

CAPSTONE: SEA SCANNERS

MINUTES OF SECOND CLIENT MEETING

A virtual meeting of the Sea Scanners team, along with the client, Mr. Patrick Molvik, was held on Friday December 11, 2020 over the Zoom conference platform. Ethan Morris was the designated recorder.

The meeting began at 12:00 p.m. (PST).

Attendance was noted. All present members are listed below.

Mr. Molvik inquired how the team is planning to account for the antenna position when powering the system back up

- The team present two ideas
 - 1) Use an absolute encoder
 - They can maintain the angular position by itself
 - 2) Write to an SD card that saves the position before power down
 - The team would have to create a secure way for SD card to safely store the position
 - This idea could be too risky or complex
- Mr. Molvik also mentioned having the antenna go to a default position during the startup of the system
 - This may be the team's best option
 - This would allow the team to be able to use an incremental encoder

Ethan then asked Mr. Molvik how the GPS messages are being read in

- All 3 messages (GGA, RMC, and HDT) are sent from the receiver altogether once every second
 - The HDT message provides the barge's heading
 - There would be no need to calculate it
 - The GGA message would only send one of the coordinates (bow or stern)
 - The team can set that to be the bow coordinate

Ethan also ran some of the Arduino's issues by Mr. Molvik

- The decimal precision may not be as precise as the team needs
- Mr. Molvik recommended switching to a Raspberry Pi
 - This controller uses Python
 - Easier coding
 - This has the potential to be updated easier when installed on the barge
 - Should also be a better calculator
 - Mr. Molvik also noted that the government hardly ever uses Arduino

Mr. Molvik mentioned that the antenna position does not need to be super precise

- The spreading of the signal's wave allows for some room for error

The instructor meeting was virtually adjourned at 12:30 p.m. (PST).

Respectfully Submitted,

Ethan Morris

Member of the Sea Scanners Team

Members Present:

Sea Scanners Team (without Steven Haener)

Mr. Patrick Molvik CIV USN