

TEC-V

SECOND SEMESTER PLAN



BACKGROUND



CLIENT & ADVISOR

- DR. Wood
 - **Professor** | Ocean Engineering and Marine Sciences
 - **Program Chair for Ocean Engineering**

- Marius Silaghi
 - **Professor** | Electrical Engineering and Computer Science



TEC-V

- Topographic
- Exploration
- Cave
- Vehicle

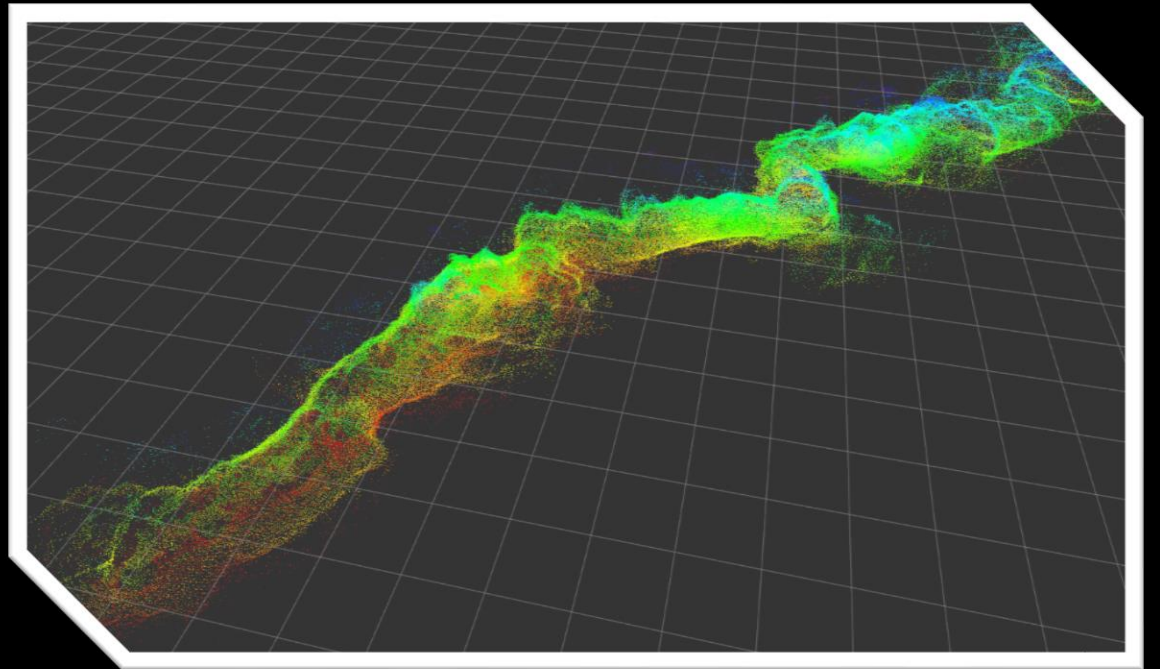


CAVE MAPPING

Problem



Goal



UPDATE FROM PRIOR SEMESTER

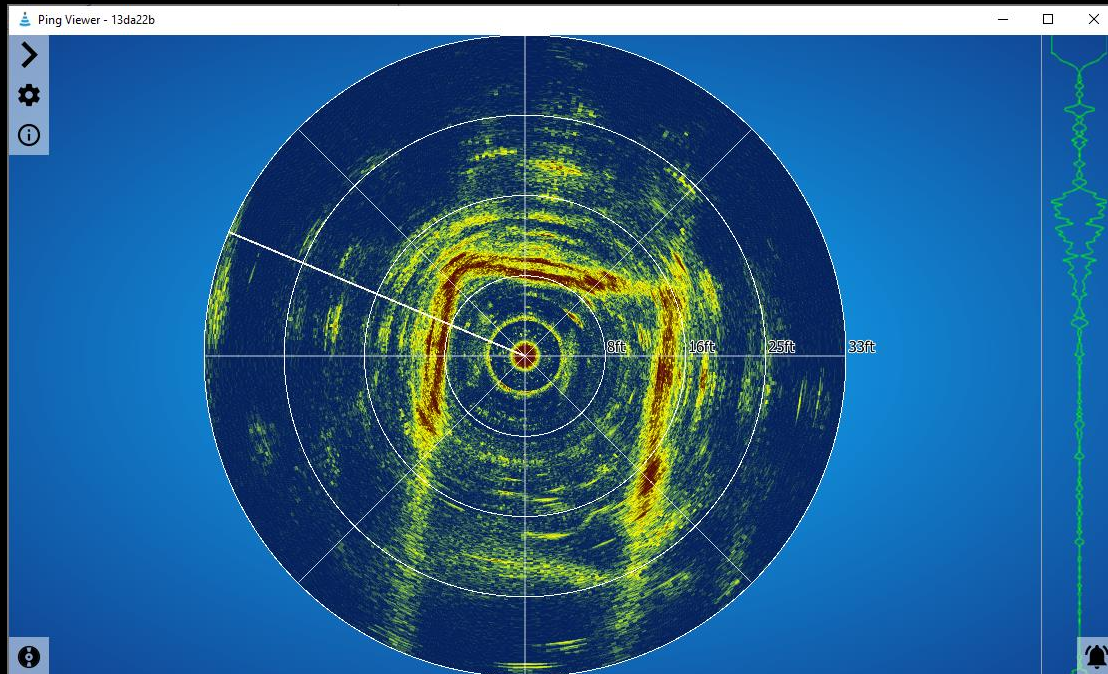
Feature	Percent Completed	To Do
User Interface	50%	Allow user to manipulate the environment
Data Collection	60%	Implement New Sonar Device (Omniscan 450 FS)
Post-processing	70%	Update settings for new sonar
Autonomy	10%	Create pathing algorithm

