POLITEKNIK SULTAN SALAHUDDIN ABDUL AZIZ SHAH

SMART DETECTOR ANTI-SMOKER

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ELECTRICAL ENGINEERING DEPARTMENT

SEPTEMBER 2019

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This report is submitted to the Department of Electrical Engineering in fulfillment of the requirements of the Diploma in Electrical Engineering

ELECTRICAL ENGINEERING DEPARTMENT

SEPTEMBER 2019

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TITLE : SMART DETECTOR ANTI-SMOKER

SESION : SEPTEMBER 2019

1. We, **1. MUHAMMAD AFIQ ISKANDAR BIN JAAFAR (08DJK17F1113)**
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(After the content is referred to as 'the Polytechnic')

2. We acknowledge that 'The project above' and its intellectual property are the original work / art of our work without taking or imitating any intellectual property from any other party.

3. We agree to transfer the intellectual property of 'The Project' to 'the Polytechnic' to fulfill the requirement for **Diploma in Electronic Engineering (Control)** award upon us.

Made and truly acknowledged by;)	
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at ....., on .....)	
In front of me, MR WAN MOHD ZAMRI BIN)	.....
WAN AB RAHMAN As the project Supervisor)	MR WAN MOHD ZAMRI BIN
on date: .....)	WAN AB RAHMAN

APPRECIATION

Many thanks and a heartfelt thank you to my Project Supervisor, Mr. Mohammad Zamri bin wan ab rahman for providing me with the guidance, advice and guidance to complete this project with great patience.

And also to my whole family, especially my parents who provided so much support and encouragement throughout this study. To all partners directly or indirectly in providing ideas, guidance and suggestions for the preparation of this project report. All the instructions, advice and guidance I will never forget.

May this study be blessed by God.

Thank you.

ABSTRACT

The main purpose of this project is to overcome the problems of smoking among students in school areas or institutions of higher learning especially to apply disciplinary action. During this situation, students are easily escaped from a disciplinary action when smoking in hidden areas such as bathrooms, storing rooms and so on. Therefore, this system is designed to solve this problem by sending a location if the student is smoking in the area and continues to send a warning notification to the user (teacher/lecturer). Users only need to use applications in their mobile phone to control which devices will be installed in a suspected area of student places will be smoking. To make more efficient disciplinary action we are applying the Internet of Things (IOT). The main purpose of this project is to track and find locations while taking action to smokers in smoking areas using a method through an Internet connection. In the device WiFi module is used if the user wishes to request Internet use. In total, users can use the Internet to request a location from the device and IOT reactions as well. The Internet part of Things (IoT) project is an automatic locking door. The door will automatically be locked when the sensor detects smoke and simultaneously sends a notification to the smartphone through the application.

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CHAPTER 1

INTRODUCTION

1.1 INTRODUCTION

Smoke detectors have become an important component of safety and prevention. Smoke detector can help to prevent fire in a building. In addition, it also helps in preventing smoking activities among school students as well as students of higher learning institutions. This project focuses on anti-smokers system design using a combination of components such as smoke detector MQ-2, Arduino UNO microcontroller, ESP8266 WiFi module, Relay 5V, and 12V magnetic locks.

1.2 BACKGROUND STUDIES

This project adopts the latest technology concept of the Internet of Things (IoT) which is the mediation between human and the device. IoT means a network of tools and other physical items that are applied to electronic components, software, sensors, mobilizers and connectivity that allow such tools to connect, collect and exchange data. This IoT requires an Internet connectivity area that exceeds standard tools such as computers and smartphones. This also enables the devices to communicate with each other through the Internet and can be noted and controlled remotely. With implementation of IoT on this project, data such as quantity readings or smoke thickness, cigarette smoke warning, magnetic lock system door control can be controlled with only using a smartphone that connected with Internet.

1.3 PROBLEM STATEMENT

1. The problem of smoking among students in institutions is increasing.
2. Student could not be disciplined with strong evidence.
3. Students escaped when detained by their lecturer.

1.4 PROJECT OBJECTIVE

1. To design an anti-smoker system that help to reduce smoking problem in the school or institute.
2. Help teachers or lecturers to impose disciplinary action towards student who are smoking.
3. Prevent students escape from disciplinary action.

1.5 PROJECT QUESTIONS

1. How effective this anti-smoker system that can help to reduce smoking problem in the school or high institution?
2. How can it help teachers or lecturers to impose disciplinary action towards student who are smoking?
3. How can it prevent students that want to escape from disciplinary action?

1.6 PROJECT SCOPE

This device will help lectures or teachers to take action on student that smoking in the washrooms area. This device also will provide information such as value of smokes thickness, and status of magnetic lock door.

