Digital Safe

A report submitted in partial fulfilment of the

Requirement for the award of degree of

BACHELORS OF ENGINEERING

in

__CSE BIG DATA__

Submitted By

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ABSTRACT

A brief summary of the problem identified, its social relevance, the proposed solution and the

Outcome of the project

This is the general problem of many people that they want to keep their documents or valuable things safe. But these things are not safe without any lock mechanism.

The project is related to social relevance in the manner that it help all people to protect their documents and other valuable documents. It is related to main problem of society and it will help people by solving their problems.

So we tried to find solution of the problem. We found that lock can be broken and anyone can get access to things. So we used the idea of **keypad** to enter password to unlock the door.

Also we can use the **Bluetooth** for unlocking the lock which is very easy.

During the project, arranging all materials, hardware we prepared a digital Safe that unlocks whenever right password is entered and we can also change the password.

Chapter 1

Problem Identification

Statement of the problem which is meant to be solved by the presented project and its social relevance.

As in this advancing world our society is growing very rapidly and everyone wants to grow by any means or any method anyone does not think that the way he chooses is right or wrong.

1. People have a need of some cash in hand for a urgent need in future. They need some safe which can protect their money from others.

2. Society has a fear of their important documents being stolen.

3. Many people want to steal the money to become richer.

Thus there is a need of digital safe which works on both keypad and Bluetooth.

This digital safe ensures that lock can be opened if password is right and your phone is connected to this device.

Chapter 2

Feature finalization

Capabilities and limitations of the project.

A) Capabilities of project:

1. We do not need any key for unlocking.
2. Less expensive.
3. We can change the password.
4. If anyone gets to know the password he still cannot open it without using the mobile phone.

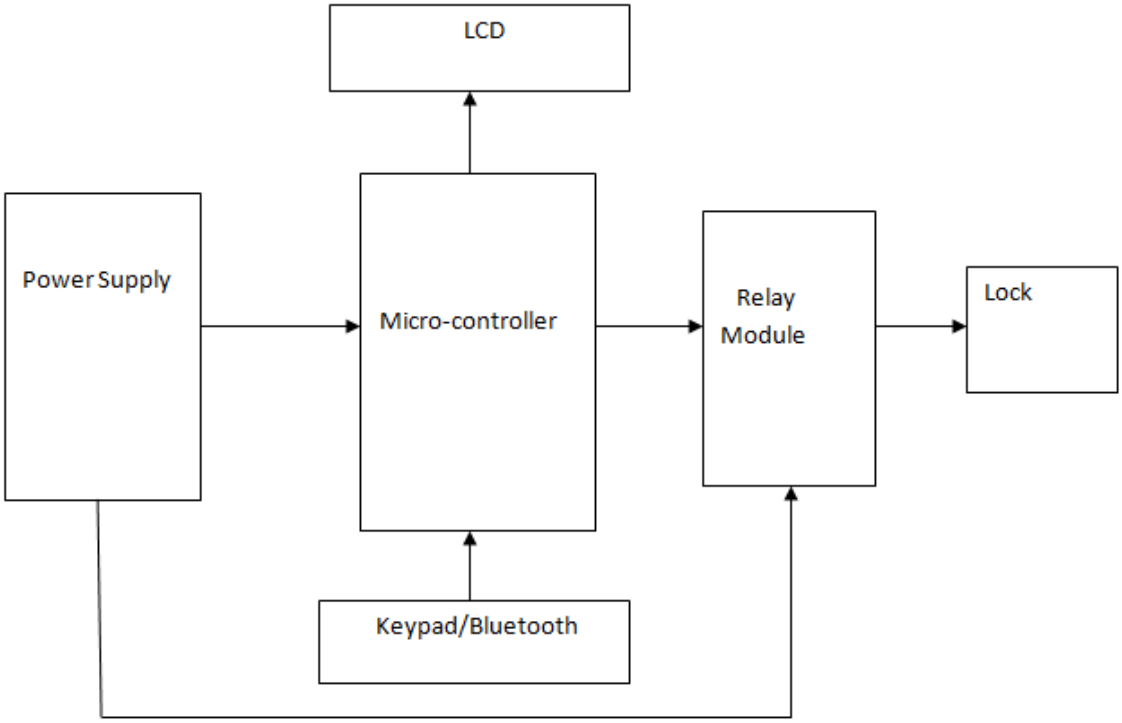
B) Limitations of project:

1. We need to give constant power supply to run Arduino.
2. Initially password set is “1234”.
3. System can not work due to loose connection.
4. If you do not give main supply to it you have to replace the battery of the system.

Chapter 3

Design Flow

Block Diagram



BLOCK DIAGRAM

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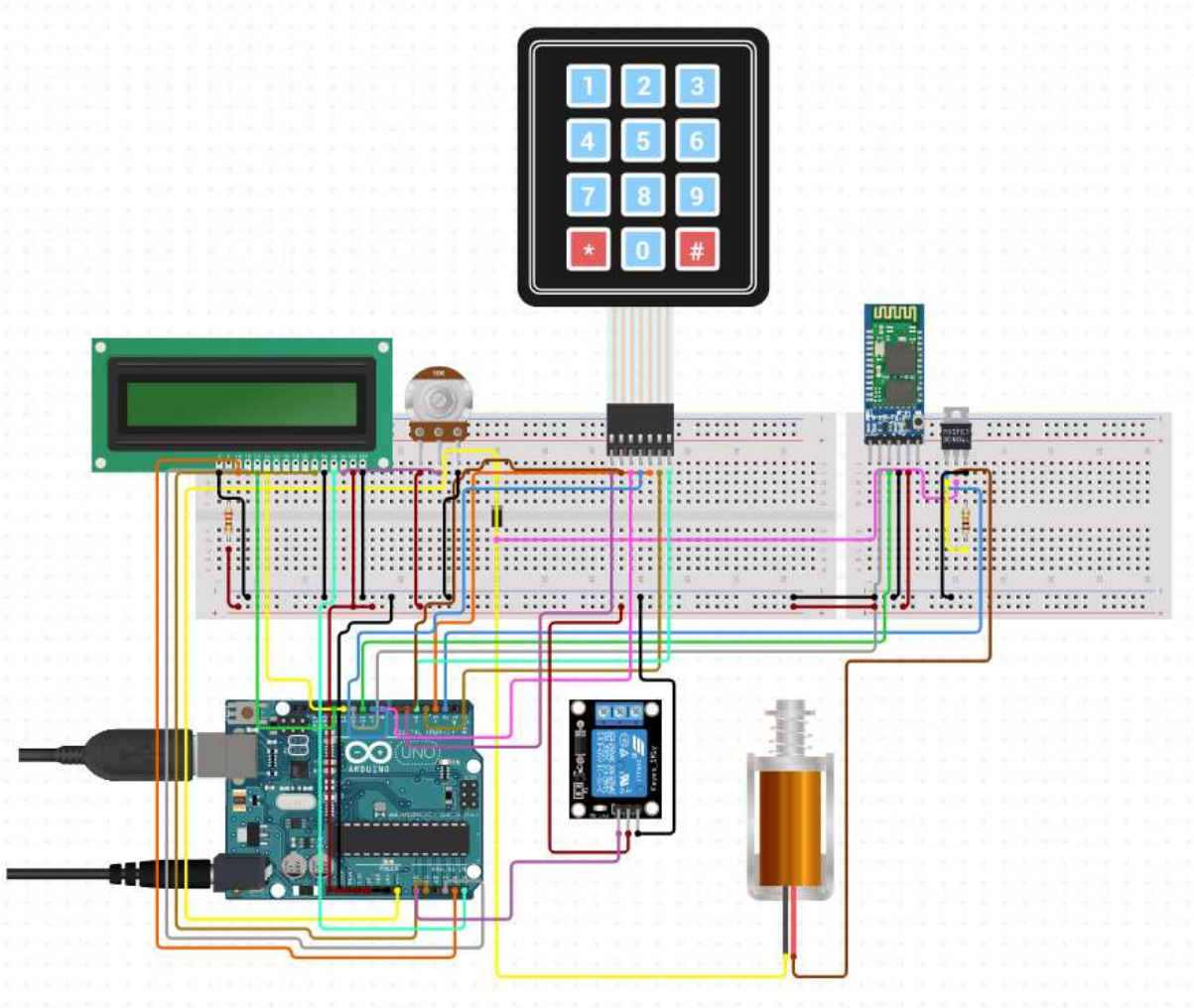
Materials

1. Arduino UNO
2. Breadboard
3. LCD Display
4. Keypad
5. DC Lock
6. Wood block
7. Potentiometer 10K
8. Resistance 220 ohm
9. Jumper wires
10. Bluetooth
11. Relay module
12. 9v battery
13. SMPS

