



SCHOOL OF ELECTRICAL AND ELECTRONICS ENGINEERING(SEEE)

**B(TECH) PROJECT PRESENTATION ON :
AC POWER CONTROLER WITH PROGRAMABLE INTERFACE”**

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OVERVIEW:

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- CONCLUTION

1.

'INTRODUCTION'

“RECAP FROM REVIEW 2”

INTRODUCTION

- The firing angle control of thyristors is done by the microcontroller, according to the desired percentage entered by the user. Based on this input the microcontroller will automatically adjust the power delivered to the lamp through a solid state switching mechanism.
- This system overcomes the faults in the present system and provides solution for light illumination control.
- This system is built by using an 8051 microcontroller and based on the principle of firing angle control of
- thyristors, which in turn can control the illumination of lamp. An LCD display unit is used, which displays entered percentage of the illumination through a matrix keypad.

OBJECTIVE

RECAP FROM PROJECT 2

OBJECTIVE:

- The main objective of this work is to vary the percentage of power supply by means of phase angle variation of the conduction period through the setting of different firing times corresponds of different firing angles.

At the end of the work we will able to :-

- Have the full understanding of firing angle.
- Understand the application of TRIAC and SCR in power electronics.

METHODOLOGY

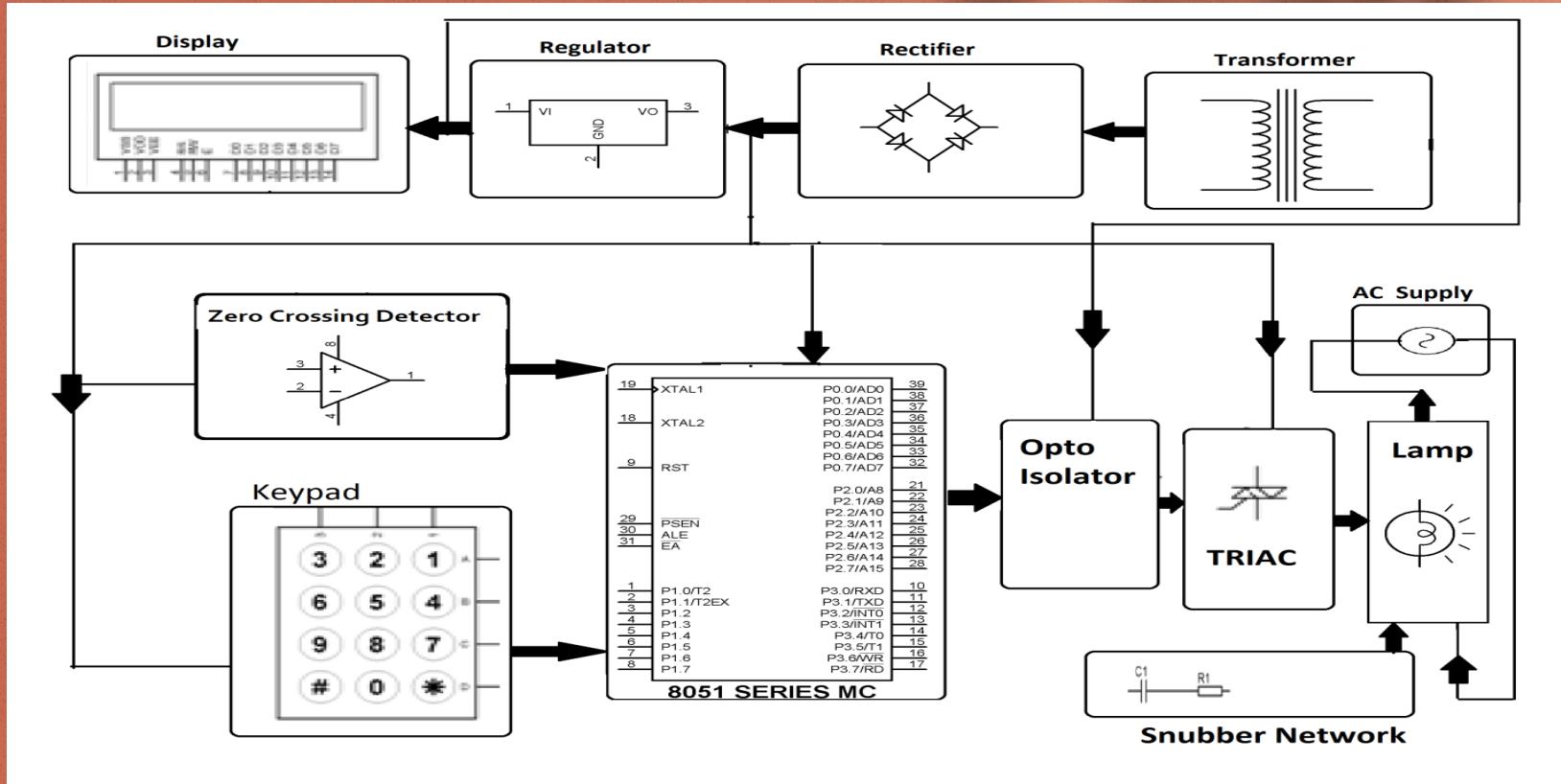
METHODOLOGY

- Ac power control with thyristor usinig microcontroller is designed to control AC power flow across load .
- This project is designed using AT85s52 microcontroller and zero crossing detection circuit
- Phase angle control method is used for AC power control with thyristor .
- Thyristor is used as a switch to control flow of power
- AT85s52 microcontroller is usd to detect zero crossing and to generate pulse signals at a specific angle for thyristors .

CIRCUIT DIAGRAM

RECAP FROM REVIEW 2

BLOCK DIAGRAM:



LIST OF COMPONENTS / SOFTWARE/TOOL USED

COMPONENTS REQUIRED:

Hardware Specifications

- **8051 series Microcontroller**
- **Transformer**
- **LCD**
- **Diodes**
- **keypad**
- **TRIAC**
- **Opto Isolator**
- **Lamp**

