

Link to GitHub Repository

BlueGuardian GitHub Repository - <https://github.com/Headmaster218/BlueGuardian4Mobile>

Introduction to Application

BlueGuardian is a mobile application developed using Flutter to monitor and visualize the water quality of rivers in real-time. The app leverages IoT sensors to collect environmental data, including parameters like dissolved oxygen, turbidity, pH, temperature, and coliform. These sensor data are sourced from **AquaSense**, developed to monitor the Thames River's water quality. The data is communicated via MQTT to provide real-time updates, which are displayed on an interactive map for easy river monitoring.

In addition to real-time monitoring, **BlueGuardian** supports historical data retrieval and graphical visualizations, allowing users to track changes in water quality over time. The app provides a settings page to configure the MQTT server IP and port. By combining mobile development, IoT integration, and cloud communication, **BlueGuardian** offers a cost-effective, accessible solution to empower communities in protecting and improving local aquatic environments.

Bibliography

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Declaration of Authorship

We, Zhuohang Wu, confirm that the work presented in this assessment is my own. Where information has been derived from other sources, I confirm that this has been indicated in the work.



29 Apr, 2025