Chapter 4

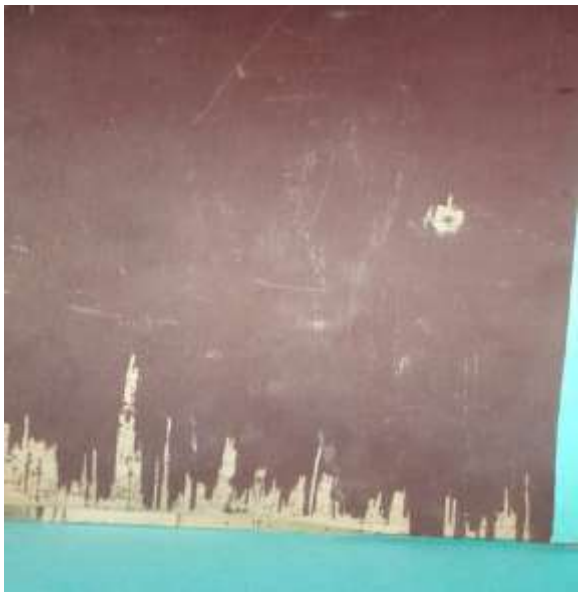
Simulation and Outcome

Circuit Diagram



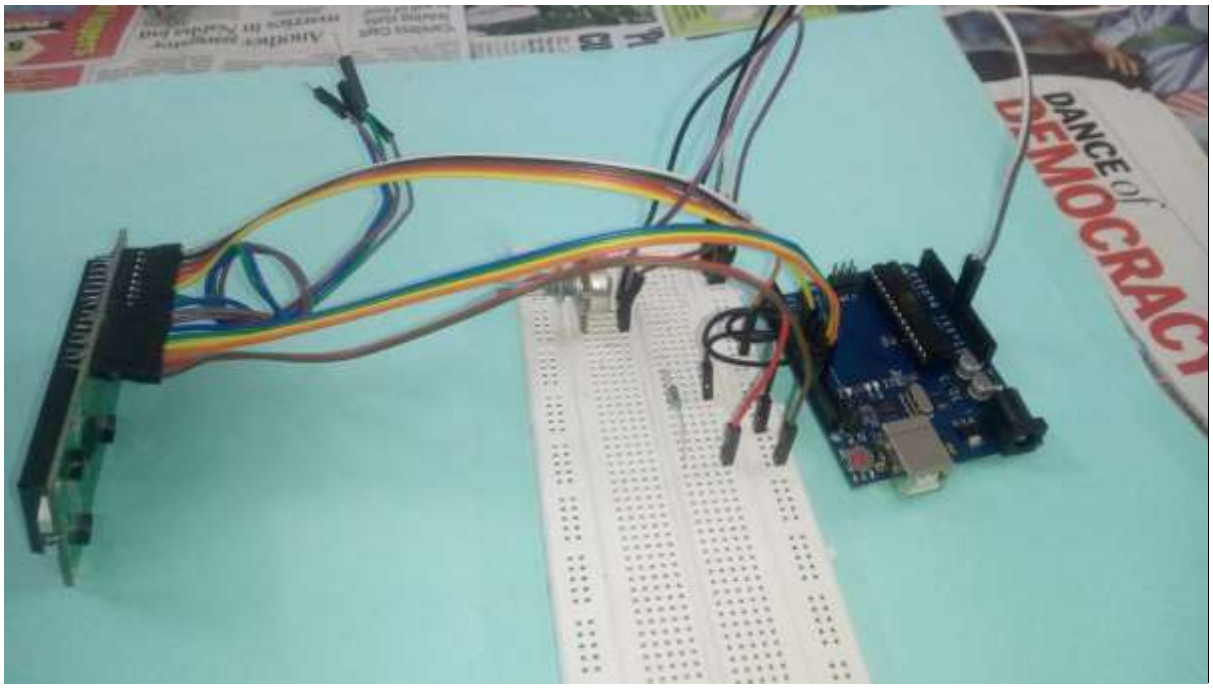
Project lifecycle

Step1: Cutting wood plank for making box.