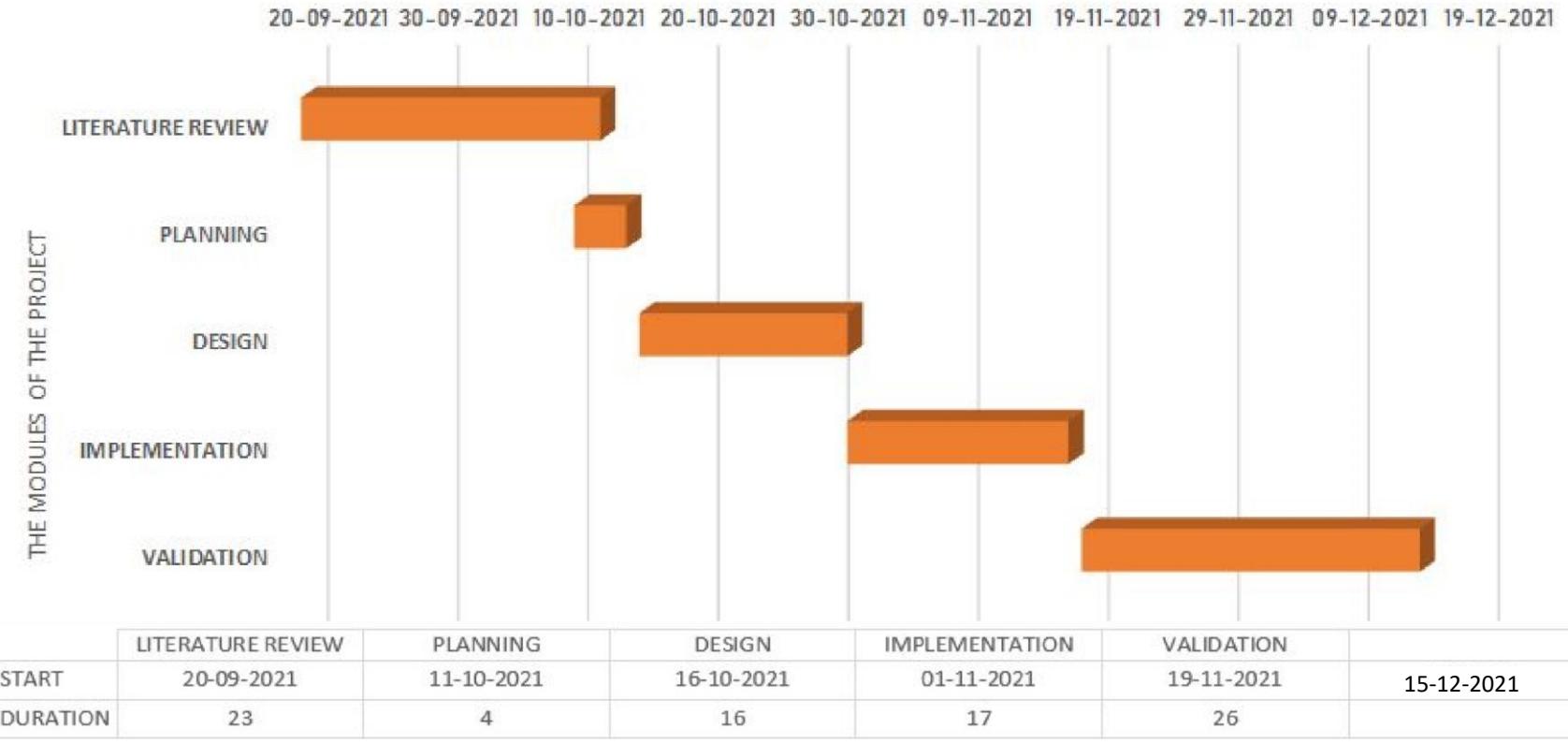
Software Specifications

- Keil µVision IDE
- MC Programming Language:
- Embedded C

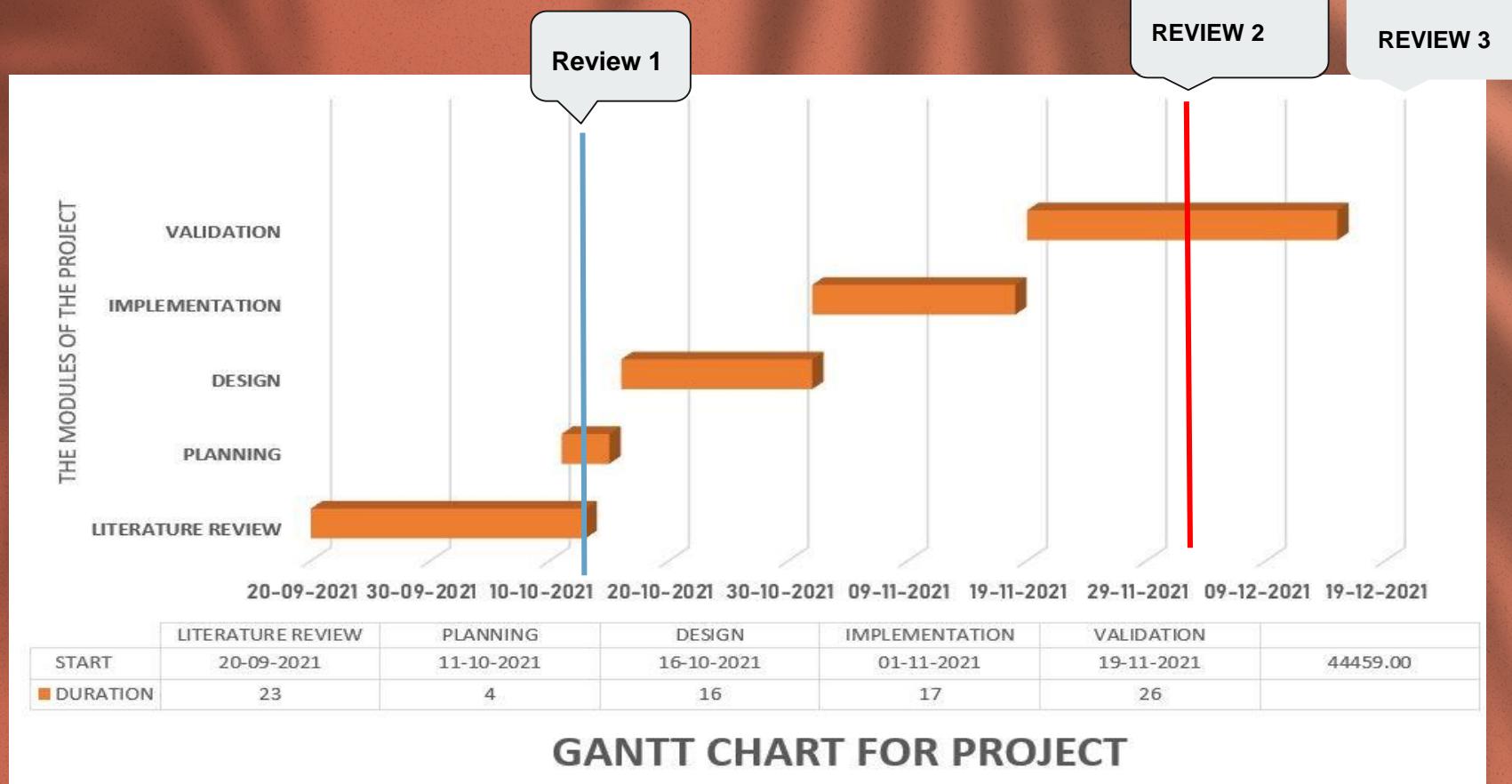
WORKED DONE TILL NOW

