

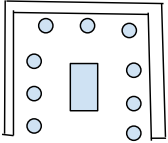
[write snapshot](#)

1. The final functional solution should have a minimum of three subsystems. You should clearly define the boundaries between those subsystems, so that conceptual designs for each subsystem are interchangeable.

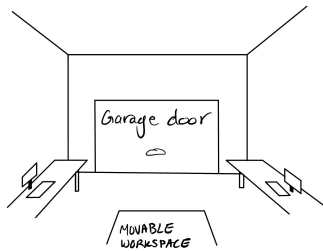
Subsystems:

- **Lab**

Stella: A horseshoe shaped lab bench area with computers on three walls of the room. This will give a community and teamwork area. Include an emergency eye wash station.

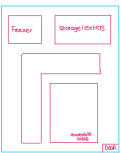


Novera: One wall that has no benches on it, so we can put a garage door open to the outside for easy access.



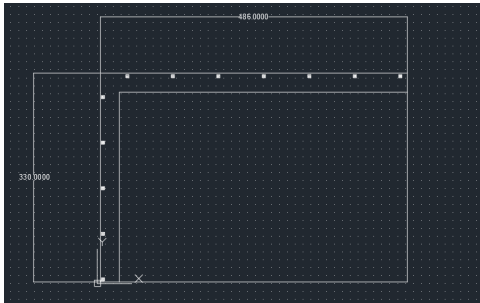
Isabelle: L shaped counter that goes along 2 walls with 7 computers and chairs. Mobile work space with storage along the 3rd wall, there should also.

Sara: An L shaped lab desk that has a rectangular moveable table that fits to make a big rectangular table. Space for a freezer as well and storage area/extra space for in case they need more space for something. See diagram under!



Eli: The lab will have space for a freezer, cabinets for storing tools and a space for storing dried plants on one wall, while another wall will have counter space with stools for working on computers. Another wall will have a garage door leading to the lean-to.

Riley: A countertop that lines up with two walls around a corner. The counter has power plugs in it every six feet. The counter is 2.5 feet wide. There is a tiled floor that is 38\*25ft (950sqft). There are three rows of fluorescent tube lights.



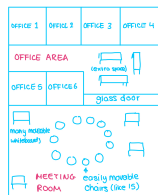
### - Offices & Meeting area

Stella: A large round wooden table, white boards and presentation screen on one wall

Novera: A semi-circle shaped window on the ceiling of the circular room. The offices should be faced towards the door of the office as facing the wall would make the office unwelcoming, and isolating.

Isabelle: Meeting room with large circular table (fits minimum 10 people) made of timber. 15 separate small offices each containing a window and a desk+chair.

Sara: As in the picture below my idea is to make six different offices and add some extra desks for in case more people are present. For my meeting room idea, I allocated an area with easily movable chairs so it can be organized in a way that optimizes the meeting. I also added a number of moveable whiteboards to the room for meetings. There should be outdoor access via the lab.



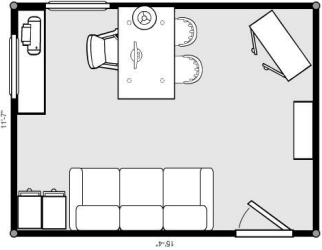
Eli: The meeting area could be a circular room with a circle table in the centre. The room could have a skylight in the ceiling. The office area would include 21 office spaces with computers and

Commented [1]: That is a really cool idea

Commented [2]: Thanks I totally thought of that myself

desk space. One more room would be required with a couple circular tables for groups to work together.

Riley:



<https://i.pinimg.com/564x/46/38/e8/4638e87ba16524172f96601e9df16675.jpg>

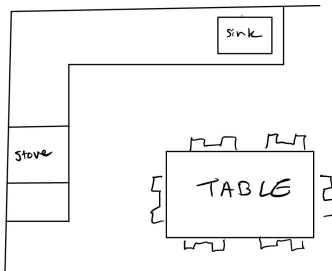
15 of these,

And a 15 people table meeting room with projector board

#### - Amenities (bathroom & kitchen)

Stella: There needs to be a wheelchair accessible stall in both bathrooms. The kitchen should have a counter space that can be used to clean fish.

Novera: For the kitchen area, there should be an L-shaped counter on the wall, and in the middle, we should have enough room to fit a rectangular table to fit six people.



Isabelle: 2 separate individual bathrooms. Small kitchenette space with sink, fridge/freezer, counter space, microwave. Table, seating space/benches.

