GSM GPS BASED SCHOOL BUS TRACKING AND ACCIDENT DETECTION

AIM:

Design and Development of GSM GPS based school bus tracking and accident detection.

PURPOSE:

School buses are transport vehicle of children and not like regular transport vehicles. We should provide security to school buses unlike regular transport vehicles. Small accidents cause big damages for children. Along with school bus tracking here we add accident sensor to monitor any accidents. Here we propose solution like GSM GPS based school bus tracking and accident detection.

DESCRIPTION:

This project includes GSM (Sim800C) module, which is connected to Arduino through UART. GPS (NEO-6M) module connected to Arduino UART. Limit switch connected to Arduino digital pin to detect accidents.

WORKING:

In this project school bus can be tracked in three ways. Also it has Accident sensor. If accident happens then SMS will send to registered mobile number along with GPS data. For every 60 seconds time interval GPS location of school bus will send to registered mobile number. By sending request to Arduino it sends GPS location to registered mobile number. Here registered mobile number could be school management or parent's mobile number.

TECHNICAL SPECIFICATIONS

HARDWARE:

Microcontroller	:	Arduino Uno
Crystal	:	16 MHz
LCD	:	16X2 LCD
GSM	:	SIM800C
GPS	:	NEO-6M
Accident detection sensor	:	Limit Switch
Power Source	:	12v 2 amp Adaptor

SOFTWARE:

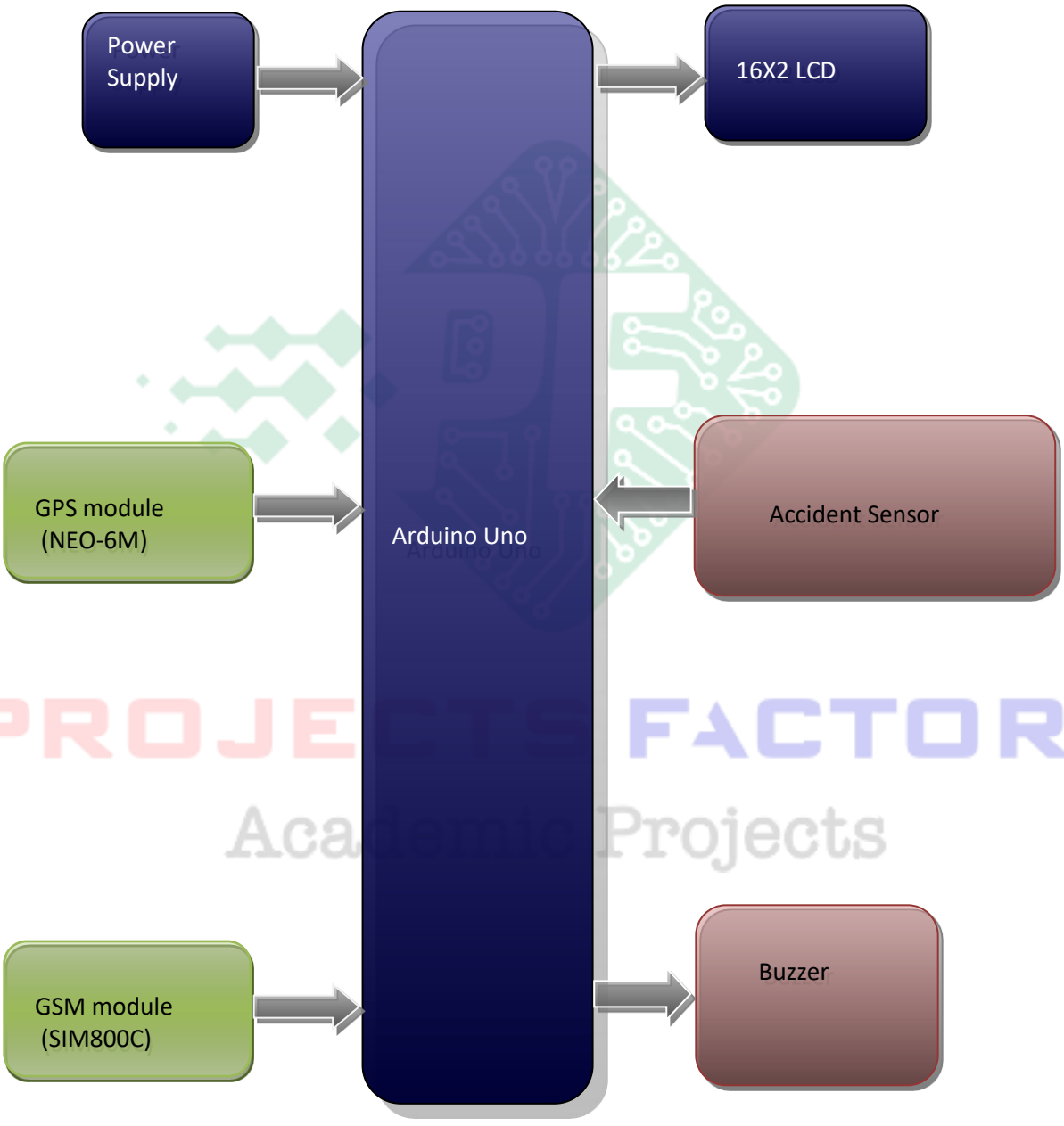
Arduino IDE

Proteus based circuit diagram

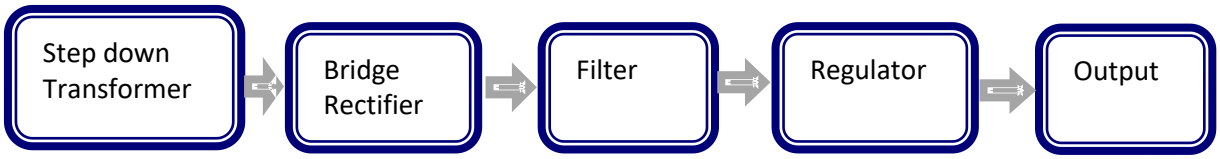
APPLICATIONS:

- Bus tracking
- Fleet tracking
- Vehicle tracking

BLOCK DIAGRAM:



POWER SUPPLY BLOCKDIAGRAM:



INTERFACES COVERD:

- We have covered GSM (SIM800C) module interfacing
- GPS (NEO-6M) module interfacing
- Limit Sensor (Accident Detection) interface