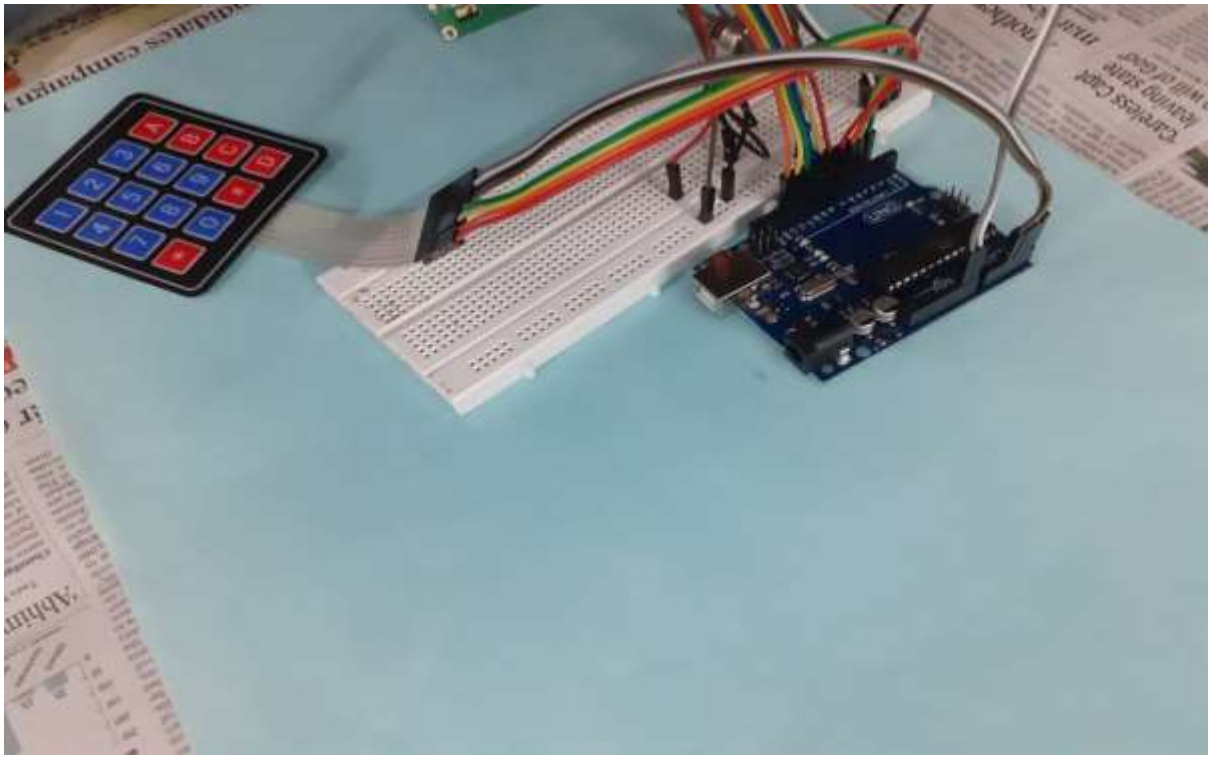


Step2: Assembling wood parts.

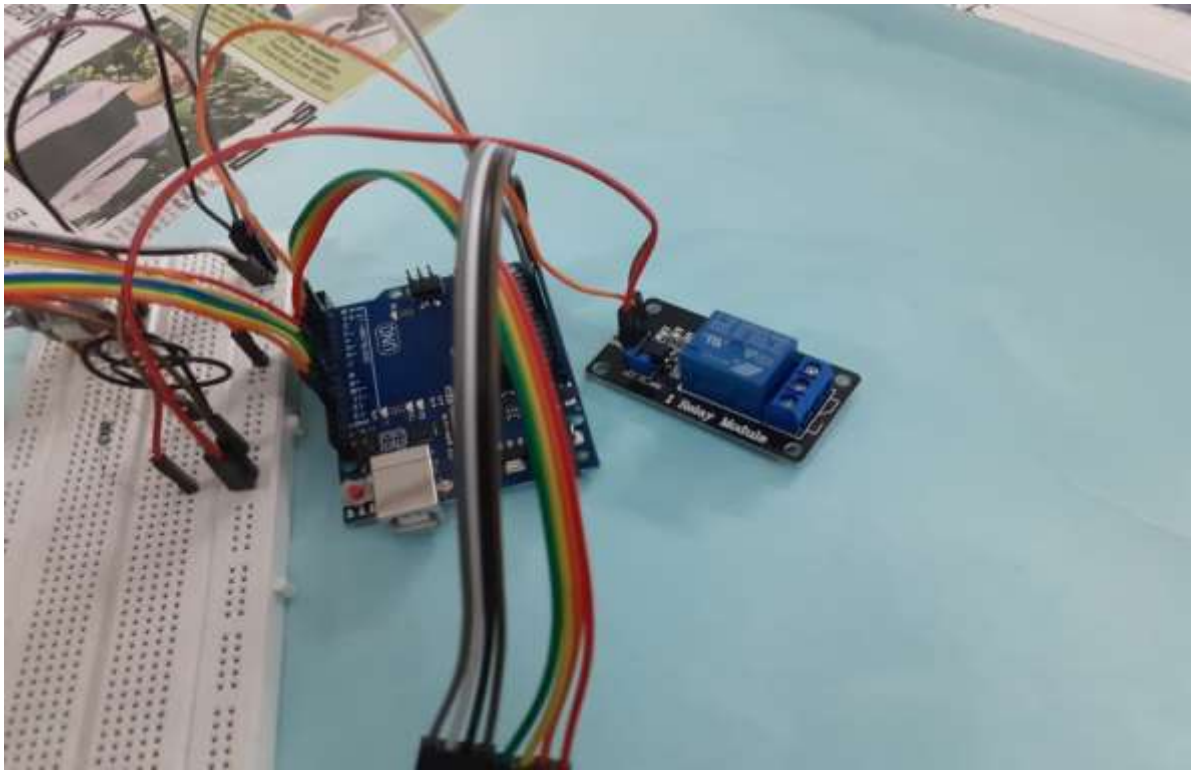
Step 3: Making connection of lcd.



