

## **MEMS GSM BASED PATIENT MONITORING SYSTEM**

### **AIM:**

Design and Development of MEMS GSM based patient monitoring system.

### **PURPOSE:**

Technology plays major role in every sector. Human health is very important among all aspects. Technology brings more applications in health sector. Especially for patients who are physically paralyzed needs more support from others. But serving others is not possible in this modern world. We want to design and develop a system that can assist physically paralyzed people through SMS commands and through voice also. Proposed project title is MEMS GSM based patient monitoring system using Arduino.

### **DESCRIPTION:**

Arduino connected with GSM modem through serial communication. MEMS sensor (ADXL335/345) interfaced with Arduino through I2c port. APR33A3 – Voice module connected to Arduino digital pins.

### **WORKING:**

MEMS sensor can detect moments of hand or body based on its placement. When it moves in various directions corresponding X-axis and Y-axis will vary. Based on these values Arduino can play corresponding audio command through APR module. If patient need water then he has to tilt his Hand in forward direction. Like this he can perform three more commands. Like “need medicine”, “need food” and “need help”. Based on hand moment voice will play and SMS will go to corresponding mobile number.

## TECHNICAL SPECIFICATIONS:

### HARDWARE:

Microcontroller	:	Arduino Uno
Crystal	:	16 MHz
LCD	:	16X2 LCD
MEMS – Accelerometer	:	ADXL335/345
GSM Modem	:	SIM800C/A/L
Voice Module	:	APR33A3
Power Source	:	12v 1 amp Adaptor

### SOFTWARE:

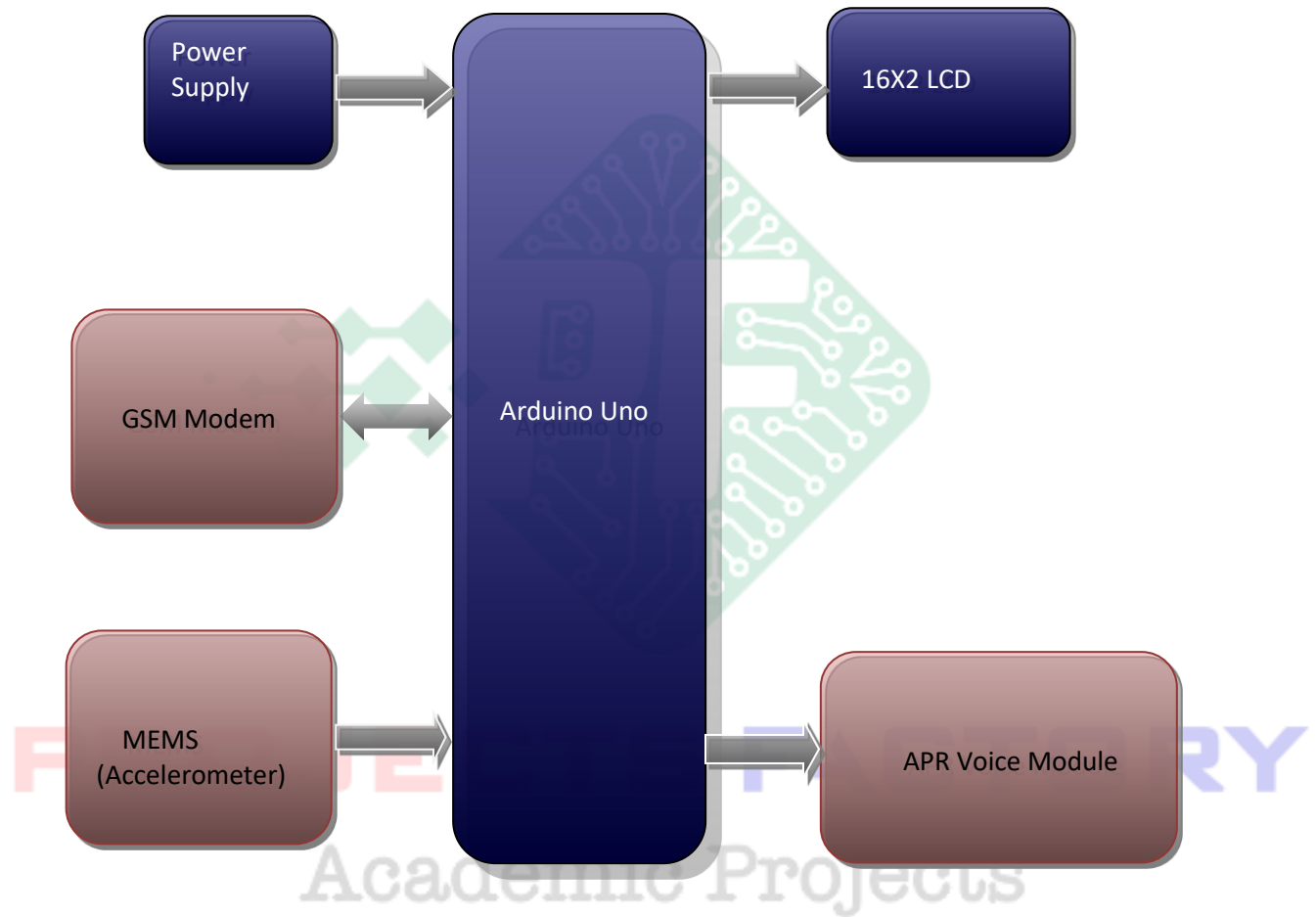
Arduino IDE  
Proteus based circuit diagram

### APPLICATIONS:

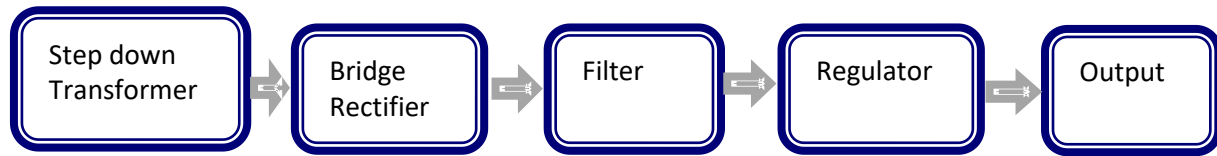
- Hospital Applications
- Physically challenged Applications
- Paralysis Patient Health Monitoring system

**PROJECTS FACTORY**  
Academic Projects

**BLOCK DIAGRAM:**



## POWER SUPPLY BLOCKDIAGRAM:



## INTERFACES COVERED:

- We have covered Arduino and APR voice module interface
- GSM module and MEMS sensor interface



**PROJECTS FACTORY**  
Academic Projects