

Conceptual Designs for the Guardian Program Building

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Abstract

This document outlines the generation of the key subsystems identified from the design criteria generated in Deliverable C. These include the kitchen, lab space/common work area, office space and the outdoor lean-to area. Each member had either contributed individually their own design of the subsystem or as a group the options were discussed for more simple spaces such as the office. This document outlines the advantages and disadvantages of each design along with the final chosen concept for each. Based on these, three building designs were generated in which finally an indoor and outdoor concept were chosen by the client and are outlined in this document.

Table Of Contents

1. Introduction:	7
2. Subsystems	7
1. Subsystem 1: Offices.....	7
1. Single users:.....	7
2. Multi users:.....	8
2. Subsystem 2: Break rooms and Kitchen.....	8
3. Subsystem 3: Lab space and common working area.....	10
4. Subsystem 4: Lean-to.....	11
3. Final 3 Designs	12
1. Designs.....	12
1. Design 1.....	12
2. Design 2.....	13
3. Design 3.....	14
2. Final Decision.....	15
4. Conclusion	16
5. Wrike Snapshot	16

1. Introduction:

There are some structured processes of designing a building with a budget of 250000, including creating subsections, assigning works between team members and final schematic design. Key design concepts involve sustainability, space optimization, cost-effective materials, simplicity, and flexibility. At the same time, we also consider the diversification and modern development.

2. Subsystems

1. Subsystem 1: Offices

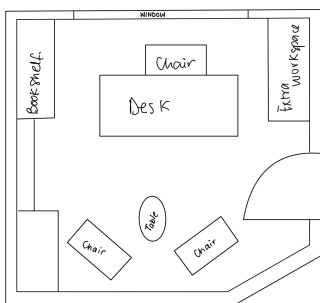
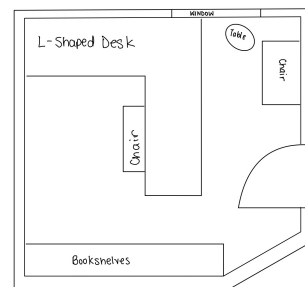
The offices would be further divided into 2 subsystems for single and multi users. Offices would contain at minimum a work desk, an ergonomic chair and a bookshelf. This would enable the administrative staff and the guardians to be able to do their work and have their individual meetings with privacy. All layouts of the offices were created by all team members.

1. Single users:

Design 1

Pros: The L-shaped desk provides a large working area without taking up too much surface area.

Cons: Not enough sitting area for personal meetings.



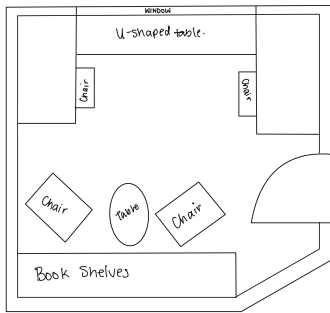
Design 2

Pros: Has a lot of space for work to be done, without taking too much space taken, there is enough sitting space to have a short impromptu meeting.

Cons:

2. Multi users:

Design 3



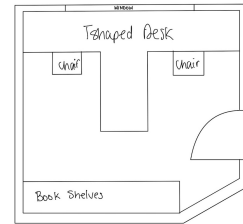
Pros: Enough space for 2 people to do their jobs without interference and there is a comfortable relaxation area for the workers.

Cons: No privacy

Design 4

Pros: There is privacy, and also enough space for each person to carry on their tasks.

Cons: The concept is blocked by the desk, the person at the end could be a distraction to the person closest to the door if they move around frequently



2. Subsystem 2: Break rooms and Kitchen

The break room and kitchen is a place where employees and guardians should be able to enjoy their time off, and socialise with others. Each break room should include comfortable seating and adequate table space for meals. Counterspace for a microwave, sink and other kitchenette features (i.e. paper towel, coffee maker, etc.) is preferred for people to heat up meals and clean up after themselves. It would be useful to include washrooms inside or near the break room for functionality purposes. Large windows and plants or other decorative items would also be ideal. These accents add to the overall aesthetic of the interior, and provide an uplifting environment to the room.

Figure 2.2.1: Wura's break room design.