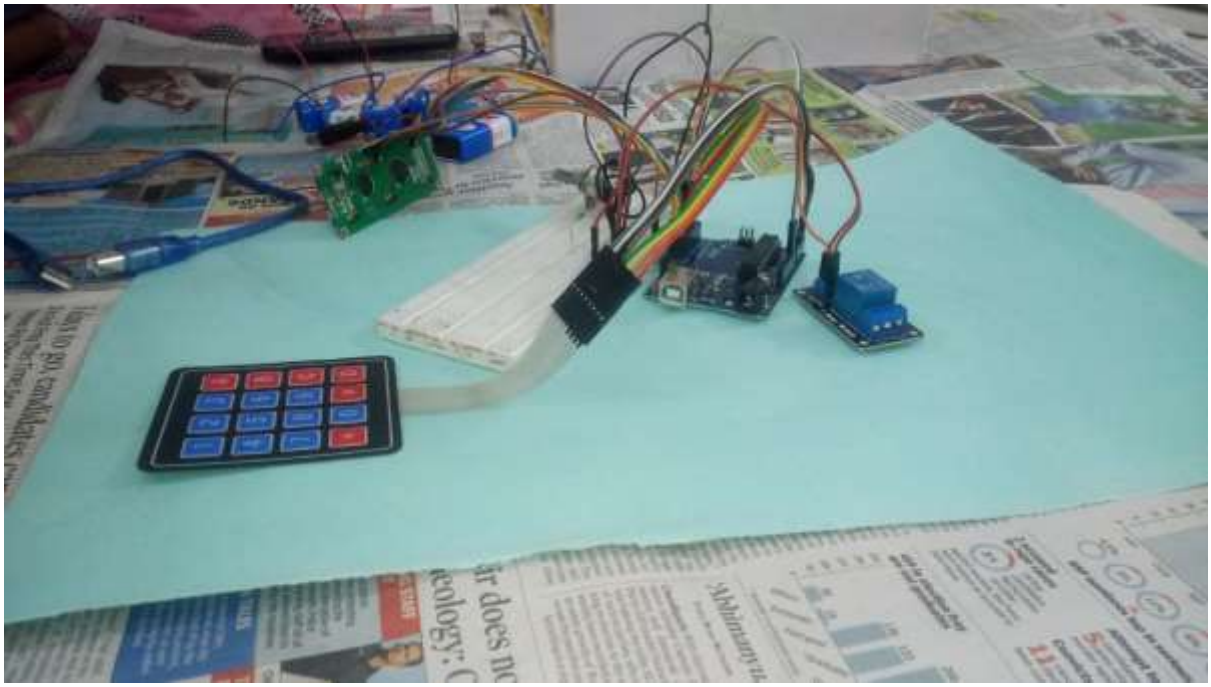
Step 4: Make connection to the numpad.

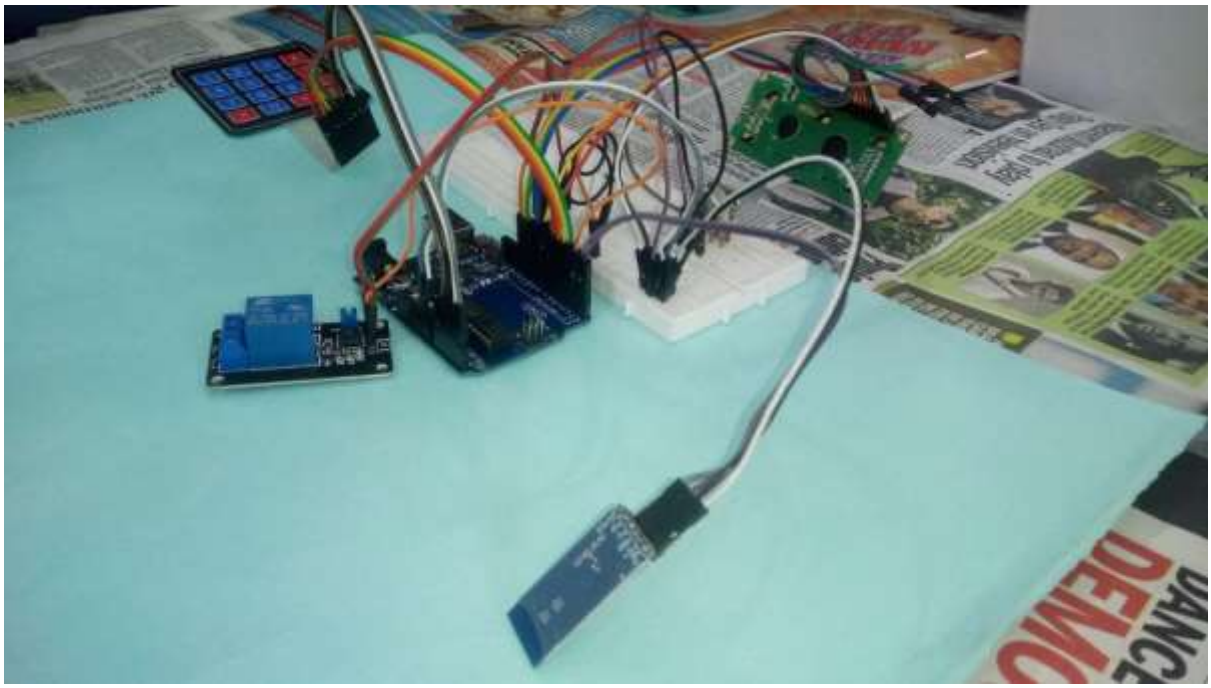


Step 4: Connecting the relay module.