1.7 IMPORTANCE OF PROJECT

Smoke Detector Anti-Smoker helps to reduce smoking area and number of smokers. By this way, community among students can live with a healthy lifestyle in a good environment places. From this project, we able to educate student for not smoking because as we know cigarettes is harmful for our health and makes student aware of rules inside public institutions that pointed out as non-smoking area.

1.8 SUMMARY OF CHAPTER

From this chapter, we have indicated and explained our projects in terms of introduction and statement of problems. The purpose of our project is based on the objective of the Ministry of Education and the Ministry of Health in preventing smoking activities among young generation especially students. We believe that this project will be able to reduce smoking problems among students

CHAPTER 2

LITERATURE RESEARCH

2.1 INTRODUCTION

The main purpose of this project is to overcome the problem of smokers among the student in school area especially for disciplinary action. During the occurrence of the situation, student easily escape from disciplinary action when the smoking in hidden places such as washroom, store rooms and etc. Hence, this system can solve this problem by sending the location if the smokers smoking in the area and directly send alert notifications to the user. The user just have to use an app in their mobile phone to trigger the device that will be installed in the area smoking. For making the disciplinary action more efficient we set up some Internet Of Things (IOT).The main purpose of this project is to track and find the location while take an action to the smokers at the smoking area by using methods which is through internet connectivity. In the device WIFI Module is used if the user want to request it by using internet. Overall, user can use Internet to request the location from the device and reaction of IOT will too.

For the Internet of Thing (IOT) of project is automatic locking door. The door will automatic lock when the sensor detect the smoke and at the same time send notification to the smart phone through apps.

2.2 CONCEPT/THEORY

Based on this project, usually smoke detector was used for sense smoke or fire. This kind of smoke detector usually applied in the room or indoor environment for system alert alarm. Normally it apply for safety precautions for people alert of causes fire or smoke and get to safe places.

Based with smoke detector, we came up with an idea which is apply of smoke detector sensor to sense smoke of people smoking. The ideas was come from to our basic daily life as student which is we always saw some other student were smoking in washroom of our own study institute. In public study institute as we know that is a non-smoking area places and student always escape from get disciplinary action. To ensure in public study institute free from smoking places especially in washroom, we make this project qualify with the ideas and research we have done. This project will put in a secure places in the washroom that unreachable places for student damaging the project and a places that high chance of students hangout for smoking. To secure the student will get disciplinary action our project applied with IOT which is with a system of automation lock door. The automation lock door is applied when our smoke detector sensor sense a smoke from cigarettes when it reach at the range set of quantity smoke inside the room and the door will be automatic lock immediately and can be unlock by user using our main apps to control it.

2.3 PREVIOUS RESEARCH

Smoke detector is a device that sense of smoke or fire to alert people and get know the causes of fire or smoke. It may also with a system of extinguisher. The main part of this component is the smoke sensor which is more sensitively to smoke or heat. One of the largest applications for smoke detector is in indoor environment especially mall, houses and etc.

Typically, smoke detector were used for sense smoke or heat. By this application, we created an innovation device by using smoke detector to sense a smoke from smoker that smoking in non-area smoking especially in the washroom or store room and etc. For ensure the smoke from cigarettes can be sense we used a sensor that more sensitive. There a lot of smoke sensor example MQ2, MQ7, Natural Gas Smoke Sensor and etc. We choose MQ 2 gas/smoke sensor because it affordable and the range of smoke can be sense.

2.4 CHAPTER SUMMARY

In our country, about 10,000 Malaysians die every year because of smoking habit. According to statistics of the Ministry of health (MOH) 2017, an estimated 100,000 Malaysians die every year due to diseases associated with smoking habit. This problem has been going on from secondary or primary school. However, in case students are still not diminished because the students could not be disciplined with strong evidence. Even there are also students who act escaped when detained by their teachers. So we created a device that can assist the teachers for take disciplinary action to students who smoke without losing them. By the aid of this device, the problem of smoking among students in the school can be reduced.

CHAPTER 3

PROJECT METHODOLOGY

3.1 INTRODUCTION

This chapter will explain the method adopted by this research. It will mention about component that involved in the project such as components and software. Next, describes the design that was chosen for the purpose of this project and the reasons for those choices.

3.2 PROJECT DESIGN

3.2.1 Automatic Locking Door System

The most recent development in automatic lock technology are smart locks. Using a mobile app can remotely operate the locks. We can check that the door is locked and lock it without having to go back to the building. The lock can be set to activate automatically at specific condition which is when the smoke sensor detect the smoke. We can easily unlock the door when the smokers is trapped in the toilet. The smart lock application also sends alerts and and display the value of the detected quantity of smoke. It uses electromagnetic doors to make it easier to lock the door automatically and unlock the doors. It also come with automatic unlock of the door when a lot of smoke from the fire appeared.