Sara: The kitchen should have the basic amenities such as a sink, fridge, microwave, mini stove and counterspace as well as some cabinets for storage. Since its only a small kitchenette the area should be approximately 7-9 meters squared. As for the bathrooms I think there should be two bathrooms with two stalls each. And one separate accessibility bathroom.

Eli: 2 bathrooms with two stalls each, and a small kitchen space with a sink, fridge, counterspace and space for a microwave. The kitchen has space for a table for eating lunches.

Riley: two 3 by 5 foot stalls next to each other, a three foot wide hallway leading to a 6 foot by 6 foot room for one sink. This setup is repeated for a second gendered bathroom (Yeah we need

to talk about whether or not we use gendered bathrooms) The kitchenette will have space for an oven (2.5 X 2.5 ft), a fridge/freezer combo (2.5X 3 ft) have countertop space, and have room for a small 6 person table.

### - Outdoor area (shipping & receiving)

Stella: The space needs to include a large area that is covered as well as an uncovered area or large gatherings. The lean-to should have a place to hang hide as well as be able to park/load into the garage.

Novera: Lean attached to the side of the building that has the lab. If we have a garage door on the wall of the lab, it would be easy to access the lean-to from the lab in case materials would need to be transferred.

Isabelle: Large covered outdoor area (20ft tall) that leads to the lab with a garage door to simplify transporting plants and such. It should have a counter with a sink for cleaning fish, easy hand washing, etc... There should also be a large well landscaped area for other cultural activities/gatherings.

Sara: There should be an outdoor lean that can accommodate two vehicles. The Lab should have outdoor access with a ramp to make moving supplies and harvests easily.

Eli: 20' Lean-to attached to the side of the building with a garage door leading to the lab area.

Riley: A large bricked surface 12 x 22 ft wide, with one of these bad boys:



<https://www.google.com/url?sa=i&url=https%3A%2F%2Foutdoorelementsinc.com%2Fcapabilities%2Fpergolas-pavilions-and-arbors%2F&psig=AOvVaw1zR0rZIVb5t7YmHYtjtZT&ust=1697303363760000&source=images&cd=vfe&opi=89978449&ved=0CBEQjRxqFwoTCKiA3PTB84EDFQAAAAAdAAAAABAE>

Its next to the building so It will have water access

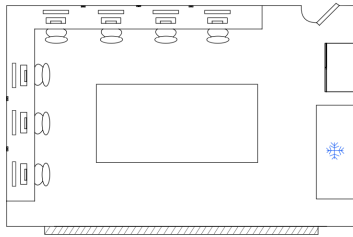
2. *Based on your team's problem statement, benchmarking and the list of prioritized design criteria, each team member will generate at least one concept for each subsystem required. Identify the specific team member creator for each concept in the deliverable.*

3. Team members will then reconvene as a team and discuss these concepts in order to categorize/condense/combine/refine/reconsider each sub-system. As a team, your goal is to produce a completely new or modified concepts for each subsystem.

1. Each subsystem should be well-documented using clear sketches and descriptions. Give a few lines and notes to show the benefits and drawbacks of the different concepts you considered. It should be understandable by a reader who is unfamiliar with your problem.

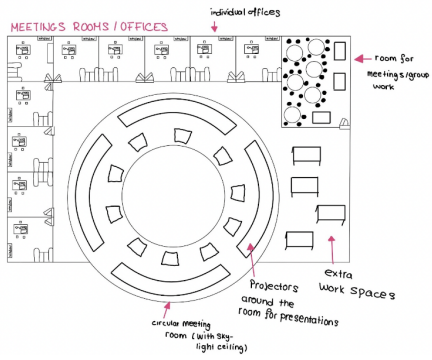
**COMBINED SKETCHES:** One sketch for each subsystems that we agree has all the good parts of our original idea:

1. Lab



- //// = Garage door
- ☞ = Computer
- ☞ = Chair
- ☐ = Built-in steel cabinet (storage)
- ☒ = Presenter

