

# **IoT based Weather Monitoring System with SMS notification for DIU**

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This Project Report Presented in Partial Fulfillment of the Requirement for the Degree  
of Bachelor of Computer Science and Engineering

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# **APPROVAL**

## **DECLARATION**

We thus announce that, this project paper has been finished by utilizing the utilization of us underneath the supervision of Tajim Md. Niamat Ullah Akhund, Computer Science and Engineering Department, and Daffodil International University. We furthermore pronounce that neither this endeavor nor any piece of this crucial been presented some extraordinary region for grant of any confirmation of recognition.

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## **ACKNOWLEDGEMENT**

From the beginning, we can express my gratitude and sincere gratitude to Almighty God for His boundless gift which enables us to finish this project effectively. We would like to express our sincere gratitude to Tajim Md. Niyamt Ullah Akund, Lecturer, Department of Computer Science and Engineering, Daffodil International University, Mr. Saif Mahmud Parvez, Lecturer, Department of CSE and Dr. S M Aminul Haque, Associate Professor, Department of CSE for their guidance, thought and vision, uninterrupted and incredible supervision, imaginative analysis, valuable proposals, caution. All drafts and remedial possibilities at all levels have made this project completely complete. Department of Computer Engineering, Daffodil International University.

To the end, we would like to thank our family, especially our father and mother, and our elderly siblings for their continued support and helpful gestures throughout the length of this project.

## **ABSTRACT**

This Study describes IoT-based weather monitoring system and detailing contraption undertaking is utilized to hear stay thoughts of weather conditions. I this paper we discuss about weather monitoring system using sms notification system where it will show temperature, humidity and toxic Acid , CO levels. Assume researchers/nature examiners want to take a show up at modifications in an exact environmental factors like Daffodil International University. What's more, these people originate from astounding parts of the world. For this situation, the SMS-based atmosphere monitoring gadget has a few restrictions. Since it sends SMS in a couple of numbers. What's more, fluctuate of cellphone numbers will increment when sending SMS. In the event that they pick to be aware of the atmosphere information of an uncommon spot, they need to go to that specific site. Where each character can see it.

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# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

Environmental exchange and homegrown observing have gotten the first-rate arrangement of energy for cutting edge events. People decide to hang on being present-day on the forefront atmosphere in any place, practically identical to a college grounds or any extraordinary impressive structure. As the world is altering so fast so need the atmosphere stations. Here in this paper us current an environmental factors station which is uncommonly gainful for any place. This atmosphere station is basically founded absolutely on IoT (Internet of Things). It is outfitted with homegrown sensors used to check a genuine territory and archive them in real-time on the cloud. To pick up this, we used Arduino Uno and an extra of two or three natural sensors, for instance, DHT11, toxic destructive sensors, and temperature sensors. The sensors consistently secure the biological system limits and vessel them by means of the procedure of SMS with the data of a portable chairman. The atmosphere limits are moved to the gadget and in some time outfit a prompt record of the atmosphere data. This paper similarly underscores the result of IoT to the new time of homegrown records age and offers some other factor of reference for future environmental observing. The framework has been developed incredibly to make a cunning town with condition revives in a one of a kind locale like a one of a structure working environmental factors or home.

### 1.2 Motivation of the study

The environmental factors are changing day with the guide of day similarly as the nature of presence of the people in the current world is evolving. What's more, this change isn't bringing any correct news for the individuals anyway is pushing the individuals in peril day with the guide of day and managing testing issues. With regards to the age of its congruity, we have depended on IoT in this endeavour to adjust the earth.

### 1.3 Objectives of the Study

- To Determining the balance of the environment through monitor sensor
- To reduce humidity and air pollution.



- To manage electrical equipment according to the stability of the environment and also sent and saved collected data in cloud DB.
- To ensure the best quality of product
- To reduce many types of gas like Toxic aside.
- To provide the SMS notification in mobile operator that's client use.

## 1.4 Expected Out Come

According to Daily Star, we now export \$3.35 billion in abroad last year which is the 9.01 percent of our economy. But if we use this system, we would be able to increase this rate every year. Its help us to Increase GDP in our country. If we use this system, we can remove Environmental imbalances. Saving the installed gadgets in the earth for observing empowers self-assurance to nature.

## 1.5 Report Layout

Pictorial presentation the task in an easy way with a parent that describes the total project, contents and more. The task file carries of 5 chapter. Outline of all the chapters with a short summery is mentioned beneath via demographic representation:

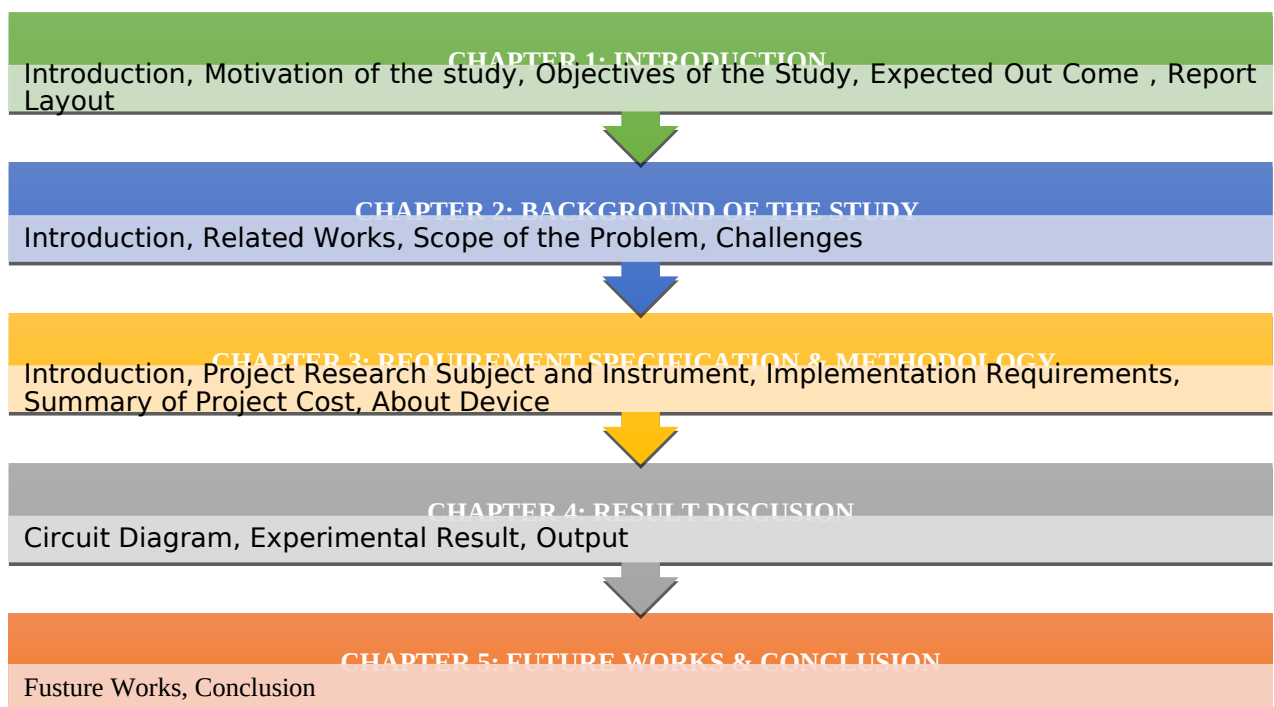


Fig 1.1: Outline the project

## **CHAPTER 2**

### **BACKGROUND OF THE STUDY**

#### **2.1 Introduction**

The current upgrades are evolving if all the other obvious exercises fail to control the huge vital core focus and control. These are constantly evolving to meet human needs. The huge influential area of this science is finally examined and the stunning exercises are fixed in terms of control. A striking natural checking framework is needed to show the screen whether the cut-off point (e.g., elevation, CO and radiation levels) should have a charge beyond the bolted zone, in part when sensory gadgets, microcontrollers, and programming limitations. The components will naturally continue to work for confirmation and self-monitoring and this is in some exceptional cases proposed as a surprising condition. In situations where a breaking point occurs when there is a warning or LED with this line. The effects due to the reality of the family developed changes over animals, plants, and people could be tested and managed through the limitations of intelligent environmental monitoring structures. By placing the genius on earth to make nature intuitive with obvious motives, it is a process of thinking that sets the biological variable goals. Of the unimaginable assortment of human need developments, it depends on the expansion of the bit of efficiency involved through the limitation of sensor compression. Incident detection is basically based on a factual basis and composes two requests as much as possible to estimate the local process. From the outset, sensor devices surpass cut-off points (e.g., temperature, humidity and degree of radiation, and more) to the components that are born when the actual components are sure of predictive and control movements (e.g., stocks rise and fall with predetermined level recognition). . The sensor's constructions are placed in the Zenith indent spots. Reality depends on nature for the exact location of the conspiracy. Overview activities can be noticed in circulation. An answer to seeing the soaked quality and dangerous feedback, respecting any limitations that exceed its local respect ranges, competitive temperament in the air compared to normal levels somehow surpasses normal levels, and so on. SMS stuck using Bendy Working Computer is suggested in this paper. The connection gives a great place in a great area of the plot. In this paper, we have nowadays collected along these lines the general or first-class level decision of the correct cutoff points or the coastal inevitable consequences of unprecedented true causes.

## 2.2 Related Works

In today's world, many pollution monitoring systems are designed by different environmental parameters. The existing system model represents an IoT-based weather monitoring and reporting system where you can collect, process, analyze, and present your measured data on a web server. The wireless sensor network management model consists of the last device, the router, the gateway node, and the operating monitoring center. After receiving data from the wireless sensor network, the gateway nodes analyze their Ethernet format data and recover the data after packaging and send it to the server. Officially, any device powered by server software can also be considered a server. Servers are used to manage network resources. Internet or services provided to users via smartphones, web browsers or other web browser devices to stay connected via LAN and make the system more intelligent, adaptable, and efficient.

After the Internet, the Internet of Things (IoT) is seen as an innovation and financial wave in the global information industry. IoT is an intelligent system that integrates everything with the Internet with the ultimate goal of data identification through data trading and data detection gadgets in accordance with the Exclusive Convention. It serves the purpose of identifying, tracing, tracking, monitoring and monitoring motivations. It is the growth and expansion of an Internet-based system that enhances communication between people and people and things or things and things. In IoT Worldview, many of the articles around us will be linked to the system in one form or another. This is an example of a current correspondence envisioned in the near future, where regular everyday things will be equipped with microcontrollers, handsets for computerized correspondence, and reasonable convention stacks that prepare each other to talk and clients are becoming an important part of the Internet. The IoT concept will, as a result, make the Internet more immersive and inevitable. Also, by strengthening access and integration with a wide assortment of common gadgets, for example, home appliances, reconnected cameras, sensors, aquatic, showcases, vehicles, etc. and other features, IoT will stimulate the advancement of various applications. The new administration provides size archives and lots of information to subjects, agencies, and open organizations. Current innovations in technology mainly focus on controlling and monitoring various activities. These are slowly emerging to meet the needs of the people. Most of these technologies focus on efficient supervision and control of various activities. An efficient environmental monitoring system is needed to monitor and evaluate the situation for exceeding the prescribed parameters (e.g., noise, CO, and radiation levels). Things like the

environment equipped with sensor devices, microcontrollers, and various software applications when it becomes a self-protecting and self-monitoring environment and is also called the smart environment. In this type of environment when an event alarm or LED alert occurs automatically. The effects of environmental change on animals, plants, and humans can be monitored and controlled through smart environmental monitoring systems. Using the intelligence embedded in the environment to make the environment interacting with other targets, it is an application that targets the smart environment. The human demand for different types of monitoring systems depends on the data collected from the sensor devices. Event detection-based and spatial process estimates are classified into two applications. Initially, sensor devices are placed in an environment to detect parameters (e.g., temperature, humidity, and CO, etc.) when data acquisition, calculation, and control activities (e.g., specific temperature and CO level variations) are required to respond to a specific area of interest. . Are placed in different places for collection. The main goal of this paper is to design and implement an efficient monitoring system through which the required parameters are monitored remotely using the Internet and the data collected from the sensors are stored in the web browser in the cloud and trending trends. A solution for monitoring temperature, humidity, and CO levels, i.e. the value of a parameter exceeds its threshold, for example, CO levels in the air in a given region exceed normal levels, etc., in this paper environment using wireless embedded computing systems. The solution also provides intelligent remote observation for specific areas of interest. In this paper, we also present the trending results of data collected or sensitive for a general or specific range of specific parameters.

It is an embedded system that integrates web-enabled smartphones such as processors, sensors, and communication hardware to retrieve, transmit and operate data from their weather. . However, he designed a system that is also available on the public Internet that gives more benefits to people's lives. [13]

Previously many IoT based weather monitoring system designs used third party IoT platforms such as Thing Speak. However, we have created our cloud-based server because anyone can easily access our web-based service or Android app [14].Climate Monitoring System has been accomplished significantly the usage of IoT gadgets before. The enormous extent of set up works referenced smoothly accounts like an audit. The contemporary used sciences are made utilizing microcontrollers like Arduino, Node MCU, etc and ARM processors like Raspberry Pi. The execution proposed in [9] suggests that a Raspberry Pi essentially based absolutely atmosphere observing device is built up the utilization of air ailment sensors. Beside temperature, weight and moisture, carbon monoxide care is in like

manner checked. This isn't in every case exclusively Raspberry Pi chiefly principally based use, then again an entire of Pi and Arduino Nano. An IoT center point basically based absolutely contraption was once proposed by utilizing [10]. This strategy utilizes PM 2.5 sensor and find it discontinuously and shops in a cloud server. A raspberry Pi basically based absolutely atmosphere observing work area is proposed in [11]. This gets focal limits like temperature, dampness and scarcely any exceptional limits. A situation observing processing gadget for agriculture used to be when exceptional by method of [12] the use of Node MCU. This utilizes a temperature and moisture sensor and soil soddenness sensor for observing environmental factors with respect to cultivation. An extra exceptional vitality basically based absolutely environmental factors checking machine the utilization of microcontroller was once when created with the guide of method of [13]. This used to be when done in the essential to point of convergence under made and making economies. This used temperature, wetness and deluge investigate developments to achieve information constantly. An information logger based absolutely for all intents and purposes atmosphere checking laptop is proposed by means of [14] utilizing a microcontroller utilizes temperature, moisture, mellow and CO sensors. There are severa condition checking structures proposed utilizing duplicate as in [15], [16], [17] the usage of Labview based absolutely really interfaces. Since biological system in tropical ordinary regions like India, China and Thailand are enthusiastically affected via air pollutions, there are a couple of examinations finished on the IoT execution the usage of ailment show sensors additionally. The methodology proposed in [18] states the set up preparing of air disease information and condition observing structures to rely on the climate.

### **2.3 Scope of the Problem**

This problem we are find out.

- This projects control system automatically not wireless network builder.
- Sensor work in limited distance of the area.
- Selected working area.
- Weather and the breeze blow condition.
- Using Rechargeable battery.

### **2.4 Challenges**

Picking an appropriate platform typically goes down to the equipment based task creators experience and the sort of equipment based venture to be created. To the Create a High Frequency Ultrasound System could be created as an equipment based venture or an independent equipment based undertaking yet should likewise be generally bolstered and platform-free. Therefore, as the engineer has negligible or no involvement with Arduino programming, the choice was taken to build up an independent venture. This undertaking primarily makes for controlling condition contamination of DIU.

# CHAPTER 3

## REQUIREMENT SPECIFICATION AND METHODOLOGY

### 3.1 Introduction

The research strategy is the one of a kind philosophies or techniques used to perceive, select, process, and view information about a point. In an exploration paper, the philosophy quarter enables investigate to in a nonexclusive encounter study an assessment's predominant realness and reliability. Here, the technique portion:

- ➔ The data collected or generated Procedure
- ➔ Analyzation

### 3.2 Project Research Subject and Instrument:

This paper, for the most part, orchestrated direction of motion climate illness controlling structure. This Project title "IoT primarily based Weather Monitoring System with SMS notification for DIU ". Agriculture is the science and energy of developing climate infection manage and spare humans from toxic corrosive. Diminish climate illness is the key enchantment in the climb of constant human flip of events, proper now, Modern world difficulty to minimize climate contamination, be that as it may, greater than one of each and every seven passing's on the planet are infection related. From tainted web sites alone, toxic illness influences the electricity of more than 200 million men and women round the world. Urban air infection affects a substantially greater quantity of individuals. By and large, infection kills more than one instances greater noteworthy folks than HIV, intestinal health problem and tuberculosis joined.

The larger section of this affect is in low-and core pay nations. Introduction to dirtied soil, water and air (both indoor and open air) added about 8.4 million passings in 2012 in these nations. They talk to 94% of the weight of ailment from contamination. While usually influenced, low-and core profits countries are the least furnished to control the issue. The harmed horrendous cannot have adequate money to go or easy up their noxious networks, so the wellbeing impacts is extraordinary. Lessening damaging corrosive and moistness illness this challenge alert us by way of SMS. To make our assignment we utilized Components:

1. C++ programming
2. Arduino IDE
3. Arduino UNO R3
4. Node MCU
5. LCD
6. DHT11 sensor
7. Gas Sensors (MQ-02)
8. Fan/Light
9. Relay Module
10. Wires
11. Breadboards
12. Designing Elements
13. Thing speak Cloud Server
14. A6 Module

### **3.2.1 Arduino IDE:**

The Arduino Integrated Development Environment is a cross-stage utility built on the features of C and C ++. It is used to create and add groups to highly composed sheets in Arduino, as well as with the help of untouched focus, unusual supplier guarantor charm sheets at any rate.

Projects outside of Arduino Software (IDE) are marked as blueprints. These images are written to the Fabric Administrators of Materials and are archived with Arduino. The editor has features for cutting/sticking and search/override content. The message analyzes when saving and progressing in the vicinity and shows bots as well.



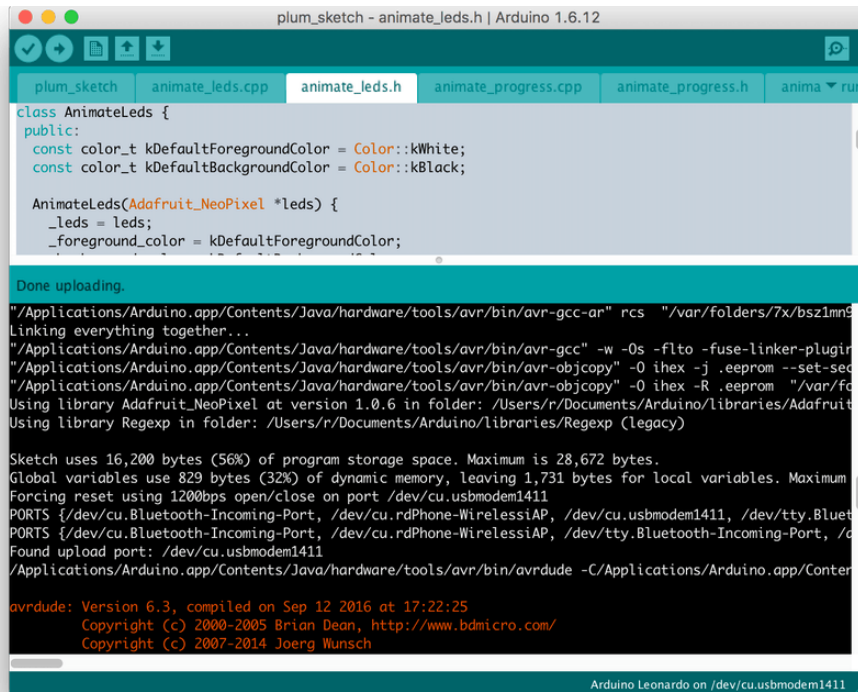


Fig 3.1: Arduino IDE

**License:** LGPL or GPL license

**Developer(s):** Arduino Software

**Operating system:** Windows, macOS, Linux

**Written in:** C, C++, Java

**Platforms:** 32 bit Intel x86, x86-64, ARM architecture

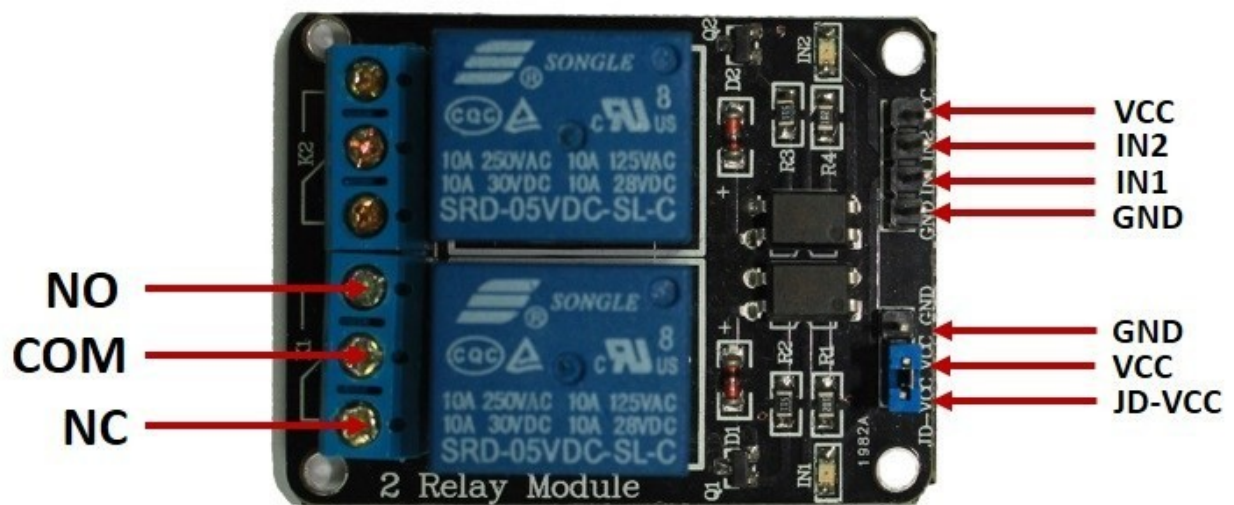
### 3.2.2: Realy Module

The relay is an electrically laborious trade that can be made with or without currents on the coast, and with low voltages, it is virtually identical to the 5V given according to the Arduino pin method.

Controlling the relay module with Arduino is just as important as controlling some extraordinary yields which we will see later.



This relay module has two channels (that blue 3D size). There are unprecedented styles with one, 4, and eight channels. This module should be 5V monitored which is suitable for use with an Arduino. There are various transfer modules that are encouraged using 3.3V, which is best for ESP32, ESP8266, and clear microcontrollers.



The six pins on the left 50% of the hand-off module accomplish over the top voltage, and the pins on the correct perspective interface the area that requires low voltage—the Arduino pins.

### 3.2.3 Arduino UNO R3

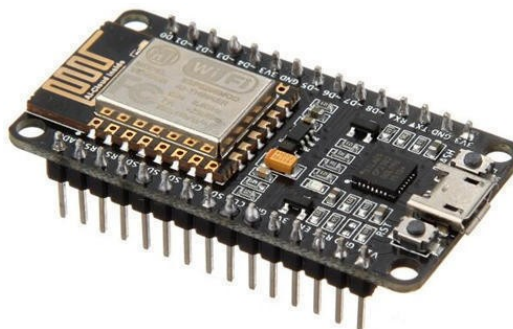
The Arduino Uno is an open-source microcontroller block set on the Microchip ATmega328P microcontroller and made by means of the method of structures for Arduino.cc. The board is outfitted with gadgets of unparalleled and simple information/yield sticks that may moreover similarly furthermore be interfaced with a degree of enhancing sheets and extraordinary circuits.



