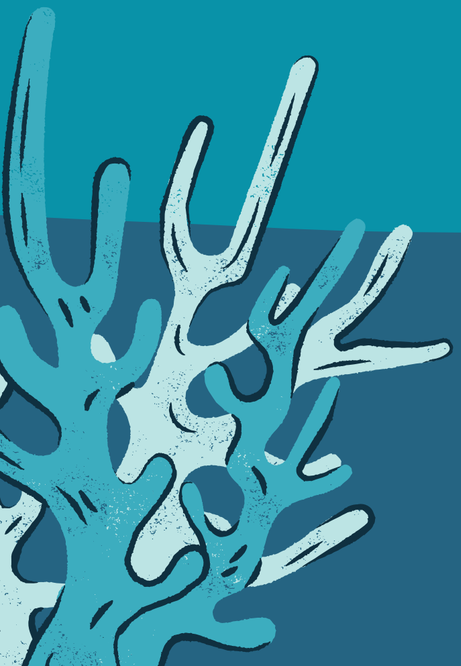
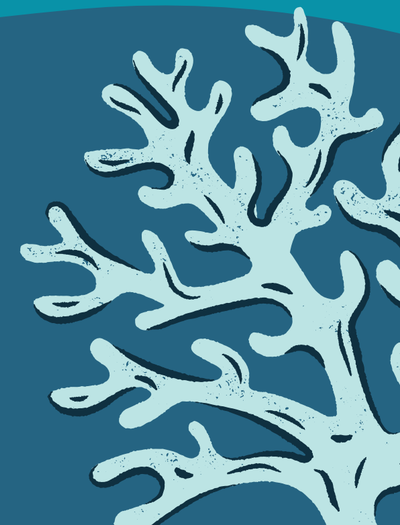
THE FISH TANK

Team name: Girls IN TJ





Water Quality System for a sustainable future

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Slection background

Problems

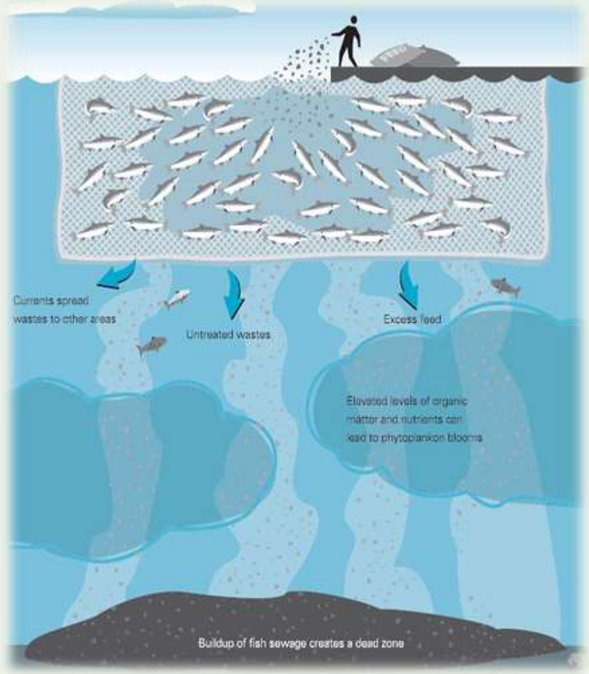
1. Increasing in the acidity of seawater

→Increased acidity of seawater threatens marine ecosystem by impeding its ability to absorb carbon dioxide

2. Marine pollution caused by aquaculture

→Aquaculture fishing is mainly carried out near the coast, and various contamination occurred as feed scraps of fish excrement were deposited on the bottom of the farm. In addition, pollution has led to the devastation of fish farms and surrounding fishing grounds.

