GSM BASED TRAFFIC

SPEED NOTIFIED SYSTEM

A Project and Thesis submitted in partial fulfillment of the Requirements for the Award of Degree of Bachelor of Science in Electrical and Electronic Engineering

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TO

OUR BELOVED PARENTS

&

HONOURABLE SUPERVISER

Mr.SaikatBasak

Certification

This is to certify that this project and thesis entitled "GSM based traffic speed Notified system" is done by the following student under my direct supervision and this work has been carried out by them in the Department of Electrical and Electronic Engineering under the Faculty of Engineering of Daffodil International University in partial fulfillment of the requirements for the degree of Bachelor of Science in Electrical and Electronic Engineering. The presentation of the work was held on January 2018.

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Authors

ABSTRACT

This project is on "GSM primarily based Traffic speed Notified System" that is a form of automation system, that helps to manage intelligence traffic management by static time planning. Construction, development, management and analysis of dominant traffic Traffic engineering uses engineering ways and techniques to attain the safe and time economic movement of individuals and product on roads ways. The safe and time economic movement of the people and the product depends on the traffic characteristics. The 3 main parameters of a traffic flow area unit volume, speed and density In the absence of effective coming up with the traffic of the town, the present road infrastructure can be found in the city of long run. Pedestrian and vehicle volumes have accrued considerably during the last decade because of the improvements of the political economy of the lower-middle-class families. Microcontroller base Traffic Notified can be a register and sends information from the platform over the mobile network. The motive force support tool consists of its transportable. once the ordinance is exceeded, the diode emits a lightweight and also the mobile he has can get Associate in Nursing SMS with his current speed and his position that speed should be on his vehicle, and also the screen signals to the motive force That has reached high speed. Traffic Burst Notifications area unit Associate in Nursing early warning system for Managed Server customers to assist determine a large spike out of the traditional daily traffic usage as well as its highest usage times. This warning system is very effective during Burst Notifications are organized. to grasp your trends, we may review your traffic reports and Wastes.

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LIST OF ABBREVIATIONS

PCB	Printed Circuit Board
SMS	Short Message Service
LED	Light emitting Diode
LCD	Liquid Crystal Display
DVD	Digital Video Disc
RAM	Random Access Memory
ROM	Read Only Memory
UV	Ultra Violet

CHAPTER 1

INTRODUCTION

1.1 Introduction

In elegant society, quick quality is one among the preeminent essential needs In this manner, people can utilize totally unique transport offices like car vehicles, trams, and bikes. Be that as it may, among these vehicle offices, car vehicles are as yet accessible for its solace and convenience. amid this implies, presumption less unending increment, the measure of vehicles in gigantic urban areas can increment further, anyway inexhaustible quicker than transport framework; thus, tie up can turn into a problem that is begging to be addressed It makes many negative issues for the area and traffic like traffic in mishaps, monetary effects. The other is said to be the traffic request, which implies changes in conventional rush hour gridlock and extraordinary occasions. that speaks to the control gadgets and physical bottlenecks. In addition, these bottlenecks are obligated for four-hundredth of the tie up, trailed by traffic episodes, similar to vehicles with mishaps with twenty-fifth, climatic condition conditions with V-day, work zones with 100 percent, and poor traffic light fleeting course of action and extraordinary occasions with five-hitter all.

1.2 Problem Statement

Most drivers feel the badly designed issue In this way, the robotized framework that is mechanically changed the speed level.

1.3Aim of the Project

Finally, this technique is going to be evaluated by scrutiny performance knowledge to theoretical system is made with a particular element that will be an integral element of the whole system to functioning. The elements must have the management | control} system that may change the speed level duet the atmospheric temperature in the system temperature of the information also the pricy microprocessors to stop injury as well as the battery charging control.

1.4 Scopes

Traffic control system is important for those drivers World Health Organization In Bengali language it's an enormous downside. Thus we want to express a scientific dominant It involves the rule development to receive signals through the receiver circuit victimization microcontroller. The ultimate scope is system testing. All the system's half ar assembled along and tested. Any error or unsought results So as to make the system work with success, any of the techniques like this technique like on the circuit and safety alert will not be unheeded.

1.5 Organization of the Report

Traffic control system is important for those drivers In Bangladesh it's a great drawback. Thus, we would like to have a scientific dominant This project has six chapters in total. "The microcontroller primarily based Automatic Traffic give notice system" it will speed up the vehicle by the drivers ", temporary description of the project, drawback statement, scopes and methodology. The second chapter related history, diagram, circuit diagram, list of parts. The chapter description, analysis of our system The chapter The chapter 5 hardware implementation. Then Chapter six describes result & discussion properly. Finally, chapter six provides the terminal remarks, limitation of our system and suggestion for the longer term works. This project is organized in chapters.Chapter2 presents Theoretical background of the project In Chapter3 descriptions The System style and Development Chapter 4 provides the result and simulation and Chapter 5 the conclusion and future work. However our traffic management system is not digitalized. Before some days it has been managed by a time primarily based management system but nowadays it is not existing machine-controlled system. Many of the time the stoplight lights are all stopped. this is often not fare for our country.

1.6 Methodology

This undertaking can blessing the look, development, advancement, the board and investigation of a street flag of speed, and the board of vehicles in the street. This extra advance of Partner in Nursing clever electric space radiator and programmed the board air conditioning load before that exploitation "keen innovation" such detecting the movement and wetness and working by simple circuit hand-off. The microcontroller base

car vehicle matic temperature the executives and auto switch framework given amid this task is expected to fulfill the need of innovations "tomorrow will be a great deal of cutting edge than today". the electric fan mechanically switches This fan framework contains the blend of detecting component, controller, driver and engine with reconciliation of installed controlled programming, which suggests amid this case exploitation arduino UNO as the fundamental controller. This venture moreover displays the normal execution of the mechanized temperature the executives and switch framework, development of equipment and PC code advancement to gather the execution information.

CHAPTER 2
SYSTEM REVIEWS

2.1 Introduction

At present we've got not any existing machine-controlled system the traffic police maintain it manually given signal over his hand. They have not any existing knowledge hold on system .The traffic police maintain solely showing his hand therefore we want several police in one signal individuals violate traffic rules and a few time they fetch quality moment .It is the causes of accident and creates a hold up. If you head to a traffic purpose you saw that has traffic {light|stoplight|light} light however it's unused it slow the traffic police avoid the stoplight and it's conjointly maintained manually.

2.2 Hard-wire Part General Block Diagram

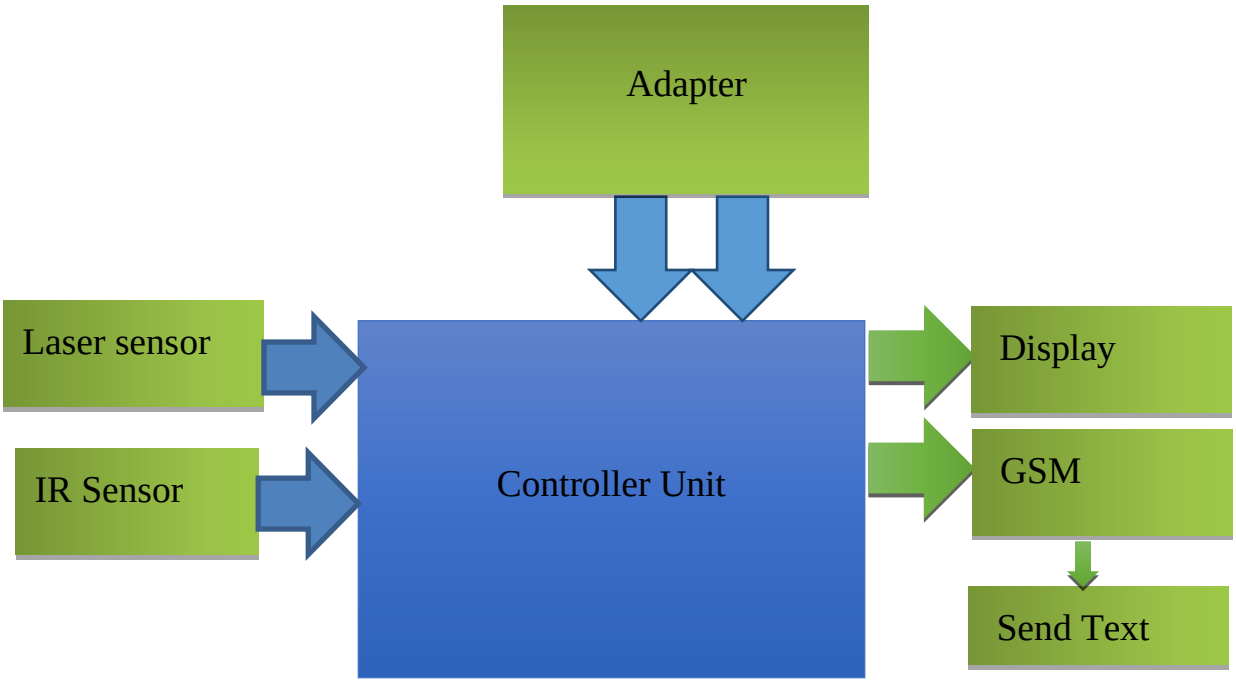


Fig. 2.1: Hard wire Part General Block Diagram

2.2.1 Block Diagram Description

The system design shown within the figure higher than at a look provides North American nation with a transparent understanding of however every system was interfaced with one another. As we will visualize, the microcontroller (Arduino UNO) receives the detector input as its destination info. It then signals the HUB motor controller units to run the motor with reference to the IR detector and also the RFID values received severally. mistreatment these values, the microcontroller detects if any obstacle is within the manner and additionally decides whether or not the automaton has reached its meant destination. Once it reaches its correct position it then signals the RFID card to deviate from its idle position and set-up a affiliation to the linear mechanism thus permitting it to serve the meal. the complete method can more be mentioned within the future chapters.

Sometimes space heater usage is wasting power attributable to human angle. Human additionally largely demands one thing that simply to be used while not wasting Energy. cut back} or reduce the ability usage, this project developed Associate in Nursing automatic heater system wherever speed is controlled by the space temperature.

Voltage and Current Specification

Discrete Components	Ratings
Adapter charger voltage	5v/12v DC
Lead Acid Battery Voltage	5v/9v/ 12V DC
Continuous charge/load current	590mA

2.3 Circuit Diagram

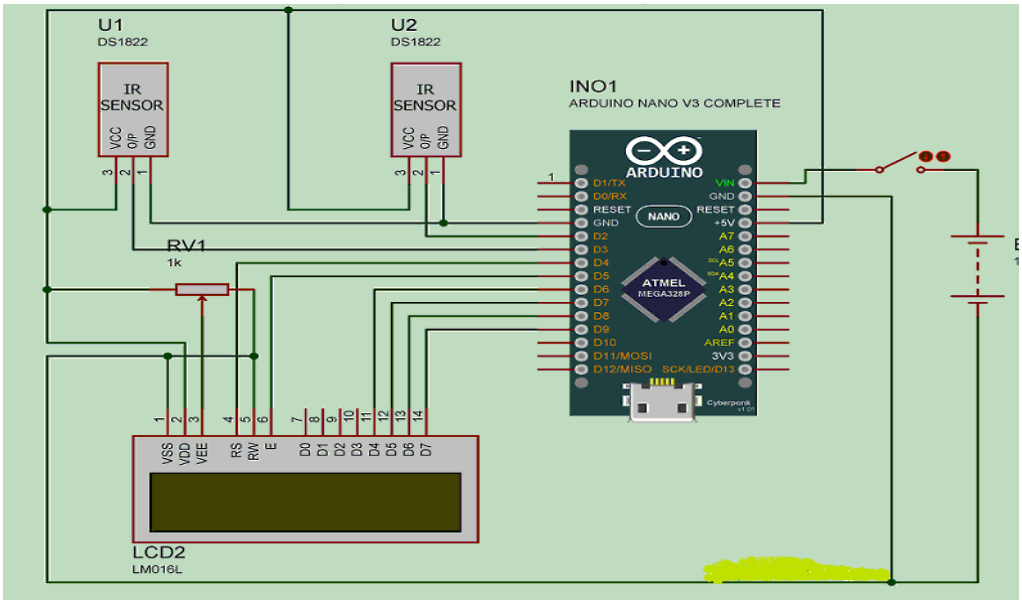


Fig. 2.2: Circuit Diagram

2.4 Working Processof our Circuit

The microcontroller base automobilematic temperature management and auto switch system given during this project is needed to meet the need of technologies “tomorrow are additional advanced than today”. the electrical fan mechanically switches the speed in line with the surroundings temperature changes. And relay connected to the microcontroller digital pin .we conjointly use buck convertor to step down voltage level for circuit .some of crystal rectifier we tend to use for sleuthing level that was conjointly connected to the microcontroller .humidity detector connected to the digital pin and also the voltage is 5v.that was given by arduino UNO. Arduino connected to the buck convertor that was 11v given by battery .The Drivers square measure mechanically get notification the speed in line with the his speed of the vehicle. And relay connected to the microcontroller digital pin .we conjointly use buck convertor to step down voltage level for circuit .some of crystal rectifier we tend to use for sleuthing level that was conjointly connected to the microcontroller .humidity detector connected to the digital

pin and also the voltage is 5v.that was given by Arduino UNO. Arduino connected to the buck convertor that was 11v given by battery. Convertor to step down voltage level for circuit .some of crystal rectifier we tend to use for sleuthing level that was conjointly connected to the microcontroller .humidity detector connected to the digital pin and also the voltage is 5v.that was given by Arduino UNO. Arduino connected to the buck convertor that was 11v given by battery .The Drivers square measure mechanically get notification the speed in line with the his speed of the vehicle. And relay connected to the microcontroller digital pin .we conjointly use buck convertor to step down voltage level for circuit .some of crystal rectifier we tend to use for sleuthing level that was conjointly connected to the microcontroller .humidity detector connected to the digital pin and also the voltage is 5v.that was given by Arduino UNO. Arduino connected to the buck convertor that was 11v given by battery. And relay connected to the microcontroller digital pin .we conjointly use buck convertor to step down voltage level for circuit .some of crystal rectifier we tend to use for sleuthing level that was conjointly connected to the microcontroller .humidity detector connected to the digital pin and also the voltage is 5v.that was given by Arduino UNO. Arduino connected to the buck convertor that was 11v given by battery. The planned system encompasses a central microcontroller at each junction that receives knowledge from room placed on the Road. All programs is controlled by central programmable microcontroller. The Microcontroller makes use of the planned programmed algorithmic program to seek out ways in which to manage and regulate traffic in a very systematic manner expeditiously. The foremost unremarkably used Traffic dominant System in developing countries is that the microcontroller based mostly system. This technique involves a predefined interval setting {for each for each} junction road at AN every junction. The barricades increase the traffic-handling capability of most intersections. They'll work severally on timers, or hook up with a microcontroller that operates over many intersections in a very room. in a very processed during this system steel barrier is used to management traffic system that will be closed or opened by exploitation microcontroller. A period is required to be set in microcontroller in line with that these steel barriers can be closed or opened. This method is comparable to the stoplight system employed in national capital town however the most distinction is in these systems, drivers square measure

guaranteed to maintain the traffic rules. but most of traffic jams of jammed cities like national capital square measure because of avoiding the traffic rules overtimes. but a management area is required to be used for dominant the complete system as a result of a unique reasonably order will be required to input in the microcontroller such as whereas any influential person automotive passing through the junction the precise barrier is required to be opened for a particular amount of your time.

2.5 List of Components used in Circuit

No	Component Name	Quantity	Used
01	Arduino UNO	01	To Control the System.
02	12V Adapter	01	To power supply.
03	IR module	02	To intensity of line distance
04	Leaser module	04	To detect
05	GSM	01	To connect network
06	Bread board	01	To connection
07	Jumper wire	(---)	To connection
08	Display	02	To print text
09	Buck Converter	01	To control voltage

Table 2.1: Component list.