### Technical Specification:

Technical Specification of Aurdino Uno R3	
Microcontroller	ATmega328P
Operating Voltage	5V
Input Voltage (recommended)	7-12V
Input Voltage (limit)	6-20V
Digital I/O Pins	14 (of which 6 provide PWM output)
PWM Digital I/O Pins	6
Analog Input Pins	6
DC Current per I/O Pin	20 mA
DC Current for 3.3V Pin	50 mA
Flash Memory	32 KB (ATmega328P) of which 0.5 KB used by bootloader
SRAM	2 KB (ATmega328P)
EEPROM	1 KB (ATmega328P)
Clock Speed	16 MHz
LED_BUILTIN	13
Length	68.6 mm
Width	53.4 mm
Weight	25 g

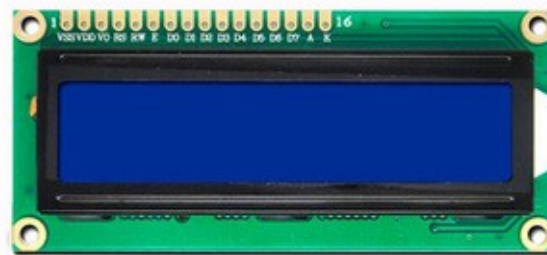
### 3.2.4 NodeMCU



NodeMCU is a less expensive open supply IoT platform. It originally included firmware which runs on the ESP8266 Wi-Fi SoC from Espressos if Systems, and hardware which used to be as soon as specially based totally on the ESP-12 module. Later, assist for the ESP32 32-bit MCU used to be added.

<b>Memory</b>	128kBytes
<b>Developer</b>	ESP8266 Opensource Community
<b>Operating system</b>	XTOS
<b>CPU</b>	ESP8266(LX106)
<b>Storage</b>	4MBytes
<b>Power</b>	USB
<b>Introductory price</b>	\$5

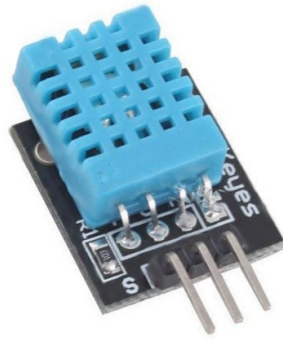
### 3.2.5: LCD (Liquid-Crystal Display)



A liquid-crystal show is a degree board show or different electronically adjusted optical system that makes use of the light-balancing residing preparations of liquid crystals joined with polarizers. Liquid crystals do no longer radiate mild straightforwardly, as a replacement the utilization of a backdrop illumination or reflector to supply previews in color or monochrome

### 3.2.6: DHT11

The DHT11 is a basic, ultra-decent high temperature and stickiness sensor. It uses a capacitive humidity sensor and a thermistor to measure the ambient air and emits a computerized sign on the statistics pin (no simple record pin is required). It is clearly easy to use but requires careful planning to snatch information. The real downside to this sensor is that you can get a completely new measurement from it everyone and every two seconds, so when our library is used, the sensor readings can be as long as two seconds.



### DHT11 Specifications:

Voltage	3.5V to 5.5V
current	0.3mA (measuring), 60uA (standby)
Output	Serial data
Temperature Range	0°C - 50°C
Humidity Range	20% - 90%
Resolution	Temperature and Humidity both are 16-bit
Accuracy	±1°C and ±1%

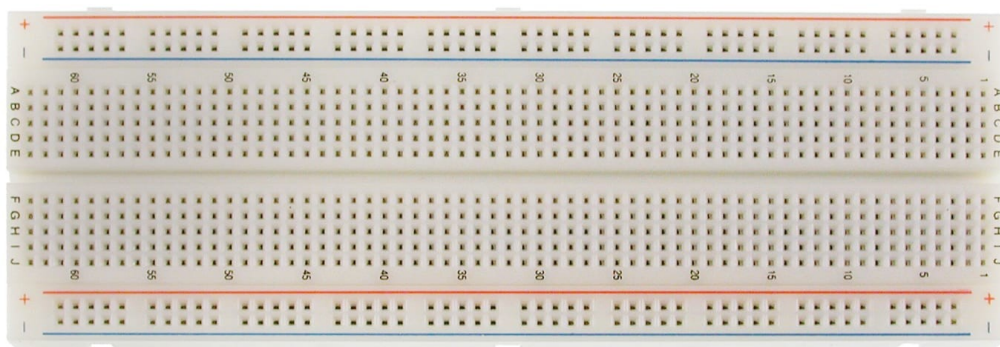
### 3.2.7: Gas Sensors (MQ-02)

The MQ-2 gas sensor can isolate or gauge gases such as LPG, alcohol, propane, hydrogen, CO, and even methane. The simplest pin is to be used in the case of fuel estimation in ppm, the simple pin is pressed TTL in 5 more and the chips are kept away and so can be used with most continuous microcontrollers.

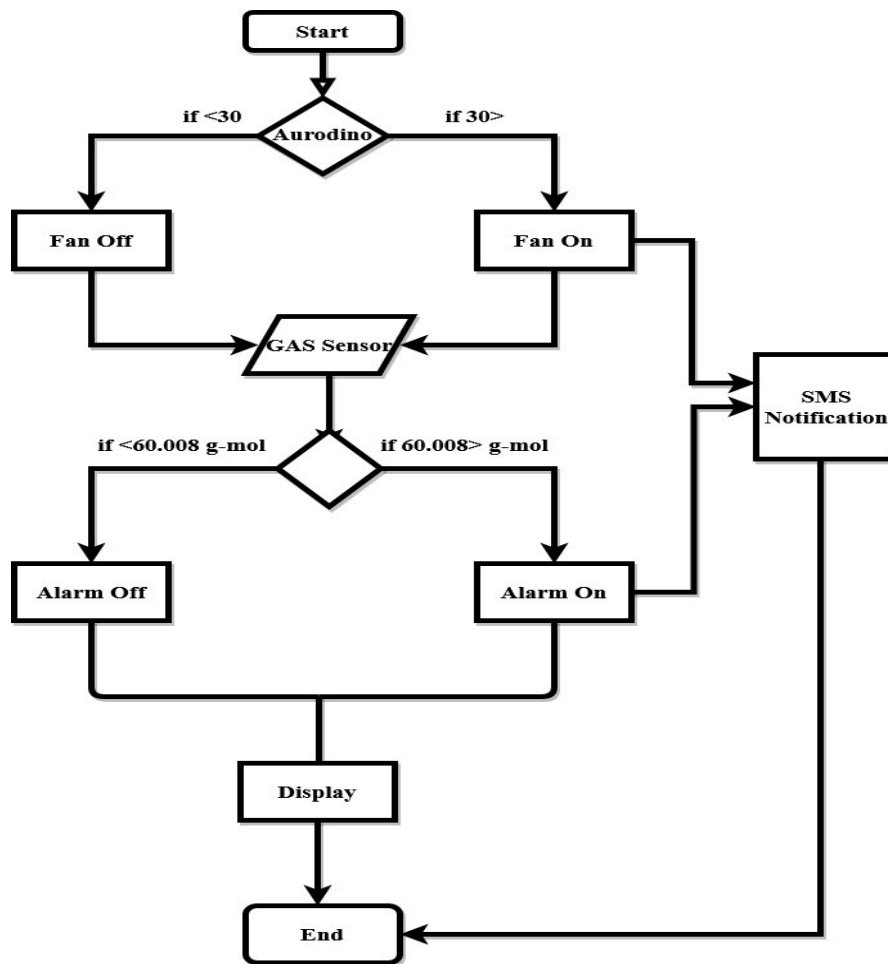


### 3.2.8 Breadboards

A breadboard is a solderless PCB for prototyping and test circuit plans. Most exceptional points of view in computerized circuits can be interconnected with the records of introducing their leads or terminals into the gaps and in while making affiliations through wires the locale proper. The breadboard has portions of metal underneath the board and confederate the gaps on the summit of the board. The steel strips are spread out as presented as follows. Note that the pinnacle and back segments of openings are associated on an endorsement plane and reduce up in inside while an authoritative gaps are connected vertically.



### 3.3 Implementation Requirements:



**Fig 3.8: Flow Chart Diagram**

This Flow chart diagram shows our Project working Process First We Start Our Project Then Aurodino Detect Temperature, If temperature Less than 30 then automatically fan off but if temperature greater than 30 by the detect our project automatically fan will on and it give us notification by GSM module in our mobile operator here we also use Gas Sensor, its work for toxic acid and CO value detection where if greater less than 60.008 <sup>g-mol</sup> its turn on alarm and send a notification by GSM Module in our mobile operator. Both of result it also show or display in projects display monitor

### 3.4 Summary of Project Cost:

Cost summarize	
Buzzer	15
MQ-02	120
GSM module	399
Dht11	120
Relay module	90
arduino uno	400

<b>9v battery</b>	40
<b>3V DC MOTOR SMALL</b>	30
<b>Small Fan</b>	10
<b>Jumper Wire 3 type (90)</b>	270
<b>I2C Display</b>	160
<b>Total Cost</b>	2173

This task in all-out cost will be not exactly just 2173BDT Taka just and It will be required just electricity its cost will be just 40-50 BDT Taka For each month as it were. We can easily sell this product 3500/- only. People can easily buy this product for their protection. It will be helped to our health by weather monitoring.

### 3.5 About Device

#### **Power Unit:**

This unit can be energized by means of the blanketed cooling power converter or two "C" batteries. If you want to manage it with batteries, we advocate you use the "IS Sensor" placing (see underneath). This will empower the batteries to closing 1-2 months. Running the unit set to "steady" connotes it will be reliably on so the batteries will truly remaining two or three days. If you want to set the unit to "consistent" for your inconvenience animal (see proposed settings underneath), layout on the use of the covered pressure gracefully. Using this will fee shut to no constantly simply want to Charged Battery or Change Battery IT price will be underneath 50-60 BDT Taka figuratively talking

**Target:** Weather Monitoring

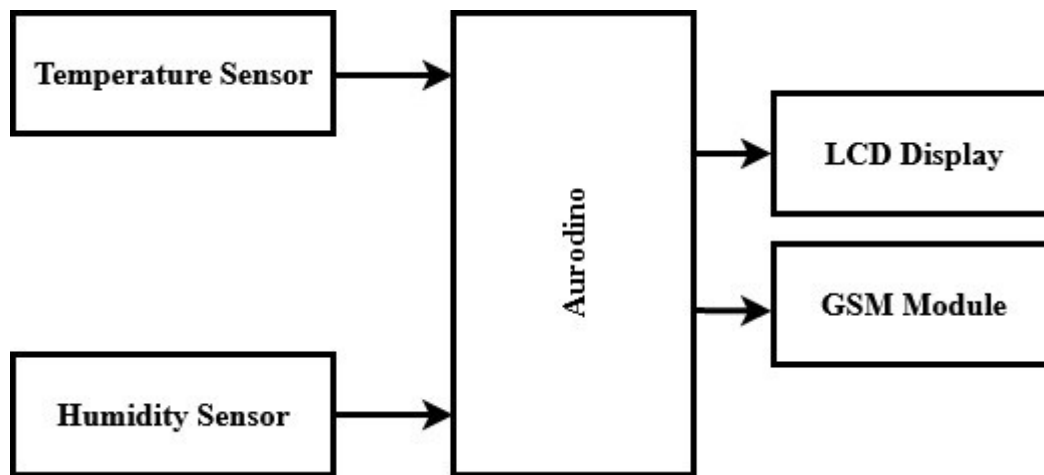
#### **Internet of Things (IOT):**

This is a future investigation of the whole world intervening in one spot. All articles, items, and sensors may be associated with sharing information raised across different regions and strategies/tests that increase site visitors, see cell success within valid limits, and confirm current security practices, etc.

According to the estimates of mechanical professionals, 50 billion things will be related to IoT by strategy for 2020. IoT carries a large number of systems of different units with different shows and different ideas in getting a complete PC of PC joint from different PCs.

#### **System Design:**





Initiated by IoT-enabled ambient checking machines, the Arduino Uno measures the boundaries of four environments using 4 specific sensors. These sensors are temperature sensors, stickiness sensors, damp sensors, and downpour diploma sensors. These 4 sensors instantly de-figure the analog built into the Cond Arduino Uno and indicate this weight show. That's why it transmits these boundaries to the Internet for use with IoT methods. The method of transmitting measurements for Wi-Fi access via the Internet was rebuilt after a constant period of time. That's why consumers want to go to a specific net internet site to see the information about this ecosystem. Venture interface and purchase records on an Internet server. Thus the male or female takes a direct statement about the environmental situation. This IoT, which is connected to the web community or the Internet with Wi-Fi, is essentially a complete environment-checking disclosure framework.

Temperature and humidity sensor:

These DHT 11 temperature and humidity sensor components motorize the sine yield. It has been worked with a very authentic 8-piece microcontroller. Its science guarantees ultimate relevance and exceptional legal draw-out adequacy. It has significantly outstanding quality, motivational feedback, disability fitting neglect, and conventional. Each DHT11 sensor thought without a doubt the aff alternative coefficients were released from the OTP programming memory, the sensors have separate symbols at the equivalent time inside and we need to head these attachment coefficients. The single-wire progressive interface gadget was created to leave any pretense of being fast and clear. Neglected size, low force, signal transmission section up to 20 meters, tempts a degree of cutful point and even the most

curious for it. The article is a 4-pin single region pin pack. Ideal connections, great twists can be prepared to address the needs of customers.

### **GSM Module:**

We use the SIM-less SIM 900 and the most acclaimed module equipped with the Arduino Uno for this educational exercise. Interface to a GSM module in Arduino is extremely fast. A GSM module is basically a GSM Modem (like SIM 900) related to PCB with genuine yields adopted from the board - country TTL Output (for Arduino, 8051, and Express microcontrollers) and RS232 output is now an interface (PC). There will also be board pins or functions to interface the micro and speakers, to predict the relative + 5V or extraordinary format related to the original and the deck. These kinds of activities go with a degree of modules. Piles of different types of GSM modems and GSM modules are discontinued due to the expiration of information available in the market. A GSM module partner at Arduino and for our focal goal in sending SMS using Arduino along this line - this is a GSM module with TRL output plans - it is reliably bright for Arduino to choose all round-framed GSM modules.

### **LCD Display:**

A liquid crystal display for maximum level integration as LCD It is true that a talent unit involves the use of liquid crystal progress. We tend to take a medium/reverse approach to display yield-related greetings and messages when we face reality/truth gadgets explicitly based on the issue. The most central type of most appealing startup that is closed by strategies is the 7 segment proposal - it has no opening destination. Significantly more important is the kind of LCD running with kindness that comes with the subtlety of extraordinary assumptions. One of the most used of all open LCD modules in the manifesto is the  $16 \times 2$  LCD module which can display 32 ASCII characters in two lines. In order to establish a careful communication between the human worlds and to list the PC world, show compressions depend on a necessary activity. Thus, these are a necessary bit of embedded systems. Show devices - follow the basic norm of cruel or little, dubious. The disadvantages are that the introductory unit has to work in show shows like 16x1 and 16x2 units except for

the photo presentation and 3D presence. The 16x1 hotshot unit will have sixteen characters and it will be in one line. The 16x2 LCD will consist entirely of 32 characters in the first 16 lines and some novels in the second line. There are two monitoring pins, it provides adaptability. Versatile nature is not bit and READ / WRITE, it is commonly used in this perspective so that they can be shortened on the ground. This unique amazing bizarre and spotted LCD in test mode. We need authentic and general controls and RS pins to send letters and documents as needed.