HOW?

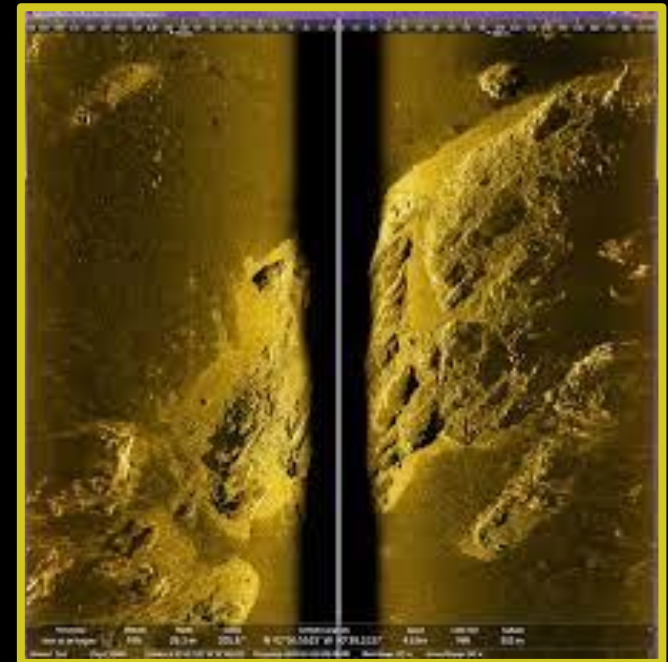


SONAR

360 Sonar

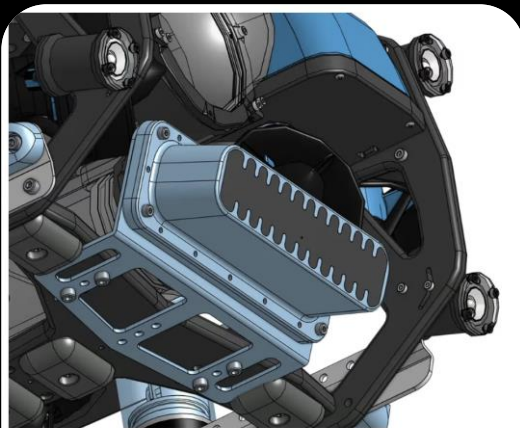


Side Scan

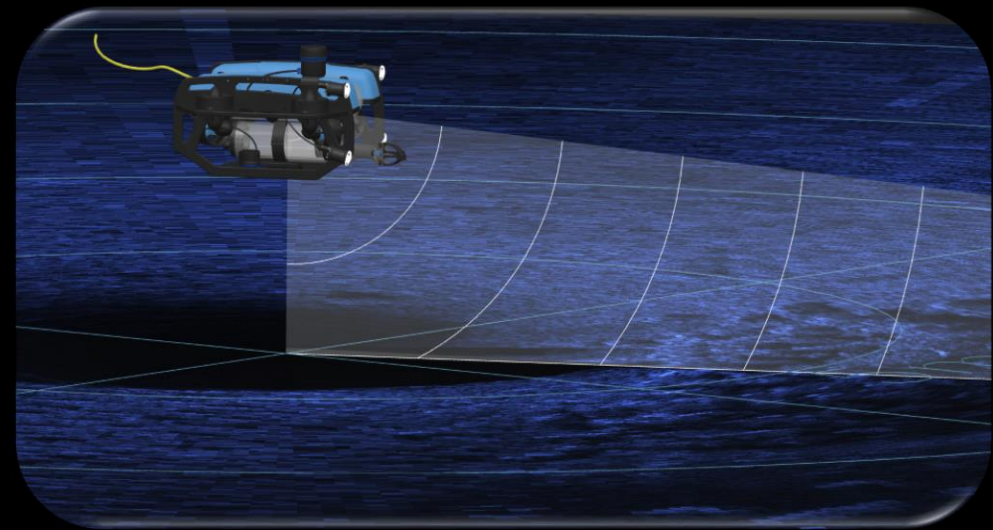


SONAR

Omniscan 450 FS

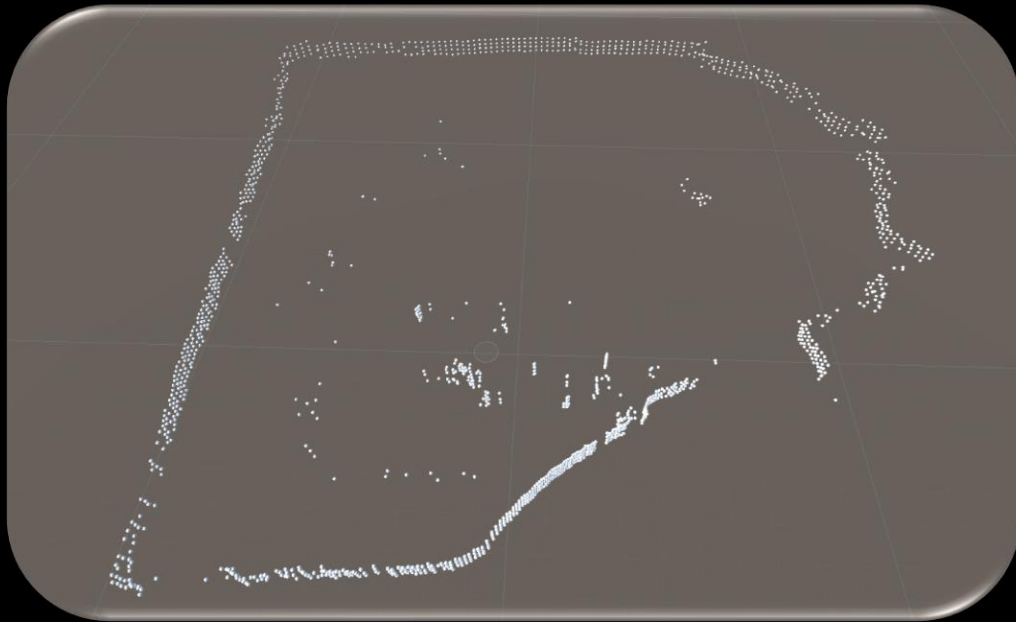


Rendering of Omniscan 450 FS with optional mounting bracket on a BlueROV2.

