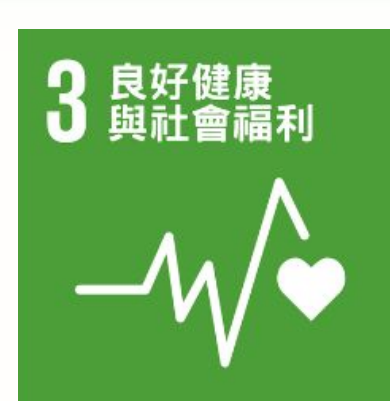




SUSTAINABLE DEVELOPMENT GOALS



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iQUA: 可持續性智能水族箱養殖系統

An Ingenious Approach to Sustainable and Hassle-Free Aquatic Environments

Abstract

Recent technological advancements have significantly **impacted global society**, enhancing our **quality of life** and **reshaping daily routines**. This abstract highlights our efforts to leverage **cutting-edge technology**, combining **software and hardware integration** to develop **practical** real-world applications.

Motivation

In recent years, while **AI technologies** have seen remarkable advancements in both software and hardware, their utilization in the domain of **aquarium cultivation** remains relatively limited. This dearth of application underscores the need to explore and implement **AI and Internet of Things (IoT)** technologies in the context of **aquarium management**. This research paper aims to address this gap by developing a **real-time monitoring** system that **integrates AI and IoT**, providing aquarists with more **efficient** and **engaging tools** for the effective management of their aquariums.

Architecture

Automatic Fish Feeder

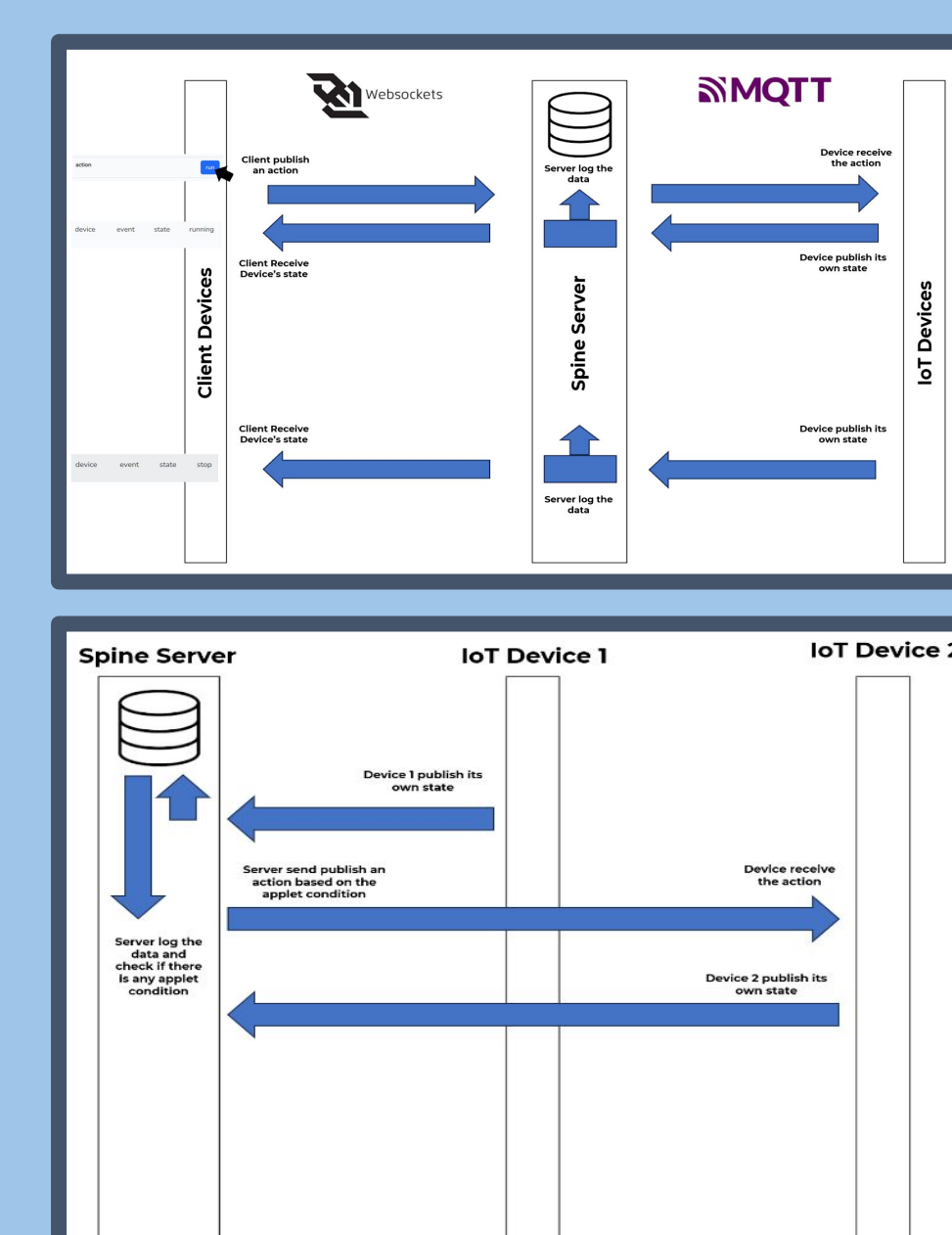
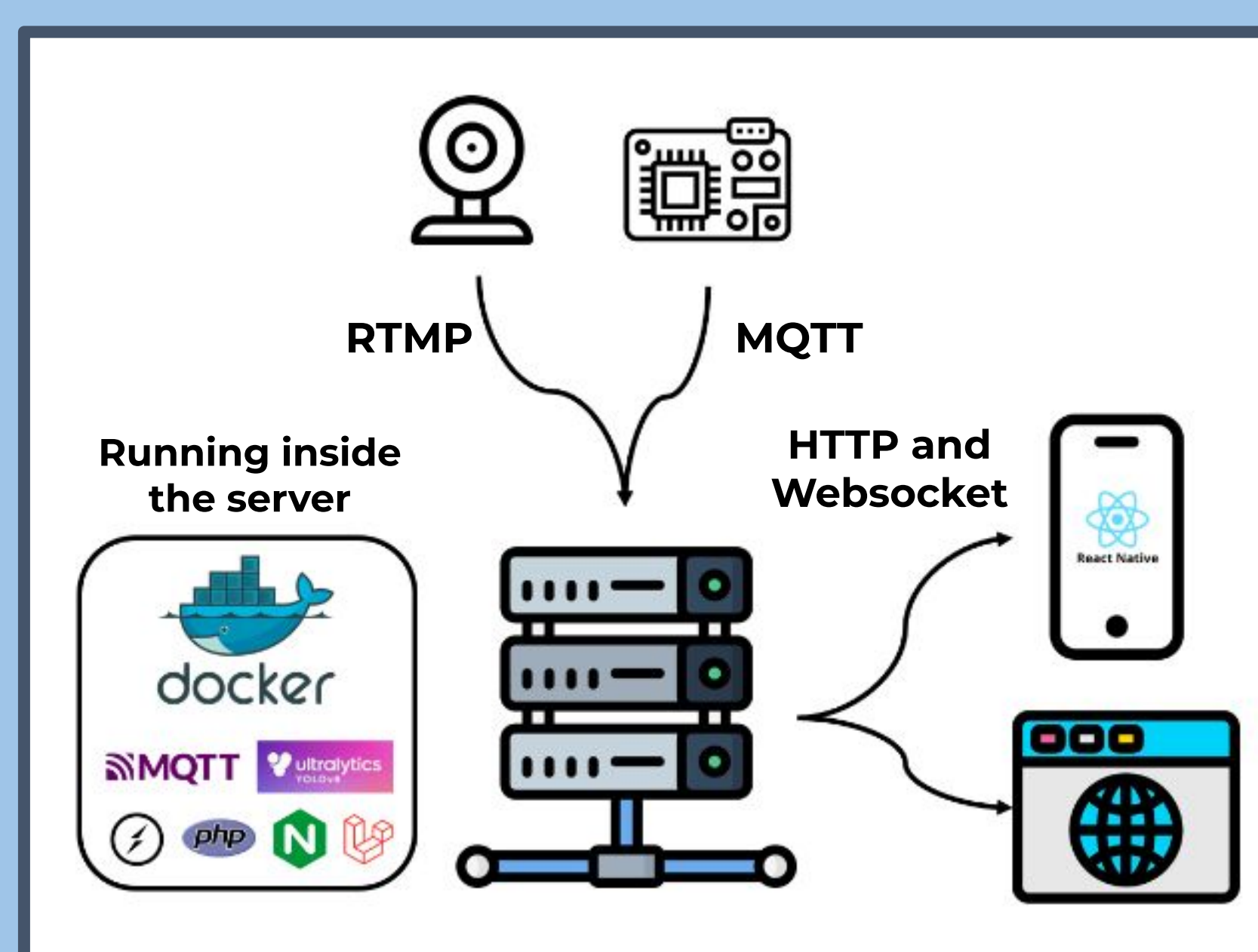
Light Sensor