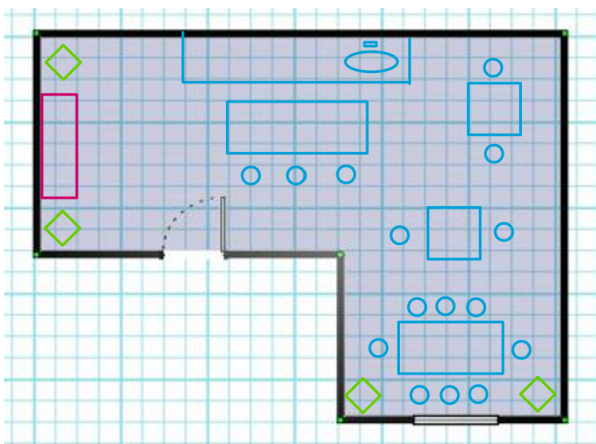


Figure 2.2.2: Zikuo's break room design.

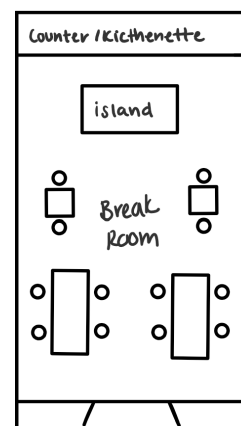


Figure 2.2.3: Ann's break room design.

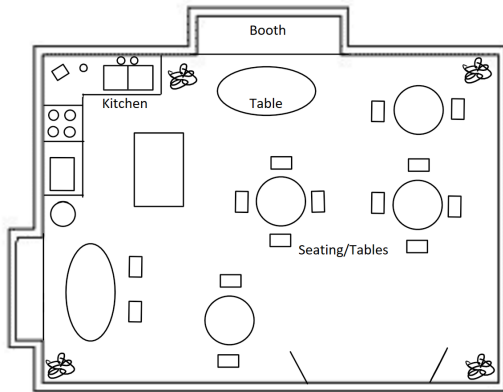


Figure 2.2.4: Ava's break room design.

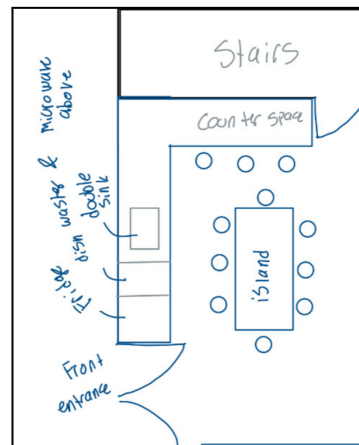
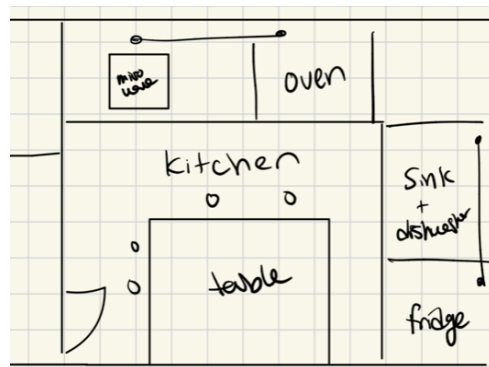


Figure 2.2.5: Evelyn's break room design.

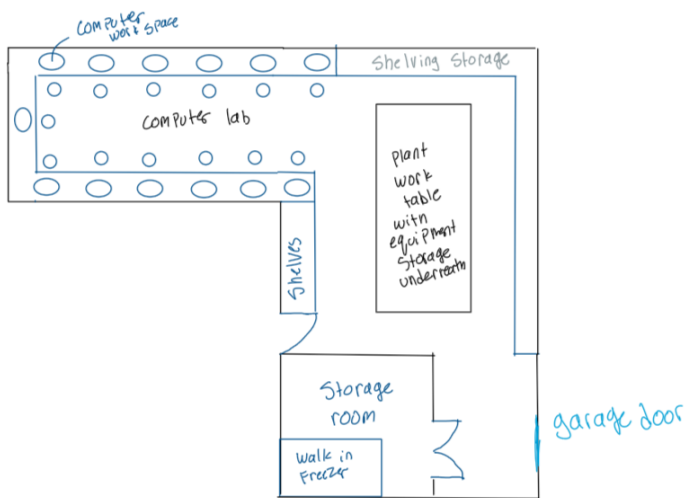


Figures 2.1, 2.2, and 2.4 are small, but more affordable. There is enough space for staff members, but might not be ideal if the company is expanding. There is not much seating in figure 2.5, but the many appliances can be appealing. Figure 2.3 is large and includes all the necessary features, but would be costly, and require more space. Figures 2.2.1 and 2.2.3 have plants which brighten up the area, but this can be easily added into the other rooms. Overall figures 2.2.1 and 2.2.3 are our top choices, but the final decision is dependent on the budget and dimensions we are limited by.

3. Subsystem 3: Lab space and common working area

The common work area is necessary for the guardians to carry out plant processing or dissection of organic material. This will include a large surface to work on as well as a large storage area and freezer for keeping samples. The computer lab is going to contain at least 4-6 computer stations for the guardians to keep track and examine data that they are collecting from the material. It should include computers, chairs and a countertop for the computers to rest on. Ideally the storage area will be inside the dissection lab and the computer lab will be in close proximity to make for seamless transition between report generation and sample gathering.

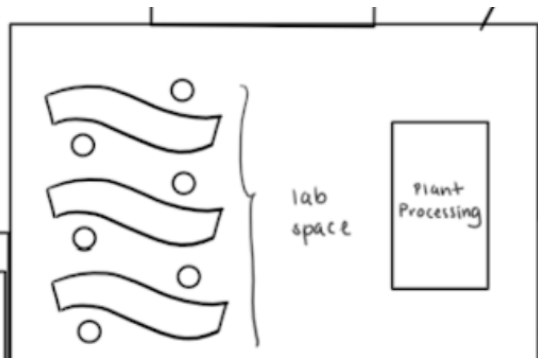
Figure 2.3.1 Avas design



Pros: close proximity of lab to work space, walk in storage room, garage door to outside.

Cons: Takes up a lot of space

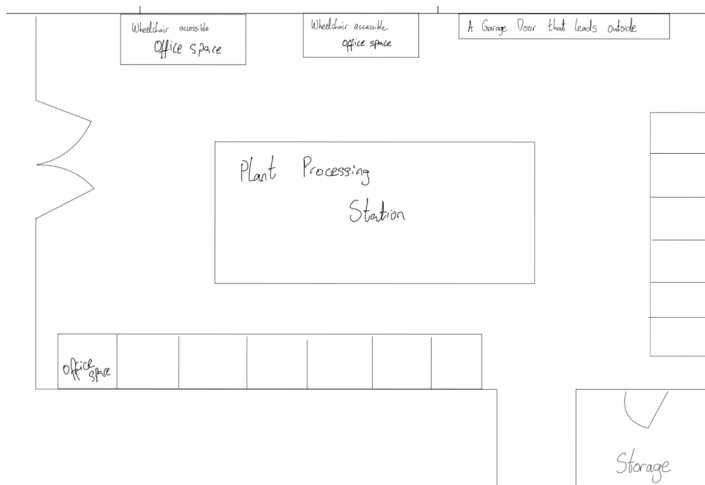
Figure 2.3.2 Anns design



Pros: proximity to plant processing, near exit, doesn't take up too much room.

