REEF PATROL

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THE PHILIPPINES

is home to the **LARGEST** coral species in the world

600 SPECIES	PHILIPPINES

VS

400 SPECIES	GREAT BARRIER REEF
50 SPECIES	CARIBBEAN

CORAL REEF HEALTH

continues to **DECREASE** every year due to pollution, ocean acidification, and climate change

Problem 1

How do we **PRESERVE** coral reefs for marine biodiversity?

Problem 2

How do we **MAINTAIN** coral reef health in the long run?

Problem 3

How do we find **NEW AND EFFECTIVE WAYS**

to preserve and maintain coral reef health globally?

REEF PATROL

is an **INNOVATIVE DEVICE**

THAT

- Shows real time data in the reef
- Helps the government protect coral reefs from harmful action
- Educates the public on coral conservation
- Eases the data gathering process

PRESERVES coral reefs

by closely monitoring the **temperature, pH, turbidity, and dissolved oxygen content** in the surrounding waters

MAINTAINS coral reef health

by helping the government regulate harmful actions against the reefs through **online and accessible data**

FINDS new and effective ways of preserving and maintaining coral reefs

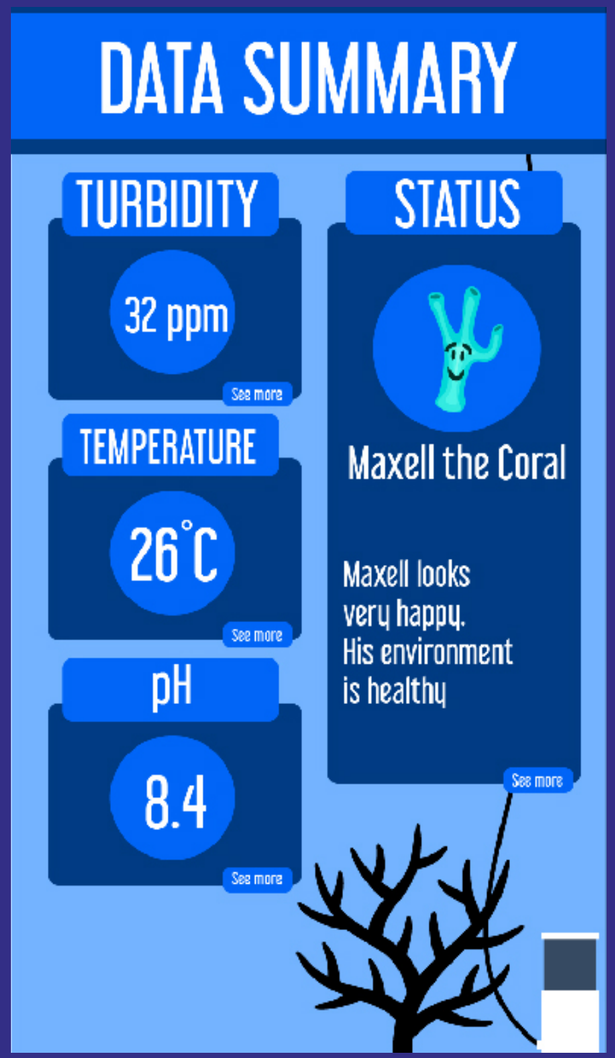
by promoting coral reef health and education especially to the mass public, academic institutions, and field experts through **open source data**

