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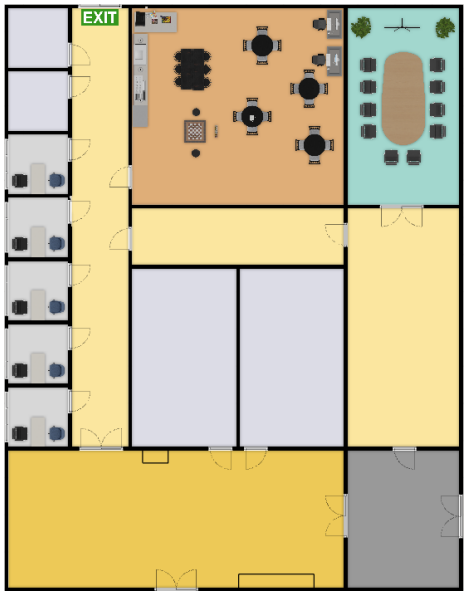
1. Prototype II:

1.1. About Prototype II:

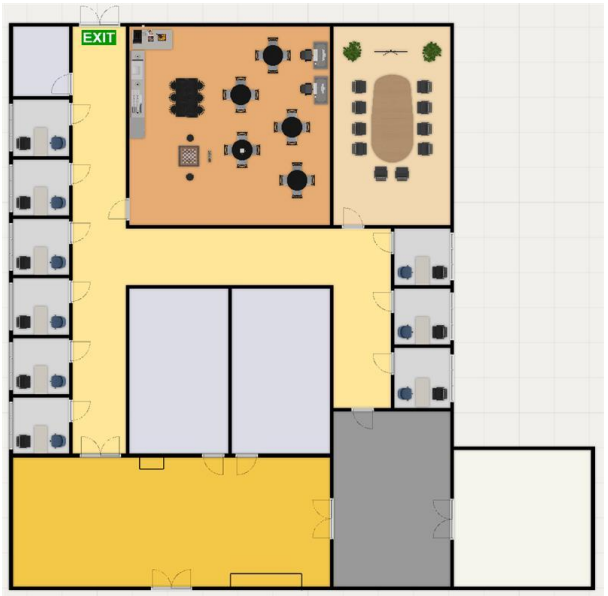
While our initial plan for the second deliverable was a single laser-cut room, it wouldn't make much sense, as we are no longer making a laser-cut prototype. This is why we decided that the digital interior design floorplan, made on Floorplanner, would serve as a second, but also continuous prototype. There have been several iterations of our floor plan, as the needs and direction of the building shift.

Floorplan Mk. I:



Our first design was a proof of concept with many loose ends. The hallways were inconsistent in width, there were only 5 small offices, and the lab (bottom right), and board room (top right) were quite small. Overall, it was quite unpolished, and our prototype I helped us spot these problems.

Floorplan Mk. II:



Our second design aimed to fix the obvious problems from our first floorplan. Mind you, this was before we had received feedback from the client. More office spaces were added on the right side and on the left, the hallways are now an even width, and the lab has been extended. The lentu off to the right was added, but later removed, as we decided that it was more of an exterior portion. The biggest problem with this desig nis more subtle, and it's that things aren't quite aligned, and the dimensions are not even throughout. Some small offices are slightly larger than others, and some walls just didn't line up.

Floorplan Mk. III:

This third variant was focused on squaring up the dimensions for overall consistency, and delivering a final presentation of our vision for the interior of the building. More office spaces were added on the right, aswell as the smaller washrooms removed from the top left means that we now have 13 small offices, instead of our initial 5. This addition of small offices on the right had other benefits aswell. The lab was once again enlarged (aswell as the board room), ensuring proper space is given for all operations. This more uniform dimensioning was accomplished using a grid of squares the size of a small office, and then subtracting walls to achieve the rooms. This newest design also includes a stairway and elevator up to a patio/storage area, which was also a new idea for the building.

1.2. Testing and Feedback for Prototype II

After Deliverable G was completed using the testing and analysis conducted on prototype 1, our group received further client feedback on our initial prototype. This feedback stated that the client liked our space-efficient and environmentally-friendly design, but would like the size of the foyer to be reduced and the private bathrooms to be removed. Furthermore, the client said that they wished for more offices to be added to the design. Changes to our prototype II design have been retroactively added in accordance with these requests; the foyer was reduced, the private washrooms were removed, and the total number of offices was increased from 5 to 10, and later to 13 in the most recent design.

The purpose of prototype II was to test a detailed design of a few key subsystems in the building, as well as to assess the quality of the prototyping method used and its implications for prototype III. The floorplanner design of prototype II was expanded to include the entire building for the planning of prototype III.