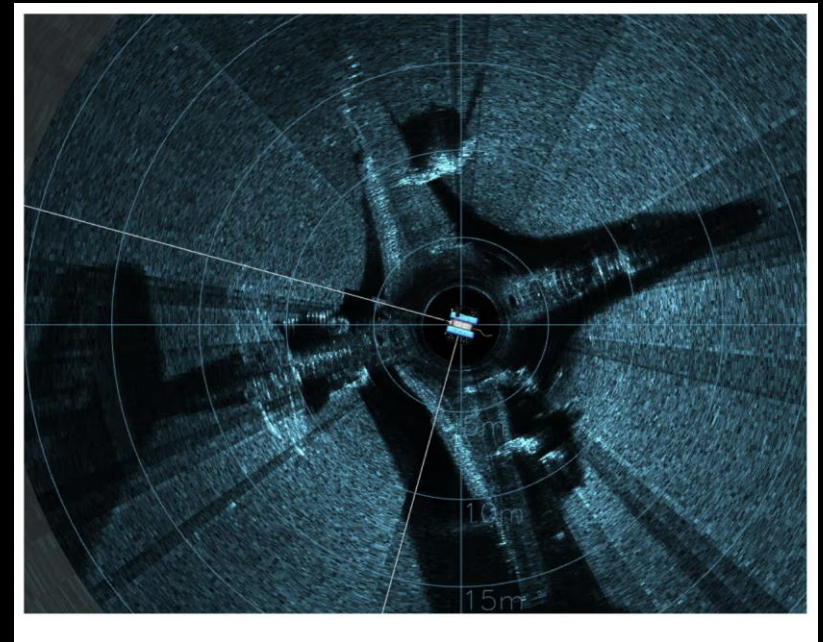


MAPPING

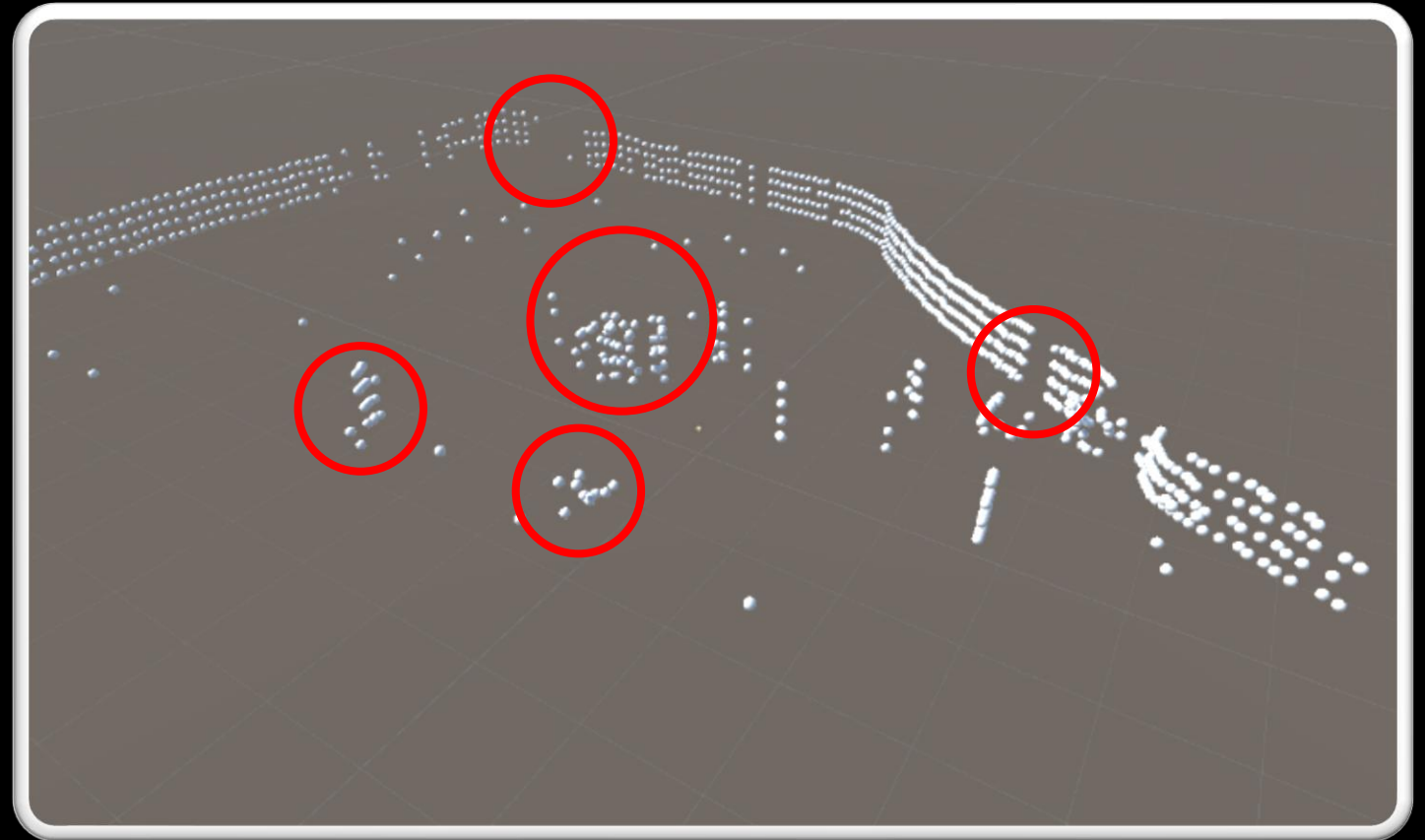
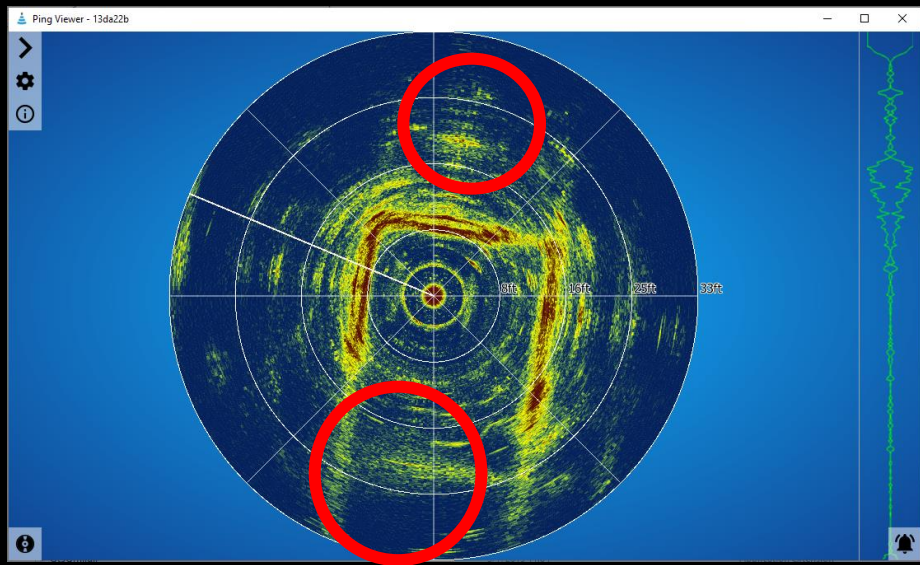
Ping 360



