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

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As the human population rapidly increases, declining water quality has become a global issue. In addition, both citizens and scientists have no convenient or efficient ways of detecting the contents of their water. Most water quality devices are expensive, hard to use, or may not provide accurate data. This issue can occur at a local or global level.

My design is a Component-based platform with a device using Arduino technology to measure water quality readings more accurately. The device is connected to an app which interprets and display data to the user.

The Arduino component comprises of a variety of sensors to identify multiple points of testing, such as pH levels, temperature, and total dissolved solid levels (TDS). In addition, a GPS sensor is used to track the locations of the test sites. (Component based tier to Collect Data, Store and Transmit)

The device is integrated with a free, user-friendly, cloud-based app, available on the App store to render collected water quality results. (The Presentation Tier)