Testing Plan for Prototype II				
Test ID	Objective	Prototype and Method	Results	Purpose
1	Qualitatively assess the feel and look of the building from the perspective of a person inside.	Prototype: Floorplanner Method: Walk through the rooms using the “Walkthrough” camera option.	Certain models look distorted and rooms lack detail.	Floorplanner appears to lack tools for creating a complete detailed design and certain models/features within it lack quality. Said models/features could be adjusted or a different program could be considered.
2	Ensure the proportions of the building support individuals from heights of 4’ to 7’	Walk through the building using walking heights of 4’ and 7’.	All individuals from 4’ to 7’ should be able to access all areas of the building with little trouble. Doors, however, are around 7’ tall, which may be uncomfortable for certain individuals.	The possibility of expanding doors can be considered, but this would greatly increase the cost of doorways in order to slightly reduce the risk of an individual being too tall for a door. This risk was already quite small.
3	Ensure there is enough space for a wheelchair to turn	Prototype: Floorplanner Method: Place a 60”	All areas of the building contain enough space for one	All areas of the building appear to be wheelchair

	where needed (a circle 60” in diameter or a 30x48” square).	diameter circle and 30x48” square in all areas of the building.	of the two options except for the smaller stalls in bathrooms. This is excusable because an accessible stall is placed in each bathroom that passes this test.	accessible, aligning with the building code and the needs of the client.

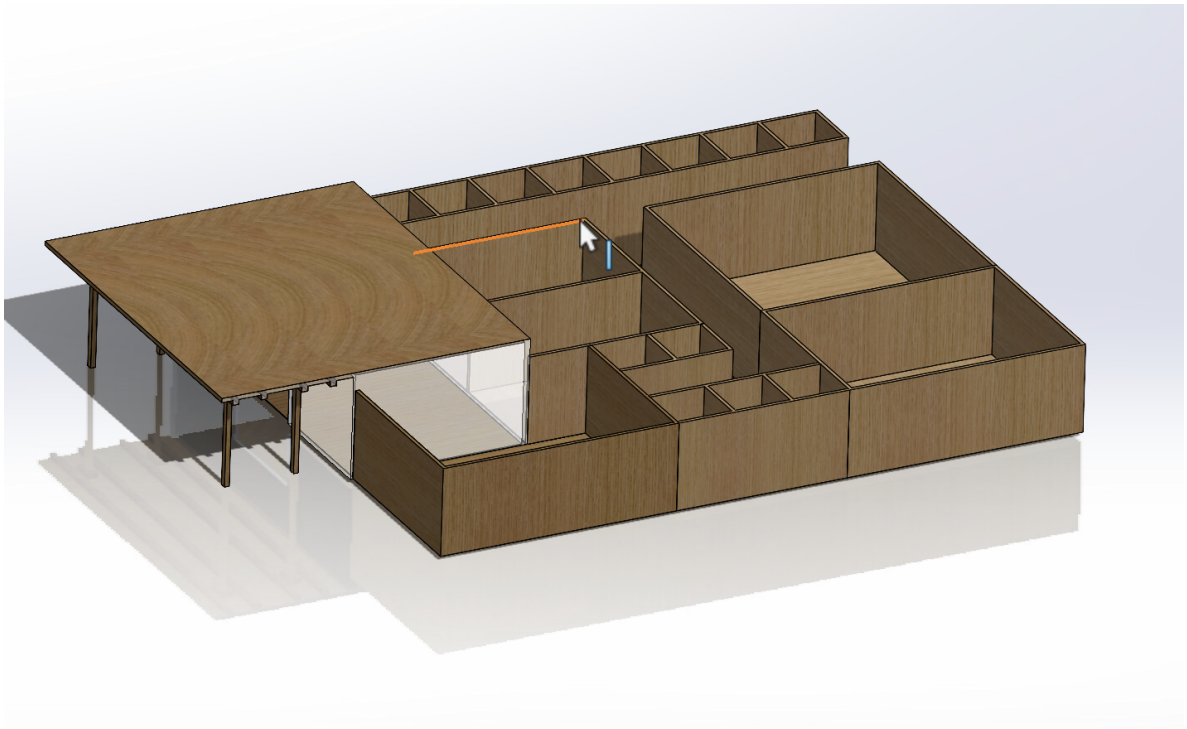
2. Prototype III:

It was previously decided that we take on laser cutting for the final Prototype but due to setbacks and changes, we opted for solidworks 3D model. Solidworks is a CAD software for building and designing models for practical use. With Solidworks, the options for design are endless with advantageous features like Walkthrough and lighting. Another reason why we picked Solidworks is that it is free to use unlike the laser cutting plan that we had. In addition we found that a Solidworks prototype was more interactive then a physical prototype could be and would better illustrate to the judges our design.

On solid works, we plan to do the whole scale of the building (2 floors and landscape) and test how proportionate the whole building is to walk or to stay in. There have been lots of iteration and changes made like adding a patio space and raising the roof of the lobby by two feet. Although we are still in the process of finishing the model, we have made lots of improvement.

This prototype has achieved the objective our team set for ourselves in regards to the last deliverable. We have created a building design that goes above and beyond meeting client needs and feedback, as well as setting a realistic and functional prototype standard. We have incorporated different materials into our final prototype 3, as well as designing it with aesthetics in mind. All of these points mentioned above can confirm that we have met our objective in creating prototype 3.

Status of model so far (7:34 pm 26th)



Updated Wrike:

https://www.wrike.com/frontend/ganttchart/index.html?snapshotId=EfRemoaFBWIDqAItocigqbe3Z2MzBINm%7CIE2DSNZVHA2DELSTGIYA