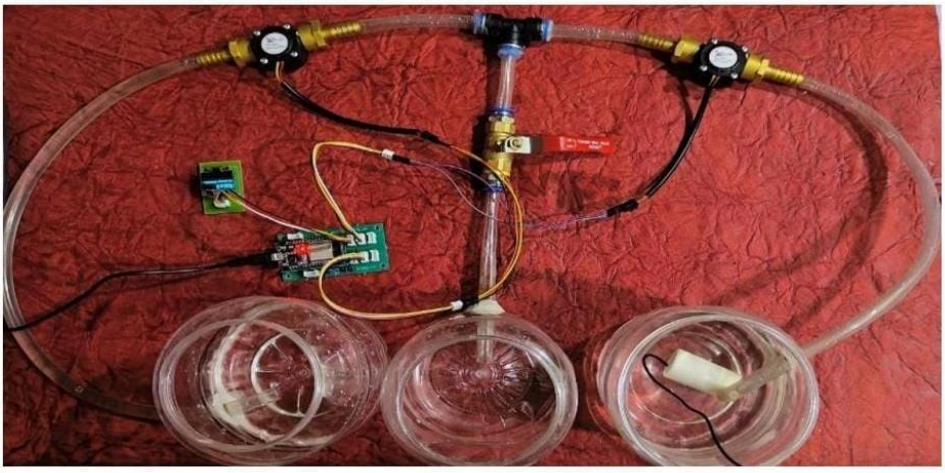
SMART WATER MANAGEMENT SYSTEM USING IOT

Water leakage detection system



Our proposed smart water leakage detection system aims to overcome the limitations of the existing manual inspection methods by offering an automated, sustainable and proactive approach to detecting water leakage . The system combines the power of microcontrollers, sensors, and an OLED display to provide real-time monitoring, accurate detection, and timely alerts.

WORKING ALGORITHM

Input: Water inflow
Output: Leakage or not

Step 1: Two water flow sensors has to be intilized

Step 2: Place one at pumping water tanks and second one at destination (house)

Step 3: water flow between the source and destination

Step 4: void pulseCounter() { // Increment the pulse counter pulseCount++; } void pulseCounter1() { // Increment the pulse counter pulseCount1++; }

Step 5: flowRate = ((1000.0 / (millis() - oldTime)) * pulseCount) / calibrationFactor; flowRate1 = ((1000.0 / (millis() - oldTime)) * pulseCount1) / calibrationFactor; difference = flowRate - flowRate1; if(difference>2) {digitalWrite(led, HIGH); // turn the LED on (HIGH is the voltage level) delay(1000); // wait for a second digitalWrite(led, LOW); }

Step 6: based on step 5 the light will on (if water leak) or of(no water leak)
Step 7: It will send to mobile app for notification

Step 8: step 6 to step 7 will continue for ever.

System logic