3 Value Proposition

With the creation of this project, we are fighting for a greater cause. It will help clean up our oceans, which has been destroyed by oil spills and industrial pollution. This is a growing problem that is spreading each day and endangering the animals that live there. That is why constant experimentation on ways to pick up all this trash is crucial. Even if we fail in creating a working robot, this project will help gain insight in new, even cheaper, faster ways to clean up pollution in the water. This could also be a valuable lesson for students to show them how hard it is to clean up garbage, especially when the oceans are so infested with it.

8 ROLES & RESPONSIBILITIES

The project owner and scrum master will change periodically to give everyone a chance for the role. The stakeholders in this project are the judges for the IEEE Robotics competition. They will give or remove points on our robot based on the rules of the competition, just like how a customer will rate the worker based on how well their needs were met. Dr. McMurrough will be our point of contact. Our group members consist of Kartikey, Osama, Paola, Evan and Zach. We have assigned individual tasks for everyone. Kartikey and Osama will learn 3D modeling for potential corner pieces or other custom parts. Evan, Paola and Zach are Learning Arduino coding standards for basic thruster movement. As a group, we will blueprint a basic frame for the robot, secure a testing site for the robot, and when parts arrive, meet with Dr. McMurrough to discuss more possible ideas for basic mechanisms.

10 FACILITIES & EQUIPMENT

Since this robot is required to work underwater, we will need a pool of some sort to test it out. The pool must be large enough and deep enough to put stuff in and for our robot to move around in. Its possible we can just buy a pool or contact someone who has a pool that we can use. Another thing we need is a 3D printer to create custom parts. We will be using the application Tinkercad for 3D modeling. The parts for the robot will be purchased online. We have put together a list of equipment that we will start out with and add more things to the list as project testing continues. We will need 6 pieces of carbon fiber tubing, which will be the basis for the frame. Another thing we need is a pelican case, a watertight container to hold our electronics. Lastly, we will need an Arduino Uno R3, a microcontroller we might change in the future for more outputs. One thing we are on the fence on is if we should get Ballast tanks or thrusters. Were leaning more on thrusters as they are easier to use and have more accessible.