Prototype I and Customer Feedback

Ahmed Alainachi, Sophie Kim, Andrea Roman, Angela Wahba, Amy Woods

November 9th, 2023

Abstract

The present document includes the team 15 prototype as well as a description of how the prototype is adapted to the before-generated prototyping test plan. An outline of the received feedback and potential feedback is also included.

Table of contents

1. Introduction

Deliverable F is one step closer to the desired goal, in this case, the final design. The highlight of this deliverable is the creation of Prototype I. In this case, the group selected to create the group work as our prototype I. The groupworkincludes essential factors and shares similarities with other rooms. This would help display an idea of what the other rooms would look like. The selected Prototype was done using software that can, later on, be put into VR since that is how our final product will be displayed.

Our team Analyzed feedback from both the clients' meetings and other potential clients to interpret the client's needs and adjust our design.

2. Feedback outline

2.1. From the client on the given prototype design

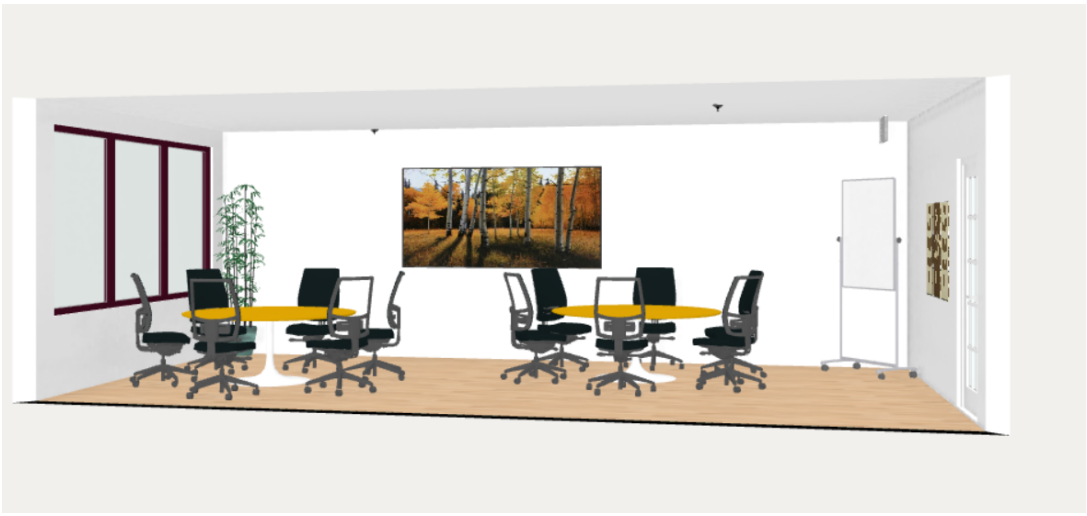
Following our client meeting on October 19th, 2023, we were given valuable feedback regarding our conceptual design. The main takeaway from this meeting was the importance of space and cost efficiency. The client suggested removing the computer lab and making it a common work area for a smaller group of people. The large offices should be split into smaller ones to maximize the number of offices; the more, the better. The garage does not need to store the truck; the lean-to will do that; instead, the focus of the garage should be a “lab.” A table should fill that area that was taken up by the truck. The lab must have a barn door-like opening to ensure a truck can pull up and unload into the lab. The lab should have a large freezer, including a sink in the lab or storage area. The break area should be removed and combined with the kitchen.

We will incorporate the feedback to fulfill the client’s needs and implement it into the next prototype. This prototype aims to include all the feedback and represent Algonquin culture better. The garage will be redesigned to become a lab space with a big door for unloading materials and specimens. The offices will be redesigned to add more rooms and compensate for the loss of the computer lab. The community area will be combined with the gallery; this space will be used for quiet work and have some references to Algonquin culture with bookshelves across the curved window wall and other possible decor such as carved wood pieces, plants, traditional art, and similar items. A skylight will also be across the entrance hallway for natural aesthetics. The building will be built out of wood to

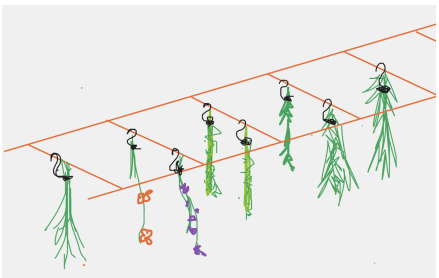
enhance the natural aesthetic appeal and move away from an overly industrial appearance.

3. Prototype I

the group work room was created for the prototype. Below are images of the current design. Decorations may change in the future, but the central concept and look of the room is final.



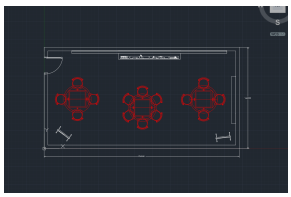
4. Simple Analysis of Critical Components

