instance "Pak Salleh robot" is local made project from university technology Malaysia (UTM) which similar with my idea to implement and it also created in recent time. referring from this local project I could implement some ideas and controller functionality in my project to enhance much better in performance. Further, the project is also ecofriendly, do

Commented [FAP4]: This section contains the significance of the proposed project/research. You should cite previous research in this area. You should cite those who had the idea or ideas first, and should also cite those who have done the most recent and relevant work. You should then go on to explain why more work was necessary (your work, of course.)

not affect or harmful to anything. People will accept and recognize more easier if the robots are do not having any negative side to user and environment.

1.7 Chapter Summary

This project will ease the disinfect process or decontamination work with a relevant use. The feature with semi-autonomous system makes user easy to handle and control it whatever wanted to perform it, more with this robot help user can perform a task contactless from contaminated area which the motive of the project. People out there suffering to handle this virus to disinfect, this project may best solution for them and the infection rates could reduce from this project if it works as my objective.