

Water Temperature Manipulation System

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1 What are we trying to accomplish

Our goal with this experiment is to create a water temperature management system that could be used in a home aquarium. We are going to design an automated water heating system that keeps a small source of water at a user-defined temperature, ideally with one degree (or less) precision.

2 Why are we attempting this

Rachels parents recently acquired a saltwater fish tank and would like an automated heating system for it. It is an interesting hardware project that would not take a whole lot of complex coding, but more trial and error making sure the system responds correctly to its environment.

3 How do we plan to make this happen

We need two thermometers (for assurance), a heating element, raspberry pi (or some other small computer), and a container to hold testing water and components. Once we have an accurate measurement system in place, we will begin working on developing ways to evenly and accurately heat the water. We don't plan on creating a cooling element, other than reducing the heat output, due to the time constraints of this project.