Open ROV

Open Source Remotely
Operated Vehicle

IRON RANGE
ENGINEERING

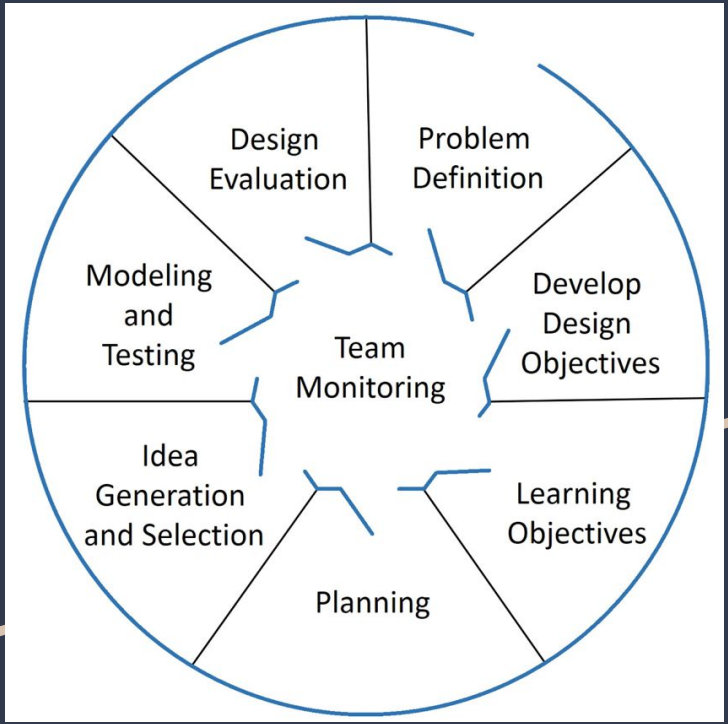
Project Overview

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



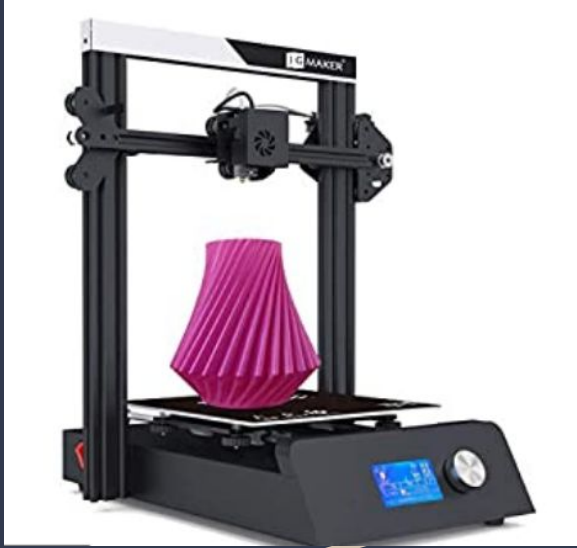
- Identify our scope.
  - Decide roles and responsibilities
- Overcome uncontrolled changes
- Rework our scope
- Come up with new objectives/plan
- With our re worked scope we chose ideas we would like to implement
- Of these ideas we had to choose what we were capable of accomplishing.
- Work on implementation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

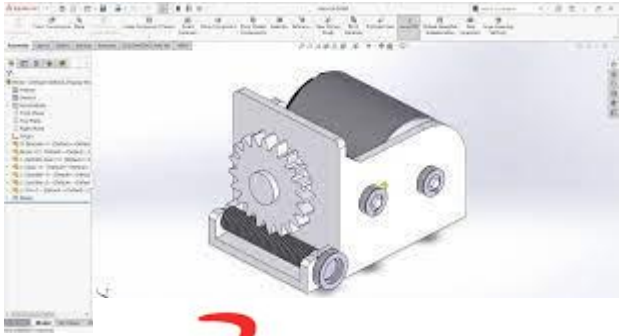
Design Rubric	Capability (3)	Cost (1)	Enhancement (2)	Fabrication (2)
1	Be very challenging for us to complete	Highest Cost	Doesn't add much to ROV	Has to be fully self Fabricated
2	Be possible but not easy	Higher cost	Adds some improvements but not lots	Can be purchased but mostly made
3	Average ability 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

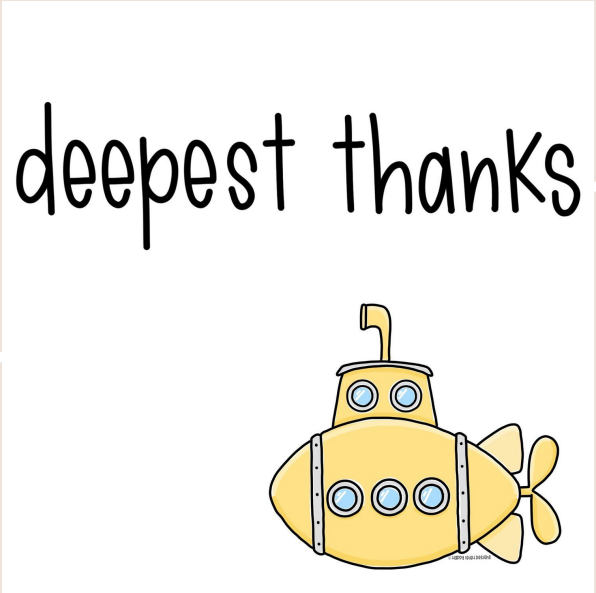
REDACTED

- 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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