



ELECTRICAL ENGINEERING DEPARTMENT
DIPLOMA ELECTRONIC ENGINEERING (COMPUTER)
SESSION JUNE 2017

MOVING SPY CAMERA

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This report is submitted to the department
of Electrical Engineering as the partial fulfilment
of the requirement for the award of Diploma in Electrical Engineering.

JUNE 2017 SESSION

DECLARATION

I'm hereby declare that is result for my own investigation, except where otherwise stated. I'm also declare that is has not been previously or concurrently submitted as a whole for any other projects at Seberang Perai Polytechnic.

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APPROVAL PAGE

I certify that I have supervised and read this study and that my option, it conforms to acceptable standard for scholarly presentation and is fully adequate, in scope and quality, as Final Year Project report as partial fulfilment for a diploma of Electronic Engineering (Computer)

SUPERVISOR



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ABSTRACT

This project is an application of spy camera vehicles that to find hidden tiny objects. We can find tiny hidden object by using spy camera. Size is doesn't matter because it can move into the smallest place easily .Most of people easily lost the tiny things. Such as a Tv remote, electronic devices (pendrive), smartphone, girls using that thiny things (hairband) and moreover. Eventough we can used night time by using light detector . When the robot enter dark place mean, its will light on. This project is mainly for who use always loss tiny things. Finally, all phone user can easily access this robot.

ABSTRACT

Projek ini adalah sebuah aplikasi kenderaan kamera pengintip bahawa untuk mencari objek kecil tersembunyi. Kita boleh mencari objek tersembunyi kecil dengan menggunakan kamera pengintip. Saiz adalah tidak menjadi masalah kerana ia boleh bergerak ke tempat yang paling kecil dengan mudah. Kebanyakan orang mudah kehilangan perkara-perkara kecil. Seperti yan jauh tv, peranti elektronik (pendrive), telefon pintar , kanak-kanak perempuan menggunakan yang thiny perkara (hairband) dan lebih-lebih lagi. Apabila kita boleh menggunakan masa dekat dengan menggunakan cahaya detector. Semasa robot memasuki tempat gelap maksudkan, kehendak cahayanya on . Projek ini adalah terutamanya untuk yang menggunakan selalu hilangkan barang-barang yang kecil . Akhir sekali, semua pengguna telefon boleh dengan mudah megakses robot ini.

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CHAPTER 1

INTRODUCTION

1.0 Introduction

Our project name is moving spy camera. This project is an application of spy camera vehicles that to find hidden tiny objects. We can find tiny hidden object by using spy camera. Size is doesn't matter because it can move into the smallest place easily .Most of people easily lost the tiny things. Such as a Tv remote, electronic devices (pendrive), smartphone, girls using that thiny things (hairband) and moreover. Eventough we can used night time by using light detector . When the robot enter dark place mean, its will light on. This project is mainly for who use always loss tiny things. Finally, all phone user can easily access this robot.

1.1 Problems Statement

Normally, many people are don't bother about tiny tools to keep in proper place. By this kind of habitual we can lose our tiny tools , easily when any object lose mean , surely we spend 15 or 20 minute to search that lose object, and also

We spend a lot of energy find the tiny object if it under the sofa or a heighest object. So we need human resource and also we can't get the, to be done in a reasonable amount of time,it requires a large amount of humn resources. Traditionally, all the steps were executed by humans. Nowdays, some systems use technology to reduce the number of workers or the time required to move spy camera vehicle,with such systems, the control is very limited, and many resources are still wasted . In addition , by using this moving vehicle spy camera, we could gainabundat of benefits, such as very usefull to look after any missed or small-sized devices. Moreover, this tool play an important role especially among the office staffs. Here, this device conduct the workers to be wise and rationalized.

1.2 Objective

The main objective of this project is to keep the to identify the lost thiny object.

The objective of this product are,

1. Can identify the specific place for the lose object
2. Can save the time and energy as well.
3. Useful in company places.

1.3 Scope Project

Scope project are important element in this project. It can make sure the project can be finished on the time. Because to make a good project there must have a scope :

1. Need time in finding all the component and accessories.
2. A little bit high cost.
3. Process of installation maybe need more time.
4. Must do some research in finding where to find the component and accessories.
5. Learn step by step the process in successfully the project.
6. Must planning carefully keeping any goods in fully functional condition.

