

RASPBERRY PI PICO BASED AUTOMATED WATER LEVEL CONTROLLER USING GSM

AIM:

Design and Development of Raspberry pi PICO based Automated Water level controller Using GSM.

PURPOSE:

Now a day all governments focus on water management. Water is precious things and available only on earth. From major to micro level, water management systems need to know about water quantity. Here we want to implement water level controller that can send SMS to register mobile number based on level. Also, it will indicate LEDs based on water level. Here project title is raspberry pi pico based automated water level controller using GSM.

DESCRIPTION:

Raspberry pi pico interfaced with GSM modem through UART communication. Here water level sensor is resistive based conductive type which is interfaced with pi pico digital pins. There are three levels and one reference level pins to water level sensor. Three LEDs connected to pi pico digital pins. Water pump controlled by relay and relay connected to pi pico digital pin.

WORKING:

When water level immersed into water then it detects water. The construction of water level sensor in such a way that DC voltage pin at water level bottom side. Water detecting level conductors is placed from bottom to top of water level stick. When water rises, then voltage pin conducted with level detecting pins and pi Pico measures water level. Based on water level leds will be ON and SMS will send to register mobile number. Also, when water level less than desired level water pump will be ON

to pump water into tank or required area. We can see water level information on 16x2 LCD display. When water level low or full then buzzer will be ON.

TECHNICAL SPECIFICATIONS:

HARDWARE:

Microcontroller	:	Raspberry pi pico
LCD	:	16X2 LCD
GSM module	:	SIM800C
Water Level Sensor	:	Resistive type leaded
LEDs	:	RED 5V DC
Buzzer	:	5V DC
Relay	:	12V DC
Pump	:	230V AC
Power Source	:	12v 1 amp DC Adaptor

SOFTWARE:

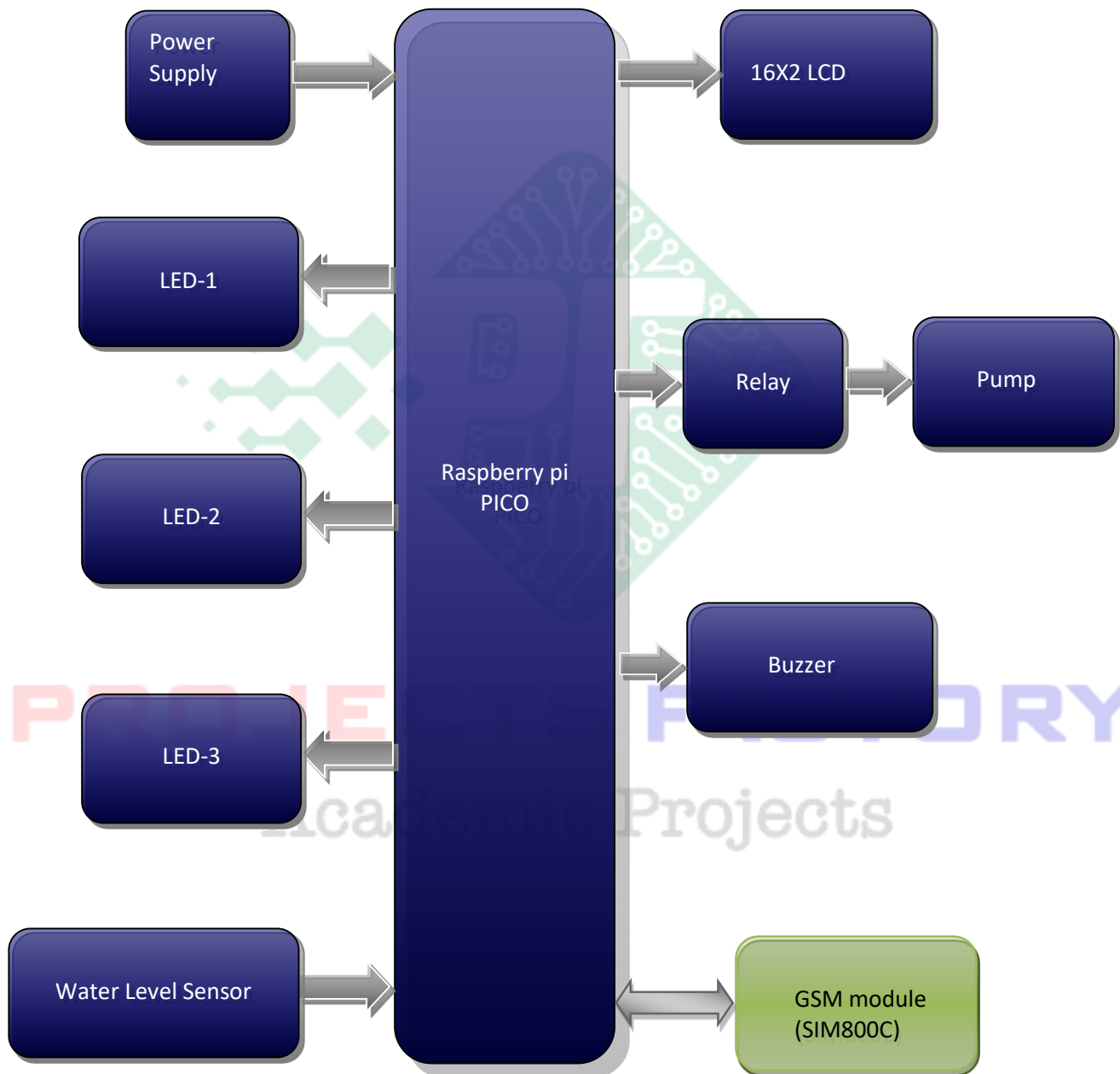
Arduino IDE

Proteus based circuit diagram

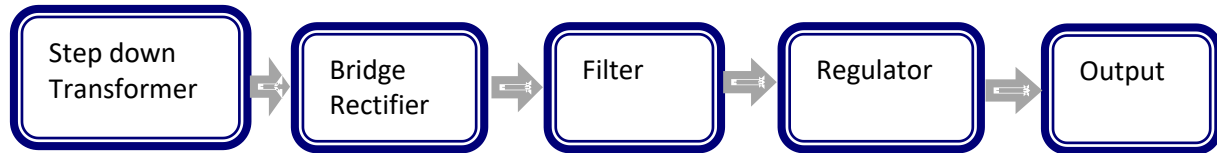
APPLICATIONS:

- Water tank monitoring applications
- Water management systems

BLOCK DIAGRAM:



POWER SUPPLY BLOCKDIAGRAM:



INTERFACES COVERED:

- We have covered raspberry pi Pico programming and GSM module (SIM800C)
- Water Level sensor interface



PROJECTS FACTORY
Academic Projects