2.6 Conclusion

This venture is predicated on an extremely successful way of improving traffic, with meaning of limit esteems for a genuine time application. This attempts to oversee traffic on four way streets reliable with control blockades that is worked by microcontroller. This anticipated framework will be prepared to construct a created nation with less roads turned parking lots and it can furthermore encourage the crisis vehicle to accomplish so as to the goal. In this way, this smart framework can encourage US to the board traffic in extra independent way. the most point of this test case program is to style, manufacture one pivot star pursue framework with a lightweight detecting component ANd introduce an electrical gadget mount with a reflector to star pursue framework in an efficient and conceivable recommends that of getting ideal elective vitality from the sun. We have planned this task especially for regional domain. From the examination we have seen that the strength of star seeker with reflector the intensity of star seeker zone unit higher than seven-membered severally from the power of mounted electrical gadget. Its pursuit framework will include each conventional condition. Framework traffic blockades region unit put at numerous areas - normally inside the asphalt. Numerous mishap cases on {traffic the board control} are concurring in past because of poor administration of traffic control at cross streets. In this day and age speed is that the last word. Everyone is running a rodent race and people without a doubt esteem all the more profoundly to pay longer and use their vitality in doing their different talented and private work as opposed to squandering each their profitable time and vitality in going on street.

CHAPTER 3
COMPONENT DESCRIPTION

3.1 Introduction

This chapter discusses the theories applied in developing the project. the reasons of the theories includes during this chapter square measure history concerning sensors and piezo effect, the essential principle of application of sensors, and therefore the kind of sensors and describe our element application and its background history and the way its work.

3.2 Arduino UNO

The Arduino UNO is relate ASCII content document microcontroller board bolstered the semiconductor ATmega328P microcontroller and created by Arduino.cc. The board is furnished with sets of advanced and simple information/yield (I/O) sticks that will be interfaced to shifted development sheets (shields) and distinctive circuits. The board has fourteen Computerized pins, vi Simple pins, and programmable with the Arduino IDE (Coordinated Improvement Condition) by means of a thoughtful B USB link. It is controlled by a USB link or by partner outer nine potential unit battery, in spite of the fact that it acknowledges voltages somewhere in the range of seven and twenty volts. it's moreover similar to the Arduino Nano and carver. The equipment reference style is circulated underneath a unique Lodge Attribution Offer Alike a couple of.5 permit and is open on the Arduino site. Design and generation documents for a couple of adaptations of the equipment are advertised. "Uno" implies that one in Italian and was picked to stamp the release of Arduino programming framework (IDE) one.0. The Uno board and form one.0 of Arduino programming framework (IDE) were the reference adaptations of Arduino, right now advanced to more current discharges. The Uno board is that the first in an extremely arrangement of USB Arduino sheets, and in this manner the reference demonstrate for the Arduino stage. The ATmega328 on the Arduino Uno comes prearranged with a bootloader that empowers transferring new code thereto while not the work of partner outer equipment technologist. It imparts abuse the first STK500

convention. The Uno furthermore varies from every previous board in that it doesn't utilize the FTDI USB-to-sequential driver chip. Rather, it utilizes the Atmega16U2 (Atmega8U2 up to adaptation R2) modified as a USB-to-sequential gadget [1].

3.2.1 General Pin functions

diode: there's an inbuilt driven by computerized stick thirteen. when the stick is HIGH worth, the diode is on, when the stick is LOW, it's off.

VIN: The information voltage to the Arduino/Genuino board once it's exploitation relate degree outer power supply (as unfriendly five volts from the USB alliance or option managed control source). you'll have the capacity to offer voltage through this stick, or, if arrangement voltage by means of the capacity jack, get to it through this stick.

5V: This stick yields a controlled 5V from the controller on the board. The board are frequently outfitted power either from the DC control jack (7 - 20V), the USB connective (5V), or the VIN stick of the board (7-20V). arrangement voltage by means of the 5V or three.3V pins sidesteps the controller, and might hurt the board.

3V3: A 3.3 V offer produced by the on-board controller. most current draw is fifty Mama. GND: Ground pins. IOREF: This stick on the Arduino/Genuino board gives the voltage reference that the microcontroller works. An appropriately structured shield will examine the IOREF stick voltage and pick the satisfactory power supply or change voltage interpreters on the yields to figure with the 5V or three.3V. Reset: more often than not wont to add a push to shields that obstruct the one on the board.

3.2.2 Special Pin Functions

Every one of the fourteen advanced pins And six Simple sticks on the Uno are regularly utilized as an info or yield, abuse stick Mode (), computerized Compose(), and advanced Read() capacities. They work at five volts. Each stick will give or get twenty Mama as recommended agent condition and has an encased draw up obstruction (separated as a matter of course) of 20-50k ohm. An a large portion of 40mA is that the value that must not be surpassed on any I/O stick to maintain a strategic distance from lasting damage to the microcontroller. The Uno has six simple data sources, named A0 through A5, everything about offer ten bits of goals (for example 1024 very surprising qualities). Naturally they live from ground to five volts, tho' is it potential to adjust the higher completion of their fluctuate abuse the AREF stick and furthermore the simple Reference

() work What's more, a few pins have specific capacities: Sequential: pins zero (RX) and one (TX). wont to get (RX) and transmit (TX) TTL sequential data. These pins ar associated with the relating pins of the ATmega8U2 USB-to-TTL Sequential chip. Outer Intrudes on: pins a couple of and three. These pins will be composed to trigger partner hinder on an incidental worth, a rising or falling edge, or an alteration in worth. PWM (Heartbeat measurement Balance) three, 5, 6, 9, 10, and eleven will offer 8-bit PWM yield with the simple Compose() work. SPI (Sequential Fringe Interface): ten (SS), 11 (MOSI), 12 (MISO), 13 (SCK). These pins bolster SPI correspondence exploitation the SPI library. TWI (Two Wire Interface): A4 or SDA stick and A5 or SCL stick. Support TWI correspondence exploitation the Wire library. AREF (Simple Reference): Reference voltage for the simple data sources.

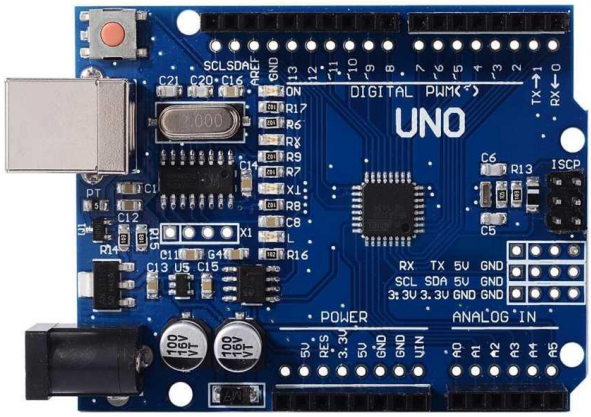


Fig 3.1: Arduino UNO.

3.3 12V Adapter

An Air conditioner connector, air conditioning/DC connector, or air conditioning/DC gadget might be an assortment of outside power give, for the most part b amid an exceedingly in a very} case equivalent to an air conditioner plug. diverse regular names grasp plug pack, module connector, connector square, household mains connector, line control connector, divider mole, control block, and power connector. Connectors for fueled instrumentality conjointly premise also} portrayed as chargers or rechargers (see additionally battery charger). Air conditioning connectors square measure utilized with electrical gadgets that require control anyway don't contain interior parts to infer the ideal

voltage and power from mains control. the inward electronic gear of partner outer power give is very equivalent to the look that will be utilized for a natural or inner give. Outside power furnishes square measure utilized each with instrumentality with the same supply of intensity and with fueled instrumentality, wherever the accessibility, when impeded in, will for the most part charge the battery furthermore to controlling the instrumentality. Utilization of partner outside power give grants portability of mechanical assembly bounced up either by mains or battery while not the superimposed heft of inward power parts, and makes it unessential to furnish instrumentality to be utilized exclusively with a settled power source; a comparable gadget is jumped up from one hundred twenty get-away or 230 excursion mains, vehicle or specialty battery by utilizing a totally extraordinary connector. Another preferred standpoint of those styles is overstated wellbeing; since the unsafe one hundred twenty or 240 V mains control is revised to a lower, more secure voltage at the divider outlet and accordingly the apparatus that is taken care of by the client is bounced up by this lower voltage. Initially, most air conditioning/DC connectors were straight power gives, containing an electrical gadget to change over the mains power voltage to a lower voltage, a rectifier to change over it to beating DC, and a channel to wash the beating wave to DC, with lingering swell varieties adequately little to leave the bounced up gadget unaffected. Size and load of the gadget was generally dictated by the electrical gadget that progressively was undaunted by the capacity yield and mains recurrence. Evaluations over several watts made the gadgets overlarge and genuine to be physically upheld by a divider outlet. The yield voltage of those connectors fluctuated with load; for instrumentality requiring an extra steady voltage, straight transformer electronic gear was superimposed. Misfortunes inside the electrical gadget and in this manner the straight controller were significant; strength was similarly low, and crucial influence disseminated as warmth even

Fig 3.2: 12V adapter.

