Deliverable E - Project Plan and Cost Estimate

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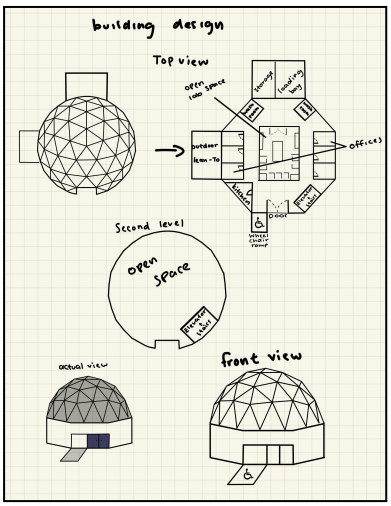
Problem Statement

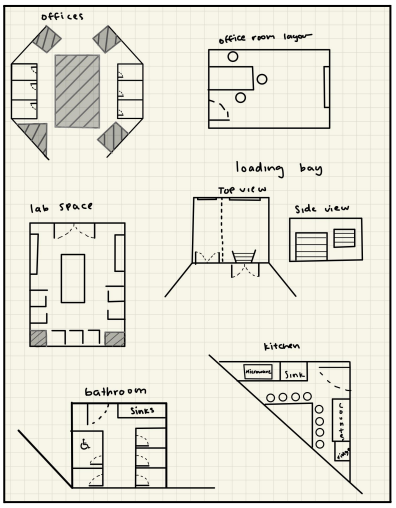
There exists a need for infrastructure to represent the culture of the Algonquins of Pikwàkanagàn First Nations, and aid the Neya Waban Guardians in their work by giving them an office space, and a place to practice cultural activities and medicine harvesting.

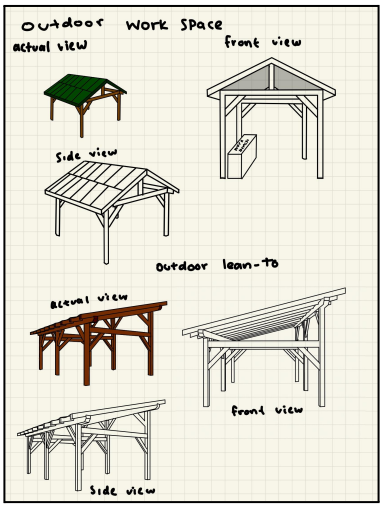
This deliverable is to provide the team and client with an estimated cost for the current design, as well as plans for testing and reducing associated risks.

Final Design

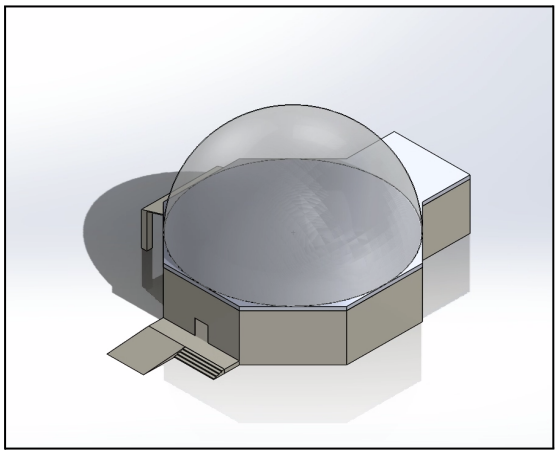
Hand-drawn Design

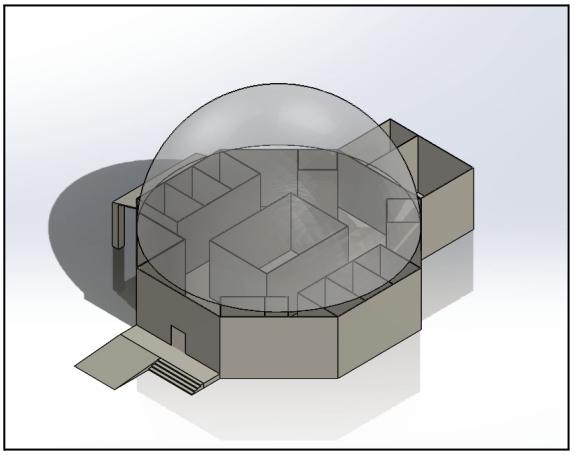


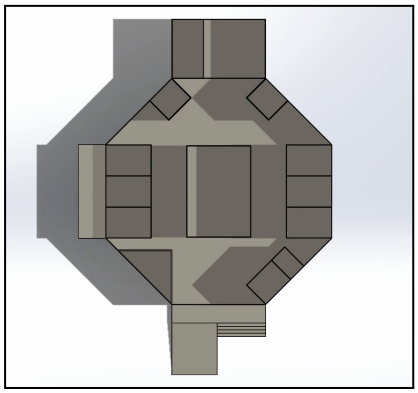


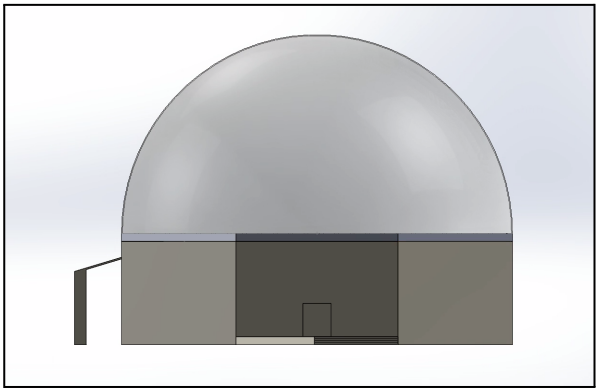


Software Design









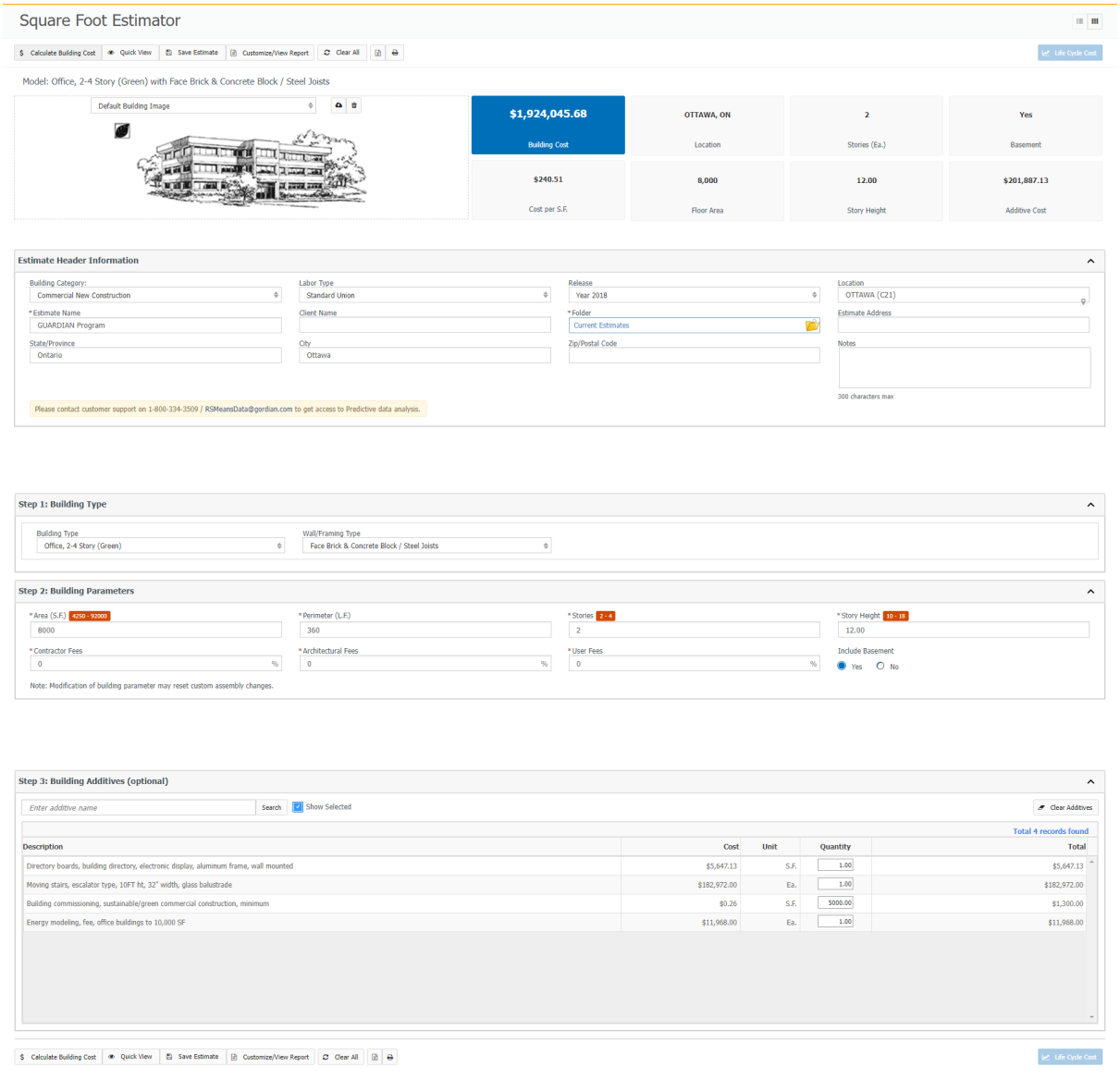
List of Equipment

Below is a list of equipment necessary for the construction of our prototypes.

Item	Description	Type	Prototype #	Source
Solidworks	To build design	Software	1,2,3	Solidworks
Tinkercad	To format for 3D printing	Software	3	Tinkercad
Ultimaker 2+	To 3D print the design	Equipment	3	Makerspace

Bill of Materials

Item Name	Description	Unit of measure	Quantity	Unit Cost ($)	Link
PLA Filament	2.85mm diameter 3D printer filament in colour Tangerine Boost	Unit	1	40.00	Materio3D PLA Filament (Diameter: 2.85mm, Color: Trangerine Boost) (makerstore.ca)



Using RSMeans, it was estimated that the cost of the building is estimated to be $1 924 045.68.

Significant Risks

Below is a list of risks associated with the project as the deadline is approaching.

Risk 1: Going out of budget

Severity of risk: 3/5
Likelihood of risk: 3/5

Contingency plans

1) Re-evaluate budget allocation and see if there are places to cut down while still maintaining quality (best contingency plan).

2) If there are no places to reduce cost, consider eliminating certain plans related to budget (acceptable contingency plan).
3) If there is no way to eliminate any plans or cut down, communicate with the client about expanding the budget (last resort contingency plan).

Risk 2: Project not being completed by deadline

Severity of risk: 3/5