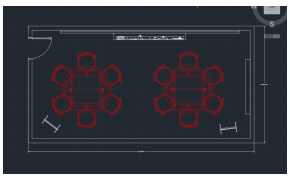
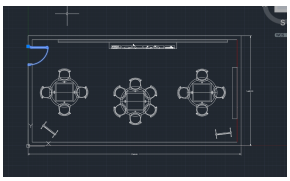
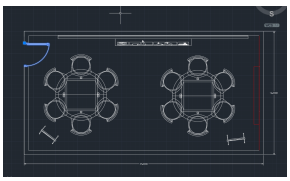
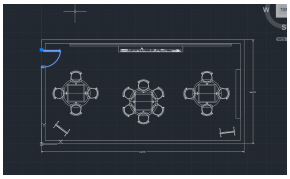
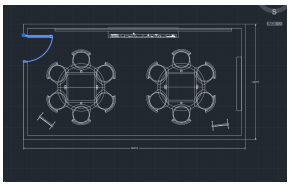
Critical Components	Analysis
Boardroom table	- Accommodates up to 15 seats - Long oval shape - 16 ft x 5 ft
Portable lab bench	- Accommodates up to 10 seats - Rectangular shape - 12 ft x 4 ft
Drying racks for plants	- 3 mobile mesh-pan rack with wheels, with 5 pans per rack - 1 long ladder-style herb hanging rack along one wall (see below figure)  Figure 1

Freezer size	- 1 large chest freezer, 25 cubic feet For specs: https://www.canadianappliance.ca/product/Frigidaire_FFCL2542AW_Chest_Freezers_Frigidaire_FFCL2542AW.html#tab-specs - 1 medium-sized upright freezer for easy access, 21 cubic feet For specs: https://www.canadianappliance.ca/product/Midea_MRU21F2AWW_Upright_Freezers_Midea_MRU21F2AWW.html
Building wall materials	- Timber
Security features	- Cameras for each room and hallway area - Installation of DSC alarm system
Accessibility features	- Accessible bathrooms - Minimum 4-feet doorways - Minimum 5-feet hallways

5. Prototyping test plan

5.1. Analysis and result (with pictures)

Prototype	Analysis	Results	Images
Ensure the room size is big enough	It is extremely important to make sure all the furniture fits in the room. To check if it does, we need to do a test where we get the measurements of	The average table big enough to seat 4-6 people has a diameter of 70 inches. After creating a table of 70 inches, we l	Before and After: 

	all the items and made them true to scale on Autocad.	found that the room is just big enough to fit three tables.	
Ensure the room has all required safety precautions.	It is crucial to ensure a safety plan in place to ensure everyone staying will be as safe as possible. A test needs to be done by having a checklist and going through the layout design to ensure we have everything. The checklist includes: - Two emergency exits - Emergency fire sprinklers - The space isn't cluttered - etc.	There is a large window and a door, which will be used as an emergency exit. The ceilings also have sprinkles that will be automated when it senses a fire.	Before and After:   
Ensure the room is Handicap accessible	every room needs to be all-inclusive and accessible for all. To ensure this, we must ensure the door is wide enough for wheelchairs.	An average wheelchair is about 25 inches wide; the door width should be approximately 30 inches wide to allow the wheelchair to fit comfortably through. The current door size was only about 25	Before and After  

		inches, so we increased the door width.	
Ensure there is enough ventilation throughout the building	This test can be done by ensuring there is a vent in the room as well as windows that can be open. It is also essential to test that the vents work and meet the standard provincial code(one-half air change per hour if the space is mechanically cooled in summer and one air change per hour if it isn't).	When checking over the layout, there wasn't a vent. We added a vent in the room to ensure the prototype passed the test and met the ventilation requirements. There were previous windows that can be opened to assure further ventilation in a more environmentally friendly manner(not imaged)	After: 

5.2. Outline of Prototyping Test Plan for Prototype II

This outline of the prototyping test plan will be for prototype two, which, in this case, the selected room is the group work room.

Test ID	Test Objective	Description of Prototype Used and Basic Test Method	Description of Results to be Recorded and how these results will be used	Estimated Test duration and planned start date (Stopping criteria)
1	Feedback obtained from peers:	Present 3D prototype to our peers and provide a survey.	Explore survey results and make adequate decisions to adapt the prototype as best as possible.	This selected feedback survey can be performed throughout the Creation of our prototypes. It should be stopped whenever the final prototype is being created since only a few changes should be made during the finalizing stages.
2	Feedback from our selected client:	Perform any changes to the prototype and present the prototype to our client.	Analyze and understand the Feedback in order to implement and make changes accordingly.	Like in the peer feedback, client feedback Should stop at least one week before the final design is finished.
3	Safety and sanity check:	Conduct a safety check on 3d digital.	Results will be qualitative, with a description.	This testing should be done on the final

		prototype. Looking for any obvious hazards or mistakes during the design stage.	of the issue.	Design, which should only take a couple of hours.
4	Size and space	By using a 3D floorplan software, we can see all the measurements included; therefore, double-check that the building is wheelchair appropriate and spacious enough to fit the number of people comfortably stated. We can compare the measurements to a standard wheelchair and an average height and width man.	If the measurements are correct, no change will be made, although if the case is that the width of any selected area is not big enough, adjustments to the entire floor plan will be made.	During the next week, the final measurements for the entire Building and everything inside should be finalized. The creation of prototype two should be the stopping point. Since prototype two is the second most crucial room, measurements should be settled.

6. Task plan update

https://www.wrike.com/frontend/ganttchart/index.html?snapshotId=lc3s0J1xKvpmA7ufN1C3qgn6TPsX9G19%7CIE2DSNZVHA2DELSTGIYA

7. Conclusion:

Our group came to an agreement that the selected software (FloorPlanner) used for this prototype is the best choice for future prototyping. We were able to successfully meet the test objectives laid out in our previous test plan, as well as accommodate the client's feedback. Once further feedback is received, we will make appropriate modifications for the next prototype.