3.4 IR module

A detecting component exhibit could be a bunch of sensors, commonly conveyed amid a beyond any doubt unadulterated arithmetic example, utilized for accumulation and process attractive power or acoustic signs. The upside of utilizing a detecting component cluster over utilizing a solitary detecting component exists in the undeniable truth that relate degree exhibit adds new measurements to the perception, serving to appraise a great deal of parameters and enhance the estimation execution. {for example| forinstance|as relate degree example} a variety of non directional radio wire parts utilized for shaft shaping will build recieving wire gain inside the bearing of the flag though diminishing the gain in elective ways, i.e., expanding signal/commotion proportion (SNR) by intensifying the flag intelligently. Another case of detecting component cluster application is to gauge the course of landing of happening attractive power waves. The associated procedure strategy is named exhibit flag process. Application tests of cluster flag process epitomize radar/sonar, remote interchanges, seismology, machine condition

recognition, galactic perceptions blame diagnosing, and so on exploitation exhibit flag process, the worldly and spatial properties (or parameters) of the event signals meddled by clamor and covered up inside the information gathered by the detecting component exhibit are regularly measurable and unveiled. this can be called parameter estimation [3].

3.4.1 Specifications

- Power supply: 3.3 V to 5 V
- Current: 1 A
- Temperature: -10 °C to +50 °C
- M3 screws
- Distance: 1mm - 60 cm adjustable
- Dimensions: Motherboard command: 44x40x12 mm
- Small plates: 25x12x12 mm

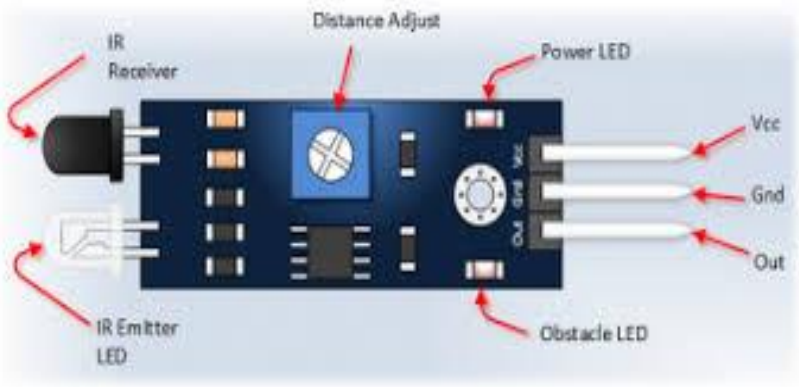


Fig 3.3: Four Array IR Sensor.

3.5 SERVO Motor.

Servo engines are around for an extended time and region unit used in a few applications. {they territory unit they're} little in size anyway pack a tremendous punch and are horrendously vitality proficient. This alternatives empower them also be utilized also work unmanned or guided toy autos, robots and planes. Servo engines are utilized in mechanical applications, apply autonomy, in-line creating, medication and sustenance

administrations. The servo electronic hardware territory unit structured appropriate inside the engine unit and incorporates a movement shaft, that ordinarily region unit fitted with a rigging (as appeared as follows). The engine territory unit controlled with an electrical flag that decides the quantity of development of the pole.

Fig 3.4: Servo Motor.

3.6 GSM Module

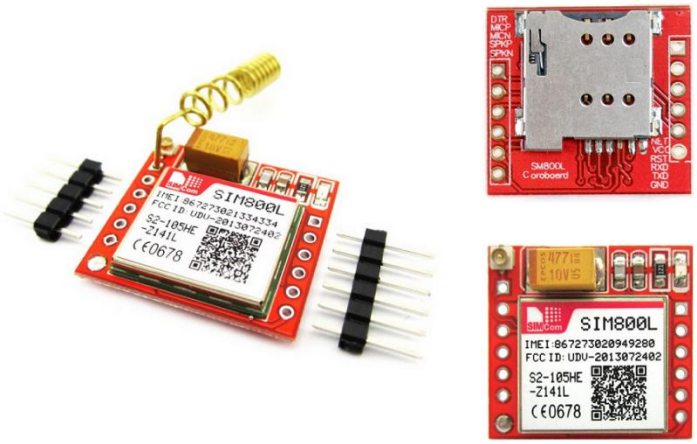


Fig 3.5: GSM Module.

Since AVR-based Arduinos like the Uno, Mega, Nano, among others, operate at 5V logic whereas the SIM800L is at a lower logic voltage, a straightforward 2 resistance resistor network ought to be put in at the modules RXD pin. The TXD pin of the module is also directly connected to the Rx pin of the Arduino because the voltage falls among the VIH and VIL of the AVR. alternative solutions embody correct level shifting IC's or separate

In the Sailing Uno, a similar theme as shown within the diagram below is also used. However, for fast tests or for a pure three.3V system, the Sailing Uno is also switched to

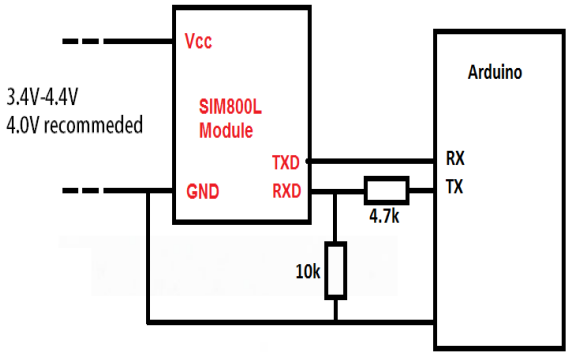


Fig 3.6: GSM Module shifting circuit.

3.7 Bread Board

circuits (ICs) in twin in-line packages (DIPs) are often inserted to straddle the center line of the block. Interconnecting wires and also the leads of separate parts (such as capacitors, resistors, and inductors) are often inserted into the remaining free holes to complete the circuit. Wherever ICs aren't used, separate parts and connecting wires could use any of the holes. Usually the spring clips square measure rated for one ampere at five volts and zero.333 amperes at fifteen volts (5 watts). The sting of the board has male and feminine dovetail notches therefore boards are often clipped along to make an oversized bread board [6].

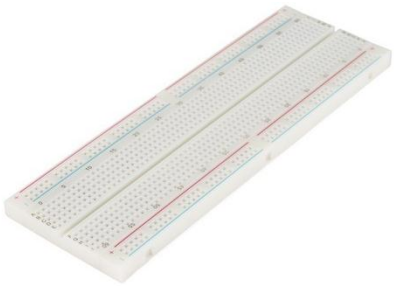


Fig 3.7: Bread board.

3.8Jumper wire

A jump wire (also stated as jumper wire, or jumper) is Associate in Nursing electrical wire, or cluster of them throughout a cable, with a instrumentation or pin at each end (or generally whereas not them – just "tinned"), that's typically accustomed interconnect the weather of a board or different paradigm or take a glance at circuit, internally or with different instrumentality or parts, whereas not fastening. Individual jump wires unit of measurement fitted by inserting their "end connectors" into the slots provided throughout a board, the header instrumentation of a board, or a piece of apparatus [7].

3.8.1 Types

There are different types of jumper wires. Some have the same type of electrical connector at both ends, while others have different connectors. Some common connectors are:

Fig 3.8: Jumper wire.

