

## DTMF BASED HOME APPLIANCES CONTROL

### AIM:

Design and Development of DTMF based Home Appliances control.

### PURPOSE:

There are so many wireless technologies available around the world. But DTMF is cheapest and high reliable among all. DTMF is built in feature of mobile. So that here mobile converts into remote and establish communication between system and user. Here we develop DTMF based home appliances control using Arduino.

### DESCRIPTION:

This project includes DTMF module (CM8870), which is connected to Arduino digital pins. DC fan and AC bulb controlled by relays which are connected to Arduino digital pins.

### WORKING:

Here we control home appliances using mobile phone through DTMF technology. DTMF have provision with audio jack. Mobile phone connected to DTMF audio jack. Any key pressed in dial pad then it converts into DTMF tone. DTMF tones converts into 4 bit number format. By pressing keys in dial pad loads will be ON and OFF. AC bulb and DC fan controlled by dial pad numbers. Loads status will display on 16X2 LCD display.

## TECHNICAL SPECIFICATIONS:

### HARDWARE:

Microcontroller	:	Arduino Uno
Crystal	:	16 MHz
LCD	:	16X2 LCD
DTMF Module	:	CM8870
Relay	:	12v DC Coil type
Bulb	:	AC 230V
DC fan	:	12V/5V DC
Power Source	:	12v 2 amp Adaptor

### SOFTWARE:

Arduino IDE

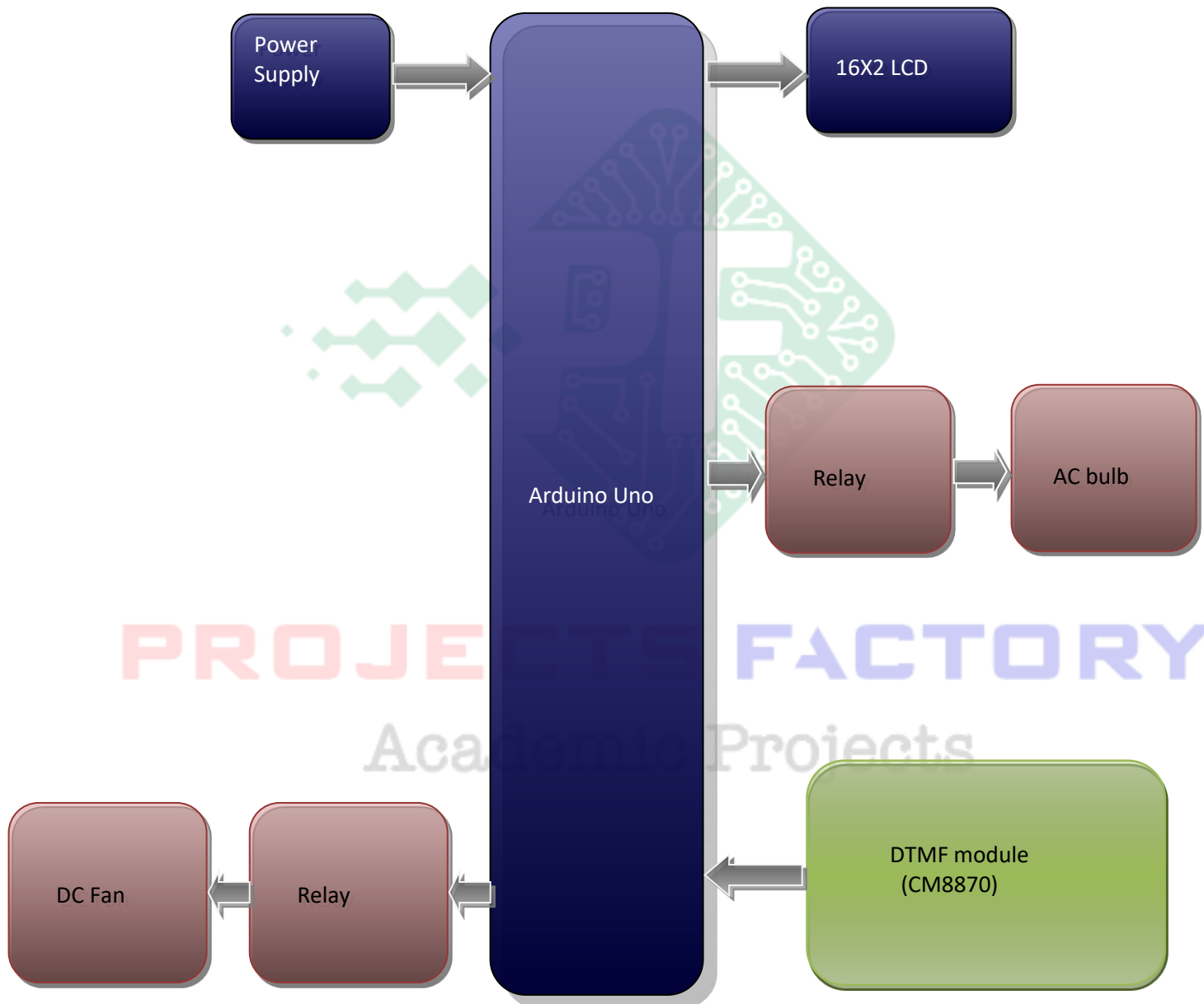
Proteus based circuit diagram

### APPLICATIONS:

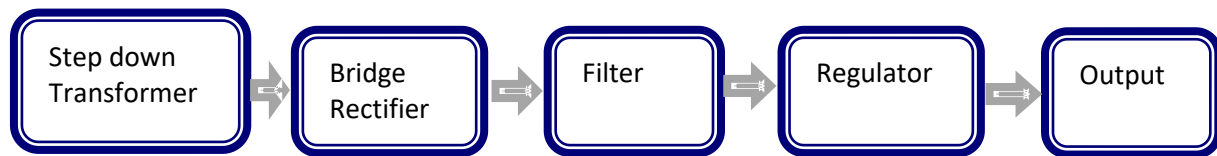
- Home Applications
- Industrial Applications

**PROJECTS FACTORY**  
Academic Projects

**BLOCK DIAGRAM:**



## POWER SUPPLY BLOCKDIAGRAM:



## INTERFACES COVERED:

- We have covered DTMF module (CM8870) interfacing
- AC bulb and DC fan interface

**PROJECTS FACTORY**  
Academic Projects