Water Level Detector

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Group Members

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Contents:

Introduction

The water level indicator with Arduino detects water in any container using a water sensor and outputs the level.

Aim and Motivation

To prevent the wastage of water which is a global issue, this will help promote water conservation by reminding users when they are over the water capacity.

Background

The project caught our eye in the list we were provided so we did a bit of research about it and found it appealing and in line with our ideology and motivation towards saving world resources as well as we were familiar with the logic surrounding the project.

Project Specifications

1. Arduino
2. Light bulbs (red , yellow, green)
3. Wires
4. Water Sensor
5. BreadBoard
6. Buzzer

Project Code used for Arduino is at the end.

EQUIPMENT USED	PRICE-in rupees
Arduino chip	1900
Arduino wire	40
Small bread boards	60
Water sensor	80
Jumper wires	3
Lights	40
Buzzer	40
Resistors	3

Solution Design

I. Project Detail

The Arduino code is used with the water sensor to detect water and its level.

II. Functionality and Features

Different Light bulbs light up to indicate different water levels according to the thresholds set by the code written for the Arduino. The buzzer is turned on when the water level reaches HIGH and there is a threat of overflowing.

Implementation

The Arduino is used to help the hardware and software interact together using code written in C language.

The code uses the set thresholds to decide water levels and to send a signal to the circuit to light up the right bulbs.

The circuit is built on the breadboard and both the sensor and light bulbs are grounded to the breadboard.

The Arduino gets power from either the usb port wire which can be connected to a laptop or a direct power source port.

The water sensor gives its output to the Arduino directly which then decides its next move.

Testing

The Sensor was calibrated in regards to the container being used to test water level in.

The Arduino was tested repeatedly to make sure it gives the desired outputs on different water levels to make sure the code and sensors are working correctly.

Project Breakdown Structure

Saim Shah 21k-4887

Did the initial research for the first week when it was assigned to decide the project and decided the general components needed to build it.

Abdullah Islam 21k-4896

Did the research for the code needed in the week after for the Arduino logic to work and wrote the first code for the Arduino

Saim Shah 21k-4887 & Abdullah Islam 21k-4896

Got the components needed, created the logic and set together the whole project as well as calibrated all the sensors and code to work with the circuit and light bulbs

Results and Conclusion (Summary)

The circuit is successfully detecting water level using the Arduino code and is also lighting up the correct bulb to parallel to the water level in the container.

Project Diagram