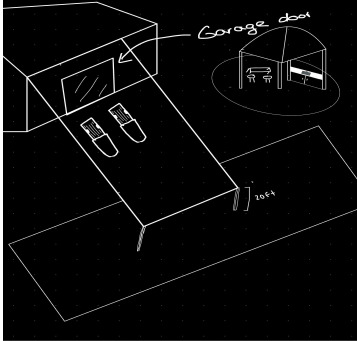
2. Offices and meeting area



### 3. Kitchen and amenities



### 4. Outdoor area



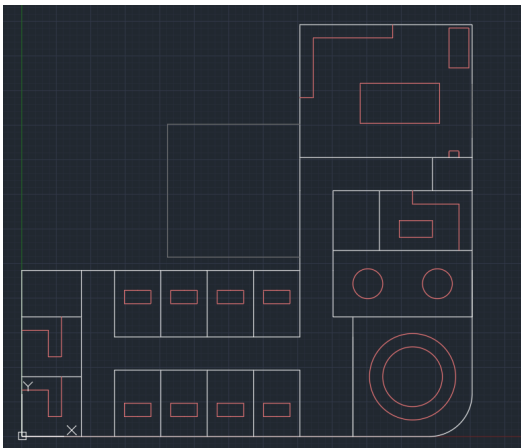
4. The subsystems can then be combined into three fully functional solutions, by mixing and matching the subsystem ideas. These global concepts must then be analyzed and evaluated against your design criteria using a selection matrix, similar to the one used in class, for comparing the solutions from the technical benchmarking process.

Idea 1: This is the full idea we showed the client. We included 5 large offices, a communal office, a large kitchen and dining area, one male and one female bathroom, a large lab, a large meeting room, and the outdoor area.



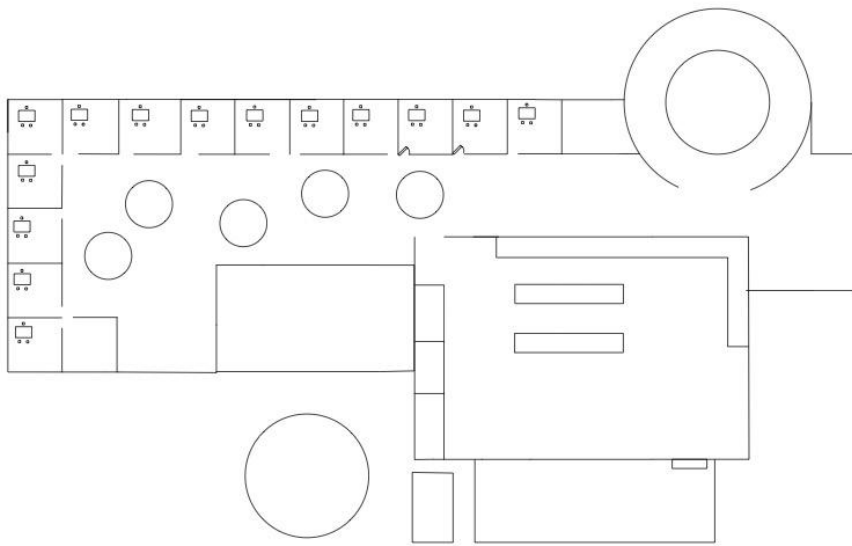


Idea 2: Same as the first design, but there will be smaller offices (No couches, one desk and 2 chairs and a monitor). There will be two single toilet bathrooms separated across the bathroom to minimize distance to bathrooms. The lab will have an emergency eyewash and shower and 1-2 faucets AWAY FROM THE COMPUTERS. Idea 2 will try to minimize hallway space and maximize the number of offices. There will be a janitor's closet and a tool storage room (think garage)



Idea 3: There will be a shed added between the lean-to and the gazebo (gazebo will be moved) for additional storage. We would remove the couches from the offices, to make some space to upsize the lab. This room will be used to add a sink, and eyewash station. We will remove the stalled washrooms, and insert two singular accessible washrooms, one will be near the labs, and the other will be near the offices. Further, we would make the floor plan bigger to incorporate at least four more offices.





5. From this analysis and evaluation, choose the best global concept and identify it for further development. Give a few lines and notes to show the benefits and drawbacks of the different concepts you considered. Justify your final selection or any ideas that you did not select with suitable notes in the document.

Our first conceptual design had certain drawbacks concerning space. The office spaces included tables and couches which is a nice addition but unnecessary for the client's actual needs. Idea 2 is optimal for space but has some missing components. We removed the stalled washrooms and replaced them with two single accessible washrooms. We also added sinks in the lab. We have decided idea 3 is the best conceptual concept due to the fact it maximizes space and gives more options for growth in the future due to the larger number of offices, more storage and a more detailed lab space. We included a shed in idea 3 which we believe is best because the client said they needed storage for equipment that they would load into the truck and use for harvesting so having this storage outside is the most efficient way for them to load/unload.