1.4 Summary

This product is a cheap and useful product where it can be use for finding the thiny object. The intention that we choose for people who cant find the tiny that their lost . In conclusion, a good project should be high reliability, case of the use and reasonable cost that can be received by user. The project have reach aspects that can been submitted and it has the potential to become good equipment.

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

Before starting this project, we have made the observation and study of all aspects available on Arduino, etching board and. There are various aspects that need to be addressed so that the products have a high capacity as well as cost savings. Among the things that are concern is the selection of Arduino, etching board, LDR sensor (light sensor), analyses the existing design, along with advantages and disadvantages of each tools and combination of Arduino. Below we have mentioned some of the study and research that we can do.

2.1 Materials

There are some Materials that are use in our project such as:

2.1.1 BATTERY

An electric battery is a device consisting of one or more electrochemical cells with external connections provided to power electrical devices such as flashlights, smartphones, and electric cars. When a battery is supplying electric power, its positive terminal is the cathode and its negative terminal is the anode. The terminal marked negative is the source of electrons that when connected to an external circuit will flow and deliver energy to an external device. When a battery is connected to an external circuit, electrolytes are able to move as ions within, allowing the chemical reactions to be completed at the separate terminals and so deliver energy to the external circuit.



Figure 2.1.1

2.1.2 LDR SENSOR

A photoresist (or light-dependent resistor, LDR, or photoconductive cell) is a light-controlled variable resistor. The resistance of a photoresistor decreases with increasing incident light intensity; in other words, it exhibits photoconductivity. A photoresistor can be applied in light-sensitive detector circuits, and light- and dark-activated switching circuits.

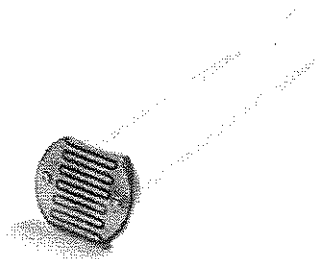


Figure 2.1.2 (LDR SENSOR)

2.1.3 PERSPEK

A solid transparent plastic made of polymethyl methacrylate (the same material as plexiglas or lucite).



Figure 2.1.3(PERSPEK)

2.2 Components

There are some components that are use in our project. Such as:

2.2.1 ARDUINO UNO

We use Arduino Uno is a microcontroller board based on the ATmega328P. It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 6 analog inputs, a 16 MHz quartz crystal, a USB connection, a power jack, an ICSP header and a reset button. It contains everything needed to support the microcontroller; simply connect it to a computer with a USB cable or power it with a AC-to-DC adapter or battery to get started. You can tinker with your UNO without worrying too much about doing something wrong, worst case scenario you can replace the chip for a few dollars and start. This type Arduino is cheap and easy to programmable to this project.

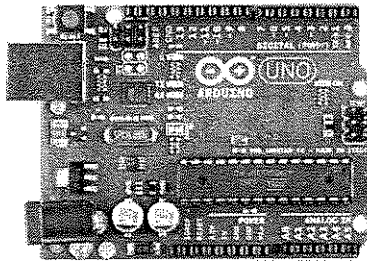


Figure 2.2.1(ARDUINO UNO)

2.2.2 ETCHING BOARD

In this project we use etching board because mechanically supports and electrically connects electronic components using conductive tracks,pads and other features etched from copper Sheets laminated onto a non-conductive substrate. We etched the circuit that we had draw in ares software in that etching board.

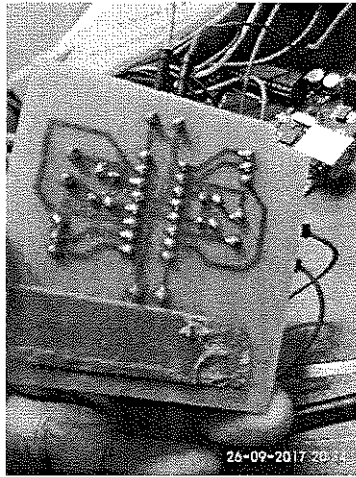
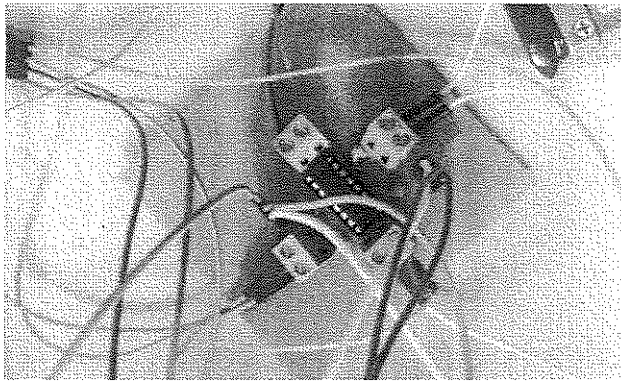


Figure 2.2.2 (ETCHING BOARD)

2.2.3 Mini Spy Camera

Mini spy camera play a role of CCTV. Its giving the protection to place where is it. It have the ability to record the audio and video and telecast it on the specific app in phone.