Omniscan 450 FS

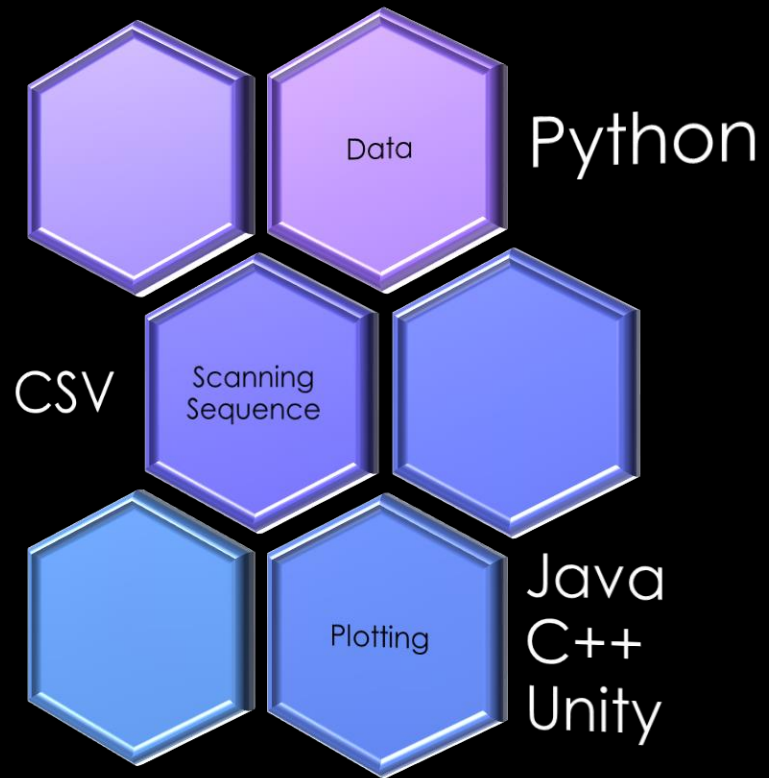


EXAMPLE PROBLEM: FALSE DATA



PRIMARY TOOLS

- Coding Languages:
 - Data: Python
 - Raspberry Pi
 - Plotting: Unity / C++
 - Allows for better data manipulation in 3D environment



CURRENT TEAM



MILESTONE 4 PLAN

Task	Michael	Zealand
Integrate Omniscan 450 FS sonar device	Test optimal mount and attach sonar.	
Data Collection	Identify the data format so that it can be transcribed and manipulated.	
Testing	Conduct Scans of pool.	
Autonomy		Utilizing Gazebo as a testing ground for partial pathing using the current data sets we have.

OCEAN ENGINEERING TEAM

Spring 2024

- Mount new Side Scan Sonar
- Create an outer shell
 - Carbon Fiber



QUESTIONS?

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