3.2.2 Smokes Detecting System

A **smoke detector** is a device that senses smoke, typically as an indicator of fire. Commercial security devices issue a signal to a fire alarm control panel as part of a fire alarm system, while household smoke detectors, also known as **smoke alarms**, generally issue a local audible or visual alarm from the detector itself. But in this project, smoke detector had became a detector for cigarrate smokes. The maximum and minimum limit of smokes was set in the microcontroller to give instruction to the electromagnetic door lock to be unlock or lock when a certain smokes appear.

3.3 DATA COLLECTION METHODS

This section describes the methods used to collect data that were used to achieve the objectives of the project. Among the methods that used are :

3.3.1 Survey Questions

The survey questions used consisted of Likert 2 color type format (blue = Male, and red = Female) for 'Gender'. Then, Likert 4 color type format (blue = 15-20, red = 21-30, yellow = 31-40, and green = Others) for 'Ages'. Next, also Likert 4 color type format (blue = Electronic Cigarette, red = Cigarettes, yellow = Cigars, and green = Not smoking) for a question which is 'How do you prefer to smoke?'. Further, Likert 6 color type format (blue = 1-5, red = 5-10, yellow = 10-20, green = 30-40, purple More than 40, and turquoise = Others). Moreover, Likert 5 color type format (blue = very agreed, green = agree, yellow = neutral, red = disagree, and purple = very disapproving) for four question which are 'There should not be smoking in restaurants', 'There should be smoking in all public places', 'There should not be smoking in washroom', and 'There should be not smoking in workplaces'. Furthermore, Likert 2 color type format (blue = Yes, and red = No). Finally, Likert 3 color type format (blue = Yes, red = No, and yellow = Maybe).

3.3.2 Library Research

Library research involves the step by step process used to gather information in order to write a paper, create a presentation, or to complete the project. As our progress from one step to the next, it is commonly necessary to back up, revise, add additional material or change our topic completely. This will depend on what we discover during our research. There are many reasons for adjusting our plan.

In this, we were dealing with the analysis of evidences such as newspaper, documentary, and articles. In other word, we were gathering data from library facilities which are textbooks, journals, thesis, dissertations including internets.

This library research was categorized as secondary data which means as readily available data and used by anyone. This means that secondary data is obtained from published or nonpublished resources. In this research, the secondary data used in literature review known as literature research which is consisted of data gathered from numerous journals and articles based on smoking problems in Malaysia.

3.4 PROJECT INSTRUMENT

For the Smart Detector Anti-Smoker, the instruments need to be used in this project should be selected according to the suitability and functionality for the project. Each of components on the circuits had an important role and has its own function. The size of the componetns also be in accordance with the design and the space area that supposed to install it.

a) **Arduino Uno**

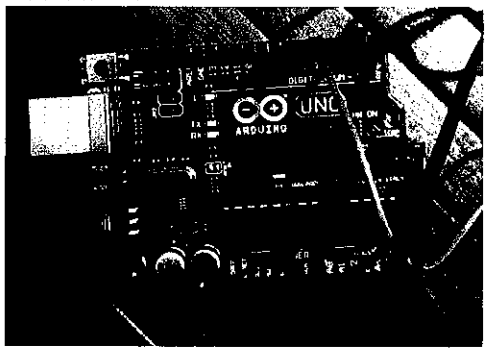

Figure 3.4.1

Arduino Uno is a microcontroller board based on the ATmega328P. It has 14 digital input/output pins (6 can be used as PWM output), 6 analogue inputs, a 16MHz quartz crystal, a USB connection, a power jack, an ICSP header and a reset button.

b) **Mq-2 Smoke Sensor**

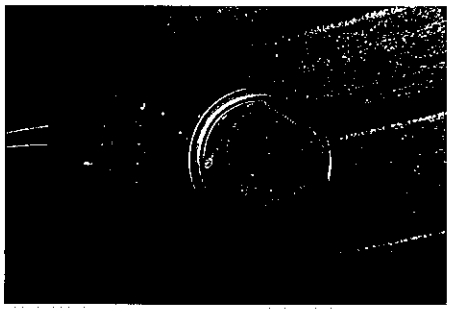

Figure 3.4.2

The MQ-2 gas sensor is sensitive to LPG, i-butane, propane, methane, alcohol, Hydrogen and smoke. It could be used in gas leakage detecting equipment in family and industry. The resistance of the sensitive component changes as the concentration of the target gas changes.