EXPLAINED BY - GIANT CHART
REPRESENTATION

GANTT CHART OF THE PROJECT WORK PLAN REVIEW 1

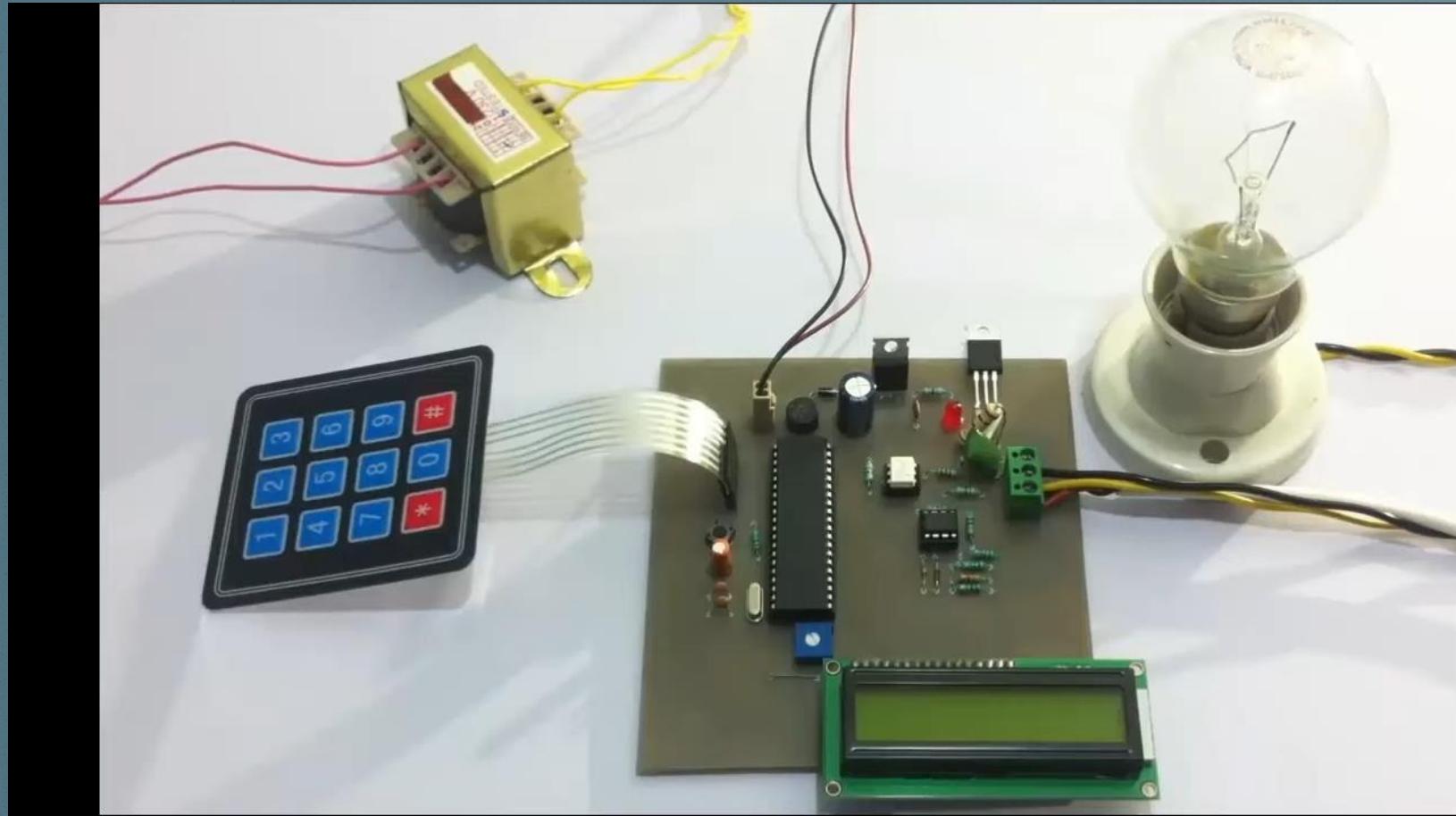


GANTT chart representation of the work plan

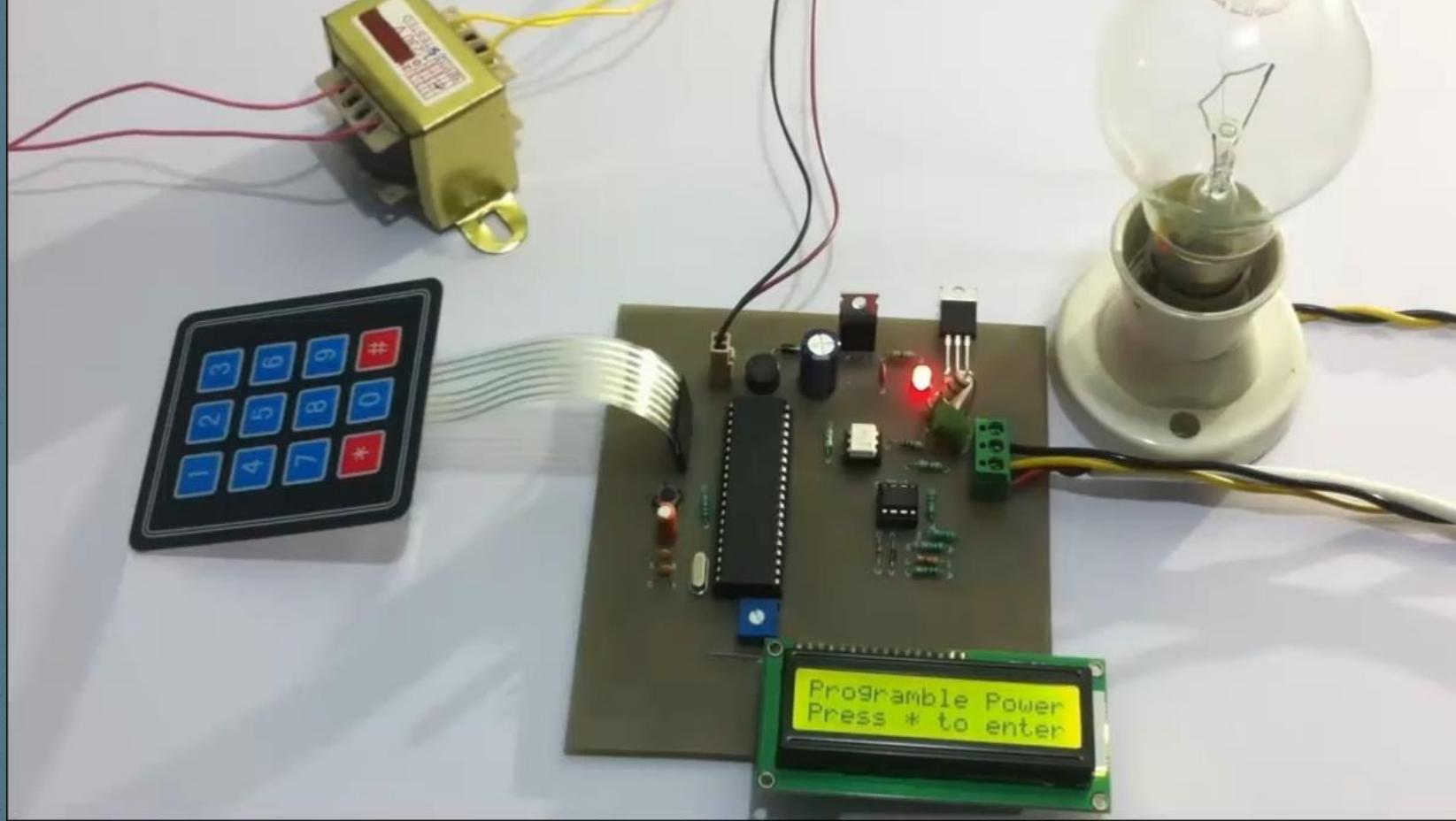


FULL EXPLANATION OF PROJECT

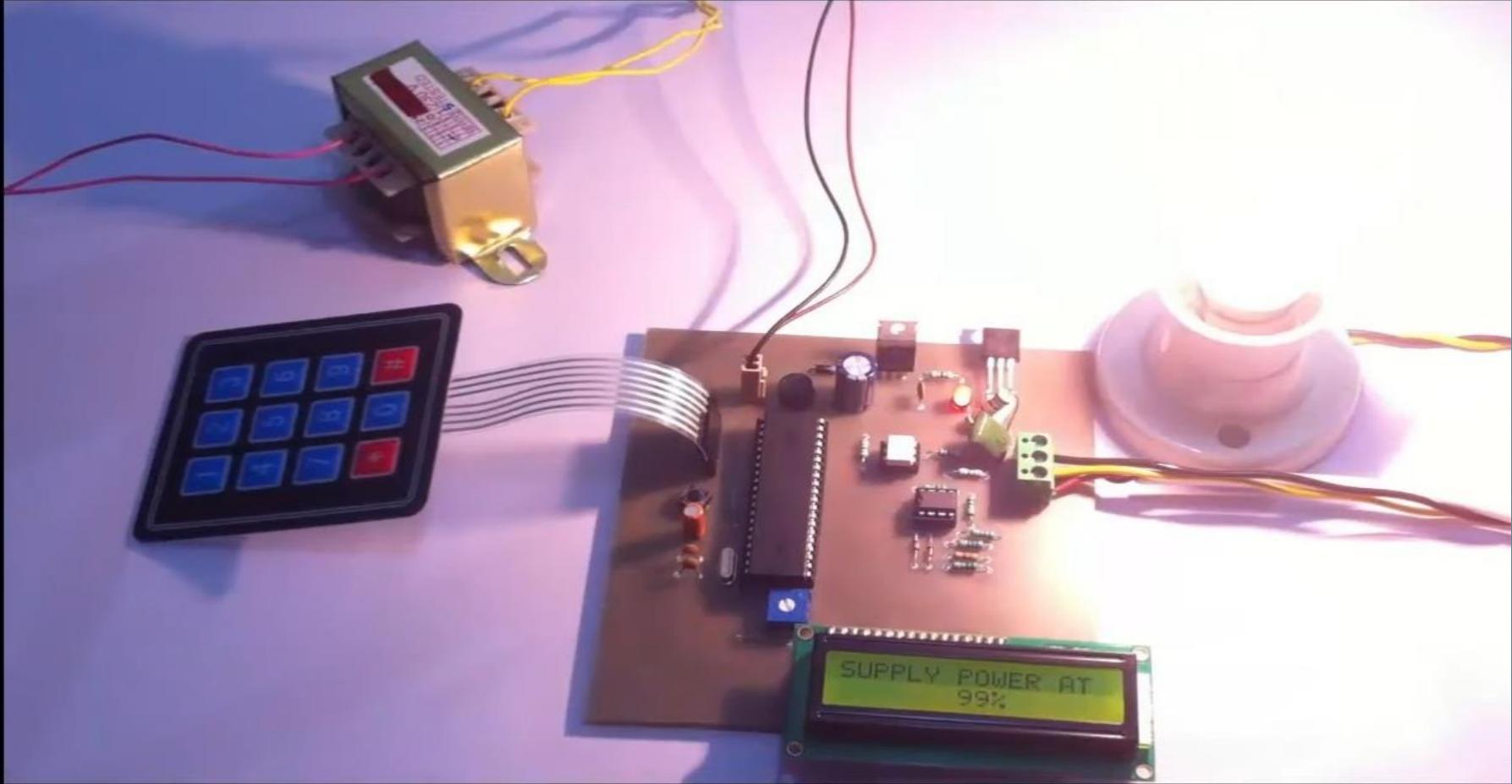
IN SLIDE SHOW



