



EDITORIAL TEAM

Patrons

Assoc. Prof. Dr. Hj. Abdol Samad Nawi

Assoc. Prof. Dr. Khlipah Ibrahim

Advisor

Ir. Dr. Zulzilawati Jusoh

Chief Editor

Nur Idawati Md Enzai

Managing Editor

Dayana Kamaruzaman

Editors

Fatimah Nur Mohd Redzwan

Mazratul Firdaus Mohd Zin

Nurbaiti Wahid

Syila Izawana Ismail

Nooradzianie Muhammad Zin

Najwa Nasuha Mahzan

Ku Siti Syahidah Binti Ku Mohd Noh

Nur Syahirah Kamarozaman

eeice 2018

Electrical Engineering Innovation Competition & Exhibition (EEICE) 2018

13-14 November 2018 • 8.00 am – 5.00 pm
Dewan Aspirasi, UiTM Cawangan Terengganu

Tema
Smart Campus

UNIVERSITI TEKNOLOGI MARA
UiTM di hatiku

Anjuran Fakulti Kejuruteraan Elektrik
UiTM Cawangan Terengganu

Dengan Kerjasama Kelab EESA
UiTM Cawangan Terengganu

Extended Abstract FYP projects

Volume 1 (A1 – A13) 2019

A1

VACUUM CLEANER ROBOTIC CAR

Nor Ainun Syafiqah Mohd Sazidin, Muhammad Adib Abd Halim, Muhammad Azri Firdaus Mohd Zulkifli

page 2

A2

SAFF STRAIGHT LINE DETECTOR

Muhammad Anas B. Mohd Rosli, 'Iffah Athirah Bt. Zaidi, Akmal Najihah Bt. Ibrahim, Dr. Mohd Aziz B. Aris

page 4

A4

CLOUD CONTROLLED WATERING SYSTEM USING BLYNK APPLICATION

Mohamad Amirul Farhan Bin Abu Bakar, Luqman Amar Bin Abdul Nasir, Nur Afifah Binti Ali, Wan Ahmad Khusiari Bin Wan Chek

page 6

A6

FOOTSTEP POWER GENERATION

Adriana Bt Noh, Muhammad Amir Syakir bin Mohammad Nor, Muhammad Arif bin Rosli, Dr. Mohd Aziz bin Aris

page 8

A7

MOVEMENT SENSOR FAUCET

Muhammad Idham Bin Kamarulzaman, Zulhanif Bin Rozali,, Muhammad Iqmal Bin Rosely

page 10

A10

AUTOMATIC WHITEBOARD CLEANER

Muhammad Idham Bin Abd Aziz, Muhammad Huzairi Bin Zainuddin, Nur Maizatul Ashikin Bt Mohamed Sukor Mazratul Firdaus Bt Mohd Zain

page 12

A11

SMART CONVEYOR

W. M. W. I. W. Ramli, N. A. Bharu, N. F. Zulkefli

page 14

A13

SMART GRASS CUTTER

Muhammad Hifzhan Bin Ruslan, Muhammad Ammar Irfan Bin Maznan, Yusri Aizat Bin Mohd Yasir Afkam

page 16

AUTOMATIC WHITEBOARD CLEANER

Muhammad Idham Bin Abd Aziz, Muhammad Huzairi Bin Zainuddin, Nur Maizatul Ashikin Bt Mohamed Sukor
 Mazratul Firdaus Bt Mohd Zain
 Faculty of Electrical Engineering,
 Universiti Teknologi Mara Cawangan Terengganu, Kampus Dungun
 23000 Dungun, Terengganu
Idham4206@gmail.com, mhuzairi7676@gmail.com, mztul98@gmail.com