Cons: no storage, not many work spaces

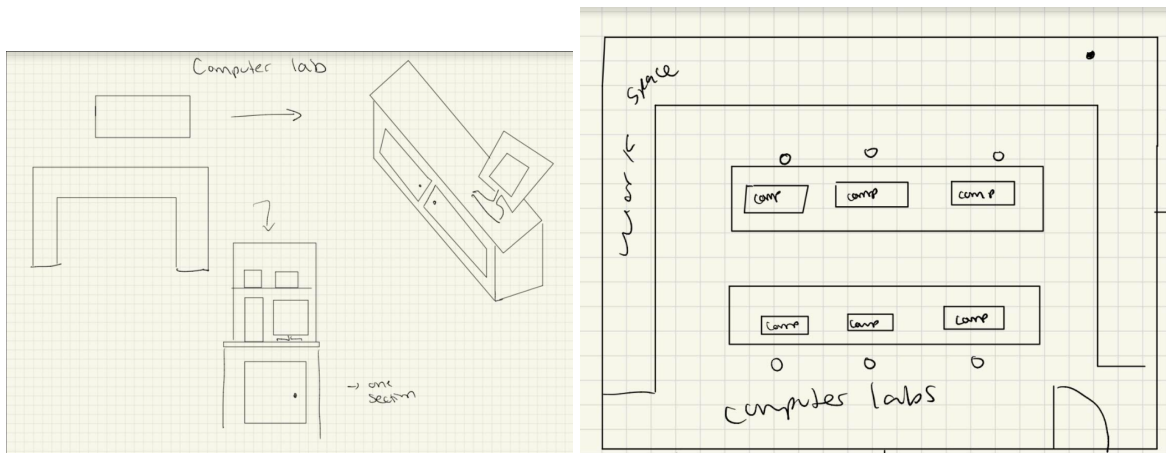
Figure 2.3.3 Joy and Wura's design



Pro: lots of work space and close to the computers.

Cons: small storage space, large room takes up a lot of the building.

Figure 2.3.4 Yang's then Evelyn's design



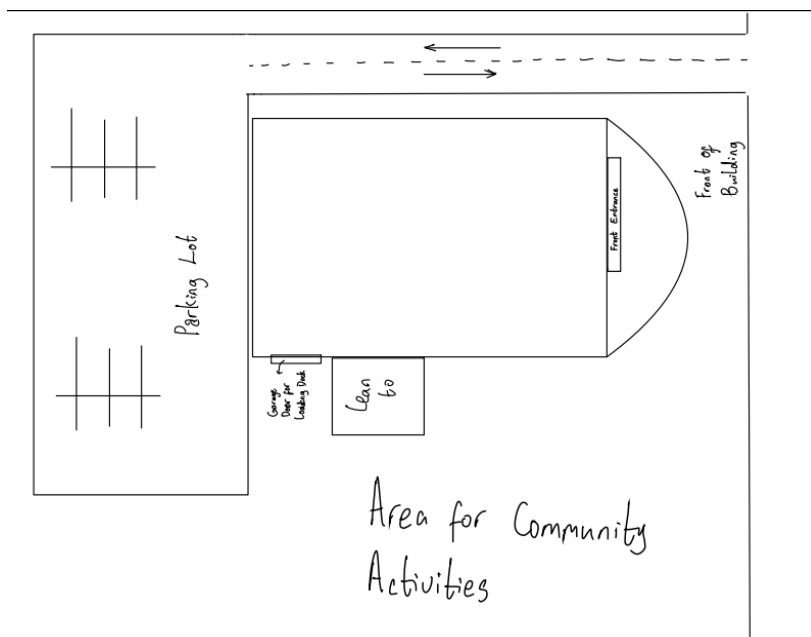
Pros: compact and well organized lab space, lots of surface for dissections.

Cons: not enough storage space for equipment, no freezer, small overall.

4. Subsystem 4: Lean-to

The Outside of the building consists of the lean-to, parking lot and the position of the building in relation to these. It would be ideal if there is enough outdoor space for community activities and a garage door that leads to the work lab.

Figure 2.4.1 Joy's design

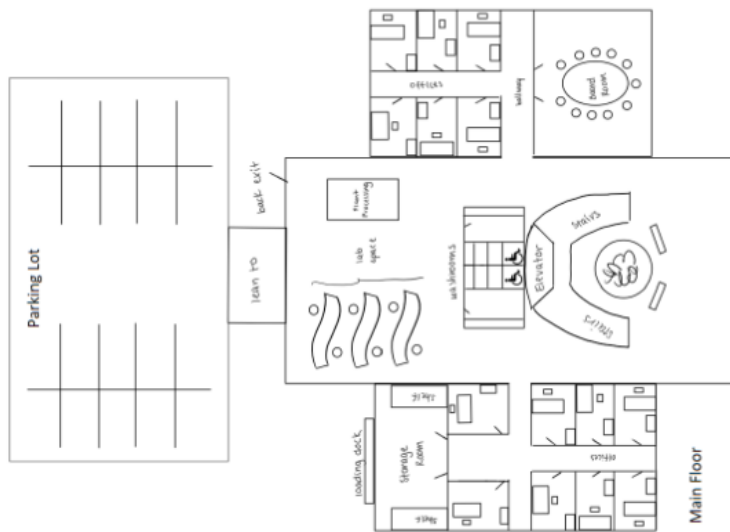


Pros: The Parking lot is close to the loading dock and the lean-to. There is

space for community activities.

