SMART WATER MANAGEMENT

Submitted by:
S.Meena Sornam

Introduction:

* Smart Water Management is the activity of planning, developing, distributing and managing the use of wateresources using an array of IoT technologies.

* We are designed to increase transparency, and make more reasonable and sustainable usage of these water resources.

* It applies to multiple sectors: agriculture, farming, industry, services, cities.

* Monitoring water consumption in houses, checking water levels, checking the quality of drinking water, detecting chemical leakages in rivers around plants, tracking pressure variations along pipes or checking water quality in aquariums

Materials Required:

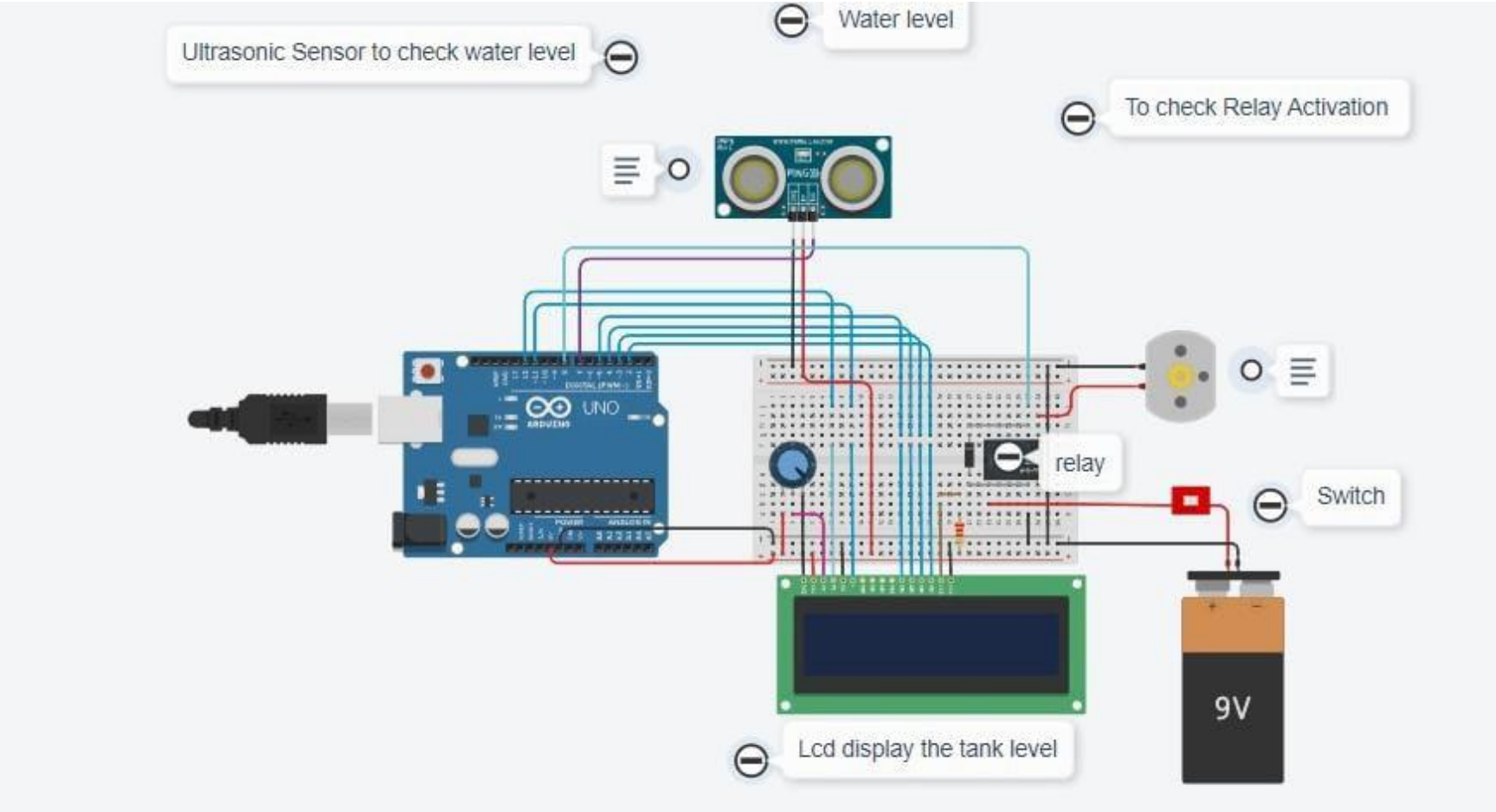
- Breadboard
- Potentiometer
- Diode
- Resistor
- Aurdino
- LCD
- Battery
- DC Motor
- Ultrasonic Sensor

Software Used:

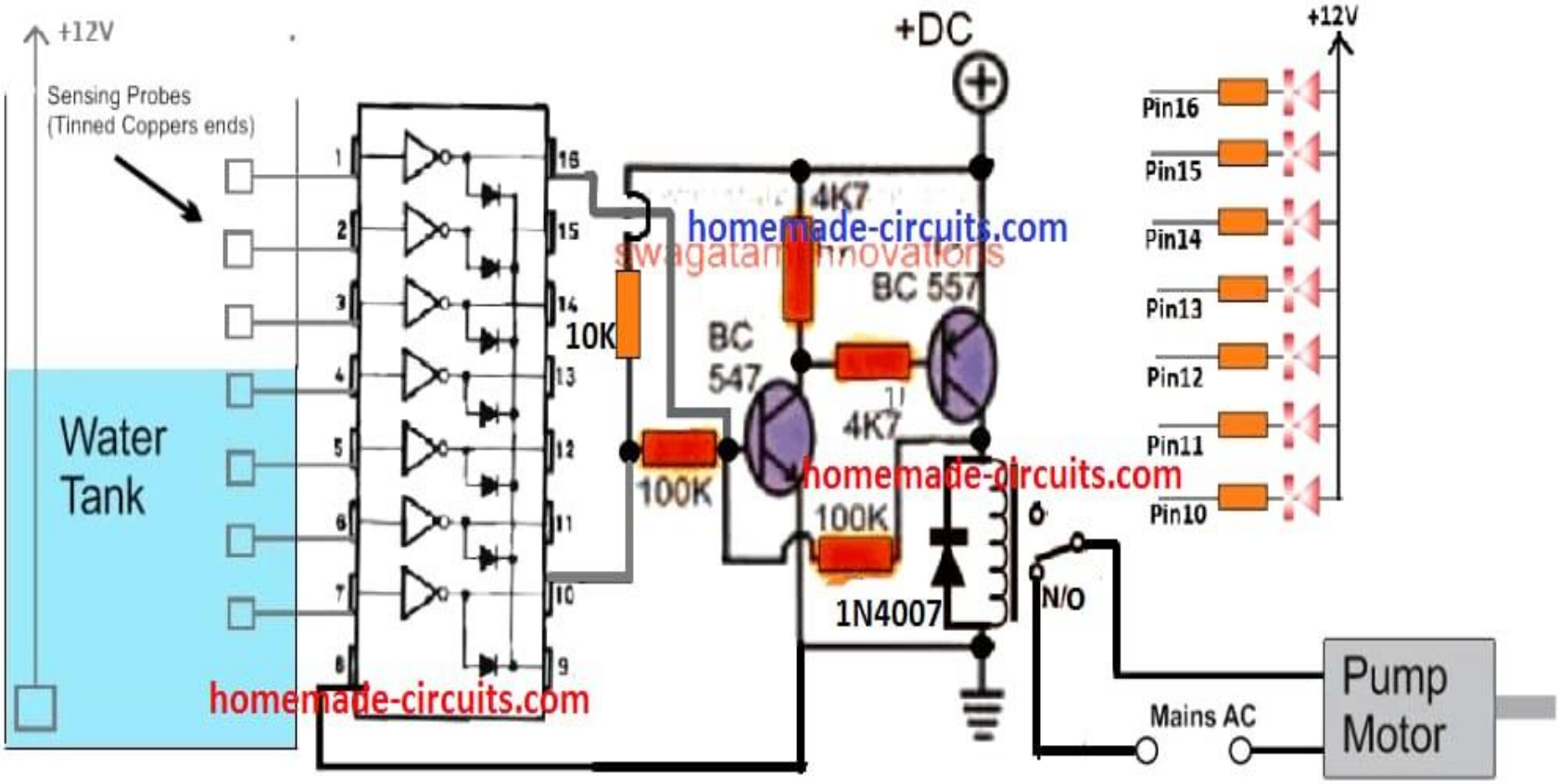
- **Aurdino IDE:**

Arduino Integrated Development Environment (IDE) is an open source IDE that allows users to write code and upload it to any Arduino board. Arduino IDE is written in Java and is compatible with Windows, macOS and Linux operating systems.

Diagram:


Water level
Ultrasonic Sensor to check water level
To check Relay Activation
UNO
relay
Switch
9V
Lcd display the tank level

Circuit Diagram:



Procedure:

- Smart water management aims to guide the utilisation of water in a manner that drives efficiency, sufficiency, and sustainability.
- To achieve this aim, contemporary management approaches are underpinned by the integration of innovative technologies, such as sensors, smart water metering, information systems, data acquisition and decision support system.
- This report further argued that water shortages will also be felt in industrialized countries as climate change is leading to more frequent weather-related catastrophes and the increasing industrial demand for water is expected to put enormous pressure on freshwater accessibility.
- Achieving water security, therefore, requires innovative ways to address the delivery of a clean and steady supply of water while optimising the operation, maintenance and management of water utility companies

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- Smart water management systems are one of the strongest interventions in achieving water secure.

Advantages:

- Reducing waste of water-intensive industries.
- Monitoring water quality to fight pollution and diseases.
- Improving the efficiency of water systems.
- Creating awareness of household water use thanks to smart meters.

Disadvantages:

- High installation costs: Smart water meters can be expensive to install, and some households may not be able to afford the upfront costs.
- Privacy concerns: Smart water meters can collect data on household water usage, raising privacy concerns.

THANK YOU