Potamoi: **A**pp-driven **C**omponent-based device for **O**ptimizing **W**ater quality data **A**ccuracy

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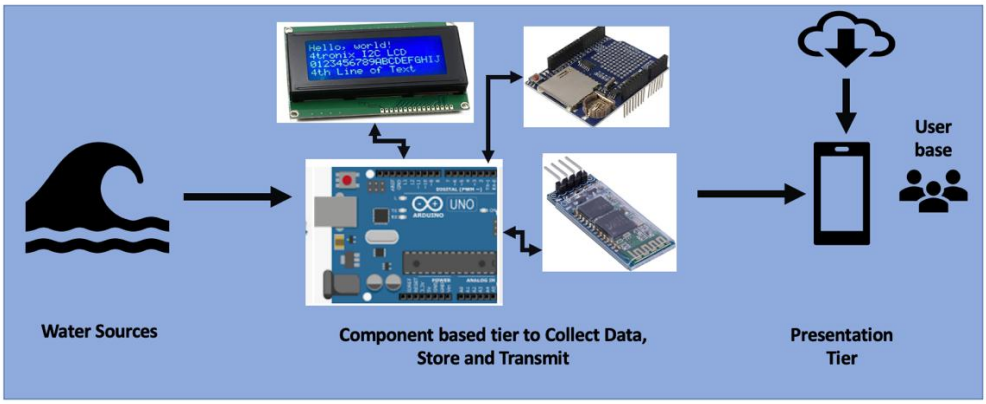
As the global population continues to rise, access to clean water is becoming an urgent challenge. Declining water quality affects communities worldwide, yet both citizens and scientists lack affordable, convenient, and reliable tools to analyze the contents of the drinking water. Existing water quality devices are often expensive, difficult to operate, or fail to deliver accurate results. This problem persists at both the local and global levels.
To address this need, I designed a component-based platform featuring a water quality monitoring device built using Arduino technology. The device provides accurate real-time measurements and connects to a mobile application that interprets and displays the data for users.

The Arduino-based system incorporates multiple sensors to collect key water quality metrics, including pH, temperature, and total dissolved solids (TDS). A GPS module is also included to record the location of each test site, enabling geospatial mapping of water conditions. These components form the data collection and transmission tier of the system.

The device integrates seamlessly with a user-friendly, cloud-connected mobile application available on the App Store. The app stores, visualizes, and presents water quality results in a clear and accessible format, making advanced environmental monitoring available to anyone.


Hello, world!
4tronix.I2C.LCD
0123456789ABCDEFGHIJ
4th Line of Text
UNO
User base
Water Sources
Component based tier to Collect Data, Store and Transmit
Presentation Tier