

# Remote FishLab

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## Project Goal

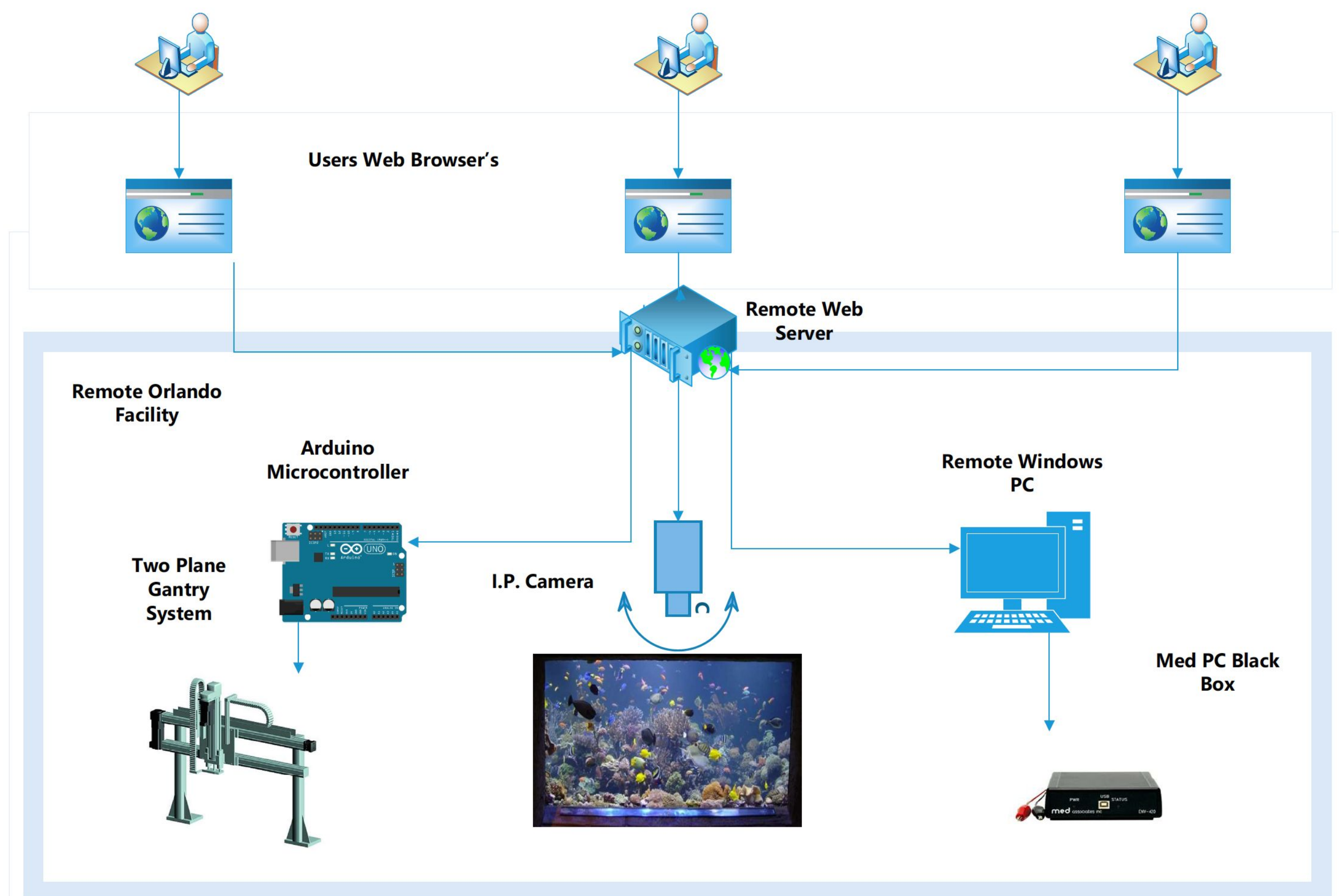
Remotely control and administer a research laboratory running a behavioral analysis experiment on fish residing in numerous tanks. The user of this system is able to use a web application to select a tank for experimentation, watch the experiment take place, and monitor lab sensor data all in one interface.

## Motivation

This system will allow the graduate students of the Psychology Department at Florida Tech to easily and frequently access the offsite facility operating the behavioral experiment. This in turn also allows them to easily achieve more accurate and consistent readings of the test subjects. Finally, the automation of the system shall increase efficiency of the experiment by removing the time required to set up the experiment by hand. We plan for this system to be used by multiple research teams from different institutions across the nation.

## Approach

The system involves a 2 plane gantry system that is remotely controlled utilizing the Arduino platform and Node.js. The web interface will be using RealVNC to support remote access to the lab's PC with the Med PC software installed. Additionally, IP cameras are embedded into the web page, with multiple tank perspectives available. This software is designed to fully support COTS hardware.



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