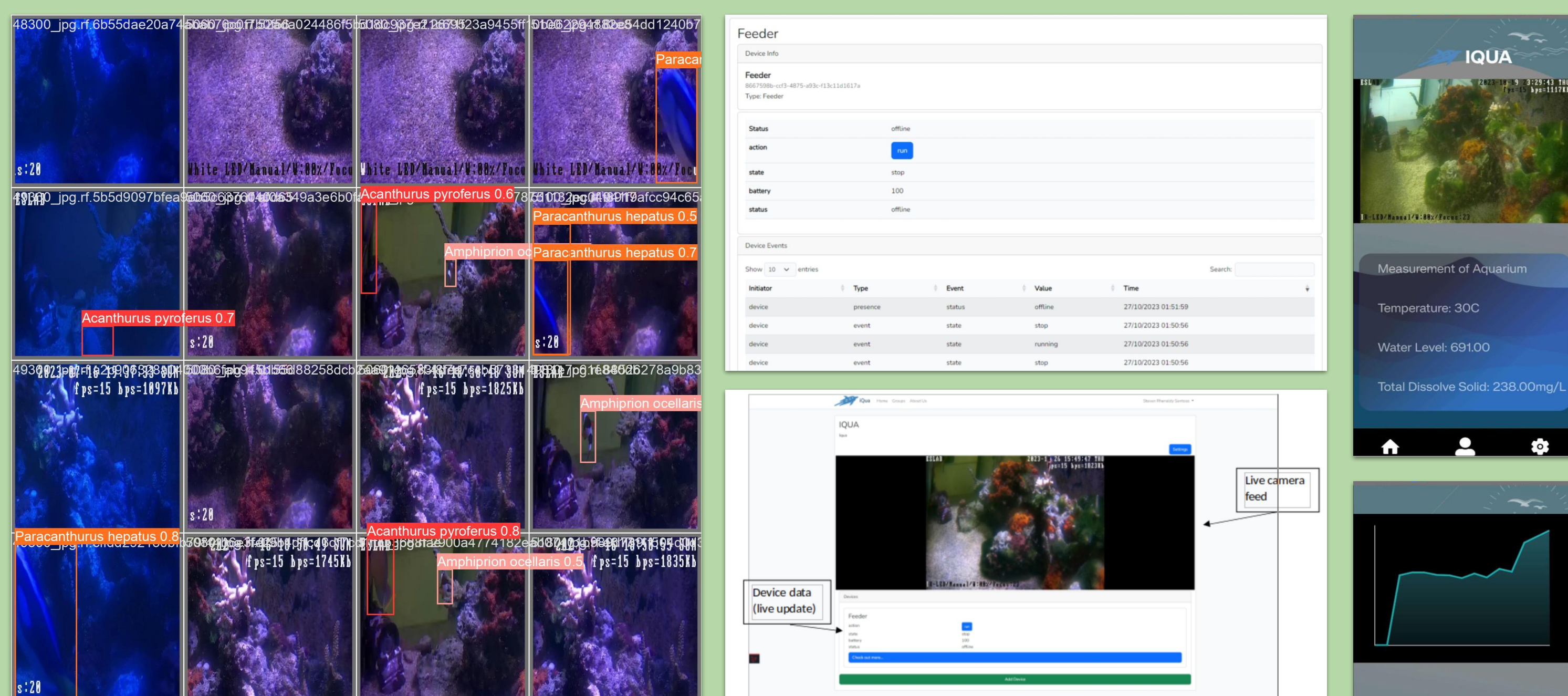
TDS Sensor

Underwater Camera

Water Level Sensor



Result



Future Plan and Goals

Refining smart aquarium automation:

- Aim to achieve greater precision.
- Focus on improving energy efficiency.

Advanced LED lighting:

- Utilize advanced LED lighting technology.

Educational content expansion:

- Enhance the user experience with educational content.

Seamless integration with smart home systems:

- Enable comprehensive control over the aquarium environment.
- Appeal to both novices and seasoned enthusiasts.