Cons: The Parking lot is far from the main entrance, it is not accommodating for people with accessibility issues. Also, the driveway is long and takes up space.

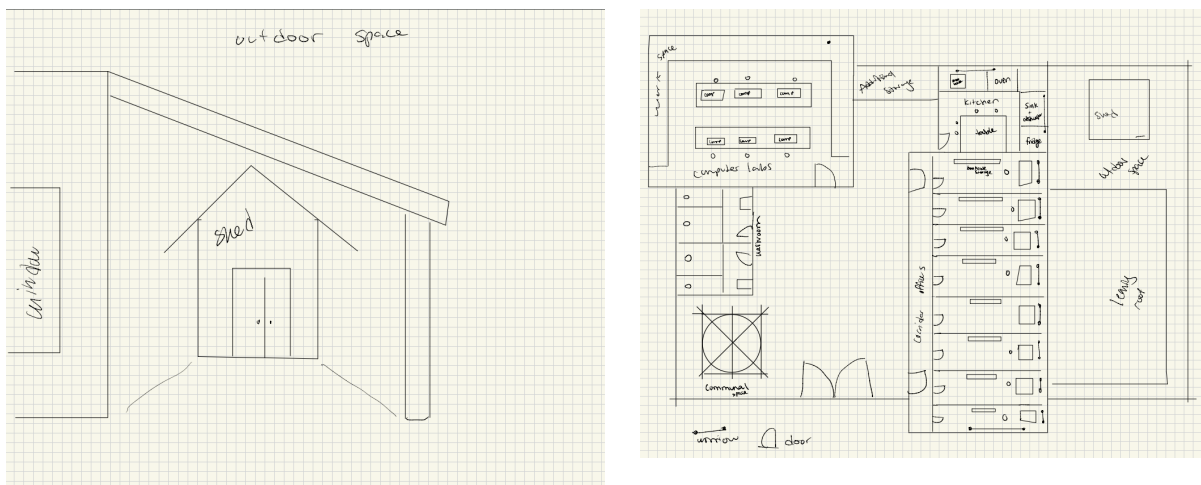
Figure 2.4.2 Ann's design



Pro: The parking lot is close to the lean to and a back exit which makes it comfortable for people in need of accessibility accommodation. Also, there is enough space for community activities.

Cons: The parking lot and lean to are a bit of a distance from the loading dock.

Figure 2.4.3 Evelyn's design



Pros: Has more storage space in the outside which make it easily accessible for the Guardians working outside.

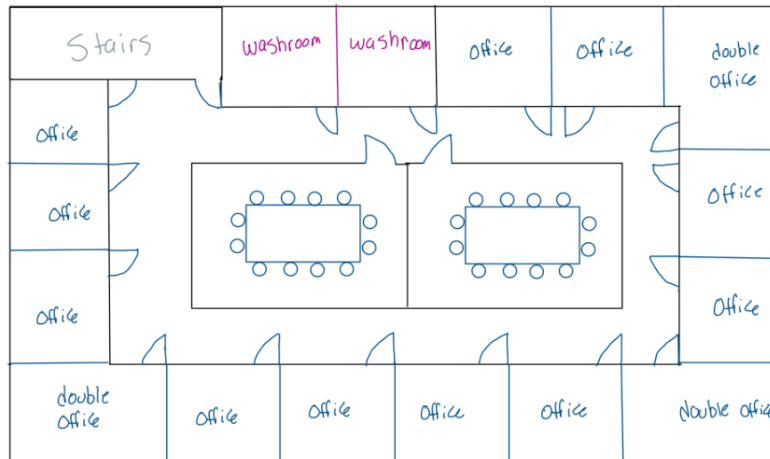
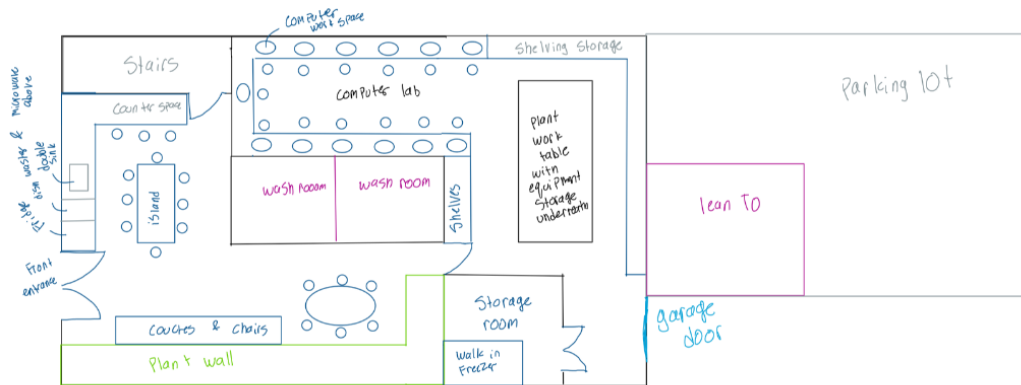
Cons: There is no garage door that leads to the work lab

