Project Design Phase-I
Solution Architecture

Solution Architecture:

Water pollution is the root cause for many diseases in the world. It is necessary to measure water quality using sensors for prevention of water pollution. However, the related works remain the problems of communication, mobility, scalability, and accuracy. In this paper, we propose a new Supervisory Control and Data Acquisition (SCADA) system that integrates with the Internet of Things (IoT) technology for real-time water quality monitoring. It aims to determine the contamination of water, leakage in pipeline, and also automatic measure of parameters (such as temperature sensor, flow sensor, color sensor) in real time using Arduino Atmega 368 using Global System for Mobile Communication (GSM) module. The system is applied in the Tirunelveli Corporation (Metro city of Tamilnadu state, India) for automatic capturing of sensor data (pressure, pH, level, and energy sensors). SCADA system is fine-tuned with additional sensors and reduced cost. The results show that the proposed system outperforms the existing ones and produces better results. SCADA captures the real-time accurate sensor values of flow, temperature, and color and turbidity through the GSM communication.

Example - Solution Architecture Diagram: