GSM BASED DC MOTOR SPEED AND DIRECTION CONTROL

ABSTRACT

The main aim of the project is to design a versatile device that can control DC motor by using GSM technology of wireless communication. This device can be used to control the speed and direction of the DC motor.

A GSM modem provides the communication interface. It transports device protocols transparently over the network through a serial interface. A GSM modem is a wireless modem that works with a GSM wireless network. This GSM Modem can accept any GSM network operator SIM card and act just like a mobile phone with its own unique phone number. Advantage of using this modem will be that you can use its RS232 port to communicate and develop embedded applications. Applications like SMS Control, data transfer, remote control and logging can be developed easily. The modem can either be connected to PC serial port directly or to any microcontroller.

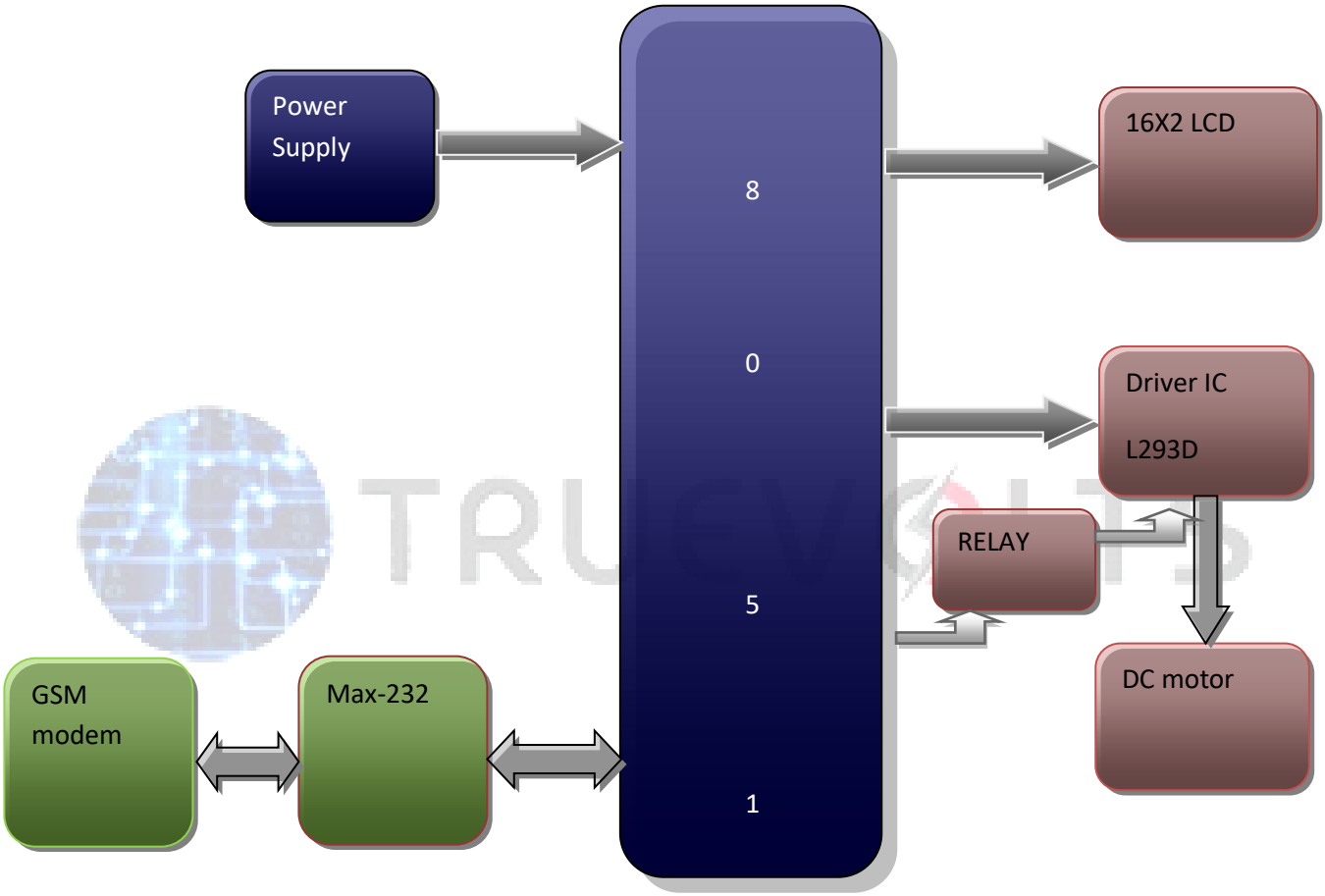
This project is designed in such a way that a GSM modem will be interfaced to the controller through serial port interface along with a DC motor through voltage driver IC L293D.The microcontroller will be programmed in such a way that some predefined messages will be assigned to the controller for controlling the speed and direction of the DC motor. When ever the user wants to control the motor, he has to send predefined messages to vary the speed and direction of the motor to the modem. When the modem receives data (SMS), it will intimate the same to the microcontroller. Now, it is the job of the controller performs the predefined task of rotating the motor clockwise, anticlockwise and increasing, decreasing the speed of the dc motor in accordance with the message received from the modem. A 16X2 LCD will be interfaced to the controller to display the status of the DC motor.

This project uses regulated 5V, 500mA power supply. 7805 three terminal voltage regulator is used for voltage regulation. Full wave bridge rectifier is used to rectify the ac output of secondary of 230/12V step down transformer.

APPLICATIONS:

- Industrial applications

BLOCK DIAGRAM:



POWER SUPPLY BLOCKDIAGRAM: