

What scale is your model? Quarter scale by length.

New addition of mitigation to capsized boat is to hold its hand. Won't put it in conditions that are out of specifications. **Saying during normal operation it won't capsize.** This boat is a proof-of-concept. **Wants it to prove that it can be a base changing of sorts. Ok with a prototype that will prove the concept. Will have diff requirements based on where its at. Where we are with the customer requirements is where we are to start. If we want to go beyond that then we'll change the customer requirements. This is not part of an ongoing effort?** Evaluating whether or not if this is an effort that can go forward.

Scope of project is proof of concept that achieves certain things. Trying to get clarity on whether it is going to be continued or not. Sees obstacle avoidance on the list but it's not being addressed. **So who's going to implement obstacle avoidance? If not going to do obstacle avoidance then take it off the customer requirements. Customer requirements are the requirements for the end product.** Chris has stated that it is not something he's concerned about during this project.

How much experience do you (Haywood) have in software? Are you prepared to estimate the effort required to complete software? Currently Max and Haywood.

Chose CAN BUS, how come? Multi-drop protocol, among other reasons.

Is there going to be any sort of local e-stop? Wireless seems accurate for this project. Won't have an e-stop on the vessel itself. Would you have any suggestions as to how to implement that in this situation? **Put a tether on it. More concerned that it's in the water and you're testing it and you have a bug then it just takes off. The tether will pull the switch out.** In this situation seems more dangerous to have a local e-stop. **So the e-stop is range controlled.** If it gets out of range, it'll shut-off. Estop kills XBee... just drop the signal.

The EAGLE things are a symbol library? Yes some didn't exist.

Steering mechanism is dependent upon a linear actuator but you haven't specified it yet. Currently trying to determine the linear distance it needs to travel.

Why is the PWD audible? Have current passing through the windings of the motor causing vibrations. **Would you say that it is unusually loud?** Not unusually loud but the vibration could cause additional problems. **Aiming to quiet that down.**

Why did you put motor in water? Manufacturer specified that needed to be run under water. Trying to characterize the motor out of water in a situation that is similar to its real-world situation. It's a better estimation than in air.

You had power consumption. Did that include both trolling motors? Yes. Not specified in chart, but in presentation mentioned.

How many solar panels can you mount? Could design for 12 if we wanted but it comes down to cost. We can mount as much as the area of the boat so you can make the racking system. Limitation for solar panels will be the budget. If we can prove with the limited number of solar panels that it can harvest energy then scaling is something that's possible with appropriate funds.

Eliminated wind energy from the system. Have you every considered propelling it with wind energy? Then we would have more complex considerations as to how to control the speed of the boat.

Value of model boat. Can add more weight if we need to and can take multiple tests with various weights. In our risk assessment, one of risk is the lack of ability to test full scale during the winter. This boat is proof that we know what we're doing and can get the data we want.

Can you take your electrical system and just put it onto the full scale? Utilize all the same sensors, not all electrical systems will be directly transferable, but all software will be directly transferable. **What is it doing for you right now in this semester to convince you that your plan is solid? You're talking about running all of these maneuvers with it... is this something you aren't confident that the full-scale boat can accomplish?** Performing the maneuvers to validate the kinematics code.

Concern... need a plan in place by the end of the this semester that you'll have a high level of confidence that your plan will work during MSD II. Need to provide an effort estimate as to how long it'll take a resource to complete that. Need a project plan in order for me to give you a green light. Keep in mind the goal of this semester... create the project plan that you'll execute flawlessly next semester.