# Open ROV

Open Source Remotely
Operated Vehicle


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ENGINEERING

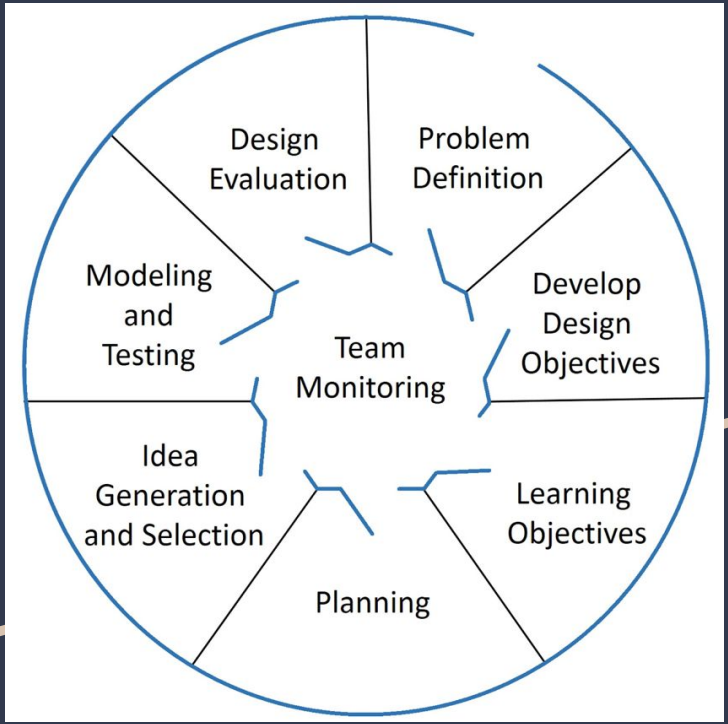
# Project Overview

This semester we were tasked with continuing the design and development of the Open ROV for IRE.

- We started with compiling what we wanted to do as a group for this project.
- Compiled a scope and our documentation.
- Made a plan for the semester
- Had unexpected change in our group, had to rework our scope and objectives.
- Implemented this reworked scope and aied for our new objectives.

# The Rov

# Decision Process



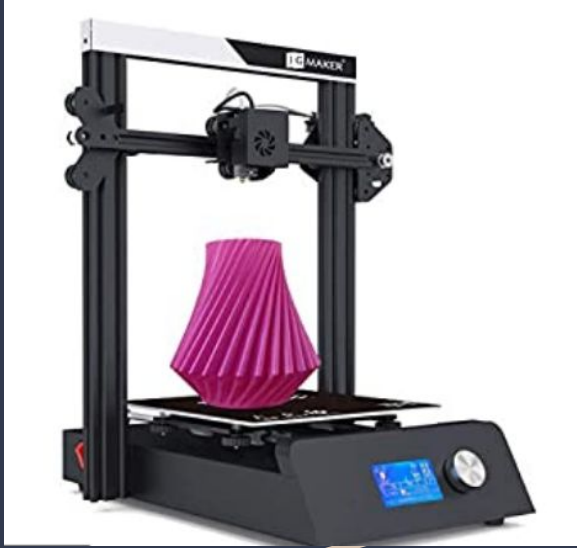

- Identify our scope.
  - Decide roles and responsibilities
- Overcome uncontrolled changes
- Rework our scope
- Come up with new objectives/plan
- With our re worked scope we chose ideas we would like to implement
- Of these ideas we had to choose what we were capable of accomplishing.
- Work on implementation of these new ideas.

# Decision Matrix

| | Grapple | Depth Sensor | Temp Sensor | Lights |
|---|---|---|---|---|
| Capability (3) | 1 | 2 | 3 | 5 |
| Cost (1) | 1 | 1 | 3 | 4 |
| Enhancement (2) | 5 | 3 | 2 | 5 |
| Fabrication (2) | 2 | 3 | 3 | 5 |
| | | | | |
| Scores | 16 | 19 | 22 | 39 |

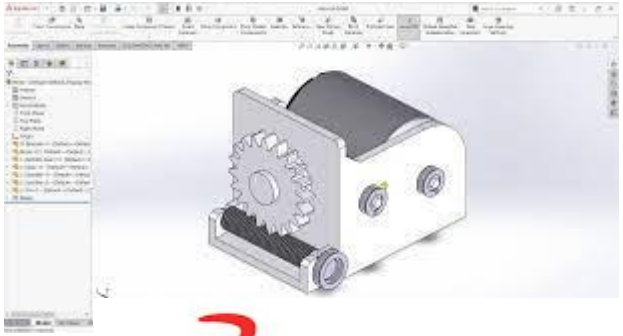
| Design Rubric | Capability (3) | Cost (1) | Enhancement (2) | Fabrication (2) |
|---|---|---|---|---|
| 1 | Be very challenging for us to complete | Highest Cost | Doesn't add much to ROV | Has to be fully self Fabricated |
| 2 | Be possible but not easy | Higher cost | Adds some improvements but not lots | Can be purchased but mostly made |
| 3 | Average ability to complete | Will cost around $50 | Adds decent Imrpovments | Can be purchsed and then assembled |
| 4 | Kind of easy | A small adition to cost | Adds a lot to the ROV | Majority can be purchased |
| 5 | Very easy to complete | Very Low cost | Significantly Improves the ROV | Can be fully purchased and added to the ROV |

# Modern Tool Usage



**3D Printer**

**Arduino**



SOLIDWORKS

# Future Work


- Wire in Lights for ROV
- Upgrade to longer lasting Batteries
- Set up Arduino and Temp Sensor
- Run a full test in a large body of water.

# Learning Objective

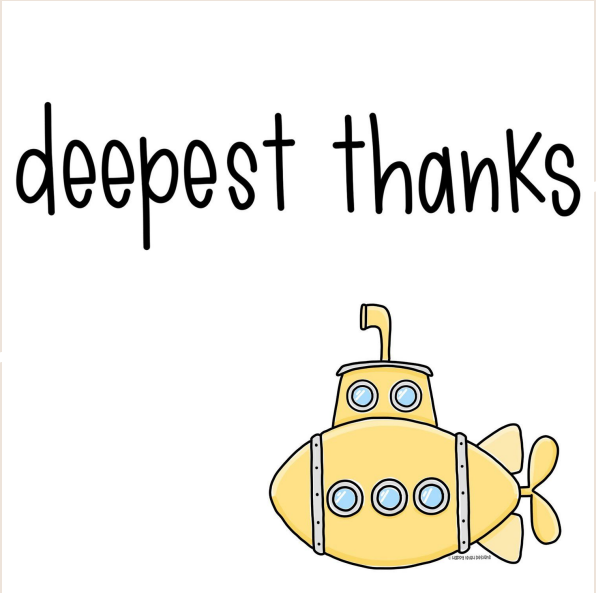
REDACTED

- To learn more about project management and further my knowledge with data collection and vehicle operation/control.

REDACTED

- To learn about building onto a project I didn’t start and also to continue to improve my documentation skills.

# Thank you! Any Questions?



# Sources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