Likelihood of risk 2/5

Contingency Plans

1) If the project's time restraint allows some leeway, we will re-plan our project based on the time left. Depending on the amount of time left, some processes may be rushed, but they will be completed by deadline (best contingency plan).
2) If there is no leeway, we will look to see which tasks may be omitted to save time without sacrificing important parts of the project (acceptable contingency plan).
3) Communicate with the client about extending the timeline (last resort contingency plan).

Risk 3: Client is not satisfied with final result

Severity of risk: 4/5
Likelihood of risk: 1/5

Contingency Plans

1) Communicate with the client and come up with possible changes we can make to the building to improve client satisfaction.

Prototyping Test Plan

Test ID	Test Objective	Prototype used and the test method	Results to be recorded and their function	Estimated test duration and start date
Customer Feedback	- Gain an understanding of the client's suggestions on the prototype and what we should improve on. - Emphasizing the uses and their opinion on the circular learning centre/glass dome. - The last client meeting indeed with the client needing answers from their boss. Definitive answers will be provided this meeting.	Prototype 1	The results recorded will be the answer to these questions… - What is the capacity of the learning centre? - Is the glass design to their liking? - Would they like to put the space to specific use? Or keep it an open concept? - Any other questions about the rest of the building.	Start date: Nov 7, 2023 Estimated time: 2-5mins