Water Overflow Detection System (Doc Version 1.0)

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Contents

1 Document Version History

S.No	Version	Notes
1	1.0	First Version

Table 1: Document Version History

2 Project Description

Objective of the project is to design a water overflow detection system. It is useful for providing an indication whenever water in the overhead water tank is full so that the motor can be switched OFF at the right time, thereby conserving water as well as saving electricity.

Commercial products are also available in the market for this purpose but cost more than Rs 1000 for the product, installation and wiring costs. However, you can build a simple device on your own within Rs 200 using off the shelf components.

The working principle is also simple to understand and this device can be build within 15min. Some of the benefits of buiding such a device are as below.

- Conserve water by knowing exactly when the water tank is full.
- Save electricity by turning off the motor at the right time
- Save money by avoiding a commercial product.
- Explore and learn something new and exciting
- Start your Maker Journey and Unleash your Potential
- Start making quick money by selling it in your local community

3 Bill of Materials

Below is a list of components, materials and tools required for the project

1. 1x Breadboard
2. 1x Buzzer
3. 1x 9V battery and battery connector
4. Wire
5. Wire Stripper/Scissors
6. Tape (Any tape is fine. However, the paper like tape used by carpenters is also quite useful for attaching wires around the water overflow pipe)
7. (Optional) 1x Resistor , any value between 200ohm - 1kohm
8. (Optional) 1x LED, any color you like
9. (Optional) 1x ON/OFF switch

4 Working Principle

Basic working principle of this device is that water is a conductor of electricity whereas air is a non-conductor of electricity. The other important concept is that electricity flows from source/battery to load through a conductive medium like wires, etc.

So, whenever there is water between the two ends of wire attached near the water overlfow pipe, cicruit gets completed and current begins to flow from battery to the loads - buzzer and led. As a result, buzzer starts making a loud sound and the led also lights up. Once the motor is switched off, there will be no water overflow and the buzzer will stop making sound and the led will be OFF.

5 Circuit Diagram

Figure 1 shows the circuit connections for this device.

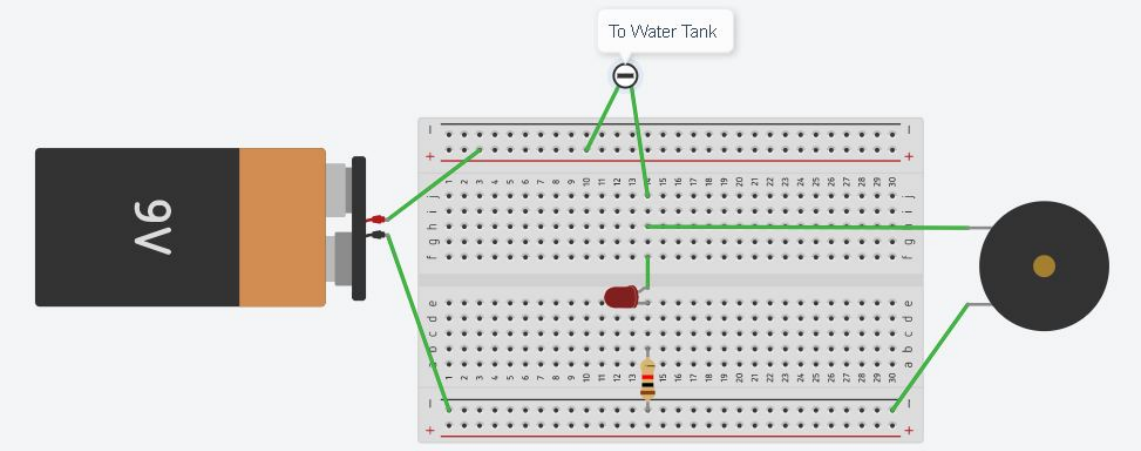

Figure 1: Circuit Connections for the Water Overflow Detector

6 Contact Information

If you have any questions or need help in building this project, please feel free to reach out to us by messaging us on Facebook LINK, or through the message option on our website LINK or sending me an email at vasu.gupta9@gmail.com