SOLDIER HEALTH MONITORING AND TRACKING USING GSM GPS

AIM:

Design and development of Soldier health monitoring and tracking using GSM GPS.

PURPOSE:

Soldier health monitoring and tracking allows us to track and monitor solider health. This system contains GSM and GPS along with some sensors. Soldiers works in different environment and chance to changes in body temperature. If continuous changes in body temperature effects on health condition. Reading of SPO2 and Heart Beat is also important. Location tracking and health monitoring of soldier is important for military. So here we propose system like soldier health monitoring and tracking using GSM GPS.

DESCRIPTION:

This project includes GSM (Sim800C) module, which is connected to Arduino through UART. GPS module connected to Arduino through UART interface. DS18B20 (Temperature Sensor) sensor connected to Arduino digital pin.MAX30100/11 (Heart beat and SPO2) sensor reads heart beat and SPO2 values of soldier. SPO2 is nothing but oxygen level in blood.

WORKING:

Arduino continuously reads DS18B20 and MAX30100/11 (Heart beat and SPO2) sensors. DS18B20 attached with any body part. But MAX30100/11 (Heart beat and SPO2) cannot attached to soldier finger because he already engaged with some equipment like guns, granites and others. When soldier wants to know Heart beat and SPO2 then he has to place finger on MAX30100/11. All these sensors data displayed on LCD. Also sensors data will send to registered mobile number along with GPS location. When temperature raise then buzzer sound will come.

TECHNICAL SPECIFICATIONS:

HARDWARE:

Microcontroller	:	Arduino Uno
Crystal	:	16 MHz
LCD	:	16X2 LCD
GSM	:	SIM800C
GPS	:	NEO-6M
Heart Beat Sensor	:	MAX30100/11
Oxygen Sensor	:	MAX30100/11
Temperature Sensor	:	LM35
Buzzer	:	5V DC
Power Source	:	12v 2 amp Adaptor

SOFTWARE:

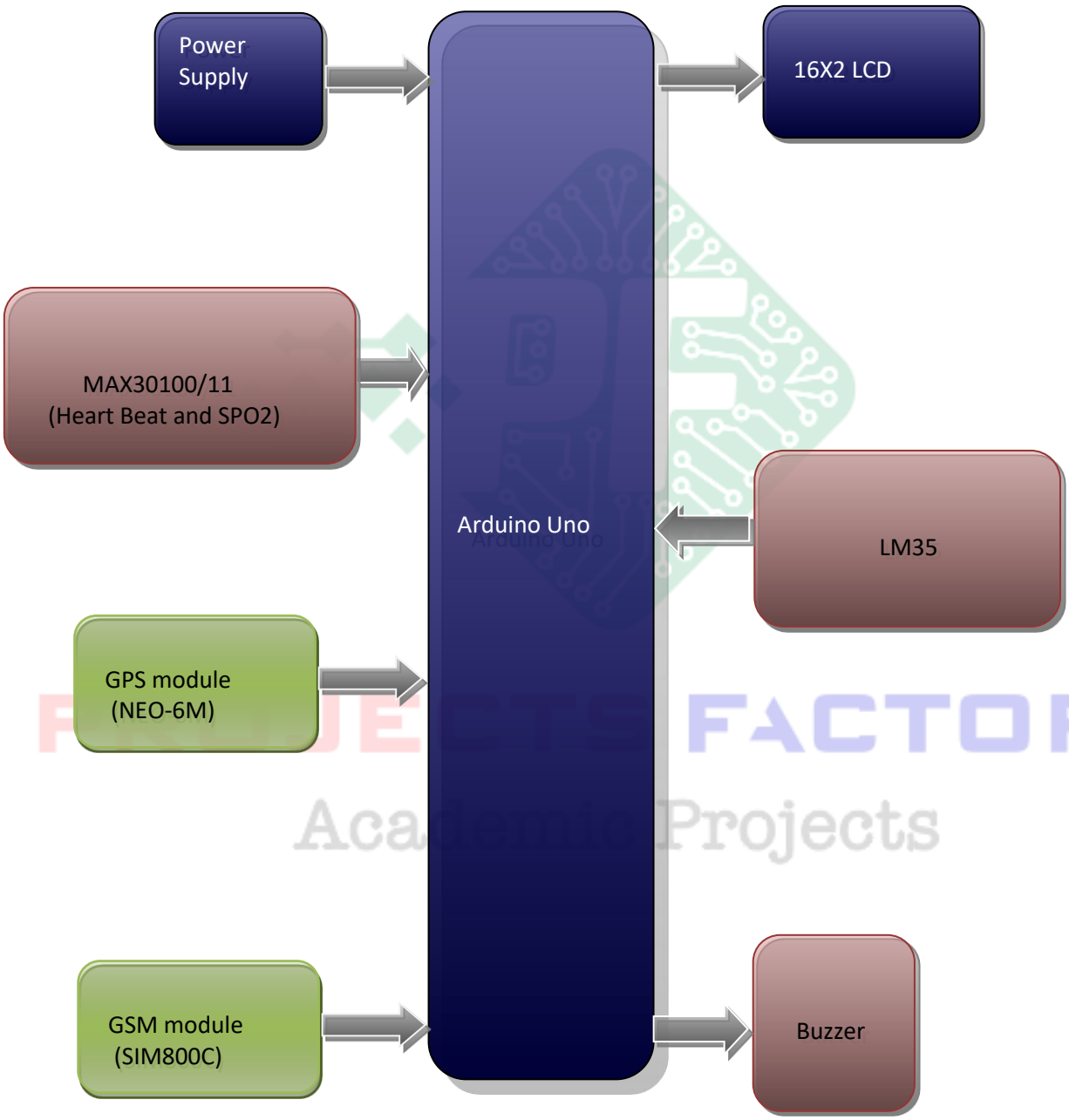
Arduino IDE

Proteus based circuit diagram

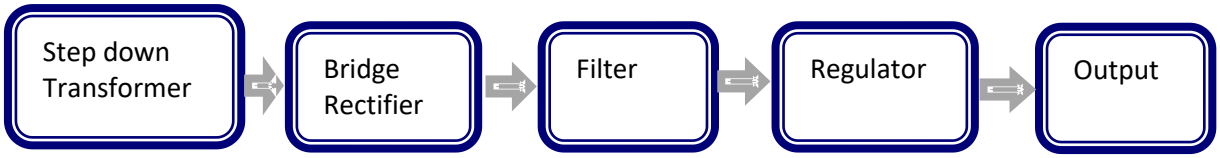
APPLICATIONS:

- Military Application
- Navy Application

BLOCK DIAGRAM:



POWER SUPPLY BLOCKDIAGRAM:



INTERFACES COVERD:

- We have covered GSM (SIM800C) module interfacing
- GPS (NEO-6M) module interfacing
- DS18B20 and Max30100/11 sensors interface