## CHAPTER 4

### RESULT DISCUSSION

#### 4.1 Circuit Diagram

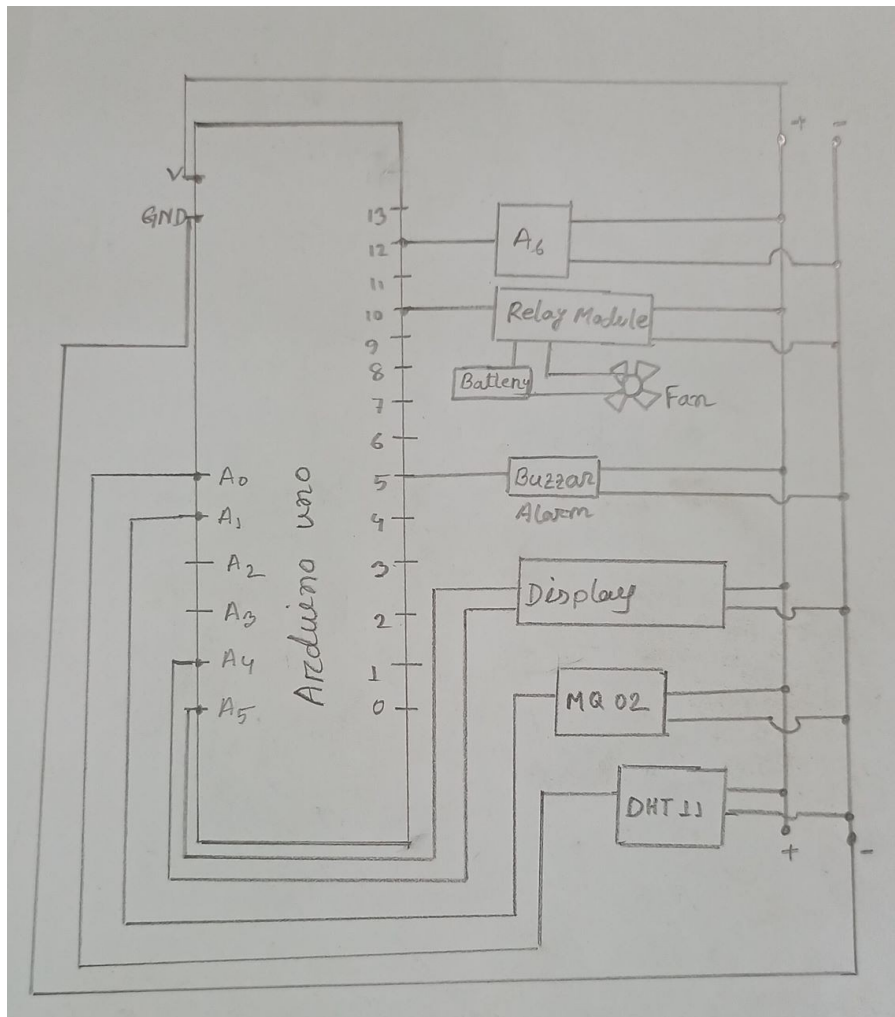


Fig3.6: IoT Based Weather monitoring system With SMS Notification system for DIU

## 4.2 Experimental Result

Project Name: IoT Based Weather Monitoring System

Field: Grap Tawon Hall Room

Place: Dattapara, Ashulia, Savar, Dhaka

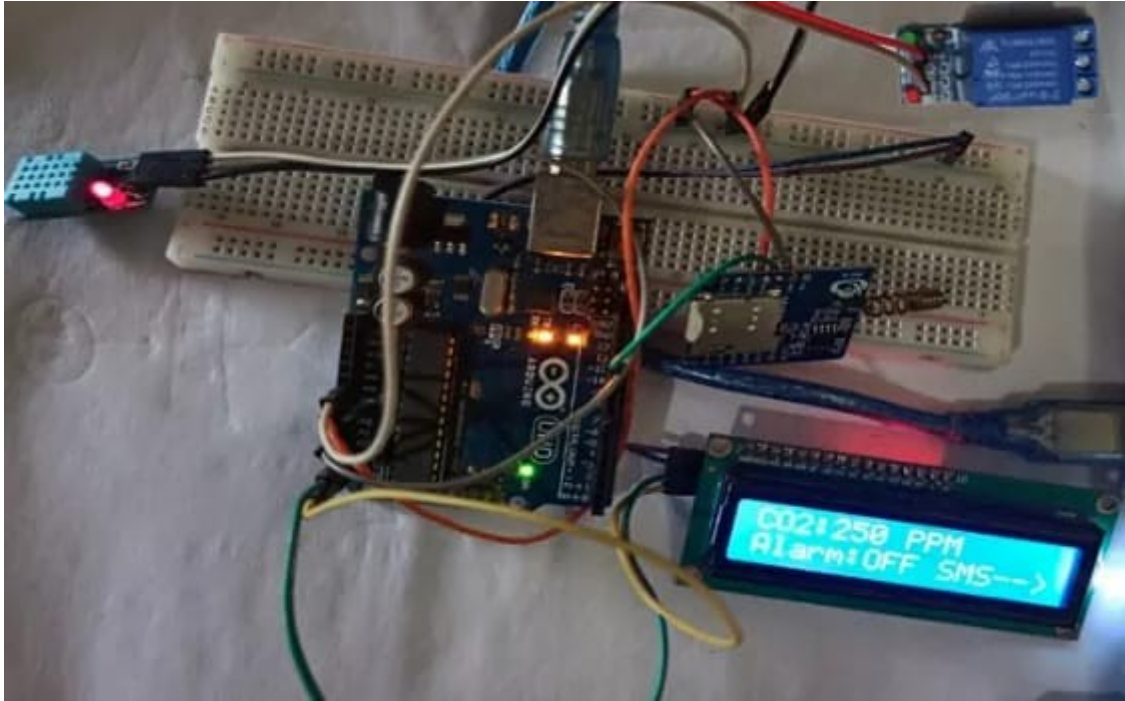
Time: 8<sup>th</sup> march 2020

Target Object: Humidity, Toxic Acid, CO<sub>2</sub>.

This project is extraordinarily beneficial for humans and moreover looking at the weather structure. We used this task in the Grap Town Hall room. Where there are about eighty people. There we noticed that when there are eighty men and women our mission is to deliver our SMS using the GSM module and then lighten the format and then fan on them to increase the toxic erosion. Be like this when there are 60 men and women below There are fans and alarms off. Clearly set a region of interest in terms of recognizing statistics from one of a kind of sensor devices. Exclusive data will be transmitted to the resulting GSM module when an authorized session is set up with the reduction of gadgets. A net server web page that will allow us to display and manage the structure. The website online web page provides statistics related to temperature, efficiency, and CO degree reserves in that particular region, setting the size of the distributed checks. Recognized information in the cloud will be taken care of. Cloud-separated records can be used to test for limitations between progressive, relentless checking factors. The stages of temperature and superstition in the air and the CO phases extend over a wide range of times. All of the above record clouds will be taken care of, for that purpose we can provide in addition to the range of temperature and sudden frustration, there is a CO range in a specific district on each occasion.

## 4.3 Output

The SP+ and SP-pins of the ISD1820 Module are associated with the terminals of the speaker. VCC and GND of the Module are associated with +5V and GND. The REC and PLAYE pins are associated with Computerized IO Pins two and three of Arduino. A savvy kind Infrared Sensor is used right here and the propelled yield of the sensor is associated with Stick four of Arduino.



**Fig 3.7: Working Circuit Diagram of Weather control system Project**

Make the associations in accordance to the circuit plan and provide the potential to the circuit. At the factor when there is no article earlier than the IR Sensor, its yield is LOW and Arduino sits idle. At the factor when there is an article earlier than the IR Sensor, its yield turns out to be HIGH and Arduino then starts offevolved recording a message through making the REC Pin HIGH for round 5 Seconds. During this time, the LED related with Pin thirteen is lit up to show that the module is recording a message. In the wake of chronicle, the message, the message is performed again through making the PLAYE stick HIGH for round 5 Seconds.

## CHAPTER 5

### FUTURE WORKs & CONCLUSION

#### 5.1 Future Works:

- ◆ One can place into sway a couple of huge sensors and go along with it to the satellite TV for pc television for laptop as an overall quality of this framework.
- ◆ Adding more prominent sensor to unveil unique environmental boundaries, for example, CO, Oxygen Sensor
- ◆ In airplane, route and naval force there is a super extent of this continuous framework.
- ◆ We will include solar board framework in our project.
- ◆ It can likewise be done in emergency clinics or clinical establishments for the show up and find out about "In actuality of Weather on Health and Diseases", for this motivation to outfit more prominent insurance cautions.

#### 5.2 Conclusion

Self-insurance (e.g., perception) is empowered to the world by preserving devices implanted in the earth. For the practical implementation, it wants to send sensor devices to the earth to collect statistics and tests. By sending sensor devices to Earth, we can properly supply the Earth for example it can collaborate on one type of article through the system. As this factor, the involved records and test effects will be released to the customer through the GSM module. An efficient, minimal effort to establish a wise approach and structure to show the situation is given more than a few fashions in this paper. Several modules are discussed in the proposed sketch factors. The Internet of Things (IoT) attempted to verify two boundaries, including the visual structure of screaming and air transmission. It similarly sent the boundary of the sensor to the cloud. This information will be useful for future investigations and can also be successfully shared in favor of leaving clients very nicely. This mannequin can also be extended to display screens in growing urban communities and modern zones for infection monitoring. To protect Mars from the widespread pollution, it offers a productive and comfortable response to electricity to escape this panic situation.

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