Deliverable D

Submitted by

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List of Acronyms

Acronym	Definition

1. Introduction

In our last client meeting, we got feedback from our client. Based on that, we figured out how to improve our conceptual design to satisfy the client's requirements. And that is how our prototype 1 is developed. So first we will create an updated detailed design, we are planning to create a 3D model of our design. Then we will estimate the cost of our product's parts and provide a BOM (Bill of Materials) table. And finally, we are going to do our prototype. Because the materials we needed are currently difficult to deliver, we decided to build a 3D model to do the test and analysis first. The 3D model we use completely follows our conceptual design, and it is simply different in materials. After analyzing the prototype, we compare the result with the target specification in PDB.

2. Client's feedback

During our second client meeting, Darcy mostly appears agreeing with our concepts and ideas, even though there is still a lot to be improved. There are suggestions obtained from him. The life of the shower seat is no shorter than 5 to 6 years. In accordance with the client's preferences, padding on the shower seat is needed. We should keep using silicon leg tips. To be not too flashy, we are supposed to make the whole shower seat white color. Finally, the connectors between the ends of the legs caught his eye. He thinks we need to confirm that the removable legs are effortless to be separate and stable to sit on.

3. Bill of Materials

The BOM of this project:

Part and Link	Description	Cost (CAD)
Silicone Rubber	Two-part moldable plastic mixture to in case the bottom of the leg to prevent damaging the floor and prevent the chair from slipping.	$13.39
Aluminum Square Tubing	7-8' of aluminum tubing to act as the legs of the chair	$30.73

ABS Plastic	Plastic for the creation of the seat portion of the seat.	$10.50
Total Cost		$52.64

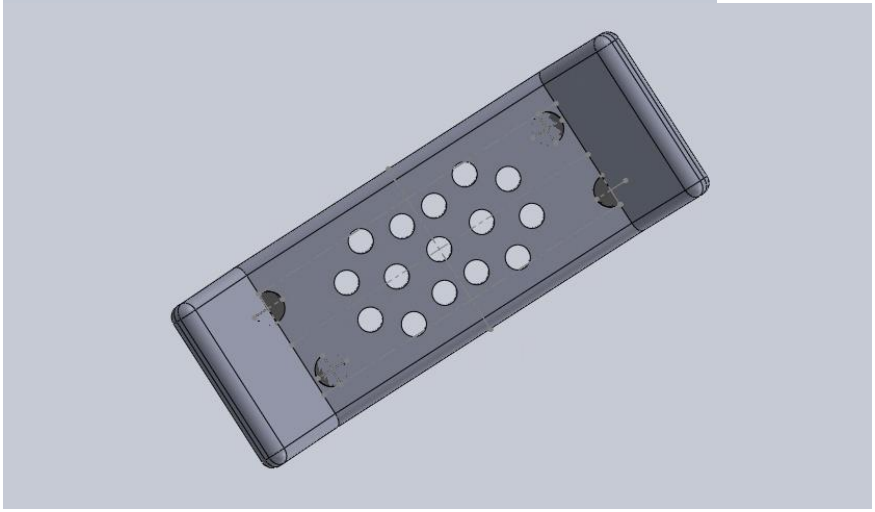
The budget for this project is $100, the projected cost is $52.64. This is well within the budget, allowing for a wider array of shipping options if necessary.

4. Critical Product Assumptions

To make our product waterproof, we assume that the material of the seat is ABS plastic. We assume the shape is parabolic to confirm the water buildup inside is drained effectively. The separable parts, padding, legs, armrests, and backrest make the seat portable, which can be achieved by the separable parts, padding, and legs. It is assumed that the connectors between the legs and the seat are smooth and easy to connect. We also assume the legs are aluminum because of their anti-corrosion and lightweight. The leg tips are assumed to be silicon rubber made. The lifespan of the shower seat is assumed to be 6 years.

5. Prototype 1

3D Model prototype



6. Project Plan (Wrike)

Wrike Snapshot link:

https://www.wrike.com/frontend/ganttchart/index.html?snapshotId=lf2CqUF2bpj1JYBXZGjPPEEUswIZF9q1%7CIE2DSNZVHA2DELSTGIYA

7. Conclusions and Recommendations for Future Work

In deliverable D, we formally start our prototyping. We summarized the information we gained from our last client meeting and did some promotion to our conceptual design. And based on that, we listed out all the necessary materials for building the prototype, we also estimated the

cost of materials needed and limit the budget to 50-100 CAD. We then test the assumption using 3D model to see if the prototype can fit our conceptual design and results out well. In the future, we will do a presentation about this prototype and see if the prototype meets the client's requirements. And we will further promote our prototype by following the feedback from the client.

8. Preparation for the next client meeting

We summarized the product assumption and built the first prototype. During the meeting, we will explain the material choices and present a mock-up of the first prototype. We will give the first prototype's estimated value and ask for the client's feedback. Then we can make sure the direction of our product development.