3. Final 3 Designs

1. Designs

1. Design 1

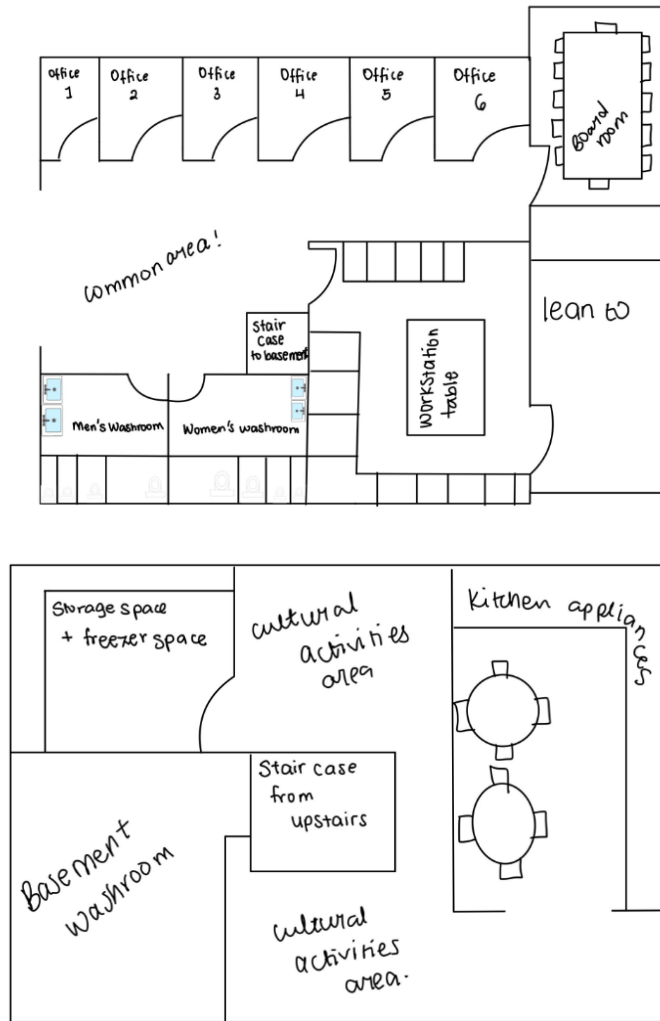
Figure 3.1.1 First Final Design



In this design the subsystems chosen were Ava's Lab and Kitchen, Ann's lean to, and the U-shaped office desk.