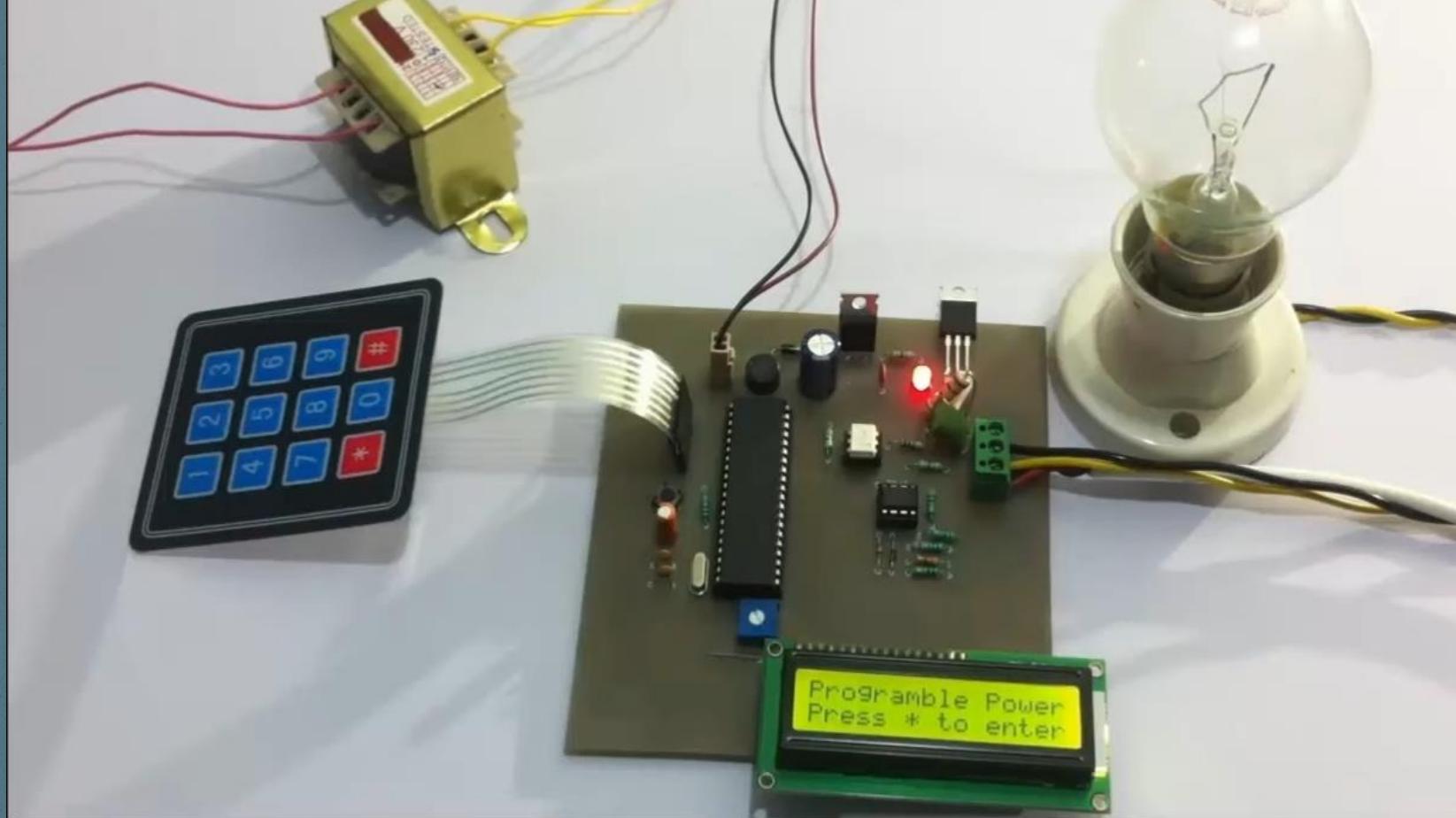
- THIS IS OUR WORKING MODEL IMAGE .
- LETS PUT ON THE SWITCH .