3.9LCD Display 16x2

A fluid precious stone show (LCD) could be a level board show or option electronically tweaked gadget that utilizes the light-balancing properties of fluid gems. Fluid precious stones don't produce lightweight straightforwardly, rather utilizing a backdrop illumination or reflector to supply pictures in shading or monochrome. LCDs region unit offered to indicate optional pictures (as in an exceptionally broad workstation show) or

secured pictures with low data content, which might be shown or shrouded, as arranged words, digits, and seven-portion shows, as in an extremely advanced clock. They utilize an identical fundamental innovation, then again, actually optional pictures territory unit made of a curiously large scope of little pixels, though elective presentations have bigger parts. alphanumeric showcases territory unit used in a decent fluctuate of utilizations together with LCD TVs, workstation screens, instrument boards, make cockpit shows, and indoor and out of entryways accumulation. Minimal alphanumeric presentation screens zone unit basic in moveable customer gadgets like computerized cameras, watches, adding machines, and cell phones, together with cell phones. Alphanumeric presentation screens additionally are utilized on customer material science item like videodisk players, amusement gadgets and tickers. Alphanumeric showcase screens have supplanted noteworthy, vast electron shaft tube (CRT) shows in almost all applications. Alphanumeric presentation screens region unit offered in an extremely more extensive fluctuate of screen sizes than CRT and plasma shows, with alphanumeric showcase screens offered in sizes beginning from little computerized watches to horrendously monstrous television inputs. Since alphanumeric presentation screens don't utilize phosphors, they only from time to time endure picture consume in once a static picture is shown on a screen for an extended time, e.g., the table edge for Partner in nursing aircraft flight plan on an encased sign. LCDs are, in any case, at risk to picture determination. The alphanumeric presentation screen is extra vitality proficient will and may and might} be discarded extra securely than a CRT can. Its low power utilization licenses it to be used in fueled hardware extra with effectiveness than CRTs will be. By 2008, yearly offers of TVs with alphanumeric presentation screens surpassed offers of CRT units around the world, and subsequently the CRT ended up outdated for some capacities [8][9].

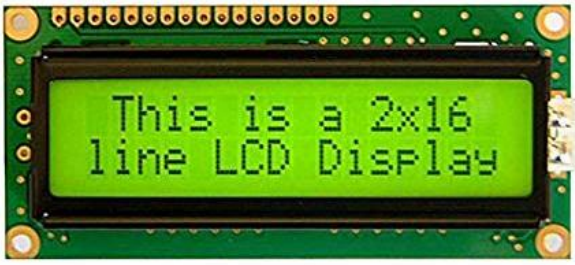


Fig 3.9: LCD Display 16*2

3.9.1 Pin Configuration of LCD Display

Pin No	Function	Name
1	Ground (0V)	Ground
2	Supply voltage; 5V (4.7V – 5.3V)	Vcc
3	Contrast adjustment; the best way is to use variable resistor such as a potentiometer. The output of the potentiometer is connected to this pin. Rotate the potentiometer knob forward and backwards to adjust the LCD contrast.	Vo / VEE
4	Selects command register when low, and data register when high	RS (Register Select)
5	Low to write to the register; High to read from the register	Read/write
6	Sends data to data pins when a high to low pulse is given; Extra voltage push is required to execute the instruction and EN(enable) signal is used for this purpose. Usually, we make it en=0 and when we want to execute the instruction we make it high en=1 for some milli seconds. After this we again make it ground that is, en=0.	Enable
7	8-bit data pins	DB0
8		DB1
9		DB2

10		DB3
11		DB4
12		DB5
13		DB6
14		DB7
15	Backlight VCC (5V)	Led+
16	Backlight Ground (0V)	Led-

Table 3.1: Pin Configuration of LCD Display

3.10Buck Converter

A buck convertor (step-down convertor) may be a DC-to-DC power converter that steps down voltage (while stepping up current) from its input (supply) to its output (load). it's a category of switched-mode power provide (SMPS) generally containing a minimum of 2 semiconductors (a diode and a semiconductor, though trendy buck converters ofttimes replace the diode with a second semiconductor used for synchronous rectification) and a minimum of one energy storage part, a capacitance, inductor, or the 2 together. to scale

Fig 3.10: Buck Converter.

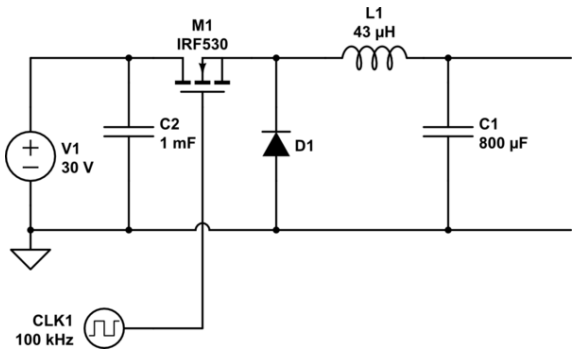


Fig 3.11: Circuit Diagram of Buck Converter.

3.11 Cost Analysis

In this section we will show cost of my project that means cost sheet representation of our project.

3.11.1 Cost Sheet:

No	Component Name	Quantity	Purchase Price (TK)
01	Arduino UNO	01	800/-
02	12V Adapter	01	100/-
03	IR module	02	270/-
04	Laser module	05	1000/-
05	GSM	01	650/-
06	Bread board	01	90/-
07	Jumper wire	(---)	200/-
08	Display	02	165/-
09	Buck Converter	01	135/-

Table 3.1: Cost sheet.

3.12 Conclusion

Five main element & some tools area unit utilized in this technique to makes it .This Project North American countries is employed} to Digital building Management System mechanism and provides us clear Output. Our all element area unit terribly easy in our country market.

CHAPTER 4
SOFTWARE ANALYSIS

4.1 Introduction

In this chapter the software package used and therefore the language during which the program code is outlined is mentioned and therefore the program code merchandising tools square measure explained. The chapter conjointly documents the event of the program for the applying.

4.2 Description of our Software

The open-source Arduino environment makes it easy to write code and upload it to the I/O board. It runs on Windows, Mac OS X, and Linux. The environment is written in Java and based on Processing, avr-gcc, and other open source software. The screen shot of Arduino 1.6.8 is shown below…

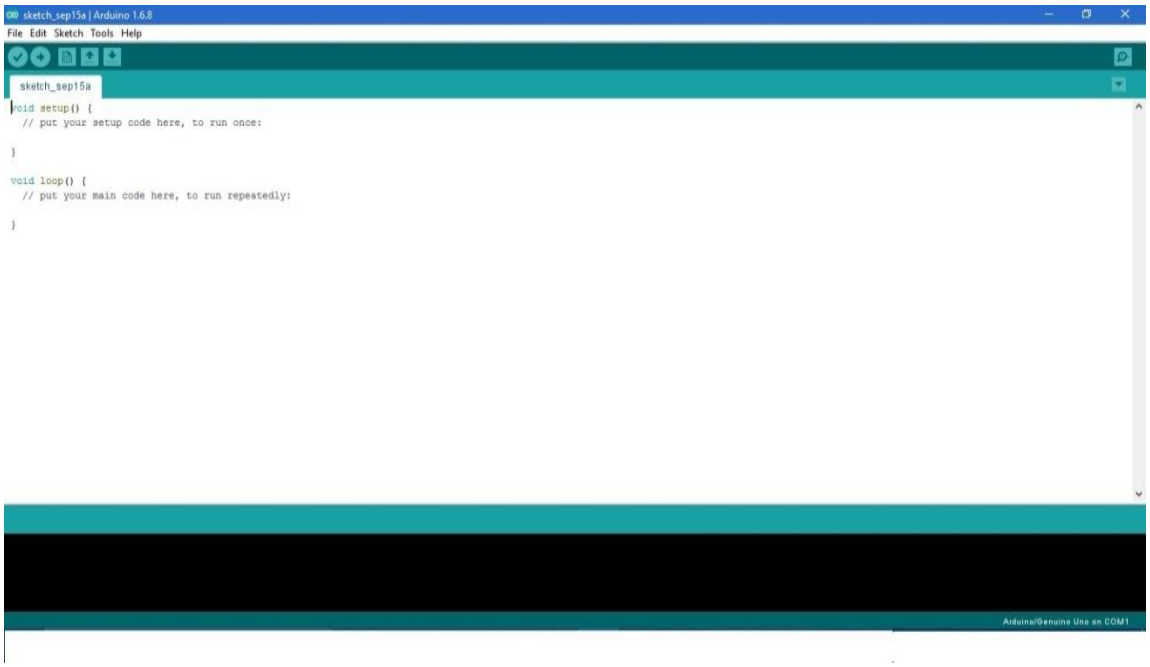


Fig. 4.1: Software Platform

It is also capable of compiling and uploading programs to the board with a single click. There is typically no need to edit make files or run programs on a command-line interface. Although building on command-line is possible if required with some third-

party tools such as Ino.Arduino IDE comes with a C/C++ library called "Wiring" (from the project of the same name), which makes many common input/output operations much easier. Arduino programs are written in C/C++, although users only need define two functions to make a runnable program:

The compiled window of my code is shown below.

