GSM BASED UNDER GROUND CABLE FAULT DETECTION SYSTEM WITH DISTANCE LOCATOR

AIM:

Design and Development of GSM based underground cable fault detection system with distance Locator.

PURPOSE:

Cable maintenance system is very important can helps while damaged at any place. Generally, most of the cables are under ground and detecting faults is very tough and need manual work to find faults. To avoid these kinds of issues we want to implement electronic system that can detect cable fault in various distances and send to remote location through GSM modem. We can implement same system for three phases. Here project title is GSM based underground cable fault detection system with distance locator.

DESCRIPTION:

Here Arduino is heart of system and can communicate with GSM module through UART communication. Three relays controlled by Arduino which are connected to digital pins. Few switches connected in series order with resistors those can create faults at various distances.

WORKING:

In this project four switches connected in single line in series order with resistors and swathed by relay. When any switch gets OFF then that means fault occurred. Resistance varied when switch gets OFF. Based on switch OFF, it refers fault location. Other two lines works in the same way and two more relays switched line to line. Total these three lines working as like R-phase, Y-phase and B-phase. When fault occur in any location then SMS will be send to mobile.

TECHNICAL SPECIFICATIONS:

HARDWARE:

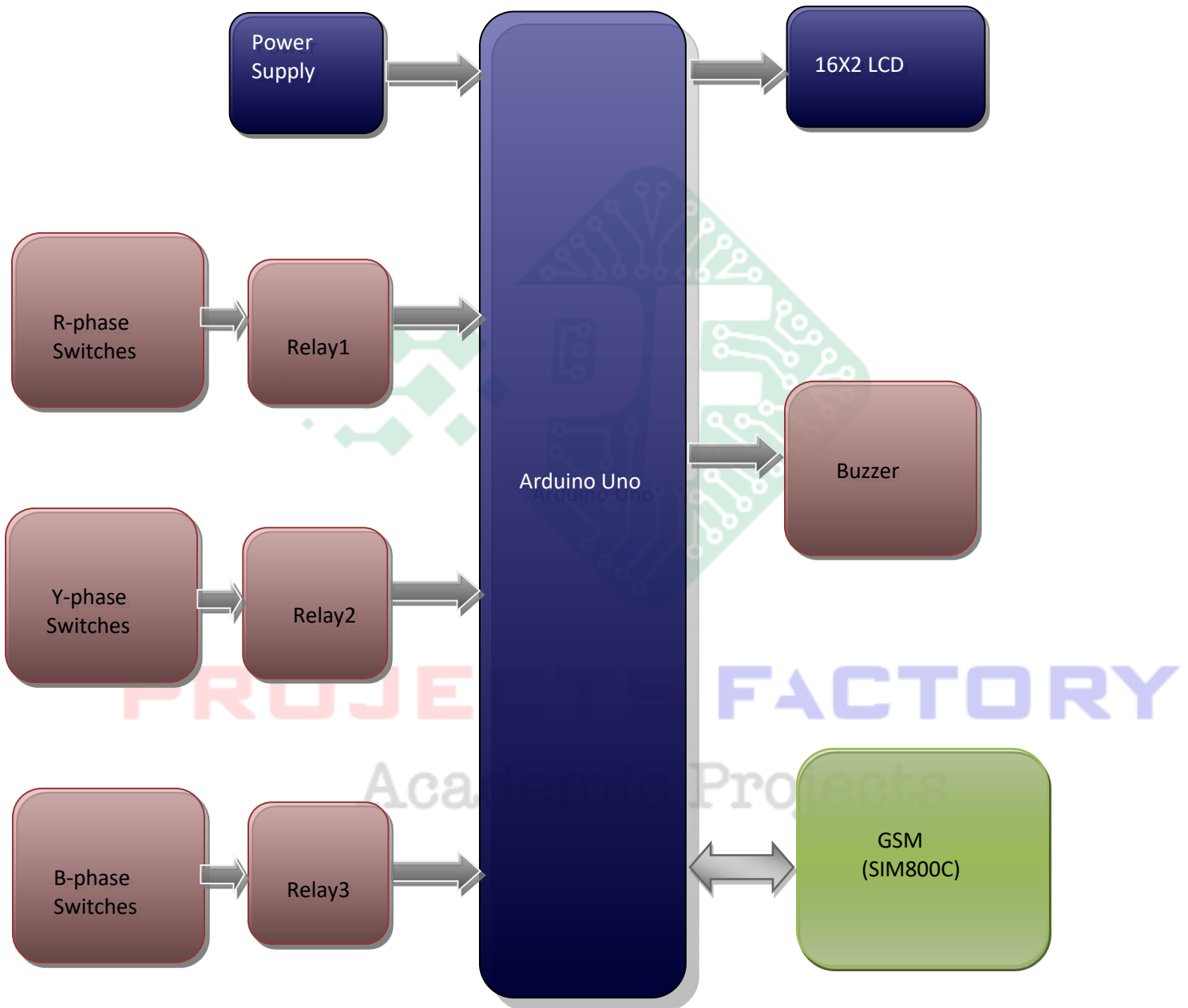|		
Microcontroller	:	Arduino Uno
Crystal	:	16 MHz
LCD	:	16X2 LCD
GSM Module	:	SIM800C
Relay	:	12V DC
Switched	:	slide switches
Power Source	:	12v 2 amp Adaptor

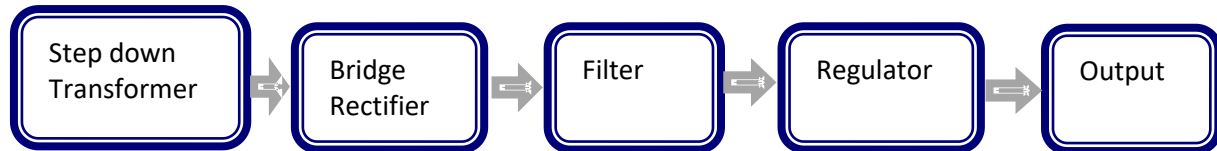## SOFTWARE:

Arduino IDE

Proteus based circuit diagram

APPLICATIONS:

➢ Underground cable fault detection

➢ Wireless cable fault indicator

➢ Transmission lines management

➢ Power management applications

BLOCK DIAGRAM:

POWER SUPPLY BLOCKDIAGRAM:

Step down Transformer → Bridge Rectifier → Filter → Regulator → Output

INTERFACES COVERD:

- We have covered GSM module (SIM800C) interfacing
- Relays and Switches