Figure 2.2.3 (MINI SPY CAMERA)

2.2.5 LEAD JUMPER WIRES

A jump wire (also known as jumper, jumper wire, jumper cable, DuPont wire, or DuPont cable – named for one manufacturer of them) is an electrical wire or group of them in a cable with a connector or pin at each end (or sometimes without them – simply "tinned"), which is normally used to interconnect the components of a bread board or other prototype or test circuit, internally or with other equipment or components, without soldering.

Individual jump wires are fitted by inserting their "end connectors" into the slots provided in a breadboard, the header connector of a circuit board, or a piece of test equipment

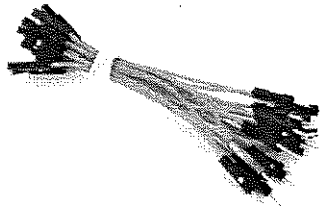


Figure 2.2.5 (LEAD JUMPER WIRES)

2.2.6 RESISTOR

A resistor is a passive two-terminal electrical component that implements electrical resistance as a circuit element. In electronic circuits, resistors are used to reduce current flow, adjust signal levels, to divide voltages, bias active elements, and terminate transmission lines, among other uses. High-power resistors that can dissipate many watts of electrical power as heat may be used as part of motor controls, in power distribution systems, or as test loads for generators. Fixed resistors have resistances that only change slightly with temperature, time or operating voltage. Variable resistors can be used to adjust circuit elements (such as a volume control or a lamp dimmer), or as sensing devices for heat, light, humidity, force, or chemical activity.

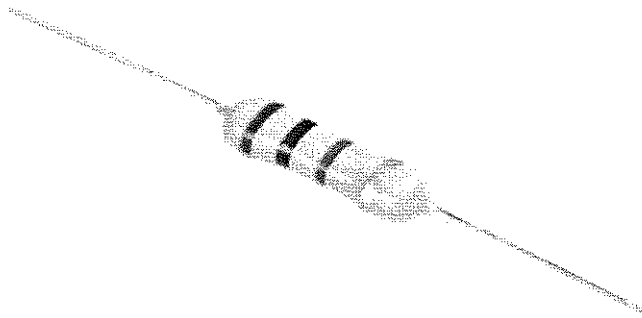


FIGURE 2.2.6 RESISTOR

2.2.7LED

A device that lights up and displays information when electricity passes through it.

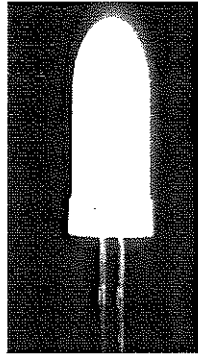


FIGURE 2.2.7 LED

2.2.8 BLACK CARDBOARD

Cardboard is a generic term for a heavy-duty paper of various strengths, ranging from a simple arrangement of a single thick sheet of paper to complex configurations featuring multiple corrugated and uncorrelated layers.

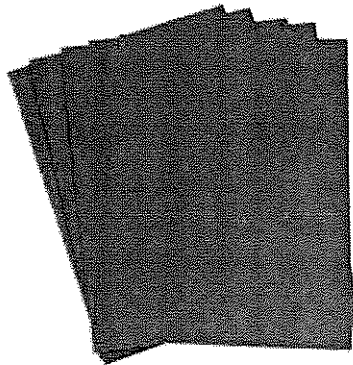
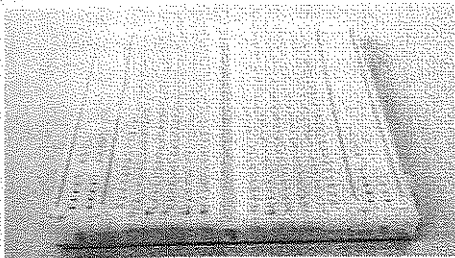


FIGURE 2.2.8 BLACK CARDBOARD

2.2.9 Breadboard

A breadboard is a construction base for prototyping of electronics. Originally it was literally a bread board, a polished piece of wood used for slicing bread. It normally used to build of any circuit to see the connections.