https://www.noaa.gov/education/resource-collections/ocean-coasts/ocean-pollution



https://www.et.org.au/fishfarms_takeaction

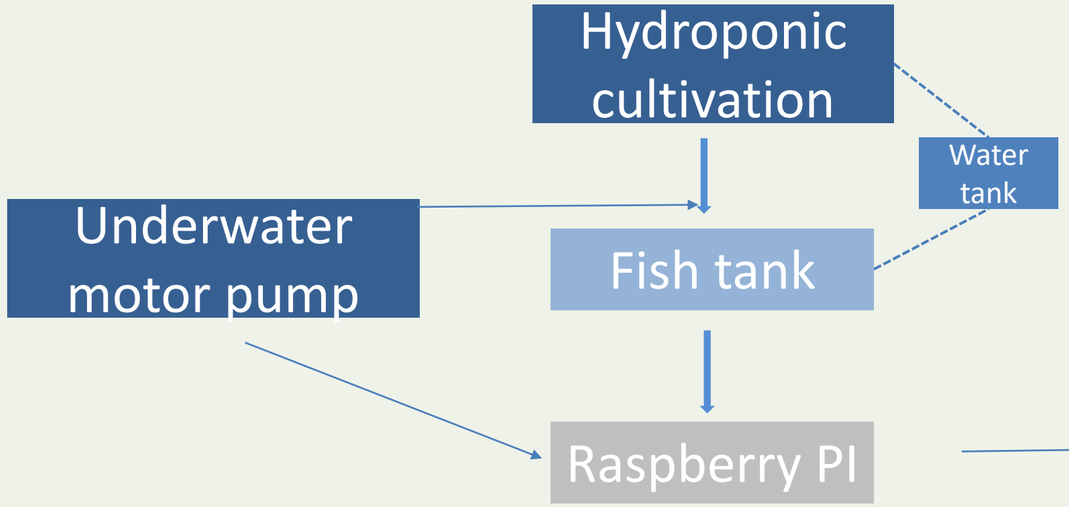
Solution

1. AquaPonics
2. RAS(Recirculating Aquaculture System)
3. Biofloc

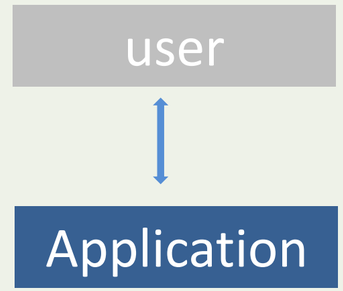
Diagram

Main Function

- A water-changing system
- An application that tells you the water condition
- A pot that reuses water



- PH measurement sensor
- Analog turbidity sensor
- PI camera (for app)
- Water temperature measurement sensor
- Water pump x2



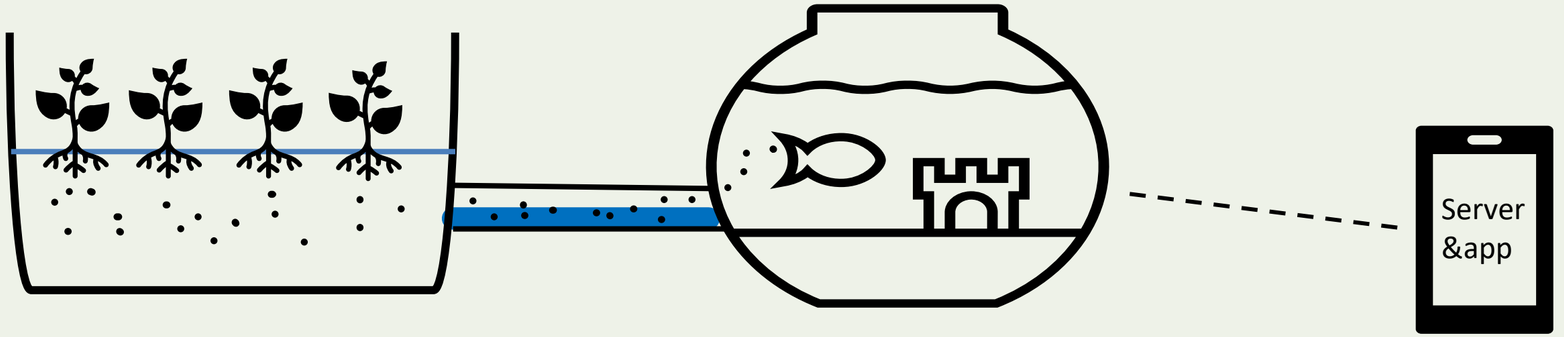
- Node.js
- Raspbian OS
- Python
- MySQL
- Android Studio

System Structure

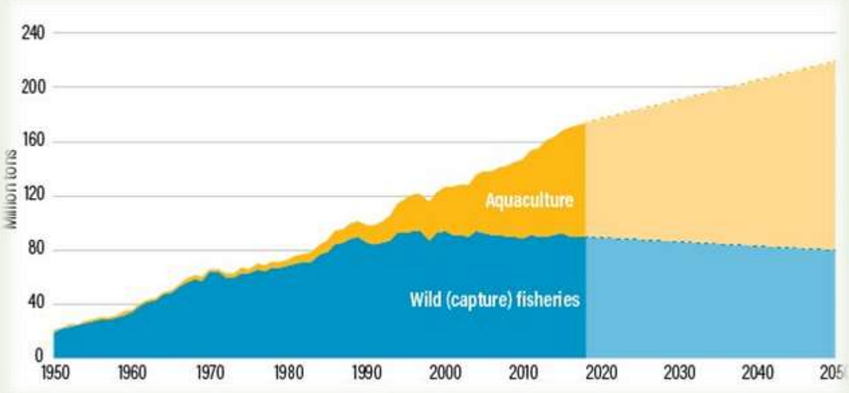
Hardware development

Software development

Expectation effectiveness



Implement a sustainable ecosystem through ICT technology.
This technology can develop into fish-farming technology to promote a sustainable marine ecosystem. This is because instead of making water contaminated with feces reusable, we chose to use it as fertilizer for plants. And also 70% of microplastic at sea comes from fishing gear. If the amount of wild capture decreases due to the development of aquaculture,
it will help the marine environment.



World resources institute