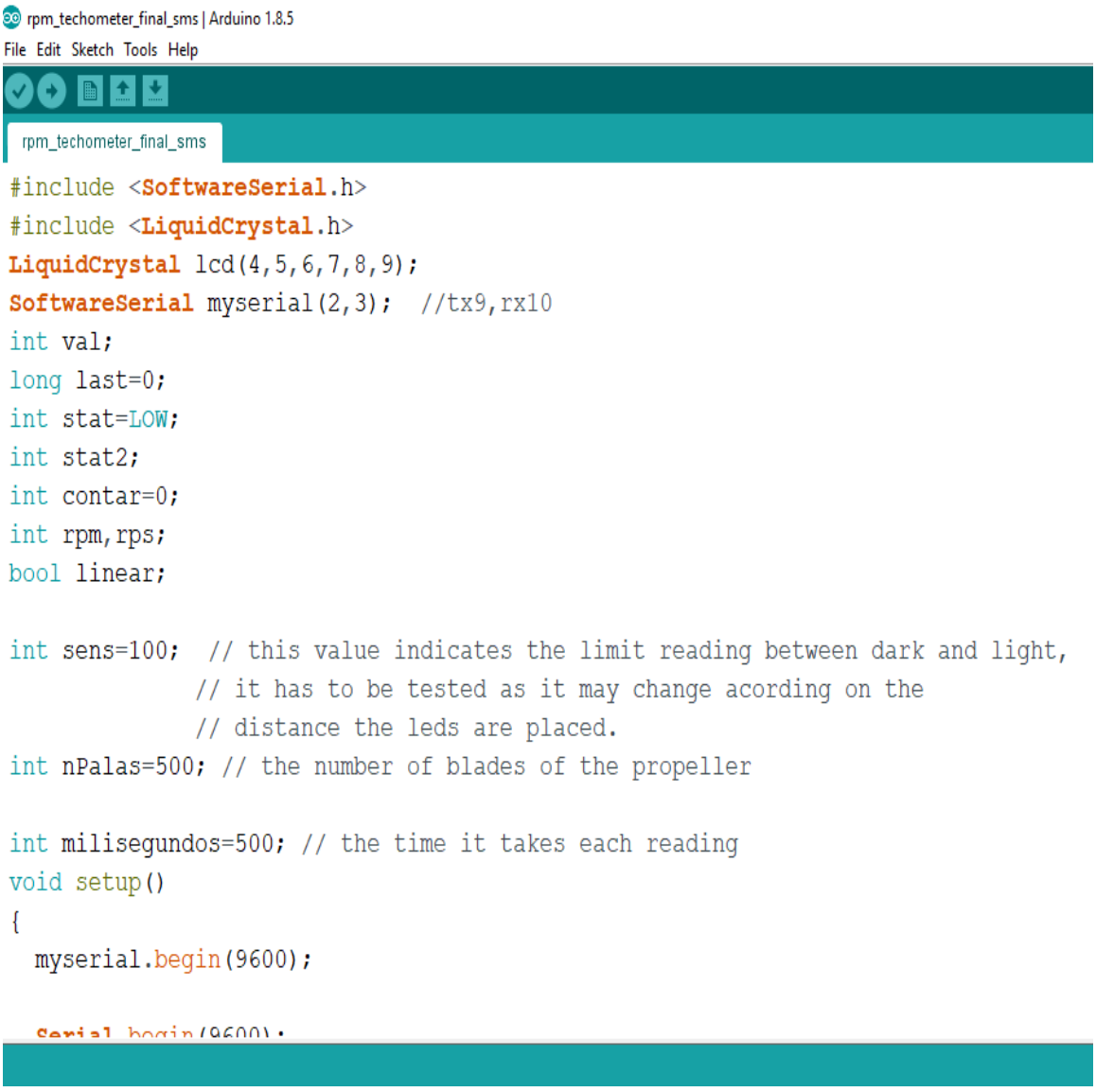


Fig 4.2: Complied the Code

4.3General Flow Chart Diagram

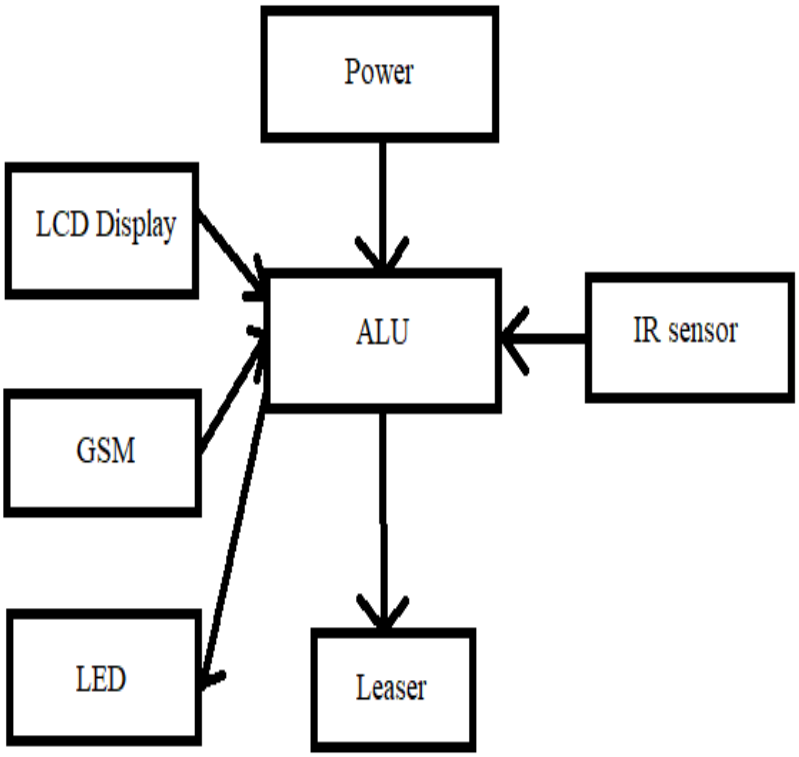


Fig 4.3: Flow Chart Diagram of our system.