2. Design 2

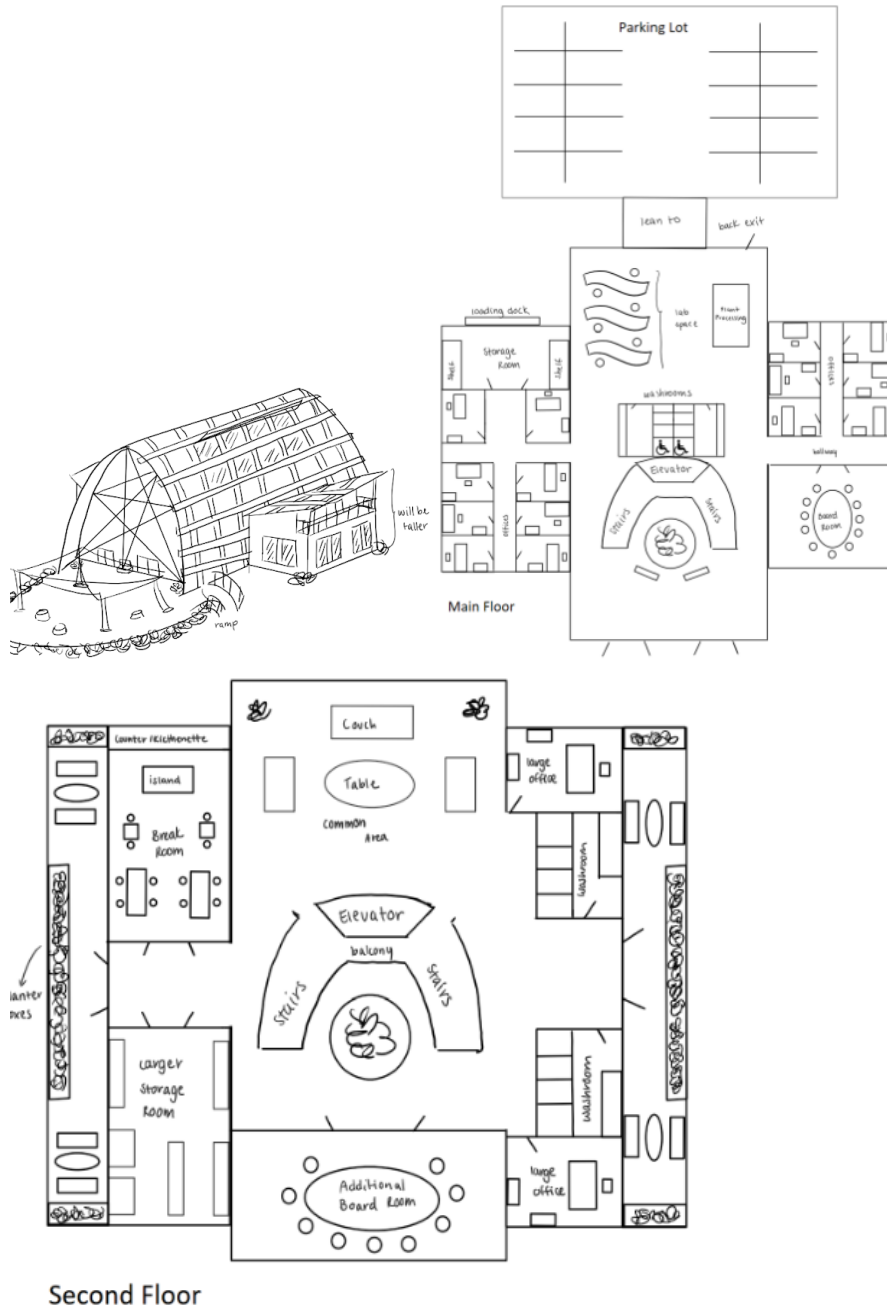
Figure 3.1.2 Second Final Design



In this design the chosen subsystems included: Joy and Wura's workspace, T-shaped offices, Evelyn's lean-to and Wura's kitchen.

3. Design 3

Figure 3.1.3 Third Final Design



2. Final Decision

This includes Ann's lab workspace and lean to outdoor space, Yang's kitchen however utilises the L-shaped office.

The final Design chosen by the client and the team was [Figure 3.1.1] interior and [Figure 3.1.3] exterior.

4. Conclusion

The chosen design concept for the future deliverable will utilise the interior design from [Figure 3.1.1] and the exterior from [Figure 3.1.3] featuring Ann's exterior lean-to workspace, Ava's Lab and Kitchen and the u-shaped office. Although the choice of subsystem may change to better fit the client needs during a re-evaluation of the design criteria in the next deliverable.

5. Wrike Snapshot

Please copy and paste the following link:

<https://www.wrike.com/frontend/ganttchart/index.html?snapshotId=wjb3Y6EcCUo6suRFsF1avfCTxgtQoMxc%7CIE2DSNZVHA2DEL>