Abstract - Nowadays, whiteboards are widely used in almost every educational institute. About 70-80% educational institute around the world uses whiteboard as the writing medium in their classrooms. They are large size for that reason it is very time consuming process to erase the writings from the board with the duster. As for an hour period of class, about 8-10% of time has waste to just clean the board using the duster. Considering this “Automatic Whiteboard Cleaner”, is an automatic system can solve these problems. The Automatic Whiteboard Cleaner application could reduce the time taken to wipe off the whiteboard as well as reduces the effort to clean the whiteboard. The sensor attached to the Automatic Whiteboard Cleaner acts as the controller in order to operate the automatic Whiteboard Cleaner. The main components of the automatic whiteboard cleaner are Arduino UNO, motion sensor, voltage source and dc motor. Arduino UNO is the core of this project and it is very important to make sure the project can run as expected. If the program gone wrong, it may affect the operation of the motor. The motion Sensor is used to detect the movement things. When the motion sensor has detected the movement , it will send the signal to the arduino and it will move the DC motor. The duster will clean the whiteboard automatically. In conclusion, this project will definitely reduce the human’s energy and also will make the work more efficient yet easy from before.

Keywords - Automatic whiteboard cleaner.

INTRODUCTION

Teaching and learning process is about delivering and receiving the knowledge involving the students and lecturers. How do they deliver their knowledge to student? Nowadays, there are many methods used by lecturers in order to deliver their knowledge; such as blended learning or open learning, printed notes and handouts distributed to the students and the whiteboard. Until now, many universities still used whiteboard as a medium to deliver their knowledge or important information to the students. Thus, many methods of cleaning whiteboard were fabricated. The automatic whiteboard cleaner is a system which generally used to clean the whiteboard automatically. Literally, with the application of the automatic whiteboard cleaner could save time and energy. It is the technology should be used nowadays. This project was selected after considering the Smart Campus theme as well as for the lecturers’ comfort to clean up the whiteboard after it is used. Hence, it is realized that the automatic whiteboard cleaner has the potential to be implemented as the final year project. There are two main objective of the automatic whiteboard cleaner project. First objective is to make it easier for the students and lecturers to clean the whiteboard which can save their time and energy. The second objective is to control the duster mechanism just by waving their hand across the sensor connected to the duster.

METHODOLOGY

In the Figure 1 shows the block diagram of our projects. First, the batteries is used as the power source to turn on the system. Next, the sensor will detect motion. If the sensor detect motion, the signal will be sent to the arduino to process the motor.

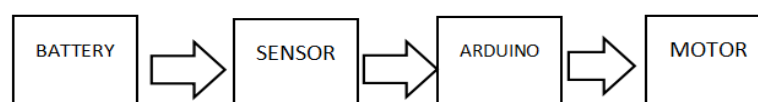


Figure 1: Block Diagram of Automatic whiteboard cleaner

RESULT

The automatic whiteboard consist PIR Sensor, Arduino UNO, DC Motor and Battery that we are using 12V to complete the circuit. To make the motor move, we need to connect the DC motor to the battery and the signal move to the arduino as we set its coding in the arduino and the DC motor will run and the duster will move from left to the right slowly in twice. So the whiteboard will be clean and we could spent the time very well.

CONCLUSIONS

As a conclusion, the motion sensor used in this project is functioned to detect the movement. For example when someone are waving their hands. Besides, the switch button could be used if the motion sensor does not detect the motion. Then, with the connection between the component and the correct programming, this project will run as expected and also move the motor to help duster moves from left to right to clean the whiteboard. Moreover, this project also be able to reduce the human's energy and make the works more efficient and fast. So its very useful for lecturer and student in the classroom.

REFERENCES

- [1] Kuleshov, V.S. And Lakota, N.A. 1988. Remotely Controlled Robots and Manipulators. Mir Publications, Moscow, Russia
- [2] Shmuylovich And Salcman, "Whiteboard Presentation Of Interactive And Expandable Modular Content,"U.S.Patent 057106 A2,Sept.07,2012
- [3] Puneet Mathur, Bhushan Tukaram Chougule, Ravina Nangare, "Automated Motorized Whiteboard", International Journal Of Engineering, Business And Enterprise Applications (IJEBA), ISSN (Print): 2279-0020,ISSN (Online): 2279-0039, 6(1), September-November., 2013, Pp. 01-04