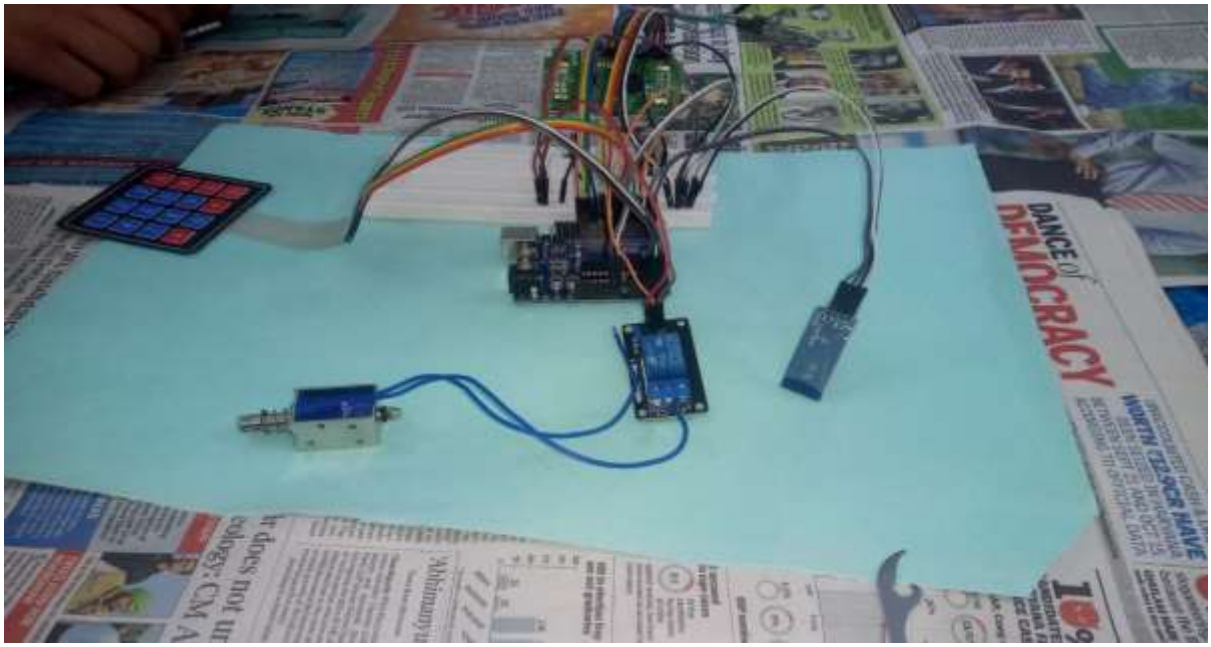


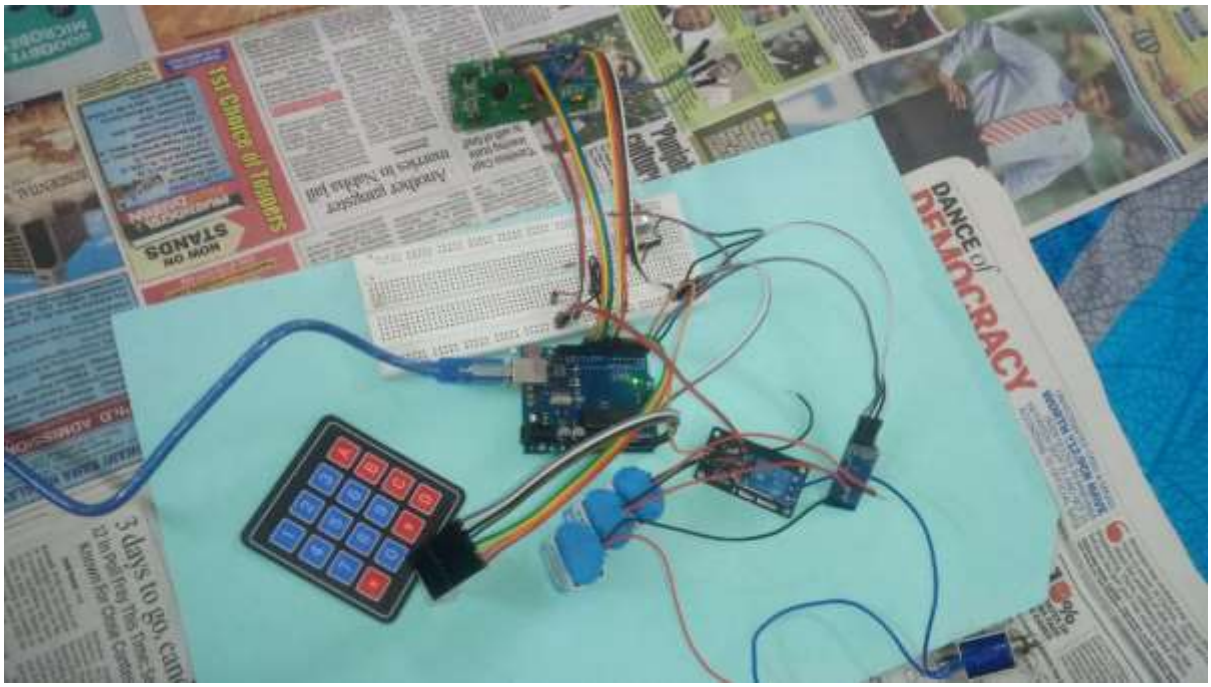
Step 5: Connecting the Bluetooth.



