

Deliverable D:

Project Plan, BOM and Feasibility Study

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Tasks to Complete

Research:

- Group research on aspects of prototype. Including searching materials, working with pieces of the solution, forming methods and ideas to help form solution to problem. This will be done by all group members.
- Time: throughout project, Sept 25-Nov 14 (Prototype 3)
- Dependencies: None

Buying Materials:

- The purchasing of materials needed for prototype 2-3 of our project. Done by online means and through retailers in Ottawa. This is again done as a group, no one person is allocated the role as purchaser.
- Time: Week of Oct 7-Nov 28 Prototype 1,2,3
- Dependencies: Research of product materials

Prototype 1:

- The creation of prototype 1, this will be a 3D printed small scale version of our design we have in mind. This task will be done by Jamar.
- Time: Week of Oct 7th
- Dependencies: Client meet 1, Research

Client Meet 2

- Meeting with client to discuss progress on solution of problem. This will take place during the development of prototype 1. Time to get feedback with client on our possible solutions and ideas before going forward.
- Time: Oct 9
- Dependencies: Research

Prototype 2:

- This prototype will focus on the testing of fundamental components of our design. Including development of folding mechanisms, joints of the curtain rod, and functionality of the unit itself. This will be done by Matt and Andrew.
- Time: Week of Nov 6th
- Dependencies: Research, Prototype 1, Buying Materials

Client Meet 3:

- Last client meet before final prototype. Discuss with client our progress as a whole and our next steps to solution. Give client details on our solution and what we've learned from prototype 2.
- Time: Nov 6
- Dependencies: Research, Prototype 2

Prototype 3:

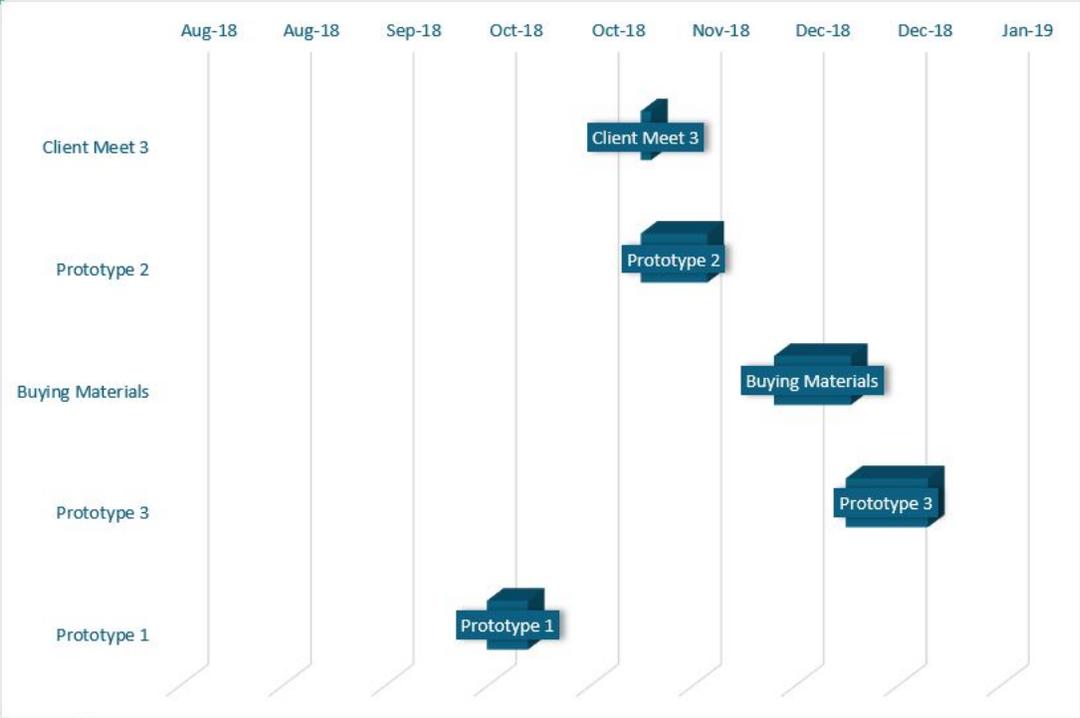
- Final project to be shown as a full scale solution for client. Testing of the full scale unit and implementation of portability and durability of the unit. This prototype takes what we learned from prototype 2 and develops that into the final solution. This task will be done by the group as a whole.
- Time: After prototype 2-up until Design Day Nov 28th
- Dependencies: Research, Prototype 2, Buying Materials

Milestones

Our milestones for our project include:

- Research
- Buying Materials
- Client Meet 1
- Client Meet 2
- Client Meet 3
- Creating Prototype 1
 - 3D Printed Model
- Creating Prototype 2
 - Testing Supports for the Device
 - Testing Stability and Durability
- Creating Prototype 3
 - Testing Portability
 - Testing Ambience whilst using Device

Gantt D



Project Tracker

Start date: 2018-10-07

End date: 2018-12-31

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description will appear in the

Project Chart.

