GSM BASED WATER MOTOR CONTROL SYSTEM

INTRODUCTION

This project provides an excellent solution for the farmer not go to the farm to water his field

The farmer can use his cell phone to start/stop the irrigation motor. The system at the motor side will respond to the farmer in text message.

TECHNOLOGIES USED

Embedded System

Mobile Telephone Systems

EMBEDDED SYSTEM

Embedded System do a very specific task.

Embedded system allow the system hardware to be simplified so cost are reduced

Embedded system are constrained for power. Many embedded system operate through a battery, the power consumptions has to be very low.

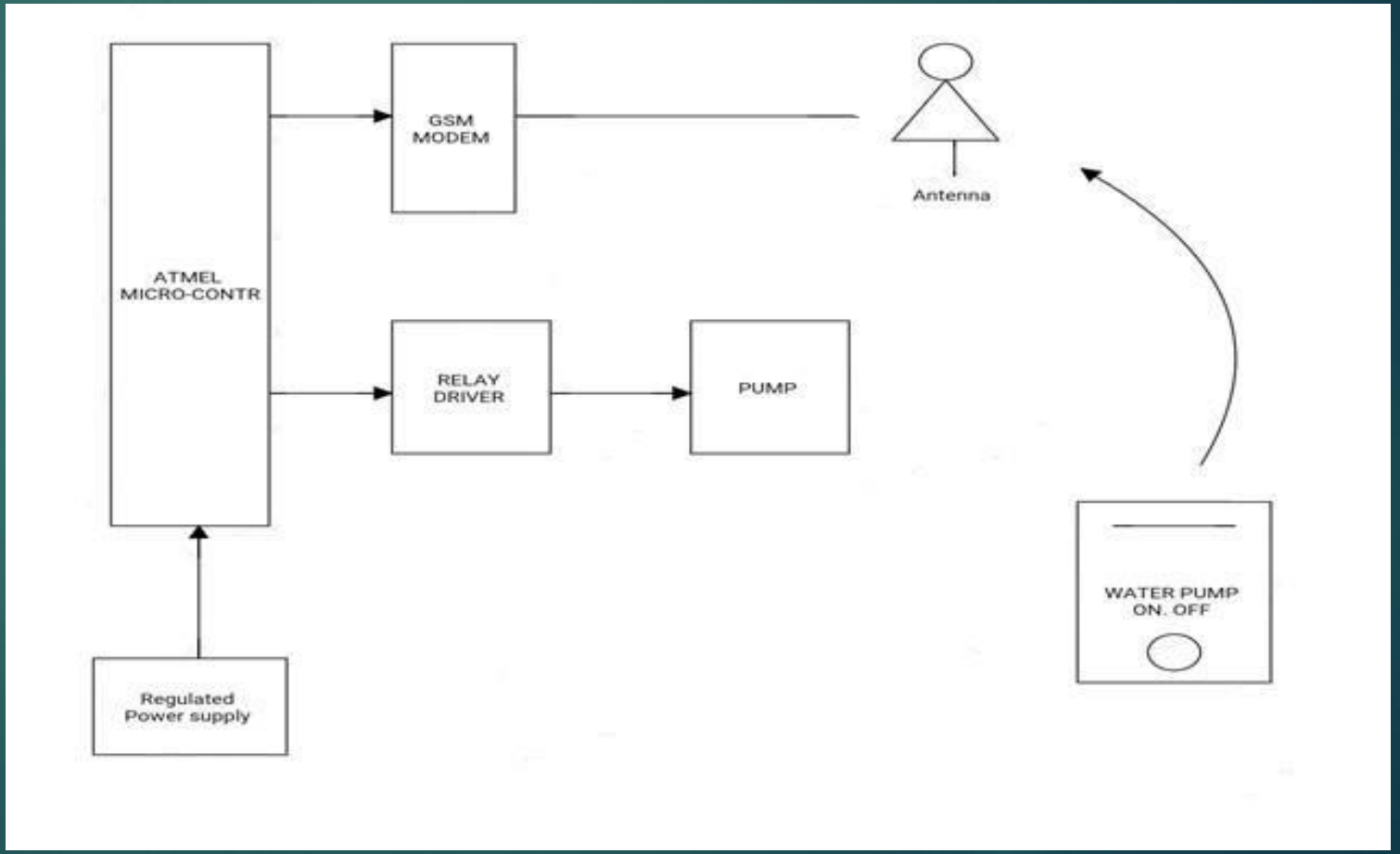
MOBILE TELEPHONE SYSTEM

Cellular is one of the fastest growing and most demanding teloecommunications applications.

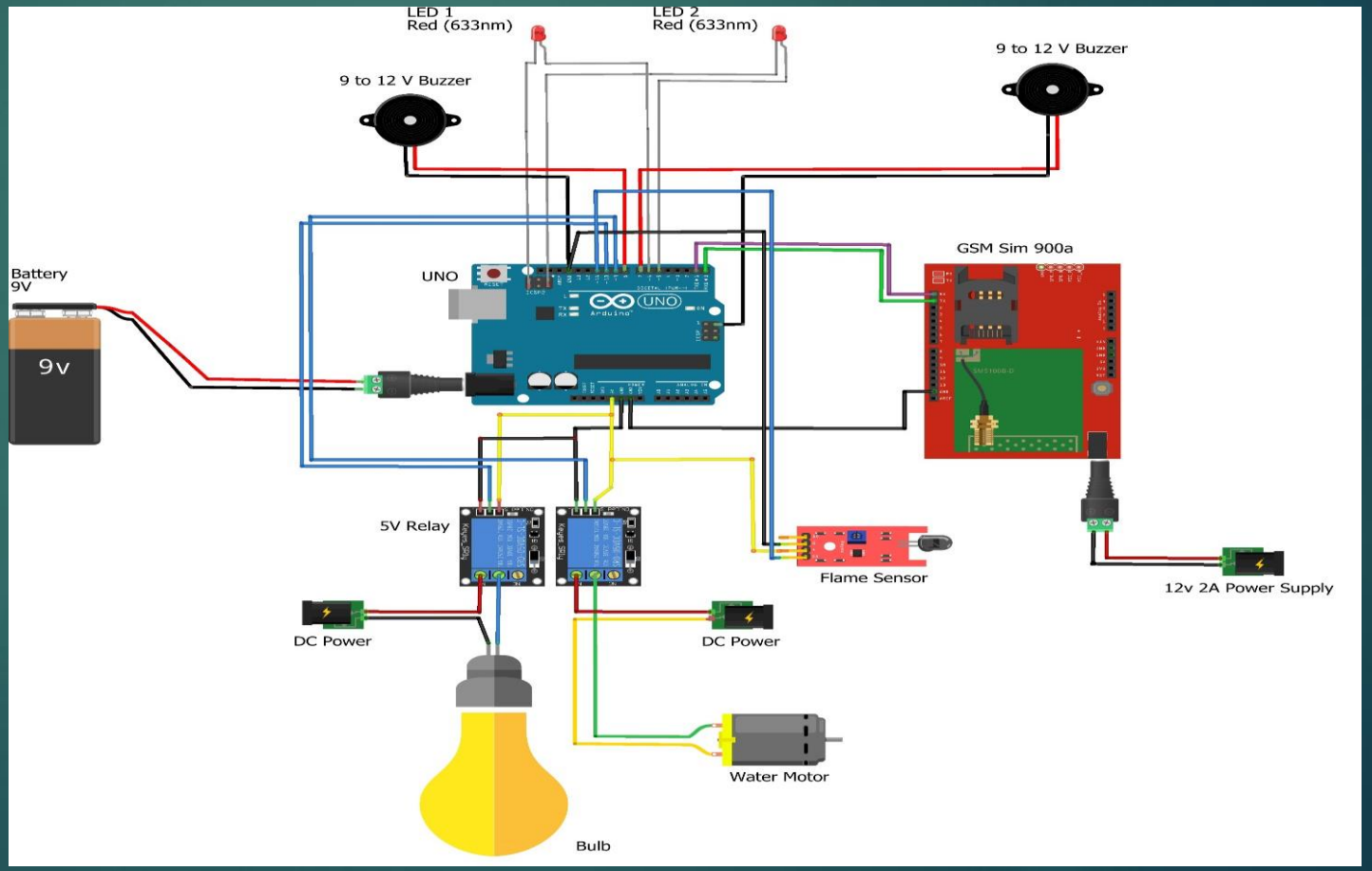
The concept of cellular service is the use of low power transmitters where frequencies can be reused within a geographic area.

Here in our project GSM modem is used to send the message to stsrt/stop motor.

BLOCK DIAGRAM OF THE PROJECT



CIRCUIT DIAGRAM OF THE PROJECT



GSM MODEM

A GSM modem is a wireless modem that works with a GSM wireless networks.

Like a GSM mobile phone, a GSM modem requires a SIM card from a wireless carrier in order to operate.

AT Commonde are instructions to control a modem.

CONCEPTS OF SMS TECHNOLOGY

Validity Period of an SMS Message.

Message Status Reports.

Message Submission Reports.

Message Delivery Reports.

SOFTWARE TOOLS

Arduino is software used where the machine code is written and compiled.

ADVANTAGES

Availability more.

We can control the devices by sending SMS.

Cheaper

More effective

Easy to change

DISADVANTAGES

Requires a continuous power supply.

Continuously recharge the GSM SIM card.

Maintainance cost is very high.

In case if SIM damage we have to reprogram.

APPLICATIONS

Utilized for irrigation purpose.

Can be operated from any place in the word.

User friendly.

Farmers questions on motor operations

Can I turn 0n the motor while I am away from my farm ?

Can I operate it remotely ?

Can I know when power is restored ?

Can I know for how many hours was my motor running ?

Challenges with Motor pumps

Scare of wild animals

Rough wheather

Difficulty during nights

Water wastage

Labour shortage

power fluctuations and cuts

How user friendly is it ?

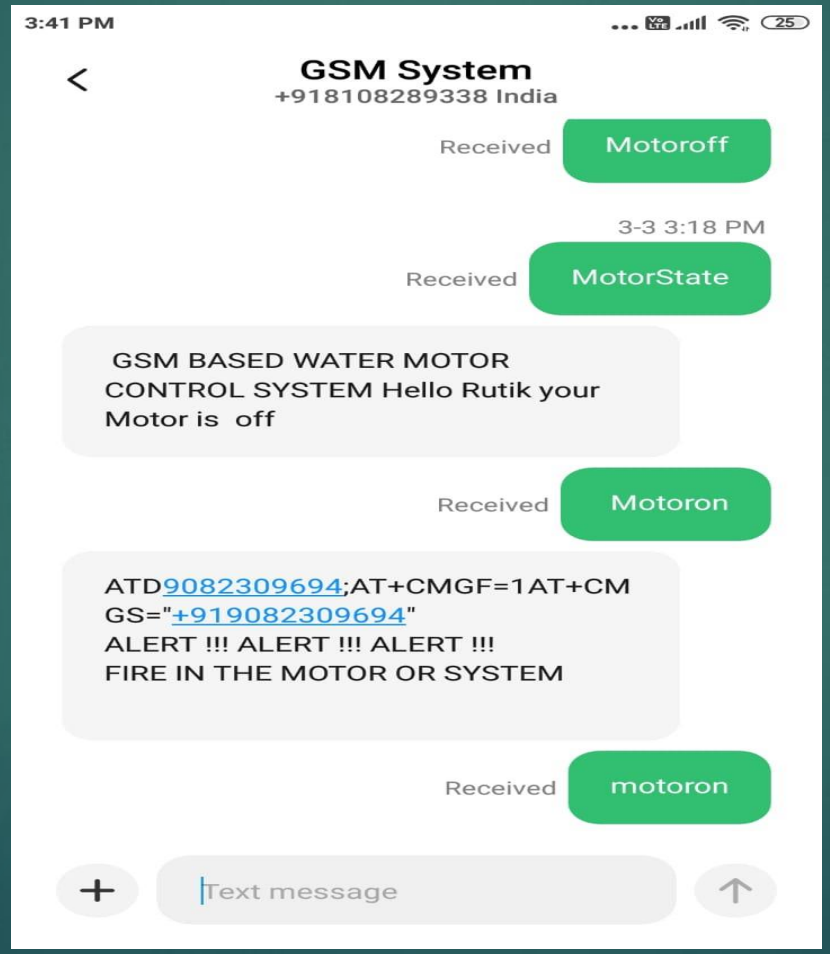
Five minutes to install

One missed call to register to operate

simple SMS codin that is easy to understand

Add upto 4 mobile phones to operate

SMS Alerts


3:41 PM
GSM System
+918108289338 India
Received
Motoroff
3-3 3:18 PM
Received
MotorState
GSM BASED WATER MOTOR CONTROL SYSTEM Hello Rutik your Motor is off
Received
Motoron
ATD9082309694;AT+CMGF=1AT+CMGS="+919082309694"
ALERT !!! ALERT !!! ALERT !!!
FIRE IN THE MOTOR OR SYSTEM
Received
motoron
Text message

Cellular Network Support

controller is just like a mobile phone..

Will support GSM SIM from any provider

Users can choose the provider that gives better signal

Mobile phone support

starter can be operated from any mobile phone

Supports GSM, CDMA and Land line

Android application for smart phones

Application Areas

Starter can be used for…

Domestic, Irrigation, or Industrial usage

SAVE

Water

Electricity

Time

Man Power

Any other uses ?

Starter can also used for…

Water heaters, Air conditioners, Outdoors advertising lights

Any electrical equipment that needs to be controlled remotely

FUTURE SCOPE

The project can be used as a base for realizing a scheme to be implemented in other projects of greater such as weather forecasting, temperature updates, devices synchronization, etc.

The project can be modified to achieve a complete Home Automation.

CONCLUSION

The project intends to interface the microcontroller with the GSM modem and start the motor as per the message received from the user mobile.

It can be inclided that the design implemented in the present work provide portabilitu, flexibility and the data transmission is also done with low power consumption.

Thank You