

GSM GPS VEHICLE TEMPERATURE AND BATTERY MONITORING SYSTEM

AIM:

Design and Development of GSM GPS vehicle temperature and battery monitoring system.

PURPOSE:

All kind of vehicles have dash board. These dash boards displaying vehicle parameter. But dash boards display only abnormal sensor (parameter) conditions. Even high end vehicles also couldn't display live data. Here we propose solution like GSM GPS based vehicle parameter monitoring. Using this we can get vehicle parameters data from remote location along with GPS location.

DESCRIPTION:

This project includes GSM (Sim800C) module, which is connected to Arduino through UART. GPS module connected to Arduino through UART interface. Temperature sensor (LM35) connected to Arduino analog pin. Fuel level Sensor connected to Arduino digital pins. Battery voltage sensor connected to Arduino analog pin. Engine oil leakage Sensor (conductive sensor) connected to Arduino digital pin.

WORKING:

Here temperature sensor (LM35) reads engine temperature. Fuel level sensor monitors fuel level of vehicle. Voltage sensor reads battery voltage of vehicle. Oil leakage sensor placed bottom of engine and can detect any oil leakage. Arduino displaying all sensors data on LCD. It sends all sensors data to registered mobile number as SMS. SMS contains sensors data and GPS location. Using GPS location data user can monitoring vehicle position on Google Maps. If any sensor is abnormal then also SMS will send to registered mobile number. If user wants to know all parameters in any particular time then he can send request SMS to Arduino to get all parameters data.

TECHNICAL SPECIFICATIONS

HARDWARE:

| | | |
|--------------------|---|--------------------------|
| Microcontroller | : | Arduino Uno |
| Crystal | : | 16 MHz |
| LCD | : | 16X2 LCD |
| GSM | : | SIM800C |
| GPS | : | NEO-6M |
| Temperature sensor | : | LM35 |
| Voltage Sensor | : | Resistor voltage divider |
| Power Source | : | 12v 2 amp Adaptor |

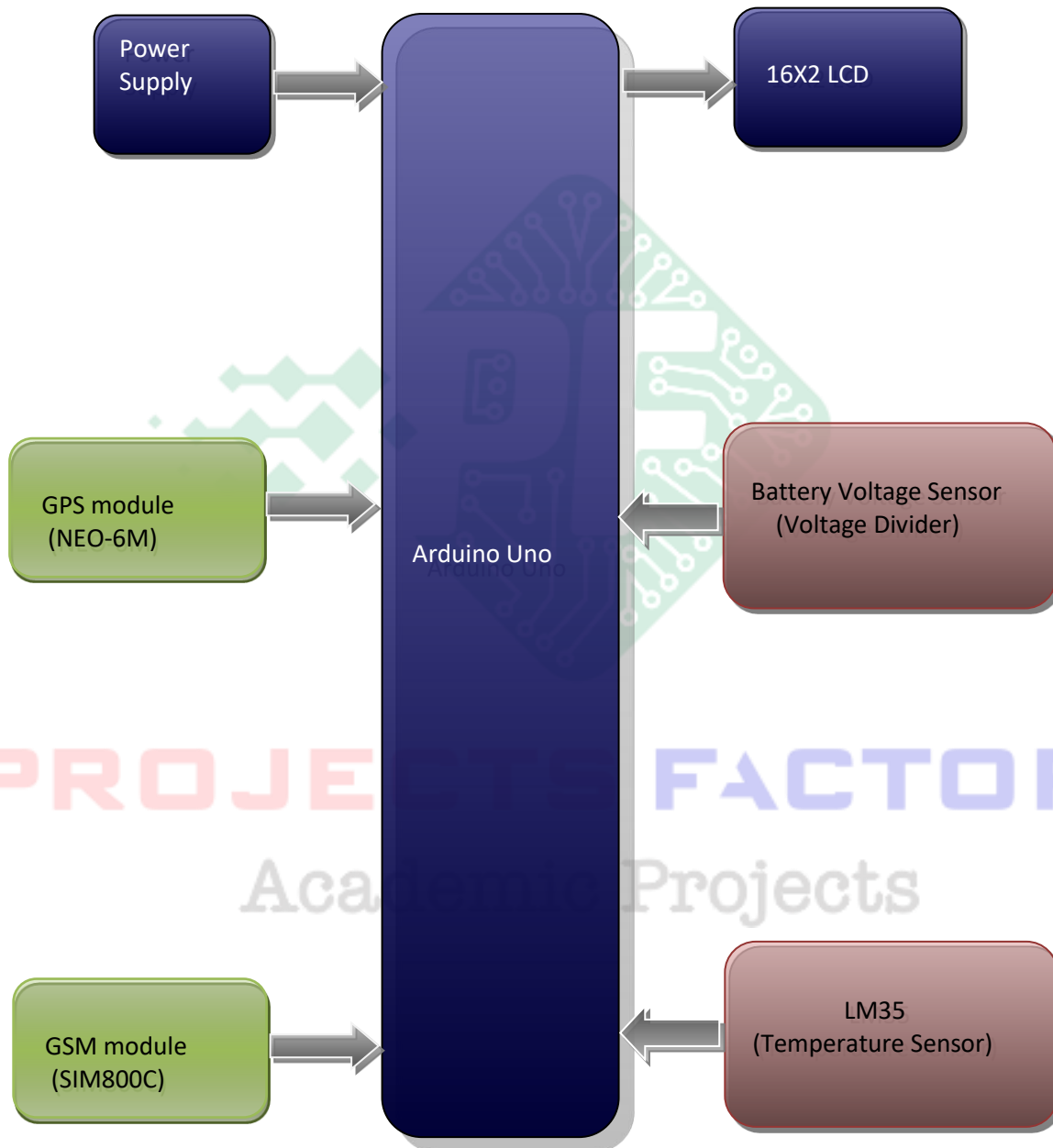
SOFTWARE:

Arduino IDE
Proteus based circuit diagram

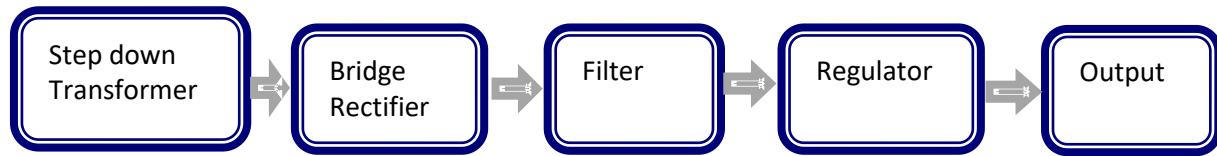
APPLICATIONS:

- Fleet Management
- Tracking Application
- Commercial Vehicle Maintenance
- Personal Vehicle Maintenance

BLOCK DIAGRAM:



POWER SUPPLY BLOCKDIAGRAM:



INTERFACES COVERED:

- We have covered GSM (SIM800C) module interfacing
- GPS (NEO-6M) module interfacing
- Sensors like LM35, Level Sensor (HCSR04), voltage divider

PROJECTS FACTORY
Academic Projects