Position	Start Date	End Date	Milestone/Activity
1	2018-09-25	2018-12-18	Research
2	2018-09-25	2018-09-26	Client Meet 1
3	2018-09-25	2018-10-09	Buying Materials
4	2018-10-09	2018-10-10	Client Meet 2
5	2018-11-06	2018-11-07	Client Meet 3
6	2018-11-06	2018-11-18	Prototype 2
7	2018-12-02	2018-12-16	Buying Materials
8	2018-12-16	2018-12-31	Prototype 3
9	2018-10-07	2018-10-14	Prototype 1

To add more Milestones/Activities, insert new rows above this line

Bill of Materials

Name	Price	Use	Store	Estimated Time to Receive
Joints (x3)	N/A - We will build using the Mill	Connect the sections of the rod and allow the rod to pivot	N/A	N/A
Rod (x1)	\$8.82	To hold the curtain and the clamps	Walmart https://www.walmart.com/ip/Mainstays-5-8-Cylinder-Curtain-Rod/49672258	In store pickup
Clamps (x2)	\$17.84 x2	To attach the curtain rod to the washroom frame	Amazon https://www.amazon.ca/dp/B018RLY6B2/ref=sspa_dk_detail_6?psc=1&pd_rd_i=B018RLY6B2&pf_rd_m=A3DWYIK6Y9EEQB&pf_rd_p=0c4797d7-01ae-4f2b-9625-15b63bbba1db&pf_rd_r=R8W0CTWWY4GCKV6PXZX5&pd_rd_wg=ljSSW&pf_rd_s=desktop-dp-sims&pf_rd_t=40701&pd_rd_w=imACH&pf_rd_i=desktop-dp-sims&pd_rd_r=9014b97e-c831-11e8-86db-611134cc7459	Amazon Prime delivery time: 3-5 days

Curtain (x1)	\$12.97	To shield the view of the washroom from outside.	Walmart https://www.walmart.ca/en/ip/maintstays-microfiber-fabric-shower-curtain-liner-black/6000195530850	In-store pickup
Total	\$57.47			

Justification of Costs

As stated in the instructions for Project Deliverable D, our team will be operating on a \$100 budget. After making the Bill of Materials for the portable curtain, we have calculated a final cost of approximately \$57.47. As there are some parts that can be built using the equipment provided by the university such as the joints, many parts require to be bought. The reason for this is a lack of knowledge and time from group members to make complex parts such as the clamps. Therefore, if we buy those parts already made we can maximize the final product for the customer while also ensuring that we stay on budget. See below the justification for each part that requires to be bought:

-Clamps:the clamps are a crucial part for our final product. They will allow the curtain to be attached to any surface width and type. Therefore, it is important that they are constructed properly. For only \$17.84 each, we can get the proper clamp for our project that will secure the curtain safely and efficiently.

-Curtain: A completely opaque curtain that is light and waterproof is required to provide shielding for the person using the washroom. For only \$12.97, we can buy a curtain from Walmart that will fulfill those needs.

-Rod: A sturdy and durable rod is required to hold the curtain up. This rod must also be corrosion proof as it must be able to keep its strength over time. Also, it must also be metal as we must cut it and drill into it. For only \$8.82 we can buy one from Walmart.

Risks and Uncertainties

The possible uncertainties and risks that are associated with our project are mainly related to the balance of the product itself. We are concerned at whether the clamps attached to our adjustable rod will be able to hold up the rod with the curtain for moderate periods of time without ever tilting and losing its balance. We aim to counteract this as much as possible by getting good quality clamps that will not loosen and provide the necessary support to keep everything in balance.

TELOS Factors

To complete and achieve our goals for the project we assessed that we have the required technical resources and expertise among our group. As our resources we have the labs at the STEM building to have access to the machines we require or may need to create our project. There we can use the 3D printing machines, Lathe, Mill and etc to be able to connect our parts together and have the ability to make joints if needed. We do have the expertise needed as we have all completed the related labs and some have previous experience using these machines.

Our project is estimated to be reasonably economical, as seen in our Bill of Materials our project should cost just over half of the \$100.00 budget at an estimated total cost of \$57.47.

In our research there are believed to be no legal issues surrounding our solutions as the idea is pretty straightforward and does not pose any potential legal risks.

Similarly there are no organizational constraints that could prevent our success in finishing our project as we are not copying any idea and our creating our own unique solution.

We believe the deadlines we have set as displayed in our gantt chart are very reasonable as the main thing that could possibly take the most time is waiting for the products we order but having the resource of Amazon prime is likely to speed up the process significantly.