

# The Fish Keeper

Physical Computing &  
Code Literacy Final

Kinza Kasher





## Concept behind the idea.

I have been a saltwater aquarist for over four years now. I have a 20-gallon tank and have a 55-gallon. While the maintenance of the 20-gallon tank is manageable with my extremely busy schedule, the 55-gallon reef tank requires some extra time to keep up with, considering the many levels that need to be kept in check with saltwater fish, live rock and corals.

For my final project, I would like to come up with an automatic control system which will keep the various levels in check and intervene as needed. Ideally, I would like to have an overview of the levels and other variables which will also be available to me remotely, when I am not at home to keep an eye on the tank.





## Needed components of the idea:

- To check salinity, PH, ammonia levels in the water.
- To keep a check on the temperature of the water.
- Automatic light turn off/on.
- Automatic water top-off when the water level drops in the tank.
- Detect leaks in the fish tank.
- Automatic fish feeder.
- Automatic turn off/on for powerheads and wavemakers at different speeds.
- Signal/alarm when it is time for water maintenance.
- Display to handle view/post all information

## Nice-to-haves

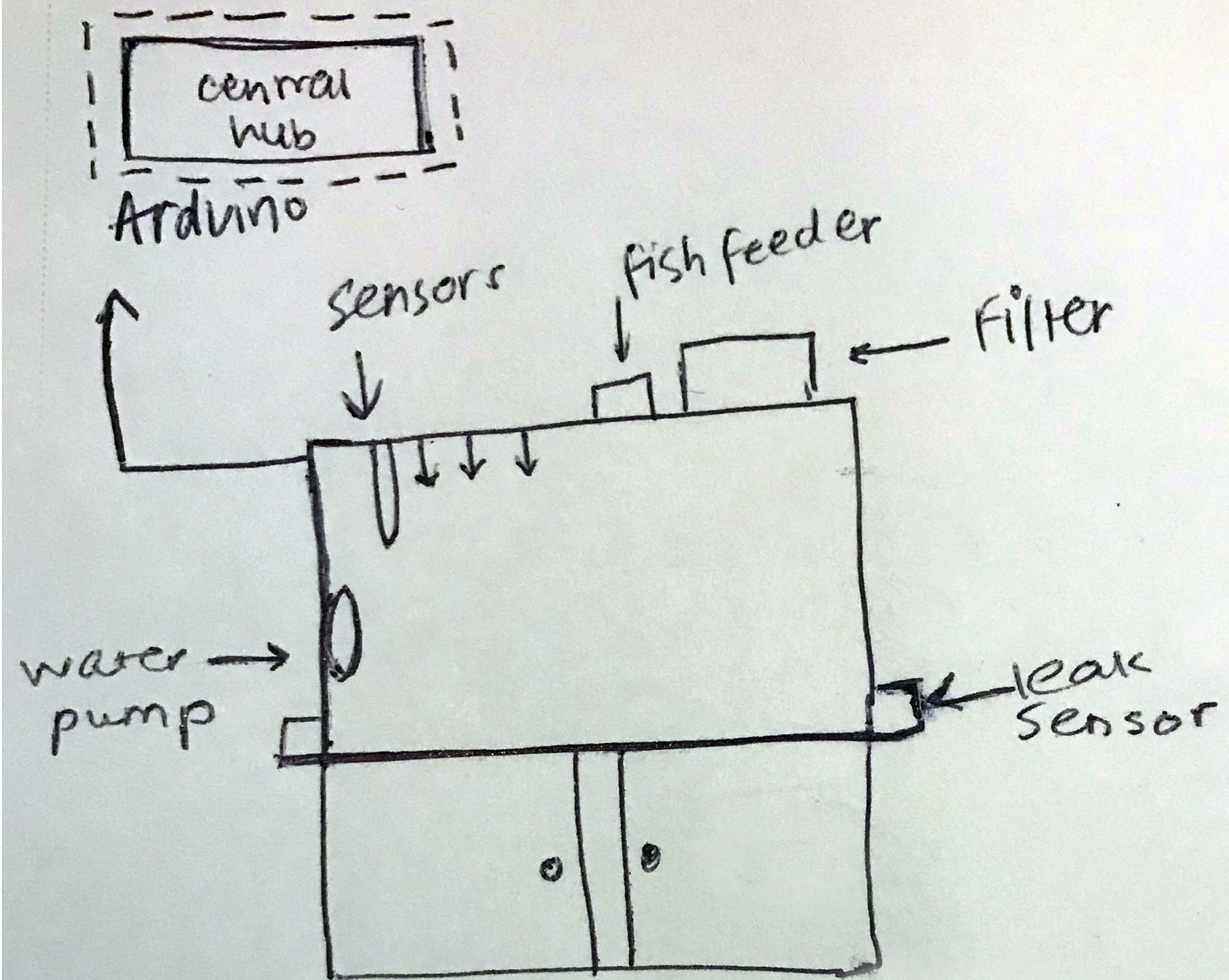
- Coral food dosing schedules/pumps.
- Detect copper/harmful substance in water.
- Nitrates and nitrite levels in water.





## Things I need:

- A hub/central location to hold all sensors.
- A digital layout, (on my phone?) to display information.
- Sensors for temperature, chemical levels, water levels, temperature.
- Wiring compatible with water.
- Water reserves and containers.



Thank you!