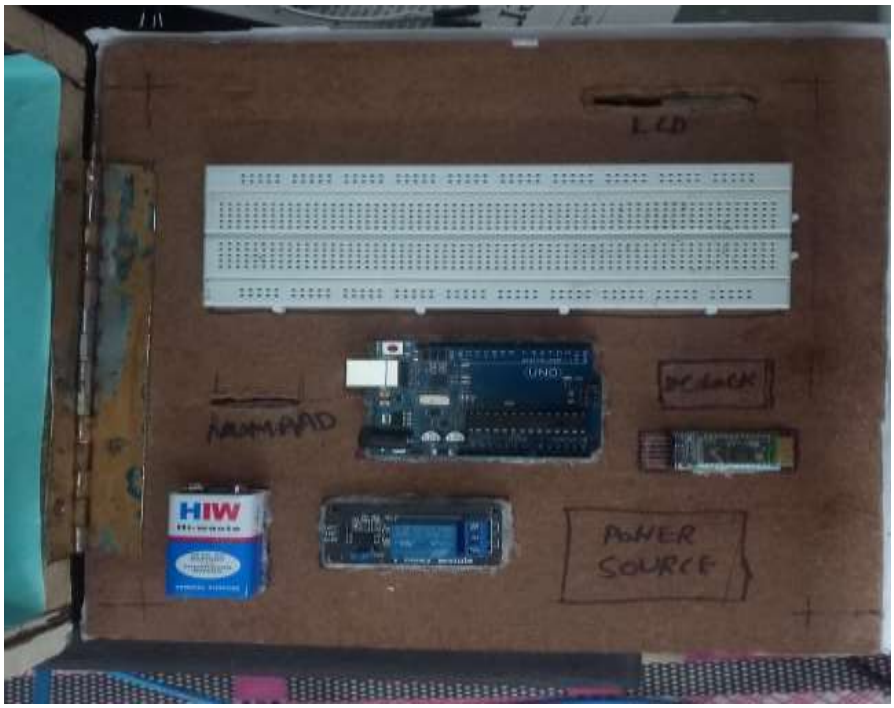


Step 6: Connecting the lock and upload the code using the pc.