c) **NodeMCU ESP8266**

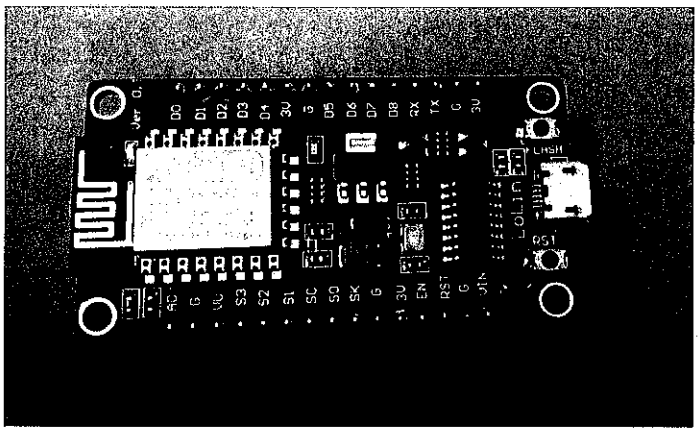

Figure 3.4.3

NodeMCU is an open source IoT platform. It includes firmware which runs on the ESP8266 Wi-Fi SoC from Espressif Systems, and hardware which is based on the ESP-12 module. The term "NodeMCU" by default refers to the firmware rather than the development kits. The firmware uses the Lua scripting language. It is based on the eLua project, and built on the Espressif Non-OS SDK for ESP8266. It uses many open source projects, such as lua-cjson and SPIFFS. The development board equips the ESP-12E module containing ESP8266 chip having Tensilica Xtensa 32-bit LX106 RISC microprocessor which operates at 80 to 160 MHz adjustable clock frequency and supports RTOS. The ESP8266 Integrates 802.11b/g/n HT40 Wi-Fi transceiver, so it can not only connect to a WiFi network and interact with the Internet, but it can also set up a network of its own, allowing other devices to connect directly to it. The operating voltage range of ESP8266 is 3V to 3.6V, the board comes with a LDO voltage regulator to keep the voltage steady at 3.3V. It can reliably supply up to 600mA, which should be more than enough when ESP8266 pulls as much as 80mA during RF transmissions. Power to the ESP8266 NodeMCU is supplied via the on-board MicroB USB connector. Alternatively, if there is regulated 5V voltage source, the VIN pin can be used to directly supply the ESP8266 and its peripherals. The ESP8266 NodeMCU features two buttons. One marked as RST located on the top left corner is the Reset button, used of course to reset the ESP8266 chip. The other FLASH button on the bottom left corner is the download button used while upgrading firmware.

d) **12v Electromagnetic Door Lock**

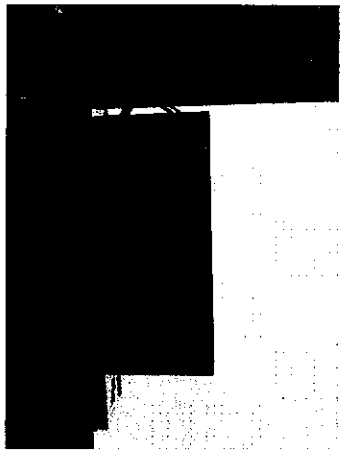

Figure 3.4.4

An **electromagnetic lock**, or **magnetic lock** is a locking device that consists of an electromagnet and an armature plate. There are two main types of electric locking devices. Locking devices can be either "fail safe" or "fail secure". A fail-secure locking device remains locked when power is lost. Fail-safe locking devices are unlocked when de-energized. Direct pull electromagnetic locks are inherently fail-safe. Typically the electromagnet portion of the lock is attached to the door frame and a mating armature plate is attached to the door. The two components are in contact when the door is closed. When the electromagnet is energized, a current passing through the electromagnet creates a magnetic flux that causes the armature plate to attract to the electromagnet, creating a locking action. Because the mating area of the electromagnet and armature is relatively large, the force created by the magnetic flux is strong enough to keep the door locked even under stress.

e) **5v Relay Module**

Figure 3.4.5

The Relay breakout board is a convenient board to be used with 5V microcontroller such as SK40C, SK28A, Arduino, SKds40A, SK18B. Can easily use 5V signal to control the relay. Three inputs:

- VCC = 5V is needed
- GND = Common Ground, 0V
- IN = Control signal need to be 5V to activate the Relay.

The relay terminals (COM, NO and NC) are brought out using screw terminal. On-board relay is rated at 10A. It can be used in many applications: controlling high voltage, high current load such as motor,. solenoid valves, lamps and AC load. It also come with 2 LEDs to indicate the status power (VCC) and status of relay.

f) **Blynk**

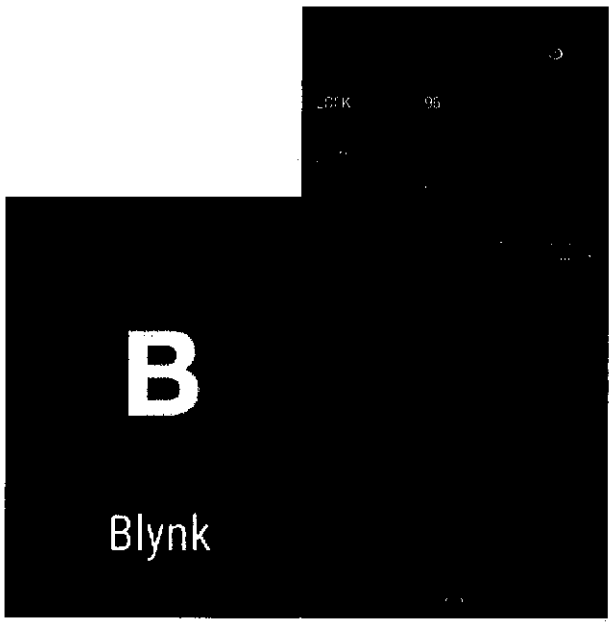

Figure 3.4.6

Blynk is a new platform that allows us to quickly build interfaces for controlling and monitoring our hardware projects such as Arduino, Raspberry Pi and the likes over the Internet from your iOS and Android device. After downloading the **Blynk** app, we can create a project dashboard and arrange buttons, sliders, graphs, and other widgets onto the screen.

3.5 SAMPLING TECHNIQUES

In this study, we employed the purposive sampling method for the selection of the participants. Purposive sampling refers to intentionally chosen sample according to the needs of the study. Our participants is open to anyone who is willingness to participate in the study. Likewise, this strategy enables the researcher to collect relevant and useful information for answering the research question.

3.6 DATA ANALYSIS METHOD

Data analysis is the process that most differentiates quantitative from qualitative research. Data analysis is a process whereby researchers make search and arrange it in order to enhance their knowledge of the data to present that they learned to others. Similarly, highlighted data analysis is to arrange data, separating it into effective units according to topics and themes.

This project adopted the fundamental approaches in analyzing the output from the questionnaires. The data gathered from interview will be arranged and summarized according to categories as such as Age, Gender and factors of that determine opinion about anti-smoker detector.

3.7 CHAPTER SUMMARY

Smart detector anti-smoker can be described as a combination of automatic locking system and smoke detecting system. The focus in this system is to minimize the smoking problems among the students and communities. By using the right method to collect data, this smart detector can be produced with the right design, and instrument.

CHAPTER 4

FINDINGS

4.1 CHAPTER INTRODUCTION

This chapter aims to bring the reader into the picture of the study's findings based on the objectives and research questions. This chapter will explain all about research that will be processed.Thins that can be described in this section are response rate, demographic profile of respondents, variables, parameters and findings of the study.

4.2 FEEDBACK RATE

The questionnares were distributed through to the public through a link that will showed the all the question in a website which is Google Form. As a result, only 22 respondents answered the questionnares, this had shown that not many people cooperated in solving the problems of smoking in the community. The response was considered realistic considering the problem of smoking in the community to participate in such studies.

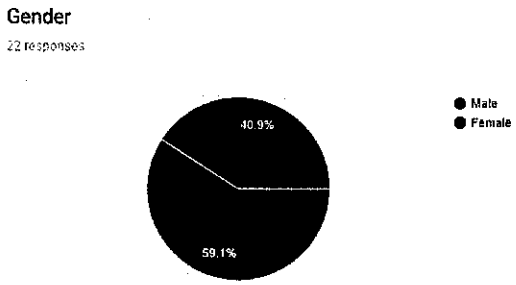

Figure 4.2.1 Gender of Respondent

Figure 4.2.1 shows the number of polytechnics student and communities who was respond to the questionnares. A total of 59.1% of the respondents were 13 male and 40.9% were 9 female.

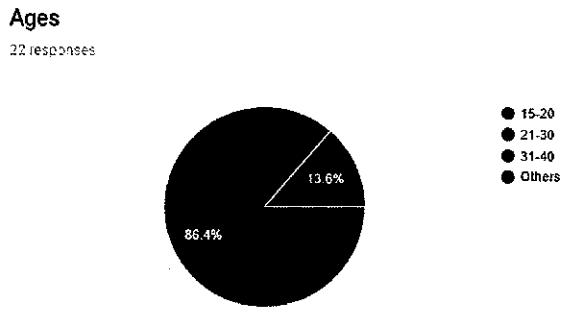

Figure 4.2.2 Age of Respondent

Figure 4.2.2 The result of the questionnares found that 19 respondents from 86.4% aged 15-20 years old. From this, we can assume that most of those 19 respondents were polytechnic students and school students. Next, the rest were 3 respondent from 13.6% aged 21-30 years old which are the netizens.

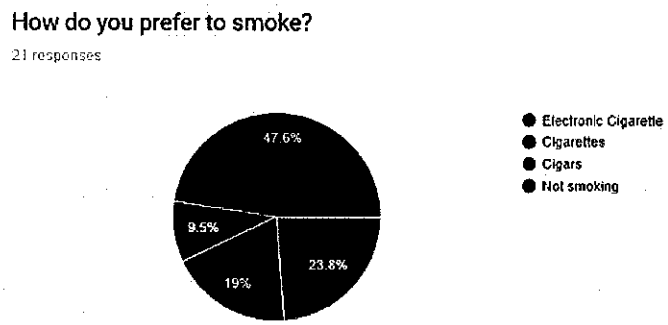

Figure 4.2.3 How Do You Prefer to Smoke?

Figure 4.2.3 shows the percentage of how the respondent prefer to smoke. Majority of the respondent with 47.6% did not prefer to smoke. Then, 23.8% from 21 respondent prefer to smoke with electronic cigarette. Besides that 19% prefer smoke cigarettes and the rest with 9.5% prefer cigars.

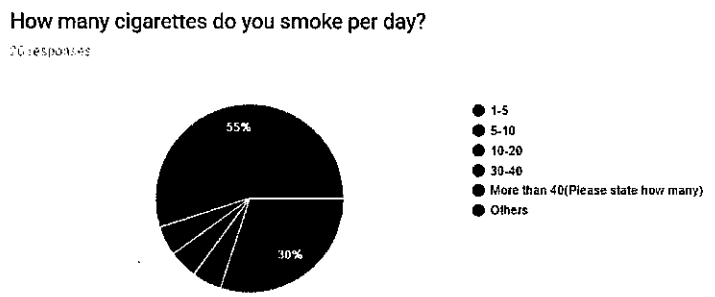

Figure 4.2.4 How Many Cigarettes Do You Smoke Per Day?

Figure 4.2.4 shows that half of the respondent smoke with their own mood which is it can be one cigarette per day or more. Then, 30% of the respondent smoke one to five cigarettes in a day. Last, 5% per section such as 5 to 10 cigarettes, 10 to 20 cigarettes, and 30 to 40 cigarettes per day.

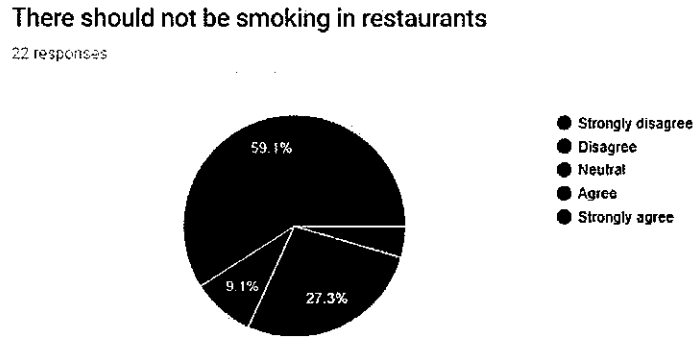

Figure 4.2.5 There Should Not Be Smoking In Restaurants

Figure 4.2.5 indicate that 59.1% which were 13 respondent strongly agreed that restaurants is not a smoking place. Next, 6 respondent with 27.3% did sure if restaurants can be a place to smoke. Then, 2 respondent just agreed with the statement. Lastly, only one respondent strongly disagreed with the statement and we can conclude that the respondent was heavy smoker that smoke at restaurants.

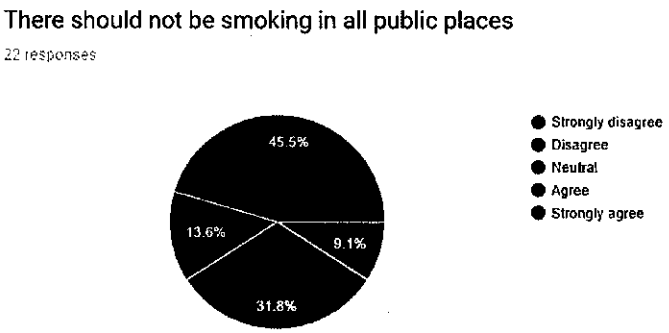

Figure 4.2.6 There Should Not Be Smoking In All Public Places

Figure 4.2.6 showed that 45.5% from 22 respondent strongly agreed that all public places cannot be a smoking places. In addition, 31.8% did not sure with the statement. Moreover, 13.6% of respondent agreed. Besides, 9.1% strongly not agree with the statement which we can conclude that they smoke at all public places such as shopping mall, public park, and etc.

