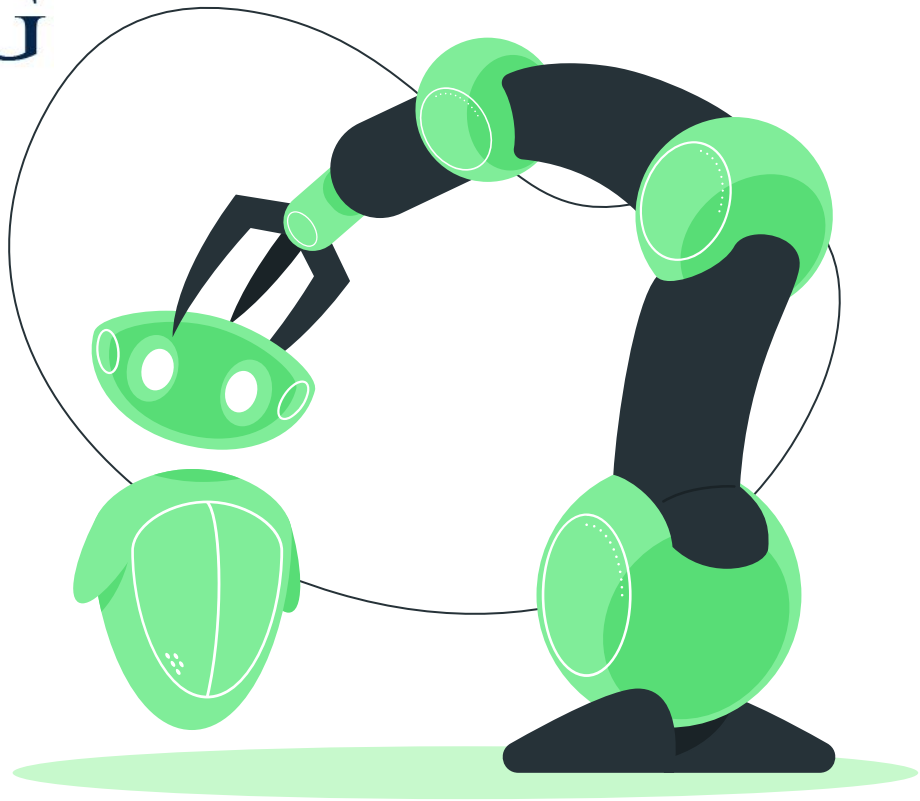
IRON RANGE ENGINEERING

Open ROV Project



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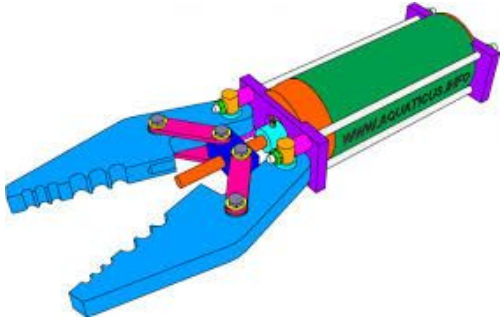
Project Scope Overview

The scope of this project is to modify and improve an ROV that serves as a submersible device to collect data at the bottom of lakes such as the temp and PH of a relatively isolated ecosystem and locate sunken objects.

As an engineering team we also want to develop an easy system that can be replicated by other groups in order to provide a learning opportunity that will introduce them to coding and sensors.

Our main goal as a team is to have the ROV operational by the end of the semester and have 3 field tests completed as proof of functionality.

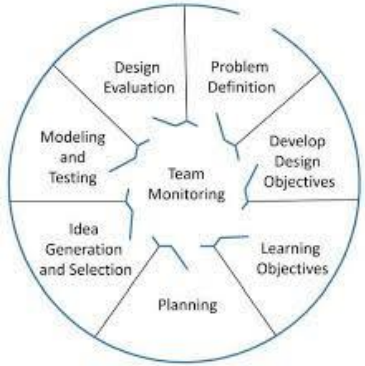


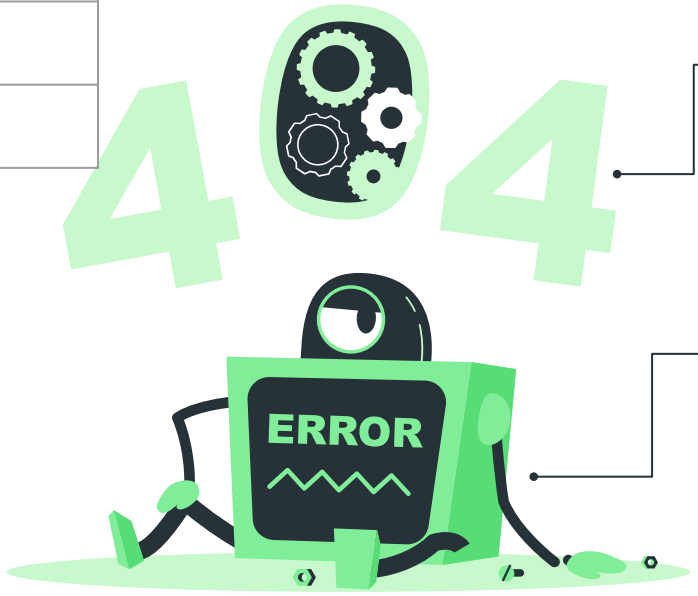
Current ROV

The current ROV has camera feed, propulsion forward, backward, up, and down, and wireless control.

Design Process

	Price	Functionality	Performance
Design 1			
Design 2			





Scoping

What needs to be done?
How can we do it?
Who will do what for the group?
What is our timeline?

Decision matrix

What design makes the most sense, most valuable, economical?
What are we capable of doing?

Implementation

Putting our design(s) into action.
Testing our final design.
Taking notes what could be improved in the future.

Management Tools

A

Time Sheets

Track our work
Show progress

B

Meeting Agendas

Plan what to cover
Review our progress

C

Discord

Group Chat
File Share

D

Google Drive

Organization
Accessable

Learning Objectives

REDACTED

- Communication
- Programming Sensors
- How to pick up where someone left off.

REDACTED

- Team management
- Implementation on an existing project
- Data collection

REDACTED

- Programming
- Project continuation
- Remote Vehicle Operation

REDACTED

- Documentation skills
- Communication
- Continuation of a project

REDACTED

- SolidWorks
- Coding/Programing
- Documentation

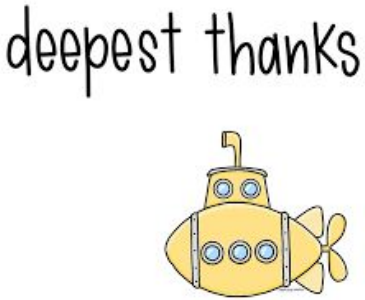
Future Work

Future Objectives to complete on ROV

- 3D print propeller and replace old one
- Implement sensors that determine temp and PH of water
- Develop a grappling system to pick up objects
- Design a sonar system that could read depth of ROV
- Create a testing tank for ROV

Further future work will develop as project progresses and more operation occurs.

Thank you! Any questions?



Sources

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