uOttawa

Project Deliverable H

GNG 1103 A05, Group 19

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Section 1: Feedback received from Client Meet 3

Client feedback has been received and will be summarized below:

- Segregation of the lab into analytical and experimental wings is not required
- The boardroom should be expanded
- The cultural area can be entirely outdoors & un-enclosed
- Walk in-freezer is good
- Direct access from the garage to the lab is good

Taking this into account we have decided to fuse the analytical lab and experimental lab into one, as well as getting rid of the indoor cultural space. We will then use that extra space to expand the office wing and add storage space.

Section 2: Prototype update

1. You must gather feedback and comments on your ideas and prototype from potential clients/users that you have sought out and identified on your own and/or your actual client.

Why What and When, Prototype 3:

Our design is on a 3d modeling software that provides detailed analysis of our design. We can walk our client through the individual rooms virtually which is the closest way to get feedback on the real physical design without making a physical design. The following changes that we have made to prototype 2 and are now prototype 3 are based on feedback that we received in client meet 3. Firstly, the lab is changed to one room and reduced in size. Our client doesn't need two separate labs as that takes up too much space and is a less collaborative environment. To improvise these specifications we decided to allocate the space that was displaced from the lab to office space. The client has requested an office wing with 5-7 offices and with a conference room + 4 individual offices and an open concept group space. We have more than enough office space. The other complaint from our client was that the cultural space does not need to have an indoor and outdoor component. We decided to switch the indoor cultural space to a storage room since many of the activities that happen in the cultural center might

need space to put things. We have made these changes after receiving feedback from the client, it has been very difficult to produce a physical prototype, (3d print, laser cutting etc) because we did not receive feedback until recently and we would not proceed until we knew what the client wanted.

Section 4: Prototype testing documentation

Below are the prototyping plans, analysis, and results;

Plan(Use Of 3D For Basic Layout)

To receive effective feedback on the basic layout of the prototype we constructed a 3d model intended for the building project. Using a model, in the design of buildings offers a tool for gathering feedback from clients. By presenting a visually engaging representation of the proposed design clients can easily understand the layout, aesthetics, and functionality of the building.

When interacting with clients during meetings, the 3D model allows for exploration enabling them to navigate through areas and perspectives. This interactive experience promotes communication between us the designers and clients as clients can express their preferences and concerns in an informed way.

Analysis

During the second and third meetings, we used on shape for the sketches and 3d to project our prototype. The subsequent analysis involves a thorough examination of the 3D model, considering factors such as sustainability, technological integration, and community spaces. Moreover, annotations were added to the model to highlight design elements or modifications ensuring that feedback would be precise and actionable. Overall incorporating a model improved collaboration in the design process by facilitating a comprehensive understanding and appreciation of the proposed building design from clients.

Result

The results obtained from the analysis phase contribute crucial insights into the feasibility and effectiveness of the design. The 3D model serves as a dynamic tool for community engagement, allowing clients to visualize and comprehend the proposed design comprehensively. For

instance, during the meetings, clients were able to give more detailed feedback and this fostered informed decision-making and alignment with the feedback.

Prototype Plan 4

Test #	Objective	Desc. of prototype and basic test method	Desc. of what will be recorded, and how	Planned start date and plan duration
1	Create a physical model of the layout for design day using a 3D printer	A 3D printer produces physical prototypes layer by layer from a digital model, providing a tangible representation of the design. This enables us to assess the form, fit, and functionality of the prototype. The iterative nature of 3D printing allows for quick adjustments to the design based on initial tests.	In showcasing a research lab building design using a 3D printer, precise records of the architectural dimensions, structural features, and interior layouts will be documented digitally. The 3D-printed prototype will then serve as a tangible model, allowing stakeholders to assess spatial relationships, ergonomic considerations, and overall design aesthetics for thorough evaluation before construction begins.	Nov 27th
2	Accessibility and Inclusivity	Accessibility and inclusivity in a lab research building design prototype can be tested by evaluating features such as ramp gradients, door widths, and the placement of assistive devices. We can use the prototype to	in a research lab building design prototype, measurements of door widths, corridor widths, and the height of workstations will be recorded. The prototype test will involve wheelchair simulation and mobility aid navigation to assess	Nov 27th

		simulate the experiences of individuals with diverse mobility needs, ensuring that pathways, workstations, and facilities are designed to accommodate a wide range of users effectively.	the ease of movement and interaction within the space, ensuring compliance with basic accessibility standards.	
3	Emergency Preparedness	Emergency preparedness in a lab research building design prototype can be tested by simulating various emergency scenarios, such as fires or chemical spills. The prototype test evaluates the effectiveness of evacuation routes, the accessibility of emergency exits, the functionality of safety equipment, and the efficiency of communication systems to ensure a swift and coordinated response in case of emergencies.	In a basic emergency preparedness test for a research lab building design prototype, records will include the time taken for evacuation, clarity of emergency exit signage, and the ease of access to safety equipment. Observations will be recorded regarding the effectiveness of communication systems, adherence to evacuation procedures, and any identified areas for improvement to enhance the overall emergency preparedness of the lab.	Nov 27th

4	Analyze critical subsystems. (heating, plumbing, electricity, foundation, framing).	A basic test method for analyzing critical subsystems in a lab research building design project involves conducting thorough	_In a basic test to analyze critical subsystems in a research lab building design	

		inspections and functional tests for each subsystem. For heating, plumbing, and electricity, ensure proper functioning by checking for leaks, testing heating or cooling outputs, examining plumbing fixtures, and validating electrical systems through outlets and lighting. Foundation and framing can be analyzed through structural inspections, checking for cracks or weaknesses, and ensuring load-bearing elements meet design specifications. Record observations, conduct stress tests where applicable, and ensure compliance with building codes and standards for each subsystem.	prototype, records will include the identification of any leaks or irregularities in the heating, plumbing, and electrical systems, as well as the structural integrity of the foundation and framing. The recordings will document specific measurements, observations, and any anomalies detected during the prototype test, providing a comprehensive evaluation of the critical subsystems to ensure compliance with design specifications and building standards.	

Wrike

https://www.wrike.com/frontend/ganttchart/index.html?snapshotId=7ale2SqxOsaRDM20EDK1D8jMstL69OaQ%7CIE2DSNZVHA2DELSTGIYA

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