Smart Water Quality Monitoring System

A smart system utilizing Arduino Uno, temperature sensor, and LCD sensor to monitor water quality in real-time.

BY

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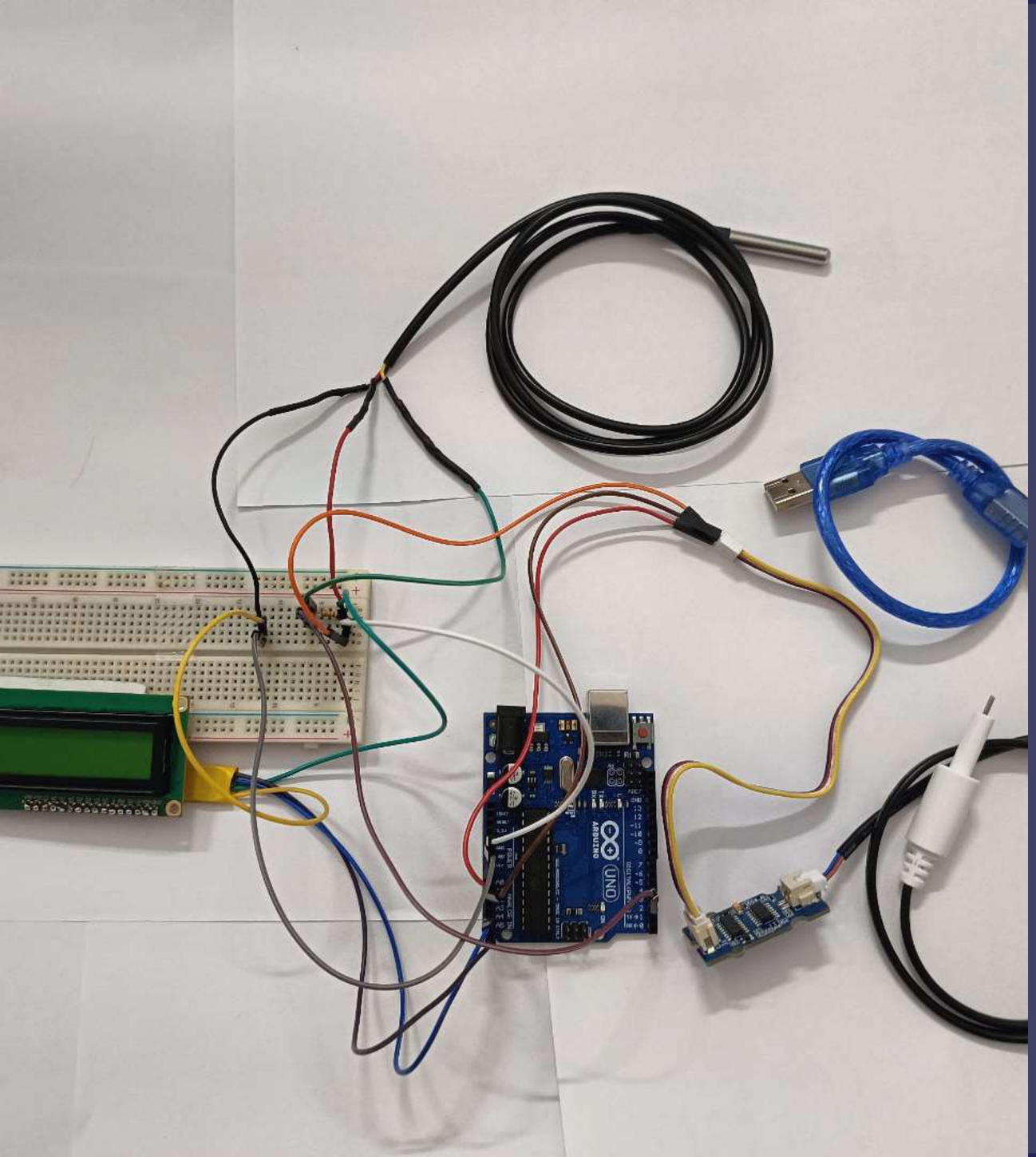
PROBLEM STATEMENT

Design a cost-effective and efficient water quality monitoring system that provides accurate and real-time data for various applications.



Schematic and Setup

An illustration depicting the connections of the important components in the smart water quality monitoring system using Arduino Uno.

List of Components

Arduino Uno

Main microcontroller for data collection and processing.

Temperature Sensor

Measures and records water temperature in real-time.

Challenges and Solutions

1 Calibration

Ensuring accurate calibration of the sensors to provide reliable data.

2 Data Transmission

Establishing a stable and efficient communication channel to transmit data wirelessly.

3 Data Interpretation

Developing algorithms to interpret the collected data and provide meaningful insights.

4 Power Management

Optimizing power consumption to prolong the system's operational time.

Live Demonstration

A live demonstration showcasing the functionality and capabilities of the smart water quality monitoring system.

YOU TUBE LINK

Contributors

SRINIVAS

Implemented the Arduino Uno microcontroller and sensor integration.

SRI VARDHAN

Responsible for the temperature sensor implementation and data analysis.

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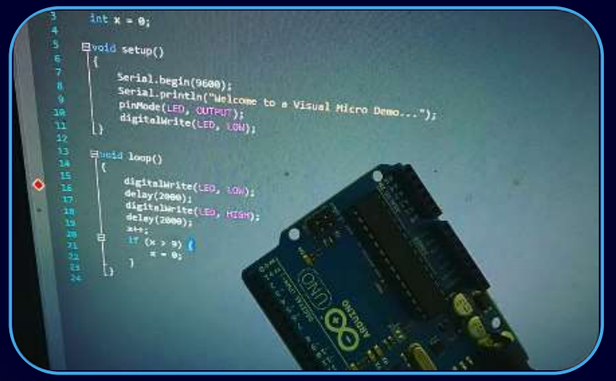
Responsible for the TDS sensor implementation and data analysis.



SOUNAK SAHA

Coding of ARDIUNO is crucial part of the experiment .code includes reading data from

Important Learnings

1

Data Accuracy

Ensuring the calibration and accuracy of the sensors is vital for reliable water quality monitoring.

2

PROS

Real-time monitoring, early contamination detection, and remote accessibility

3

CONS

High initial costs, maintenance needs, and data management complexities.