A PROTOTYPE FOR AUTO CONTROLLING OF WATER PUMP WITH RESPECT TO ACQUALEVEL

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ABSTRACT

This project is implemented to continuous real time water parameter watching could be a necessary for the water resource management. Here we are developing the endlessly watching water levels that create USA of wireless detector network for water level parameter. During this project we tend to are progressing to implement to seek out water levels within the tank. Usually once the tank was empty we'd like to modify the motor manually, however here we are able to turn on the motormechanically by mistreatment the water level detector. Within the water level detector we've the 3 stages empty level, medium level and full level. Once the water level is empty level the motor can mechanically turn on and that we can get a message through GSM technology to the owner. If the motor is reached to medium levels the motor still in turn on condition and once more the owner can get the message because the water level is medium, if the tank was full the motor can mechanically flip and sends a message to the owner as tank was full and also the motor was flip. during this project whenever the water level is low the pump motor can mechanically turn on and sends a message a through GSM technology to the owner as water level is that the motor was turn on, once the water level reaches to the center level the it sends message the water reaches to the center, if the tank as full the motor are mechanically switch off and sends a message the was full the motor was in switch condition.

Key Words: Lpc2148, Gsm, L293d, Dc Motors, Water Level Sensor

I. INTRODUCTION

This project usually once the tank was empty we'd like to modify the motor manually, however here we are able to turn on the motor mechanically by mistreatment the water level detector. Within the water level detector we've the 3 stages empty level, medium level and full level. Once the water level is empty level the motor can mechanically turn on and that we can get a message through GSM technology to the owner. If the motor is reached to medium levels the motor still in turn on condition and once more the owner can get the message because the water level is medium, if the tank was full the motor can mechanically flip and sends a message to the owner as tank was full and also the motor was flip.

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II. LITERATUREREVIEW

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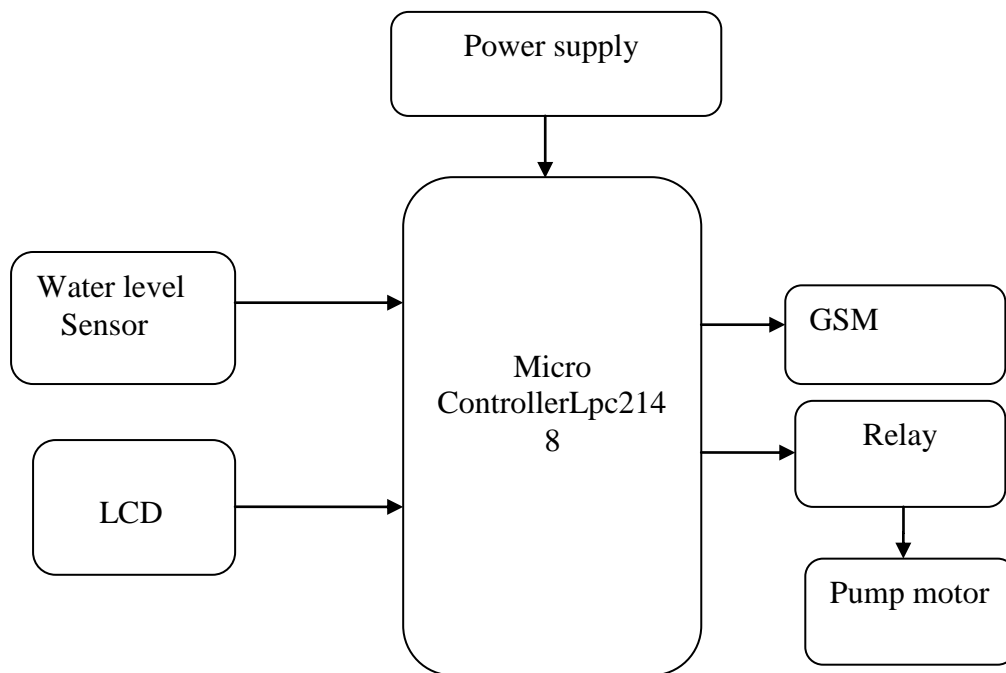
III. HARDWAREDESIGN

Fig 1: block diagram

3.1 LPC2148 Microcontroller

TheARM7 (advanced RISC machine) pressers boardbasedtotallyona16/32-bitARM7its process of 16/32-bit ARM7TDMI-Smicrocontroller, 8KBto40KBof on- chipstatic RAM And 32 KB to512 KB on-chip flashmemory;128-bitin-system Programming (ISP).32-bittimers/outside event counters, PWM pulse width modulation unit(six outputs) and watch dog, Low strength of actual-Time Clock(RTC), more than one serial interfaces which includes two UARTs , rapid I2C-bus (400kbit/. There are 64 pins of ARM7 processer and two ports (port0, port1) 45 pins are input/output.

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Fig2:-LPC2148 board

3.2 GSM

Global service for mobile communication (GSM) is a cellular network, which means that is mobile phones connect of searching for cellular mobile communication. GSM networks can operate different ranges frequency. The most GSM we can operate the SIM900MHz to 1800 MHz frequency. Some countries in the Americas use the 850 MHz and 1900 MHz In this project if any gas detected the message automatically sends to the user.

Fig3: GSM module

3.3 L293D

The l293d are using high-current gain and half-H drivers. The l293d gains of currents up to 1A at voltage from 4.5vto 36v.both devices are designed to drive inductive loads such as relays. Its connecting dc bipolar stepping motors as well as other high current/voltage loads in positive-supply application.TTL inputs is compatible

Fig: 4 l293d driver IC

IV. PUMPING MOTOR

This is a coffee value, little size Submersible Pump Motor which might be operated from a two.5 ~ 6V power provide. It will take up to one hundred twenty liters per hour with terribly low current consumption of 220mA. Simply connect tube pipe to the motor outlet, submerge it in water and power it. Confirm that the water level is usually over the motor. practice session might injury the motor owing to heating and it'll conjointly turn out noise Note we've got 2 sorts of Pump Motors, please check on top of photos for additional details. We'll send you one looking on this stock. You'll contact USA if you wish a selected one, however it's subjected to accessibility.

Fig 5: pumping motor

4.1 Water Level Sensor

Global Water's WL400 Water Level detector submersible pressure electrical device consists of a solid state pressure detector encapsulated in exceedingly submersible stainless-steel 13/16" diameter housing. The water level gauge uses a marine grade cable to attach the water pressure detector to the display. Every of world Water's pressure transducers in corporate a two-wire 4-20 mA high level output, 5 full scales ranges, and is totally temperature and air pressure stipendiary.

The water depth indicator is accessible in an exceedingly 0-3' full scale vary that is good for measure shallow flows or tiny water level changes. The 0-3' vary is nice for measure flows in sewers, storm drains, weirs, flumes, lakes, tanks or any water body that's but 3' deep. The 0-3' water watching detector accurately

measures tiny changes in water, even once the water's depth is simply a couple of inches deep. Different metal foil sort sensors generally have serious issues at low level ranges owing to crinkling, stretching and drifting.

The WL400 water pressure sensors have a two-wire 4-20 mA signal that's linear with water depth. ten to36 VDC is needed to work the depth level detector, that the WL400 submersible pressure electrical device is operated from twelve or twenty four VDC systems. The 4-20 mAsignal will run up to three,000' from the detector to the work device. Common twisted combine or electrical electric cord wireis also spliced to the ventilated cable once the cable is out of the water. The 4-20 mA signal is also reborn to zero.5 to 2.5 VDC by dropping the present signal across a a hundred 25 ohm electrical device.Sensing element:Sensor Element: polymer Diaphragm, Wet/Wet electrical device Range: 0-3', 0-15', 0-30', 0-60', 0-120',0-250' dimensionality and Hysteresis: ±0.1% FS Accuracy: ±0.1% FS at constant temperature, ±0.2% over 35° to70°F vary Overpressure: to not exceed two x full scale vary Resolution: minute (Analog)

Fig6: water level sensor

V. SOFTWAREDESIGN

In this proposed contrivance, as we tend to used LPC2148 we wish to use following software package instrumentation to program for it.

1. Keil4 µVision
2. Flash Magic

The Keil4 Vision an IDE for Embedded c language in this IDE, we wish to import the utilities and libraries consistent with the controller we are the use of. This IDE is very more easy and in user friendly thanks to apply, assemblers, and debuggers in it. It simplifies the manner of embedded simulation and trying entering conjunction with Hex file technology. The flash magic is a programming utility. The C/C++ software written in IDE could be processed into Hex document i.e. in .hex layout. By using hex file we tend to merchandise the code into microcontroller and perform application.

5.1 Working Description

The most objective of the project is to watch the sensor information and conjointly transmit the data through local area network technology. In this project the micro controller plays a vital role to perform the desired task. The microcontroller we

Used in this project is ARM7 (LPC2148) in built features such as In built programming ADC, SPI,I2C,

PWM, and RTC. These sensors interfacing water level sensor its connecting l293d driver icy the same time we are connecting GSM module and we write the code in such manner to communicate with the microcontroller and perform the specific task. The GSM module is interfaced with microcontroller which isused to measure the corresponding sensor data and monitor the information through messages. The system can also view the data from a mobile phone.

5.4 Working Project

These working of the project the continuous real time water parameter watching could be a necessary for the water resource management. Here we tend to are developing the endlessly watching water levels that create USA of wireless detector network for water level parameter. During this project we tend to are progressing to implement to seek out out water levels within the tank. Usually once the tank was empty we'd like to modify the motor manually, however here we are able to turn on the motor mechanically by mistreatment the water level detector. Within the water level detector we've the 3 stages empty level, medium level and full level. Once the water level is empty level the motor can mechanically turn on and that we can get a message through GSM technology to the owner. if the motor is reached to medium levels the motor still in turn on condition and once more the owner can get the message because the water level is medium, if the tank was full the motor can mechanically flip and sends a message to the owner as tank was full and also the motor was flip.

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VI. RESULTS

Here the results are shown our project "**A Prototype for Auto Controlling of Water Pump With respect To Acqua level**" whenever objected water level sensor we are detecting low level motor while be on and sending to the massage. Here GSM connecting in lpc2148 microcontroller it's operating with help of l293d driver ic pumping motor interfacing in hardware connation successfully.
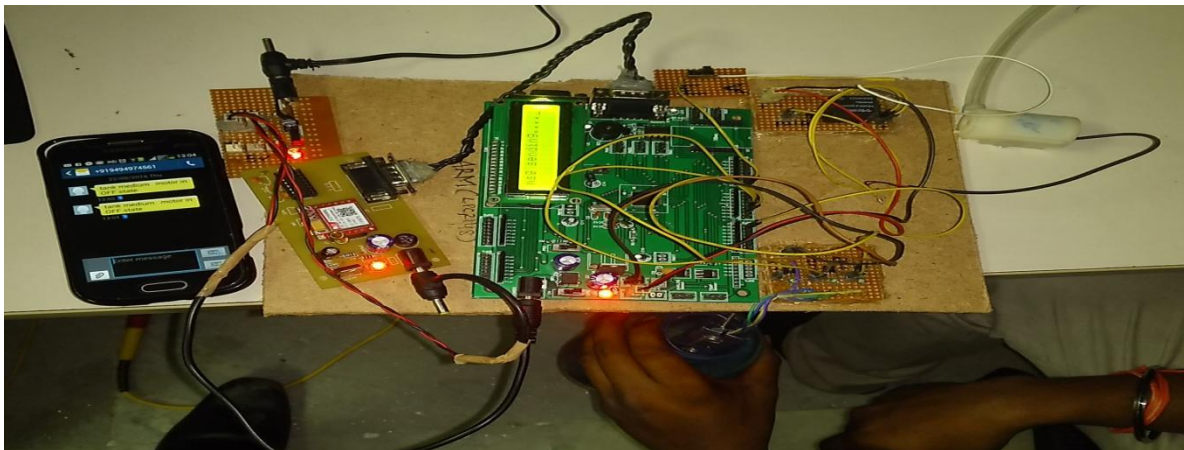
VII. CONCLUSION AND FUTURESCOPE

VIII. CONCLUSION

In these project GSM technology using home/office application has successfully designed and testing. In all hardware components it's developed by integrating features are used. Presence of every components reasoned placed carefully checkout in outputs. it's as highly advanced lpc2148 microcontroller with help of technology the project has been successfully

IX. FUTURESCOPE

The system provides only monitoring the sensor values but we can't control the devices with respective sensors. In futures cope we can do both i.e. Monitoring as well as controlling the appliances. By implementing this concept we causing several appliances like agriculture.

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