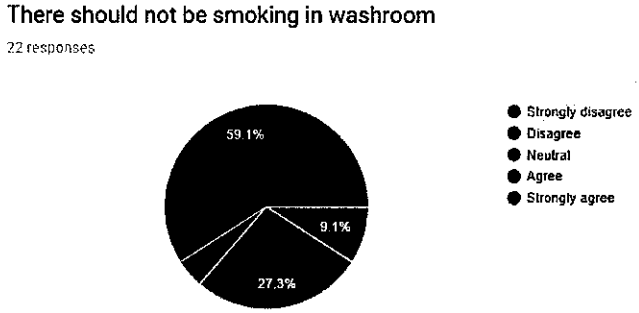

Figure 4.2.7 There Should Not Be Smoking In Washroom

Figure 4.2.7 showed 13 respondent with 59.1% strongly agreed that washroom cannot be a smoking place. Second, 6 respondent with neutral response. Then, 2 respondent strongly disagreed with the statement.

4.3 FINDINGS OF PROJECT

The process of analyzing the survey data will be shown in graphs, tables and charts. The analysis is based on the study of the peripheral views of the crop system and the preservation of fish in aquariums. The results of the data analysis results will be presented in the form of a histogram. Smart detector anti-smoker is installed in a toilet room and takes a month to obtain research results such as the quantity of smokes, minimum and maximum limit that have to be set in the programme of the microcontroller, and the time of the student to be trapped.

To further strengthen this research, the questionnaire was conducted by involving PSA students and nitizens. The data obtained are interpreted in the form of pie graphs to facilitate the analysis of data. The following is information related to the survey conducted.

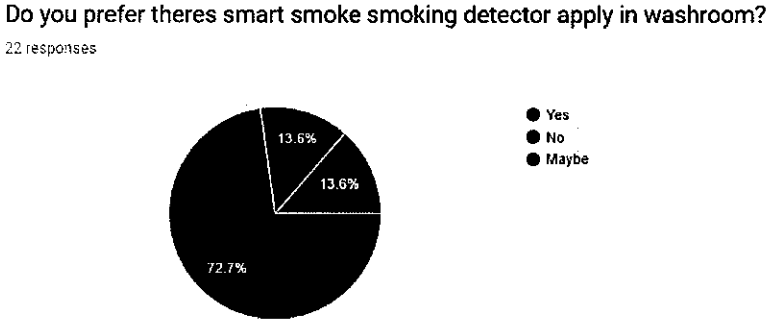

Figure 4.2.8 Prefer Smart Detector?

Figure 4.2.8 showed the result from questionnaire that 72.7% of respondent were prefer to has a smart smoke detector applied in washroom and 13.6% said no. The rest was not sure if should be a smart smoke detector in washroom.

4.4 CHAPTER SUMMARY

The questionnaire conducted on PSA and netizens was to find out the general opinion of the study. From the results, we known that;

i. 90% said they prefer smart detector anti-smoker to be apply in closed room such as washroom and store, and also want to quit smoking.

ii. 10% said they did not agreed with the smart detector anti-smoker system and most of them were heavy smoker.

CHAPTER 5

DISCUSSION, CONCLUSION AND RECOMMENDATION

5.1 CHAPTER INTRODUCTION

The purpose of the **discussion** is to interpret and describe the significance of our findings in light of what was already known about the research problem being investigated, and to explain any new understanding or fresh insights about the problem after we had taken the findings into consideration. Next, the **conclusion** is intended to help the reader understand why our research should matter to them after they read this report. A **conclusion** is not merely a summary of our points or a re-statement of our research problem but a synthesis of key points. Then, we will talk about the impact of our project to all aspect such as Industrial, Education, and Community. Last, we provided some suggestions and improvements to this project.

5.2 DISCUSSION

In this discussion, we had created a very useful product that would help solve problems by into take disciplinary action. It also help to make sure to take awareness on discipline. We had done a many research on this projects and surveys upon our project among consumer. We had also listened an advices and suggestions to improve our project. As a result, we had some improvements where we installed a WIFI Module, an Arduino UNO, NodeMCU and connect it to application called as Blynk Apps in a smartphone which is we can get free download in Google Play Store or IOS Apple Store. By doing this, we had improvement in project quality and productivity by the effectiveness of this project. This system helps to the user to know the information of smoke gather and the status of the door which is in mode OFF or ON through the apps. Finally, we received a good feedback of the user and our project will be get an improvement in future to be realistic and marketable perhaps it will be more useful.

5.3 CONCLUSION

From this project, we were able to design and construct an anti-smoker system that can help to reduce smoking problem in the school or institute. The project were able to detect smokes from cigarretes, notify the users, and traps people through automatic lock door. The users also can control the automatic door lock system by using app in the smartphone. Thus, the users such as teacher or lecturer did not had to go to every class to find out who was smoking in the closed places such as toilet and store room.