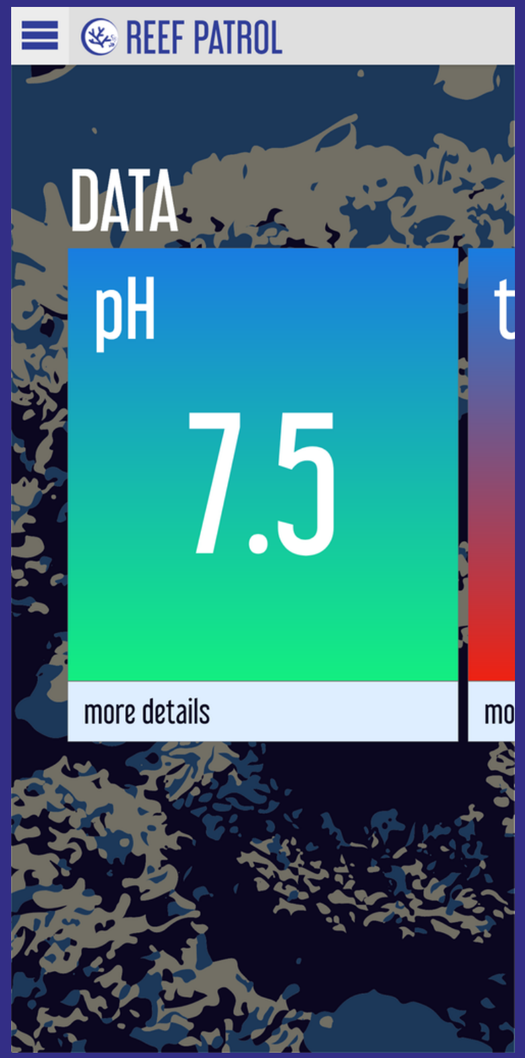
REEF PATROL

UPDATES

APPLICATION DEVELOPMENTS, ENCLOSURE OPTIMIZATIONS, PRINTED CIRCUIT BOARD FABRICATION

REEF PATROL | Application Developments



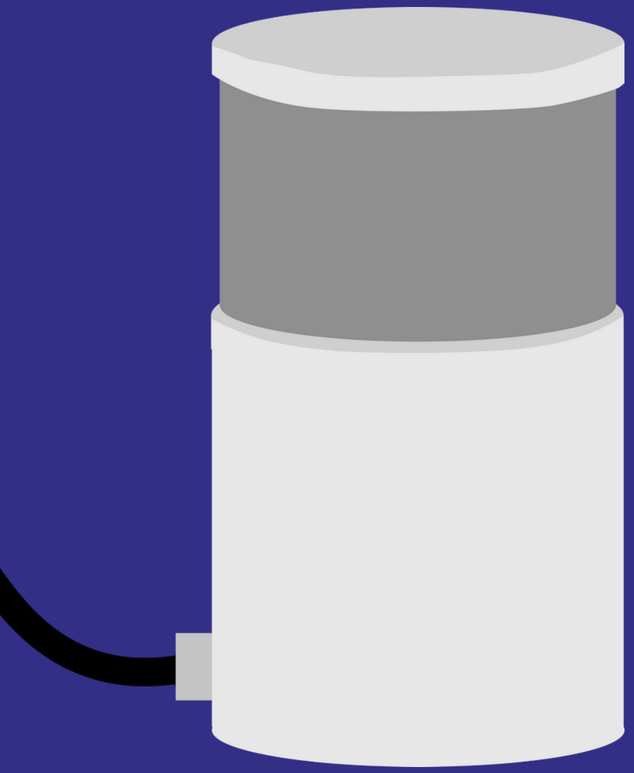


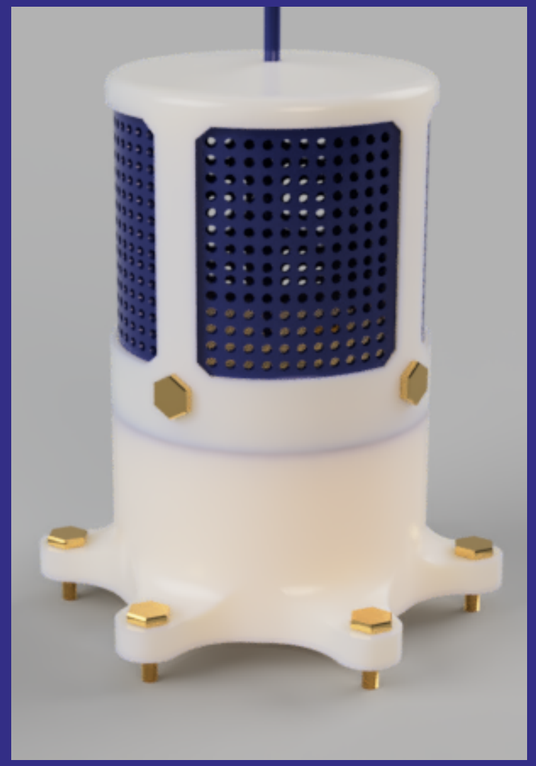
ENHANCED UI

IMPROVED EASE OF USE

OPTIMIZATIONS

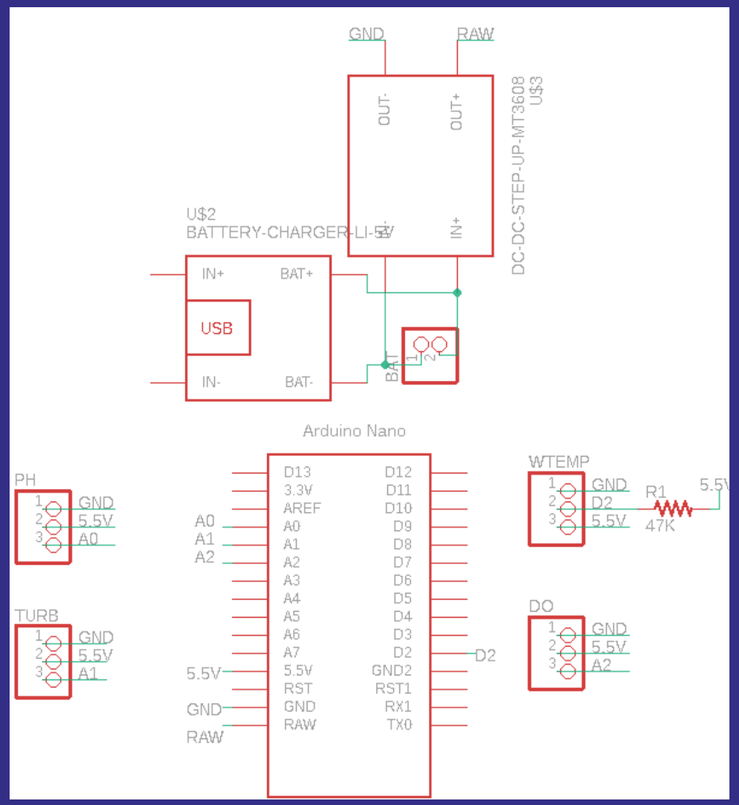
REEF PATROL | Enclosure Optimizations

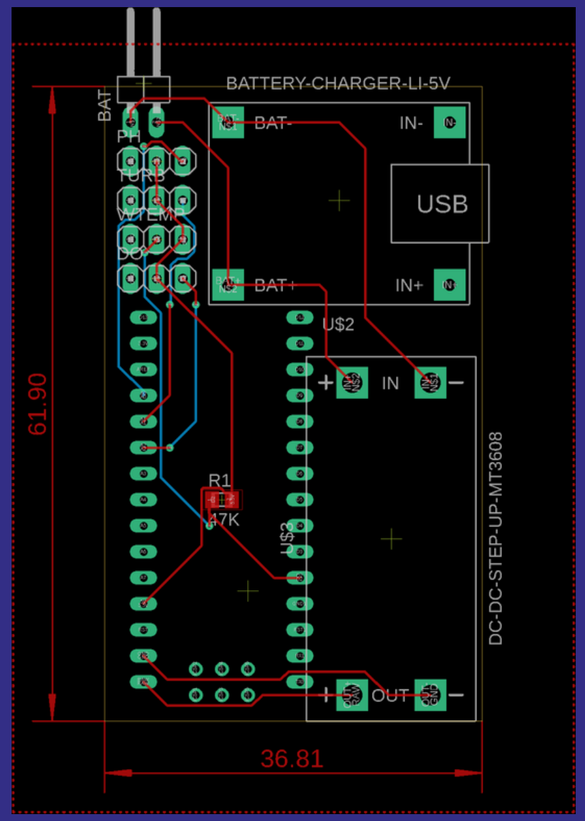




- **IMPROVED FLUID DYNAMICS**
- **ENHANCED WATERPROOF SEALS**
- **BOLT AND NUT SYSTEM**

REEF PATROL | Printed Circuit Board Fabrication





COMPACT CIRCUIT BOARD

IMPROVED SIGNAL TRANSMISSION

ENHANCED ELECTRONIC RELIABILITY

REEF PATROL

Budget and Expenses

Php 12,205	DFRobot Dissolved Oxygen Sensor
Php 2,426	JLCPCB Custom PCB Fabrication

Next Steps

Extensive Testing of Second Prototype

A series of multiple tests shall be conducted to ensure that all system pre-requisites are met. Monitoring systems will also be checked for data transmission, accuracy, and reliability. Waterproof seals will be benchmarked.

Reaching out to Government Agencies

Before deployment, it is essential for the team to reach out to government agencies such as BFAR for evaluation.

Deployment

Approval from governmental agencies will progress the project development to deployment phase.

Resources Needed

Human Resources

Communities and volunteers for quick and easy field testing across multiple locations

Financial Resources

Further developments could still be made in the enclosure and circuit of the device. Financial assistance is needed for the fabrication of multiple enclosures and the purchase of LoRa chip modules for long-range online data transmission

THE TEAM

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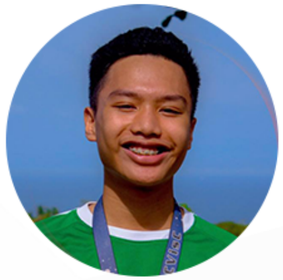

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Thank You