2.3 Summary

The components and material was choose with precisely and correctly to make a good product. The arduino uno was used in this project because it easily programmable then other arduino.

CHAPTER 3

METHODOLOGY

3.0 Introduction

This chapter is discussed about the methodology that has been used to complete this project. It was planned properly by getting the correct information from various sources from references book ,journal, articles, internet and others. It also include interview session with our supervisor to get the information, advices and guidelines to complete this proposal report. All of the data and useful information were determined to analyzed to get the best result. Generally there are several level to reach the complete product analysis which is

- 1) Design analysis to the available product.
- 2) Design concept based on the sketching and analysis drawing.
- 3) Produce the product concept.
- 4) Produce the real concept.

3.1 Milestone Table

Other than that, we will explain about planning table. According to planning job table topic, we will show our Gantt chart during development this project. Gantt chart also known as milestone table that is use to show time start and end time for task 1 project. The duration of each job or task can be display in Gantt chart. It is a popular type of bar chart that illustrates a project schedule. Terminal elements and summary elements comprise the work breakdown structure project. Gantt chart have become a common technique for representing the phases and activities of a project work breakdown structure, so they can be understood by a wide audience. Although a Gantt Chart is easily comprehended for small project that fit on a single sheet or screen, they can become quit unwieldy for project with more that about 30 activities. Large Gantt chart may not suitable for most computer displays.

WEEK ACTIVITY /	W E K 2	W E K 3	W E K 4	W E K 5	W E K 6	W E K 7	W E K 8	W E K 9	W E K 10	W E K 11	W E K 12	W E K 13	W E K 14	W E K 15	W E K 16	W E K 17
Student Registration																
Project Briefing				H												
Submission of Project Title																
Submission of Proposal									H							
Assistance and Discussion																
Project The Project and First Draft of the Report 50%																
Progress The Project Second Draft of The Report and presentation 75%																
Preparation for presentation																
Submission of Final Report																
Presentation																

Figure 3.1 (Gantt Chart)

3.1.1: block diagram

Block Diagram:

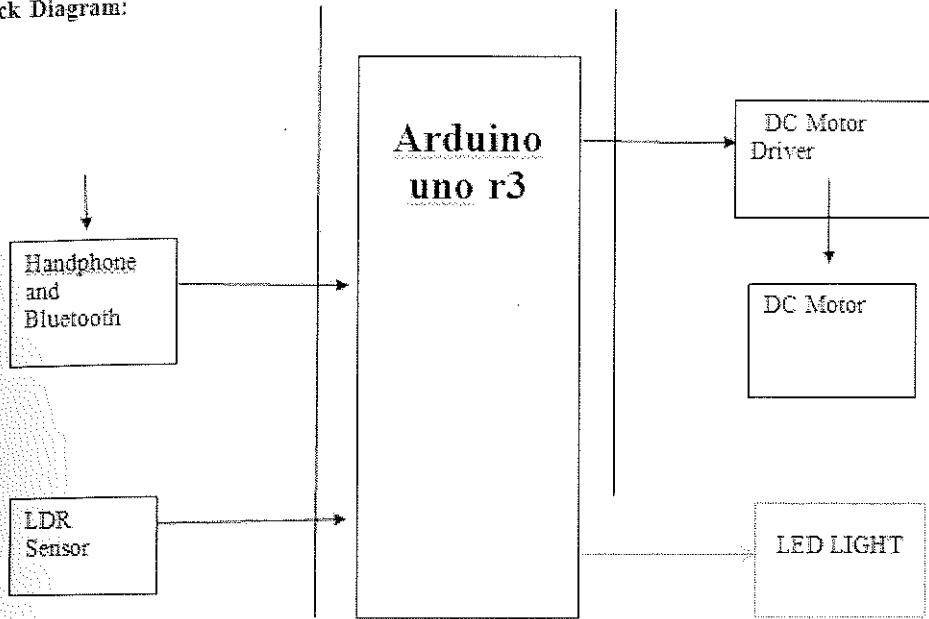


Figure 2: Block Diagram

Explanation

User gives instruction via smartphone. The smartphone will send the signal to the arduino via Bluetooth. The arduino will recognize the signal and send the signal to the input of the dc motor. Motor 1 and motor 2 will function once the dc triggered.

Process:

