Volvo Ocean Race Design Competition

Overview
SCA is sponsoring a sailboat crew in the Volvo Ocean Race. The crew will sail around the world encountering very wet conditions. The crew members are currently using either Ziploc bags, or Tupperware containers to keep their toilet paper dry. The current solutions are not user friendly and have many disadvantages. The project is to design a waterproof toilet paper dispenser for the crew members to use.

Objectives
The objective for the team was to create a waterproof toilet paper dispenser. This dispenser would be able to withstand the abuse of being used on a racing boat, keep the toilet tissue dry, and to be easily used with efficiency by the crew members.

Approach
- The first step was to talk to the sponsor’s engineers and crew members to gain insight on what is needed.
- Then all concept and idea generations were discussed until a good final design was reached.
- Patent searches made sure there were no other ideas that the design would be infringing on.
- Product design was then reviewed by the sponsor’s engineer for approval and refinement.
- CAD drawings were then created to give a visual of what the final product would look like.
- CAD drawings were sent to the sponsor to be prototyped via their 3D printer.
- The prototype was analyzed and tested.
- After analyzing and testing, improvements were made to the design.
- The process of improving, 3D printing, and testing the design went on for several iterations.
- Once the design met and passed every criterion, the design was complete.

Outcomes
- The sponsor will have a usable solution for the sailboat crew.
- The sailboat crew will now have an increase in efficiency and one less headache to worry about while sailing around the world.
- The project kept the toilet paper dry, was easy to dispense and easy to refill.
- The sailboat crew now has a better alternative to Ziploc bags and Tupperware containers.