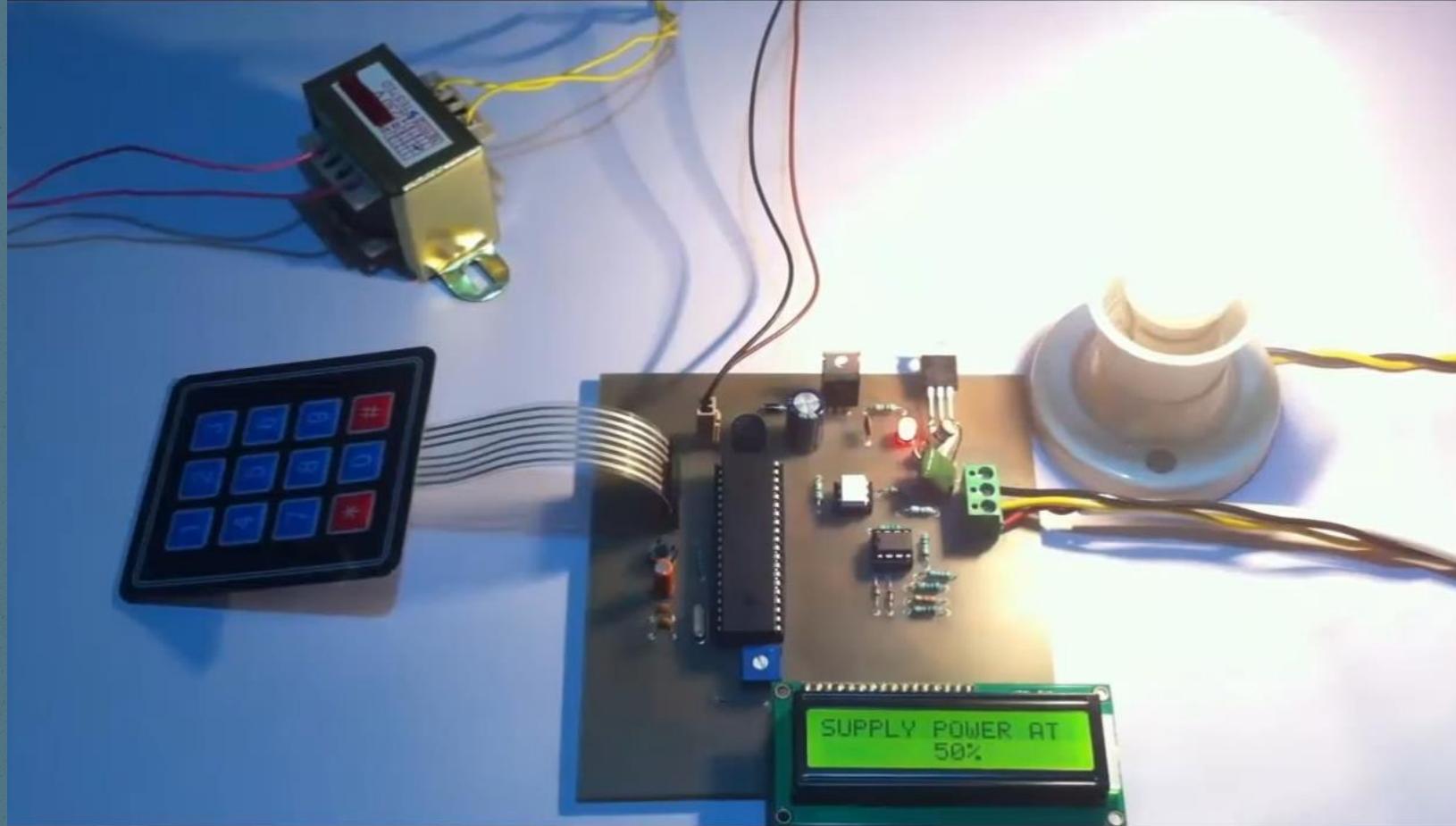
- When the switch on the red light of model on .
- First we have to enter * from keypad to enter the required percentage of intensity of light.



- Lets put 99% of the intensity and see the intensity of light.
- The bulb glow at the highest intensity,
- To cancel the operation we need to press * from keypad and again press * to give new percentage



- Again we have to give a required percentage from keypad and see the intensity of light.



- Lets say we input * and change the required percentage.
- Lets say 50 % power

PLANNING

TLL NOW

PLANNING WE HAVE DONE TILL NOW

- As mentioned earlier, our trained model is ready and is working successfully.
- As for what's now the model must be able to detect all the intensity for required percentage signs and give relevant output with respect to that.
- The work done till now has all been a smooth sail right from downloading the data set to training the model, however we were successfully able to eradicate the errors and bugs in the project that we had written till now.

EXPECTED OUTCOME

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- The work is on controlling the AC power by using the concept of firing angle control of thyristors .
- One can enter the required percentage of power supply through a keypad .
- The input is provided to a microcontroller of 8051 family that initiate the firing angle to adjust the load power .
- For matching the power to the required one, a TRIAC is used in series with the AC load .
- A LCD screen is used to display the power percentage that is provided by the user

CONCLUSION

CONCLUTION

- This work is used at controlling the AC power by using the concept of firing angle control of thyristors.
- With this device one can enter the required percentage of power supply through a keypad

REFERENCE

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THANK YOU!