GSM BASED VEHICLE OVER WEIGHT SAFETY SYSTEM

AIM:

Design and Development of GSM based vehicle over weight safety system.

PURPOSE:

In daily life we have seen so many accidents and road damages. This could be happen because of many reasons. But one of main reason is overweight carrying by vehicles. Especially Lorries carrying more than desired weight and causes accidents and road damages. We want to give a solution for this in smart and innovative way. This system can measure vehicle weight while traveling on road and if weight is more than restricted weight then gate will not open. We can place this kind of systems at toll gates. Here our proposing system name is GSM based vehicle over weight safety system using Arduino.

DESCRIPTION:

Arduino and GSM modem connected each other through Serial communication. L293D, button, IR sensor and buzzer are interfaced with Arduino digital pins. Load cell module connected to Arduino Analog pin.

WORKING:

Before toll gate IR sensor sense vehicle presence. After IR sensor activated by vehicle then Arduino starts calculating weight of vehicle. If Weight is more than desired weight then gate will not open and SMS will send to mobile number. Also buzzer will be ON. We can set desired weight from mobile SMS. If vehicle weight under desired weight then gate will be Open and SMS will send. Using Calibration button we can set calibration weight if load cell shows any wrong value.

TECHNICAL SPECIFICATIONS:

HARDWARE:

Microcontroller	:	Arduino Uno
Crystal	:	16 MHz
LCD	:	16X2 LCD
GSM Module	:	SIM800C
DC Gear Motor	:	3.5 R.P.M
Button	:	2 Pin
H-Bridge	:	L293D
IR sensor	:	DC 5v
Weigh Bridge	:	ADC based DC 5v
Power Source	:	12v 2 amp Adaptor

SOFTWARE:

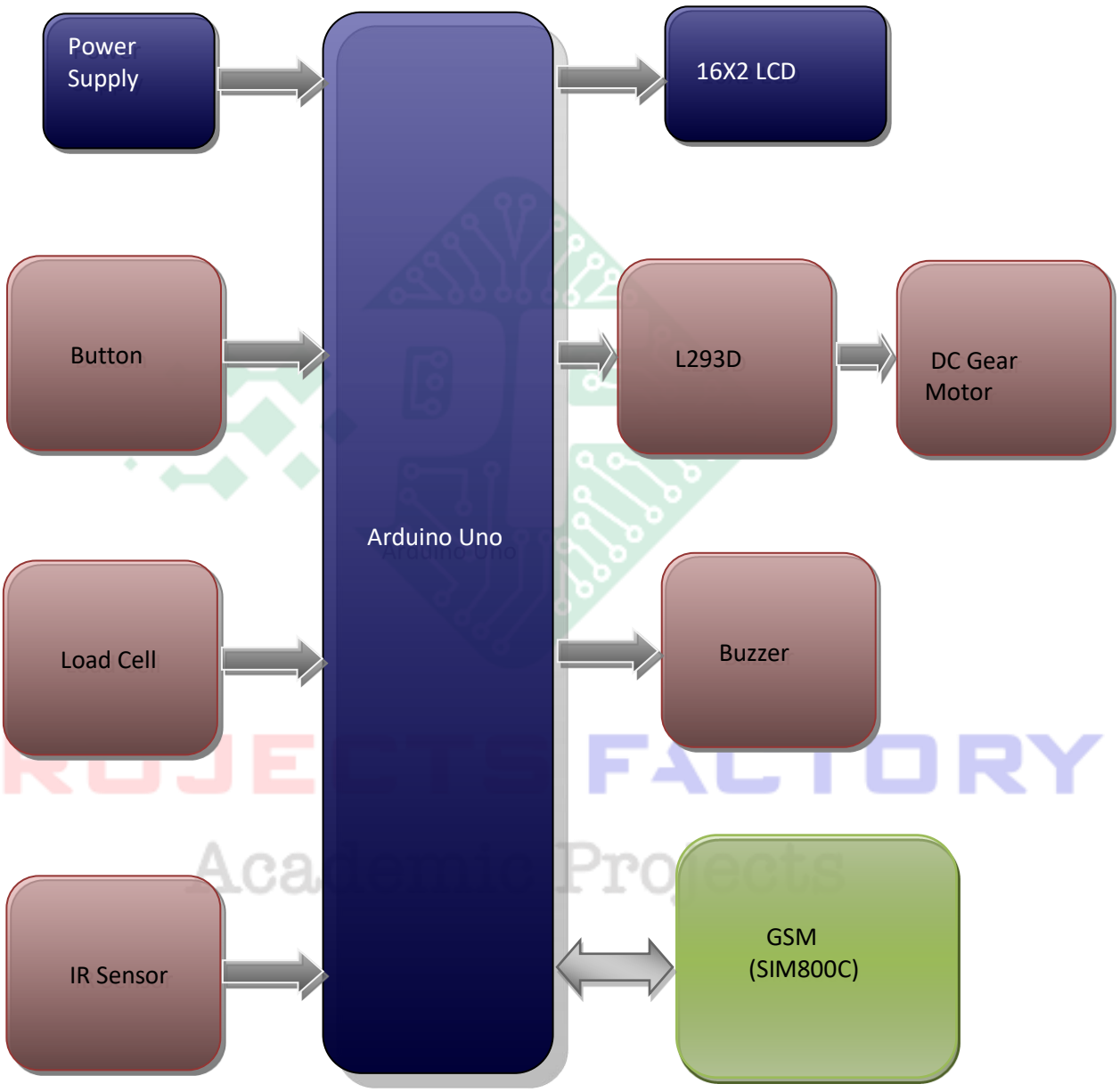
Arduino IDE

Proteus based circuit diagram

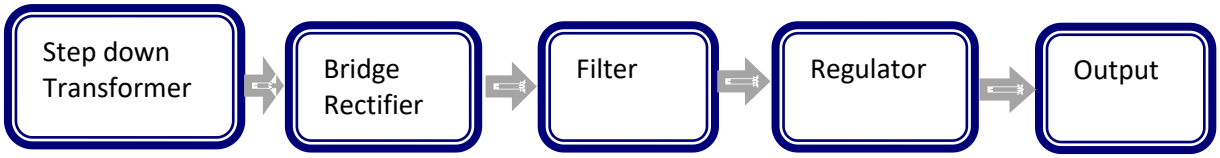
APPLICATIONS:

- Weighbridge Applications
- Vehicle Over weight safety system
- Highway safety system

BLOCK DIAGRAM:



POWER SUPPLY BLOCKDIAGRAM:



INTERFACES COVERD:

- We have covered GSM module (SIM800C) interfacing
- ADC based Load Cell interface