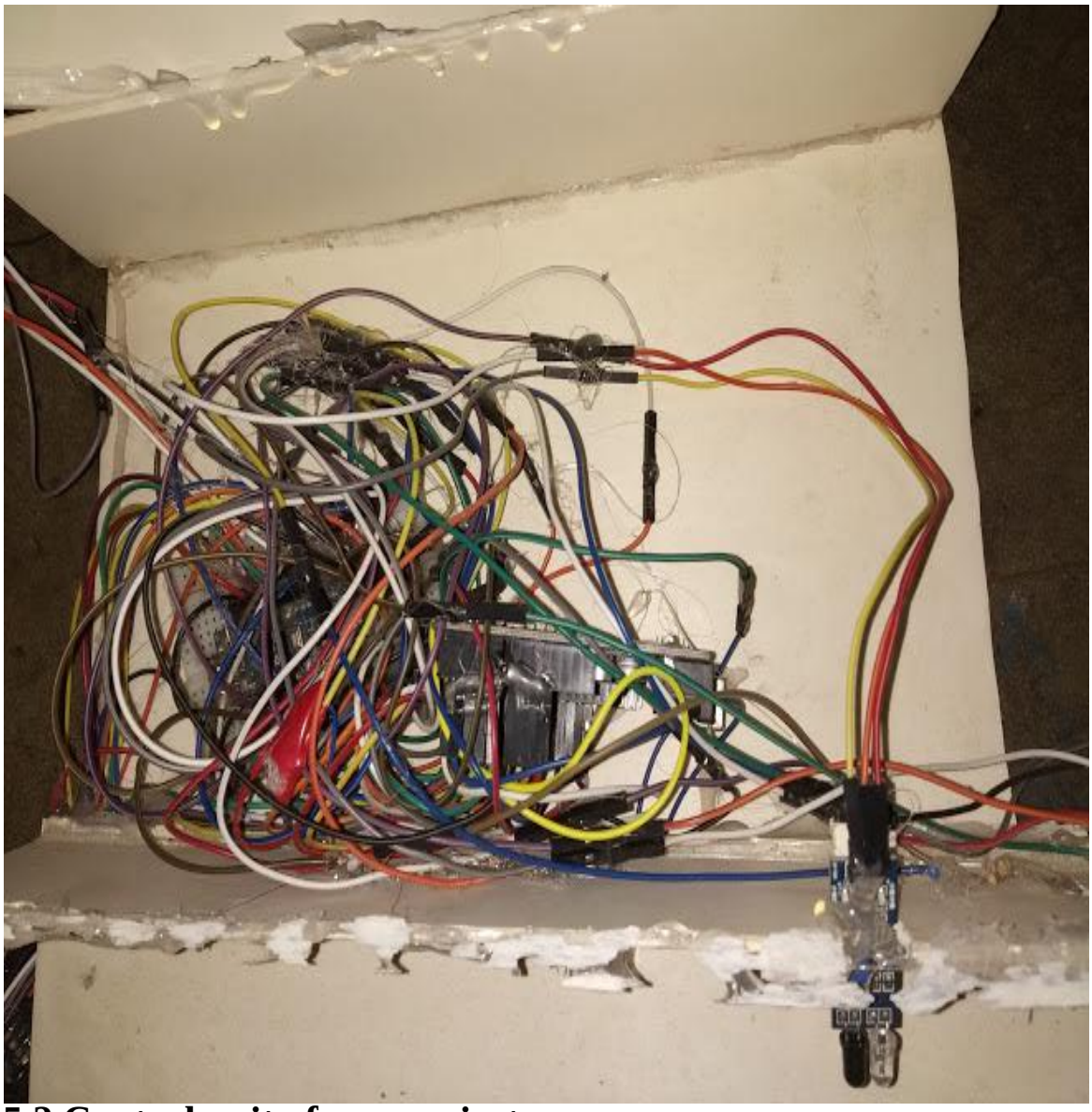
CHAPTER 5

Result & Performance Analysis

5.1 Result

Each and each project isn't complete as new things ar learned more modifications are often done. so we've got tried to form an automatic humidness and temperature management heater and automatic ac load controller. measuring device which is able to increase the potency of the traffic apprise system. it'll show the speed and awake to the motive force to manage the speed of the vehicle .If the motive force don't adjust the rule 1st time he can get a SMS on his portable. once more on alternative purpose once can he reach then measuring device can calculate the speed and also the speed notified can keep in mind the motive force once more to follow the foundations to require his vehicle on restricted speed. Within the final purpose once the motive force reach then measuring device can calculate his vehicles speed and in he doesn't adjust it then it'll apprise his as a warning and it'll additionally apprise traffic police to try to to a grievance against his. The safe and economical operation of a traffic management system depends for the most part on the appliance of advanced technologies. As a result, the past decade has witnessed the wide application of communication, sensing and computing technologies in traffic management, event detection, emergency response, fleet management and travel help. There's a demand for effective traffic organization, to avoid congestion and optimize traffic flow at intersections. Associate approach to manage traffic flow is to form use of sensing element technologies. The part device} may be a key element of any sensible system and a course of action is taken supported its location. The system gathers the info from a bunch of sensors and uses completely different variables to differentiate its location and modifies its actions consequently. The accessibility of an enormous quantity of assorted sensors and endlessly growing technology facilitates applications that were unworkable within the earliest owing to high costs and restricted accessibility. Technological developments have driven the development behind sensors and

additionally steam-powered the small-scale devices by creating use of the sensors at a coffee value. From the point of view of the wishes of sensible traffic management, an intensive accessibility of the technology transforms to an excellent quantity of possibilities within the sensing.



5.2 Control unit of our project

Fig 5.1: Control unit.

5.3Servo of our project

Fig 5.2: Servo Motor

5.4 Proposed assembly for the GPS Based Traffic Speed Notified system Display showing

Fig 5.4:Notification show of this project.

5.5 Proposed assembly for GPS Based Traffic Speed Notified system of the Whole projects

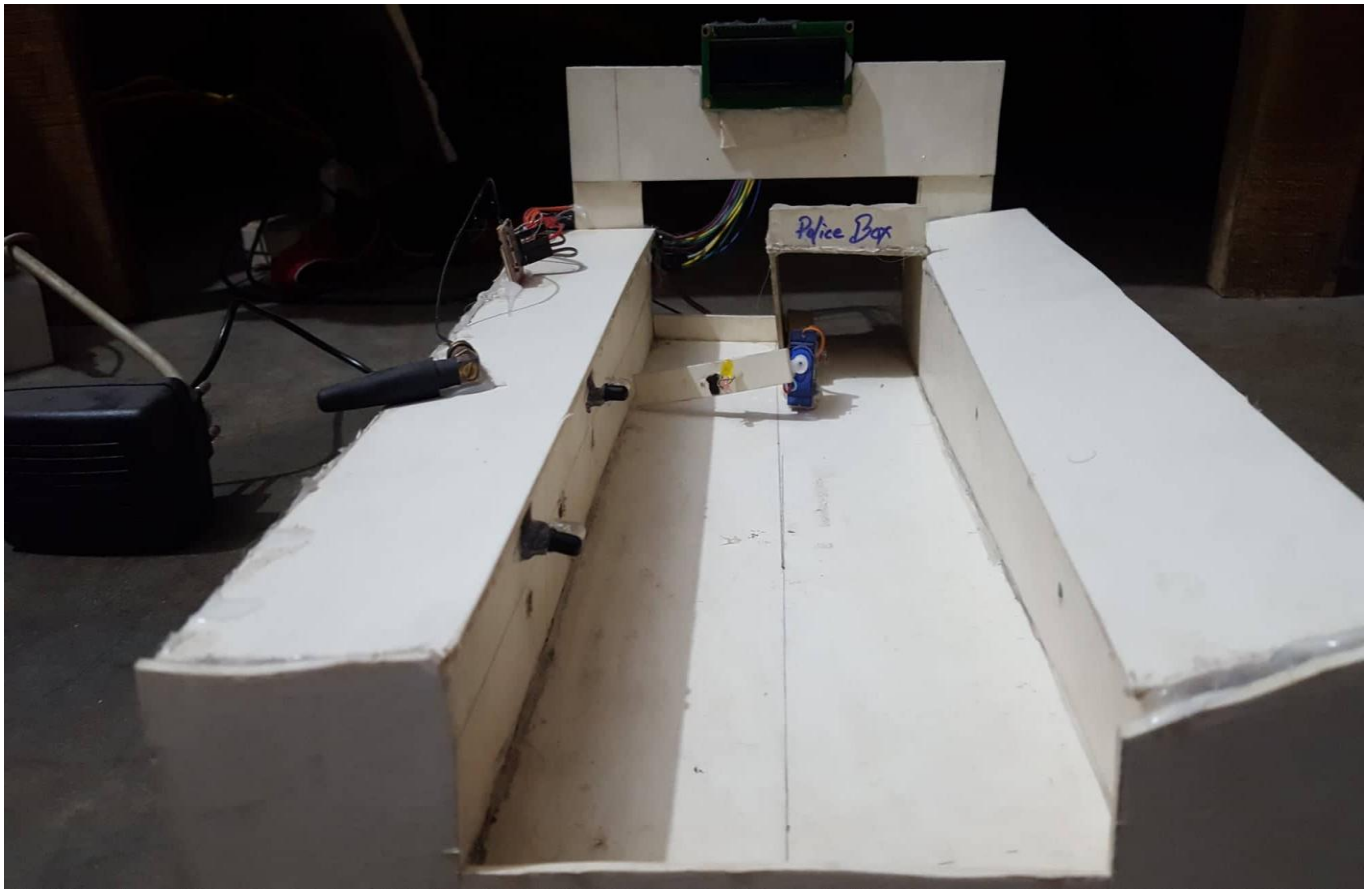


Fig 5.5: System of the Whole projects.

*Note:*All setup is very easy and it ready to service for Digital Hospital Management system. But it is Demo Version of our Thesis Project.

CHAPTER 6
CONCLUSION & FUTURE SCOPE

6.1 Conclusion

The improvement of city traffic condition is essentially keen about the trendy ways in which of traffic management and management. Advanced light controllers and system contribute to the advance of the urban traffic drawback. The intelligent of light controller that's introduced during this project with powerful functions and hardware interface. smart quality social profit has been created through the appliance of the intelligent traffic controller in apply, and therefore the application result shows that the intelligent light controller can improve. Before style the circuit and program, it's necessary to know and determine the matter of the system. First, a diagram or structure for traffic controller systems should be style. Referring AN interface block diagrams (Figure three.1), we all know the inputs, outputs, sorts and therefore the range of states ar uses during this project. mistreatment states machine, it's simple {to style|to style} and offers the planninger nice flexibility once the designer must pathetic the design either for speed or space optimisation. Most synthesis tools within the market have special choice to enable a styleer to synthesize a state machine design. Our country nowadays aiming to be digitalized however our traffic management system isn't digitalized. Before some days it was maintained by a time primarily based management system however nowadays it's not any existing machine-controlled system. several of the time the light lights ar all stopped then it's maintained by traffic police manually. this is often not fare for our country. the utilization of our project can cut back human effort and make a cushty fashion for the residents of Bangladesh. ne'er the less, it'll ignite the vision of complete automation within the close to future if the children of this generation and therefore the next ar introduced to the present specific easy nevertheless new technological implementation.

6.2 Future scope

Smarter version of line followers square measure accustomed deliver mails among building and deliver medication during a hospital. This technology has been suggests for running buses and different mass transit system and will find yourself as a section of autonomous cars navigating the highway. We can provide more facility's in our smart system example:

1. Automatics traffic control by a smart phone
2. We will also provide smart controlling from web side
3. Every season we can collect data from nature and help to our government.
4. We the driver who don't obey traffic rules we can find him easily
5. Government can punish them
6. Above all our road will be safe.

6.3 Problems encountered

A lot of your time and efforts are lost to find sensors with its technical datasheet even within the web. the ability and management laboratory operating time is deficient taking within the account the lectures time therefore but three hours ar out there for America and therefore the instrumentality and tools needed for the comes is dear to shop for from market.

6.4 Advantage

- Cost: Traffic inform is definitely will created and may style it for the driver's.
- Safety/ simple to use: Traffic notified square measure quite easy. simply will management the vehicle and track them wherever they're going.
- Short Time: the motive force will modify the speed of his vehicle once obtaining a brief SMS on his mobile.
- Tracking: The position on the vehicle will be discover by it.

- Adjustable: control notified is adjustable with the govt. and {also the} driver's also.

6.5 Disadvantage

- Slow speed and instability on totally different line thickness or exhausting angles.
- Cost: it's high value project.
- Limited to little spaces: In East Pakistan the roads aren't work and not wider that's why it'll take abundant suffering.

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Appendix-A

```
#include <SoftwareSerial.h>
#include <LiquidCrystal.h>
LiquidCrystallcd(4,5,6,7,8,9);
SoftwareSerialmyserial(2,3);  //tx9,rx10
intval;
long last=0;
int stat=LOW;
int stat2;
intcontar=0;
intrpm,rps;
bool linear;

intsens=100;  // this value indicates the limit reading between dark and light,
            // it has to be tested as it may change acording on the
            // distance the leds are placed.
intnPalas=500; // the number of blades of the propeller

intmilisegundos=500; // the time it takes each reading
void setup()
{
myserial.begin(9600);

Serial.begin(9600);
delay(100);
lcd.begin(16,2);
pinMode(13,OUTPUT);
lcd.clear();
lcd.setCursor(0,0);
lcd.print("Digital ");
lcd.setCursor(0,1);
lcd.print("RPM techometer");
delay(1000);
}

void loop()
{
linear = false;
//  nimai1();
rt();
mi();


if (Serial.available()>0)
   //switch(Serial.read())
while (linear == true){
nsms();
dd();
break;
Serial.println("system message");
  }
```

```
if (myserial.available()>0)
Serial.write(myserial.read());

// roko();


}


voidrt()
{
val=analogRead(A2);
if(val<sens)
stat=LOW;
else
stat=HIGH;
digitalWrite(13,stat); //as iR light is invisible for us, the led on pin 13
                       //indicate the state of the circuit.

if(stat2!=stat){  //counts when the state change, thats from (dark to light) or
                  //from (light to dark), remmember that IR light is invisible for us.
contar++;
    stat2=stat;
  }
if(millis()-last>=milisegundos){
doublerps=((double)contar/nPalas)/2.0*1000.0/milisegundos;
double rpm=((double)contar/nPalas)/2.0*60000.0/(milisegundos);
Serial.print((contar/2.0));Serial.print("  RPS ");Serial.print(rps);
Serial.print(" RPM");Serial.print(rpm);Serial.print("  VAL ");Serial.println(val);
contar=0;
last=millis();
lcd.clear();
lcd.setCursor(0,0);

lcd.print((rpm));
lcd.setCursor(0,1);
lcd.print("RPM kmps");
      //lcd.setCursor(0, 1);
      //lcd.print("Sensor");


if ( double (rpm >=150 &&  rpm <=1000)) //40+ erjonno high (60 sppederjonnay) (A1)

 {

lcd.clear ();

lcd.setCursor(0,0);

lcd.print((rpm));
lcd.setCursor(0,1);
lcd.print("RPM kmps");
delay(1000);
lcd.setCursor(0,1);

lcd.print("your speed high");
```

```
delay(1000);
//linear=true;
dd();
delay(10000);

}
else if (double (rpm >=1 &&  rpm <=149)) //
{ lcd.clear();
lcd.setCursor(0,0);

lcd.print((rpm));
lcd.setCursor(0,1);
lcd.print("RPM kmps");
delay(1000);
nsms();
delay(10000);
//linear=false;

}

}



  }




void mi()
{
val=analogRead(A1);
if(val<sens)
stat=LOW;
else
stat=HIGH;
digitalWrite(13,stat); //as iR light is invisible for us, the led on pin 13
                       //indicate the state of the circuit.

if(stat2!=stat){  //counts when the state change, thats from (dark to light) or
                  //from (light to dark), remmember that IR light is invisible for us.
contar++;
    stat2=stat;
  }
if(millis()-last>=milisegundos){
doublerps=((double)contar/nPalas)/2.0*1000.0/milisegundos;
double rpm=((double)contar/nPalas)/2.0*60000.0/(milisegundos);
Serial.print((contar/2.0));Serial.print("  RPS ");Serial.print(rps);
Serial.print(" RPM");Serial.print(rpm);Serial.print("  VAL ");Serial.println(val);
contar=0;
last=millis();
lcd.clear();
lcd.setCursor(0,0);
```

```
lcd.print((rpm));
lcd.setCursor(0,1);
lcd.print("RPM kmps");
if (double (rpm >=150 &&  rpm <=1000)) //50+ erjonno

 {

lcd.clear ();

lcd.setCursor(0,0);

lcd.print((rpm));
lcd.setCursor(0,1);
lcd.print("RPM kmps");
delay(1000);
lcd.setCursor(0,1);

lcd.print("your speed high");
delay(1000);
dd();
delay(10000);
//linear=true;

 }

else if (double (rpm >=1 &&  rpm <=149)) //40+ erjonno

 {
lcd.clear();
lcd.setCursor(0,0);

lcd.print((rpm));
lcd.setCursor(0,1);
lcd.print("RPM kmps");
delay(1000);

nsms();
delay(10000);
  //linear =false;

}




   }




}
voidnsms()
{
Serial.println("SMS loop entering");
  //lcd.print("      sms loop entering   ");
```

```
myserial.println("AT+CMGF=1");    //Sets the GSM Module in Text Mode
delay(1000);  // Delay of 1000 milli seconds or 1 second
myserial.println("AT+CMGS=\"+01775640006\"\r"); // Replace x with mobile number
delay(1000);
myserial.println("please maintain trafic rule");// The SMS text you want to send
delay(100);
 //lcd.print("SMS Sending");
myserial.println((char)26);// ASCII code of CTRL+Z
delay(1000);


}

voiddd()
{
Serial.println("SMS loop entering");
 //lcd.print("      sms loop entering   ");
myserial.println("AT+CMGF=1");    //Sets the GSM Module in Text Mode
delay(1000);  // Delay of 1000 milli seconds or 1 second
myserial.println("AT+CMGS=\"+01775640006\"\r"); // Replace x with mobile number
delay(1000);
myserial.println("you break the trafic rule you are on case ");// The SMS text you want to send
delay(100);
 //lcd.print("SMS Sending");
myserial.println((char)26);// ASCII code of CTRL+Z
delay(1000);


}
```