Good afternoon,

Thank you so much for taking the time to respond. We apologize for the delayed response, but we wanted to seriously consider your question and how we will contribute to the Porter community and the UCSC community as a whole.

As a team, we feel we are currently having and will continue to have a positive impact through our project. First, we are helping to provide future access to campus facilities. 2300 Delaware is a research dedicated facility at UCSC and isn’t focused on undergraduates. We are the first Senior Design Project team to be given access to the flight room, and one of the first teams, if not the first, to be granted access to the 2300 Delaware facility. We are working with Professor Mircea Teodorescu to ensure we operate properly and help leave 2300 Delaware as an option for future Senior Design Project teams. Second, we will have a full document at the end of the project detailing the design process, fabrication, as well as our own failures and successes, and we are more than happy to provide a copy of the document to the Porter community. The design report will be extremely detailed and summarize our own experiences and thoughts throughout our senior year and hopefully will provide a basis for others to use to learn and draw inspiration from. Third, we have had to ask many questions that helped fuel a creative design. We understand that Porter focuses on the arts but stresses creative inquiry. We have been having to face unique problems with the introduction of buoyancy and have had to create odd solutions. For example, since we have a buoyant moment on the drone, due to the use of helium, the drone cannot tilt, so it cannot fly in the same way as most quadcopters; in our propulsion system our rotors are not fixed like a standard quadcopter, but are attached to servo motors so we can direct the force from the rotors in order to navigate. Creativity is often underappreciated in the STEM fields, but we hope to emphasize the importance of creativity in STEM and we feel that falls within Porter’s own goals and we can help emphasize that. Lastly, our story is fairly unique. We are doing the entirety of our senior design project in the midst of a pandemic; we are the first engineering class to do this at UCSC, and likely to be the only one for a long period of time. We have had to face unique problems with design due to this, since only half our team is local to the school, and Ryan, one of our Porter affiliates, is in China throughout our entire project. All of the Senior Design project teams are limited, including us, and yet we are still manufacturing a drone that is 9 feet in diameter, gaining access to 2300 Delaware, and finding a way to have everyone work together to create. Our challenges have been unique for the history of UCSC, and we hope to be able to share those experiences with the Porter community that even with everything going on, we can still come together and build something great together. We will not be able to provide an open demonstration due to COVID, but we can give a talk about our project and our experiences to Porter if that will be beneficial to the community.

We feel our story contributes to the Porter community by highlighting all of our struggles and challenges, and how we can help inspire and contribute to the knowledge of Porter. If you have any questions, please feel free to reach out to us, and we will be more than happy to help.

Additionally, since we submitted the application, we found a way to apply for funding from Crown college, and we have requested $300 of funding from the college.

Thank you for your time and consideration,

George Hernandez

Long Flight Time Buoyant Drone