5.4 IMPLICATION OF PROJECT

1. Smoking problems among the students can be reduced.
2. Reputation of a institution can be maintained.
3. Many institutions will be interested in using this product.

5.5 SUGGESTION

We improved our project by applying software system such a Node MCU which connects with a WIFI devices to send and receive data of the status door and smoke gather to our smartphone through an application. Then, in future we applying a camera for take pictures or record video as an evidence if there someone smoke in that area and help to improve disciplinary action towards student.

i. Create something that can snap pictures or record videos as an evidence.
ii. Upgrade our project into with more sensitivity sensor.
iii. Make our project easy to apply and friendly user.

5.6 CHAPTER SUMMARY

At the end of chapter, the sub-section presented in chapter 5 are as a chapter introduction, discussion, conclusion, implication of study and suggestion. With this sub-section, we would conclude and end our report for this project a Smart Detector Anti-Smoker able to help reduce of smoking activities in school and student that smoking will be get disciplinary action as rules in the school that have been stated that school area not for smoking places.

REFERENCE

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iv. Pradeeka Seneviratne, Packt Publishing Ltd, 28 May 2018 (Hands-On Internet of Things with Blynk).
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SEMESTER 5 PROJECT GANTT CHART

AKTIVITI PROJEK / MINGGU	LW 1	LW 2	LW 3	LW 4	LW 5	LW 6	LW 7	LW 8	LW 9	LW 10	LW 11	LW 12	LW 13	LW 14	LW 15
PEMBENTANGAN PERKEMBANGAN PROJEK AKHIR	■	■	■	■	■										
PERSEDIAAN FINAL REPORT	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
MENGHASILKAN PROJEK	■	■	■												
UJILARI				■											
UJILARI					■										
PEMBENTANGAN PROJEK AKHIR BERSAMA SUPERVISOR	■	■	■	■	■	■									
PENULISAN REPORT	■	■	■	■	■	■	■	■	■	■	■	■			
PERSEDIAAN PERTANDINGAN PROJEK							■	■	■	■					
PERTANDINGAN PROJEK AKHIR										■	■	■	■	■	

ATTACHMENT

```
#define BLYNK_PRINT Serial

#include <ESP8266WiFi.h>
#include <BlynkSimpleEsp8266.h>

const char* ssid = "smokedetector";
const char* pass = "12345678";

// You should get Auth Token in the Blynk App.
// Go to the Project Settings (nut icon).
char auth[] = "GLObLv-dWZXs5izA4nzh07t6c2i-egjb";
//char server[] = "139.59.206.133";

int asap = 0;
int ko;
BlynkTimer timer;

void myTimerEvent()
{
 asap = analogRead(A0);
 Blynk.virtualWrite(V1,asap);

}
BLYNK_WRITE(V1){
 int pinValue = param.asInt();

}
BLYNK_WRITE(V5){

 if(param.asInt() == 0){

  //ko=0;
```

```
}
 else if(param.asInt() == 1){
  digitalWrite(2,LOW);
  Blynk.setProperty(V5,"offLabel", "UNLOCK");
  Blynk.virtualWrite(V2,"UNLOCK");
  ko=1;
 }
}
void setup() {
 // put your setup code here, to run once:

ko=0;

 pinMode(10,OUTPUT);
 pinMode(2,OUTPUT);
Serial.begin(9600);

Blynk.begin(auth, ssid, pass);
timer.setInterval(1000L,myTimerEvent);
Blynk.begin(auth, ssid, pass, IPAddress(139,59,206,133), 8080);
}

void loop() {
 // put your main code here, to run repeatedly:

 Blynk.run();
 timer.run();
asap = analogRead(A0);
Serial.print("asap=");
Serial.println(asap);

if(asap>200 && asap<400){
```

```
 digitalWrite(2,HIGH);
  Blynk.setProperty(V5,"offLabel", "LOCK");
  Blynk.virtualWrite(V2,"LOCK");

 }

 if(asap>400){

  digitalWrite(2,LOW);
  Blynk.setProperty(V5,"offLabel", "Fire Alarm");
  Blynk.virtualWrite(V2,"UNLOCK");
  BLYNK_WRITE(V5);
 }
 BLYNK_WRITE(V5);
 /*else if(ko>0){
    digitalWrite(2,LOW);
    Blynk.setProperty(V5,"offLabel", "UNLOCK");
    Blynk.virtualWrite(V2,"UNLOCK");
    if(asap<100){
     ko=0;
    }
 }*/
 /*else if(asap>900){

  digitalWrite(2,LOW);
  Blynk.setProperty(V5,"offLabel", "Fire Alarm");
  Blynk.virtualWrite(V2,"UNLOCK");
  BLYNK_WRITE(V5);
 }*/

 }
```