WATER RESERVOIR MONITORING AND PUMPING SYSTEM USING GSM

ABSTRACT

This project is aimed to design a system to monitor water level and pumping water from water reservoir by using wireless technology GSM.

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.

In most of the villages, the reservoirs will be present at a place far away from that village. The person, who takes care of the reservoir water supply to the village at particular timings, has to go there at that time, switch on the motor and allow the water supply to the village. He has to do this regularly irrespective of the environmental conditions. To avoid all these and make the process completely an automated product, this project has been designed. Here, there is no need of the person monitor the reservoir all the time.

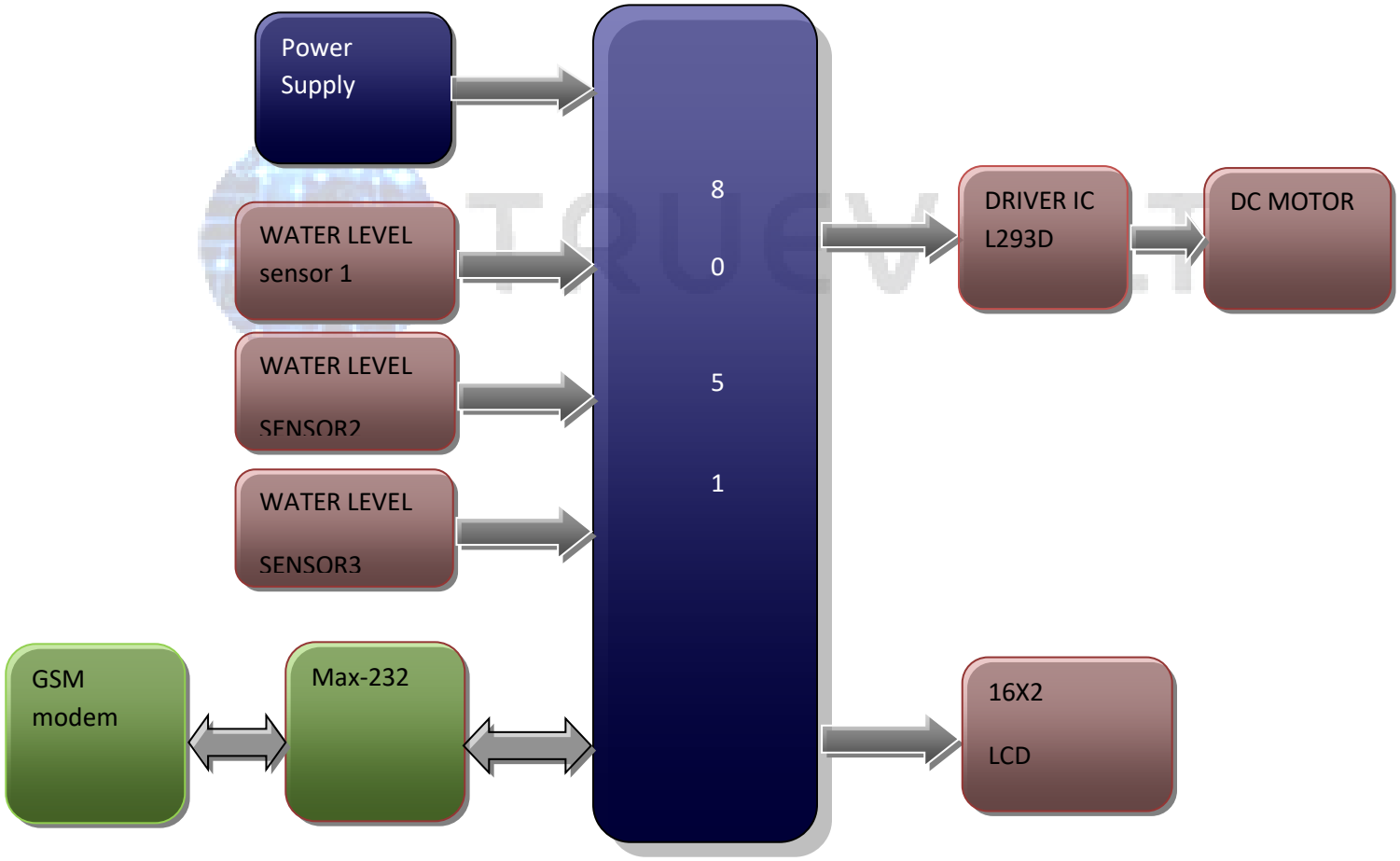
The project is designed in such a way that the micro controller 8051 is interfaced to three water level sensors which are placed at 3 levels of water in the reservoir. A GSM modem will be interfaced to the controller using serial communication. The water level in the reservoir will be continuously monitored by the micro controller using sensors. If any sensor activates the corresponding sensor status will be send as a message to the required mobile from modem. Whenever the person wants to provide water supply to his village, he will send a predefined message from his mobile to the modem. The modem receives the message from the mobile. and starts the motor to pump the water. A 16X2 LCD will be interfaced to the controller to display the status of the system.

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

APPLICATIONS:

- Irrigation control
- Reservoirs
- Dam gates

BLOCK DIAGRAM:



POWER SUPPLY BLOCKDIAGRAM: