

**Team: P21011 – Accessible Toilet      Engineer: Gina Wilson**

**What were the outcomes of the prior phase?**

1. What did I plan to do?
  - a. Mainly work on CAD model
  - b. Look into the hydraulic system from last year
2. What did I actually do?
  - a. We really assessed the materials and design leftover from last year, found out that we were missing the seat plate. From there, Hannah, Kaylie, and I went and picked out a new seat plate, which the team then ordered. The materials that were leftover were extremely rusted, so as a team we took the pieces and removed the rust, ordered and tried out a rust preventing spray paint.
3. What did I learn? How were plan and reality different?
  - a. We decided that remaking a design did not make sense. With a relatively short period of time to work on this project, we want to be able to fully design and put together a working product. As such, we are going to take the design from last year and work on making improvements to it so that it actually functions and functions well. From there we will also be attempting to make it look nice, and working now to get a base product will allow us the time to make more improvements later on.

**Team level goal for next phase**

The next phase of this project is the Detailed Design phase. We will look in depth at last year's prototype we reconstructed this phase and conduct testing to decide what is viable and what we need to change. We plan on running tests to help improve the hydraulic system from last semester and generate calculations. We will also be attempting to run materials testing on the steel and aluminum being used in the prototype for possible biomaterials issues. Our goal is to begin making decisions on our final design and look at how to incorporate all engineering and customer requirements into the prototype. We want to be well prepared heading into next semester.

**What do I plan on doing to ensure that my team has a successful review at the end of the next phase?**

1. Improve on the test plans and link them back to specific engineering requirements throughout the phase – 4 hours
2. Work with the team to redesign the seat plate to allow for mounting – 6 hours
  - a. Add new seat plate into CAD assembly, make sure everything still matches – 2 hours
  - b. Get seat plate machined (collect files and information) – 2 hours (plus any machining time)
3. Help Kaylie with setting up for her bio testing – 1 hour
  - a. Collect material from excess stock (aluminum from seat plate, steel) both plain and with spray on coating

**What is standing in my way of meeting my next phase goals?**

Last year's team used Solidworks for their CAD design, which none of us really have had any experience with. I don't think it should be too big of a jump from Creo to Solidworks though, it may just take a little bit longer.

We also want to get the seat plate machined, this would be done using the waterjet in the machine shop. The waterjet has been down for some time, so we'll have to keep an eye on that.