

# **GNANAMANI COLLEGE OF TECHNOLOGY**

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**DEPARTMENT: BIO MEDICAL ENGINEERING**

**YEAR: THIRD YEAR**

## **TEAM MEMBERS**

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# SMART WATER FOUNTAIN

## Definition

The problem you're describing is creating a smart water fountain using IoT(Internet of Things)and Node MCU. Here's a simplified solution to get you started:

## Problem Statement:

Design a smart water fountain that can be controlled remotely using a mobile app to ensure the fountain never runs dry.

## Solution:

### Components Needed:

1. Bread board
2. 9V Battery
3. Relay module
4. Node MCU (ESP8266 CH340G)
5. DC Water bump
6. Bump connecting cables
7. Connecting wires
8. Connecting cables

### Steps to Implement:

#### 1. Assemble the Hardware:

- Connect the 9V battery to the Bread board.
- Connect the relay module to the two points in battery and another one point connect to The node mcu.
- Connect the node mcu D4 point to the bread board.
- Connect the water bump to the bread board.
- Set up the tubing and fountain head in the desired location.

#### 2. Program the Node (MCU):

- Write Node(MCU) code to control the water pump through the relay module.

- Use the Wi-Fi module to enable IoT capabilities, allowing the Node(MCU) to connect to the internet.

### **3. Set Up IoT Communication:**

- Choose an IoT platform(e.g., ThingSpeak, Blynk, or MQTT)and create an account.
- Configure the Node(MCU) to send water Bumping level data to the chosen platform at regular intervals.

### **4. Create a Mobile App:**

- Develop a mobile app(Android or iOS) that connects to the IoT platform and allow users to control the fountain remotely.
- The app should display real-time water bumping level information and provide options to turn the fountain on/off.

### **5. User Interface (UI):**

- Design a user-friendly interface for the app with buttons for controlling the fountain and a visual representation of the wate bumping level.

### **6. Remote Control:**

- Implement the logic in the app to send commands to the Node through the IoT platform.
- Ensure that users can start or stop the fountain with a simple tap on the app.

### **7. Safety Measures:**

- Include fail-safes in your code to prevent the water pump from running dry, based on the sensor readings.
- Send notification to users when the water pumb or when the fountain is turned off due to low water.

### **8. Testing and Deployment:**

- Test the entire system to ensure it works as expected.
- Deploy the water fountain in your desired location, ensuring it has a reliable Wi-Fi connection.

This solution provides a basic frame work for creating a smart water fountain using IoT and Node. Depending on your specific requirements and the complexity you want to add, you can enhance the system by including features like scheduling fountain operation or using additional sensors for environmental monitoring.