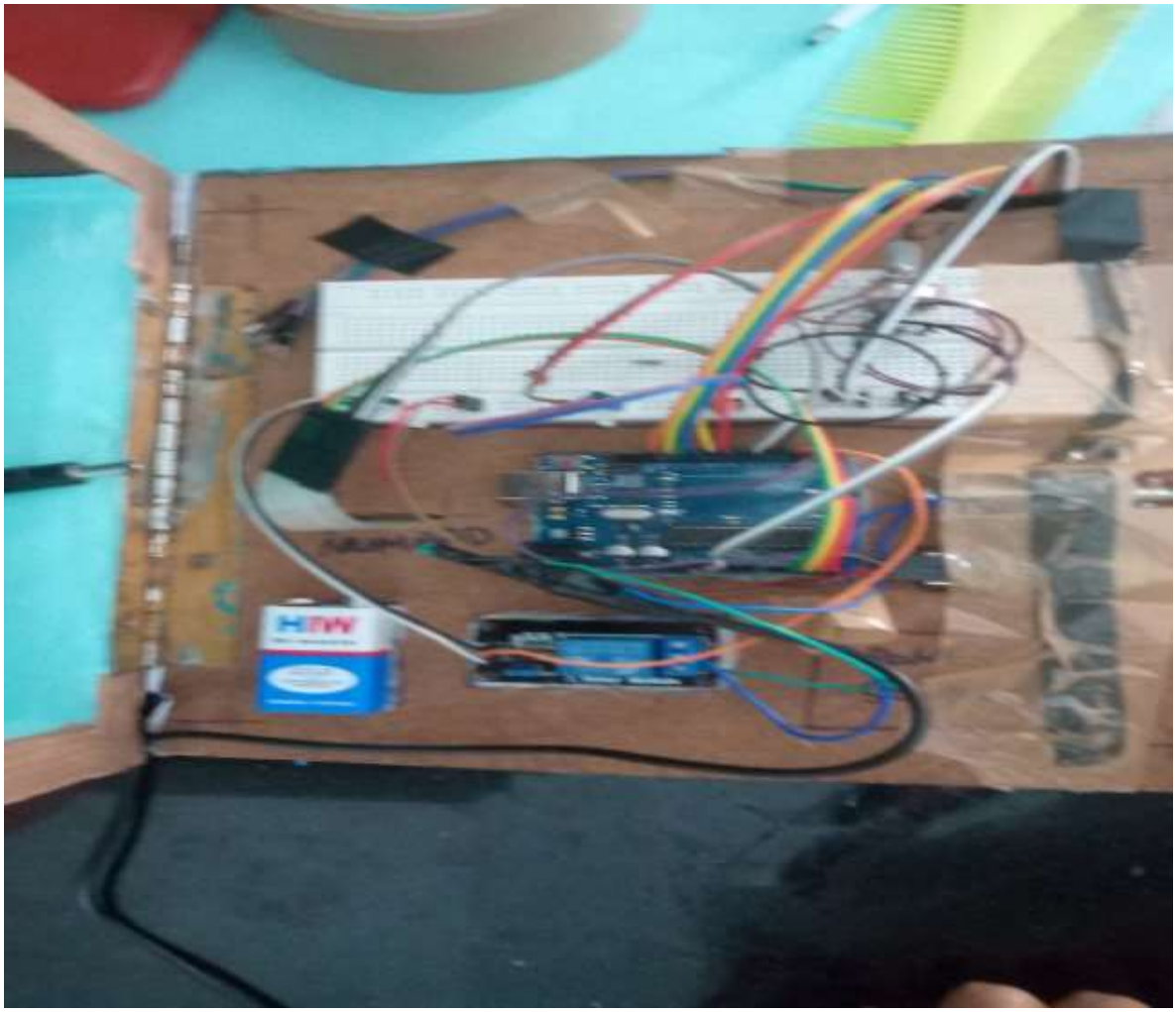




Step 7: Marking on the board and adjust the electronics component.



Step 8 Making the proper circuit.



FINAL PROJECT

Chapter 5

Conclusion and Future Scope

This digital safe is tested under many inputs of password, similarly via Bluetooth. Based on testing result this project is 100 percent working.

There is many improvements for achieving the desired features like we can use the Wi-Fi module for getting the notification of lock when it is opened or closed.

An advanced improvement that we can use is the eye scanner or fingerprint sensor for opening the lock.

References

1. https://www.arduino.cc/

Cost Analysis

Materials

1. **Arduino UNO**- It is a microcontroller which can work on both digital and analog signal. It gives high or low signal for working of any output device. It is very fast.
2. **Breadboard-** A breadboard is used to build and test circuits quickly before finalizing any circuit design. The breadboard has many holes into which circuit components like ICs and resistors can be inserted. Used to develop prototypes of electronic circuits, the boards can be reused for future jobs.
3. **LCD Display**- It is an output device which is used for displaying the data which it read from arduino.
4. **Keypad**-It is an input device which is used enter data to the arduino for the further processing of any program.
5. **DC Lock**- It is type of lock which simply works on principle of linear motion as we give power supply to it gets opened and if there is no power supply it gets closed.
6. **Wood block**- Wood block is used for making the box for the digital safe. For the digital safe.
7. **Potentiometer 10K**-It is variable resistance which is used for contrast of letter printing on the display.
8. **Resistance 220 ohm**- Resistance is used for safety purpose of lcd so that high current does not damage the lcd.
9. **Jumper wires**- These are used for simply connection from one input unit to output unit.
10. **Relay module**- It is used for converting the AC voltage to the DC voltage for the lock and also used for stopping the continuous supply of current.
11. **9v battery, 24V battery**- This acts as a power source for giving the power to the arduino.
12. **Bluetooth**. This is an input and output device which gives the signal to arduino for making the high or low signal for the relay module.
13. **SMPS –** It is used for converting the high volt ac to low dc.

Financial summary

Sr No.	Components/ materials	Price
1.	Arduino UNO	360
2.	Breadboard	50
3.	LCD Display	100
4.	Keypad	70
5.	DC Lock	290
6.	Potentiometer 10K	20
7.	Resistance 220 ohm	5
8.	Jumper wires	160
9.	Relay module	70
10.	9V battery	30
11.	24 v battery	
12.	Wood blocks	300
13.	Bluetooth	270
14.	SMPS	100
Total		1825

ARCHIVES PROJECT SUBMISSION FORM

Project Code: CU/Aug-2019/Sem____/UID_____ (To be filled by Office)

Project Name: _____

Team Members:

S.no	Name	UID	Semester	Contact No.
1				
2				
3				

Section to be filled by team leader

Status (Please tick, whichever applicable)

Working Not Working

Team leader Details:

Name _____ UID _____

Sign _____ Date _____

Section to be filled by Project Examiner(s)

Status (Please tick, whichever applicable)

☐ **Working** ☐ **Not Working**

Project Examiner Signatures:

Internal _____ Employee ID _____

External _____ Employee ID _____

Date _____