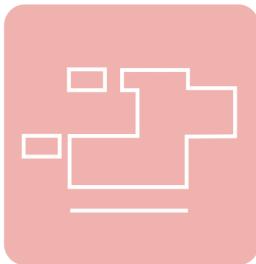


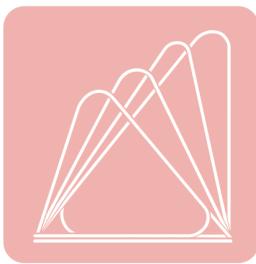


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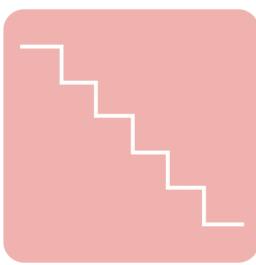
**01 URBAN AGRICULTURE
CENTER**



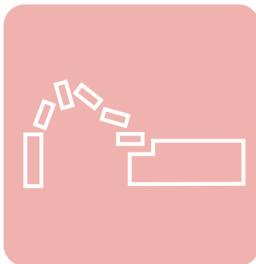
02 HOOP HOUSE



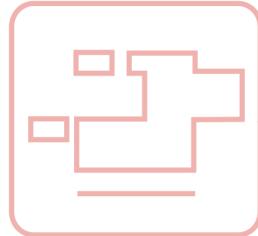
03 FOLDED GARDEN



04 PARASITE



05 MOTION



URBAN AGRICULTURE CENTER 01

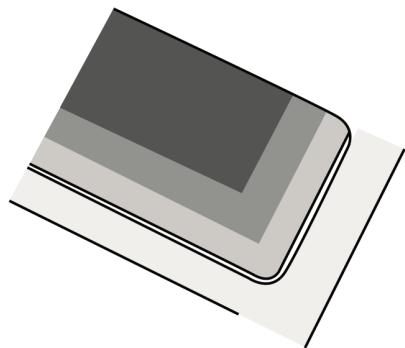
YEAR: FALL 2017

LOCATION: SANKOFA COMMUNITY GARDEN IN HOMEWOOD, PENNSYLVANIA

PROJECT: DESIGN PROPOSAL

Each student developed a building proposal for a new center for Urban Agriculture in Pittsburgh. The site was Sankofa Community Garden located in Homewood. The center will serve as a hub supporting urban gardening and farming activity in Pittsburgh. The center will also become an outreach center allowing for education and community engagement from the citizens of Homewood. I focused on the main circulation aspect of the area when creating a design proposal.

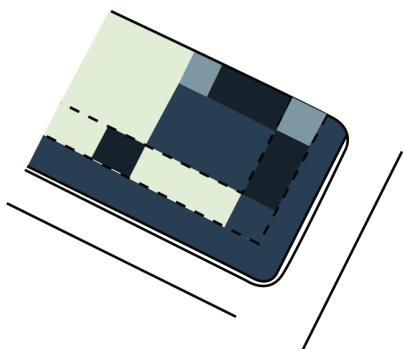




- Private
- Semi Private
- Public
- Sidewalks / Roads

CIRCULATION

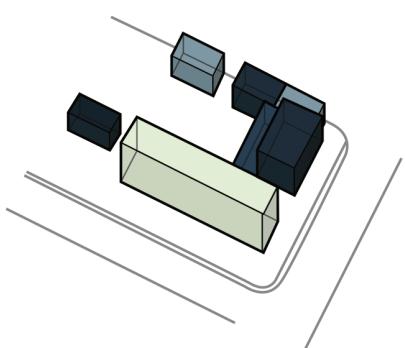
There are two main roads surrounding the site that helped drive the organizational aspect of this project.



- Social and Grow
- Public Social
- Private Social
- Logistics (Storage, Loading Area, etc)

PROGRAM & MASSING

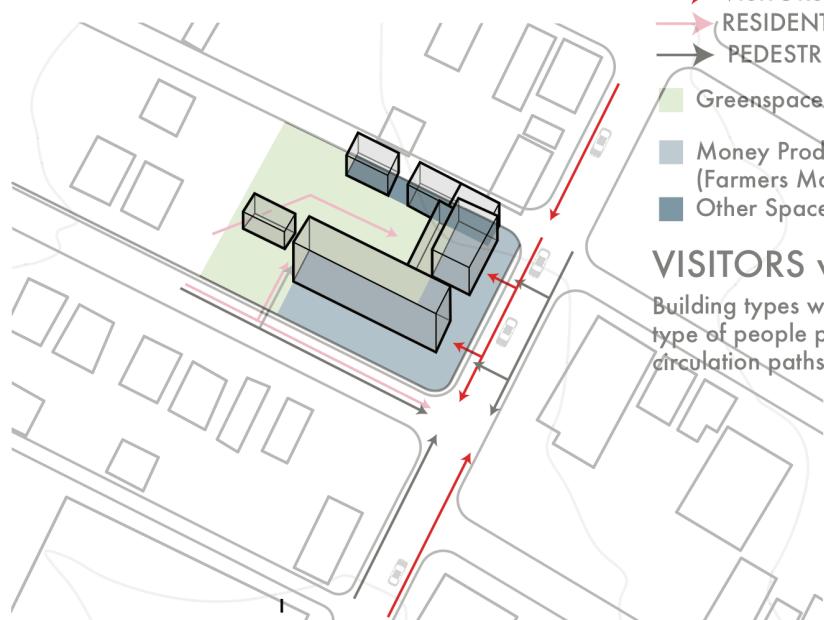
Using the diagram above, I was able to organize more specific spaces and created buildings using those spaces.

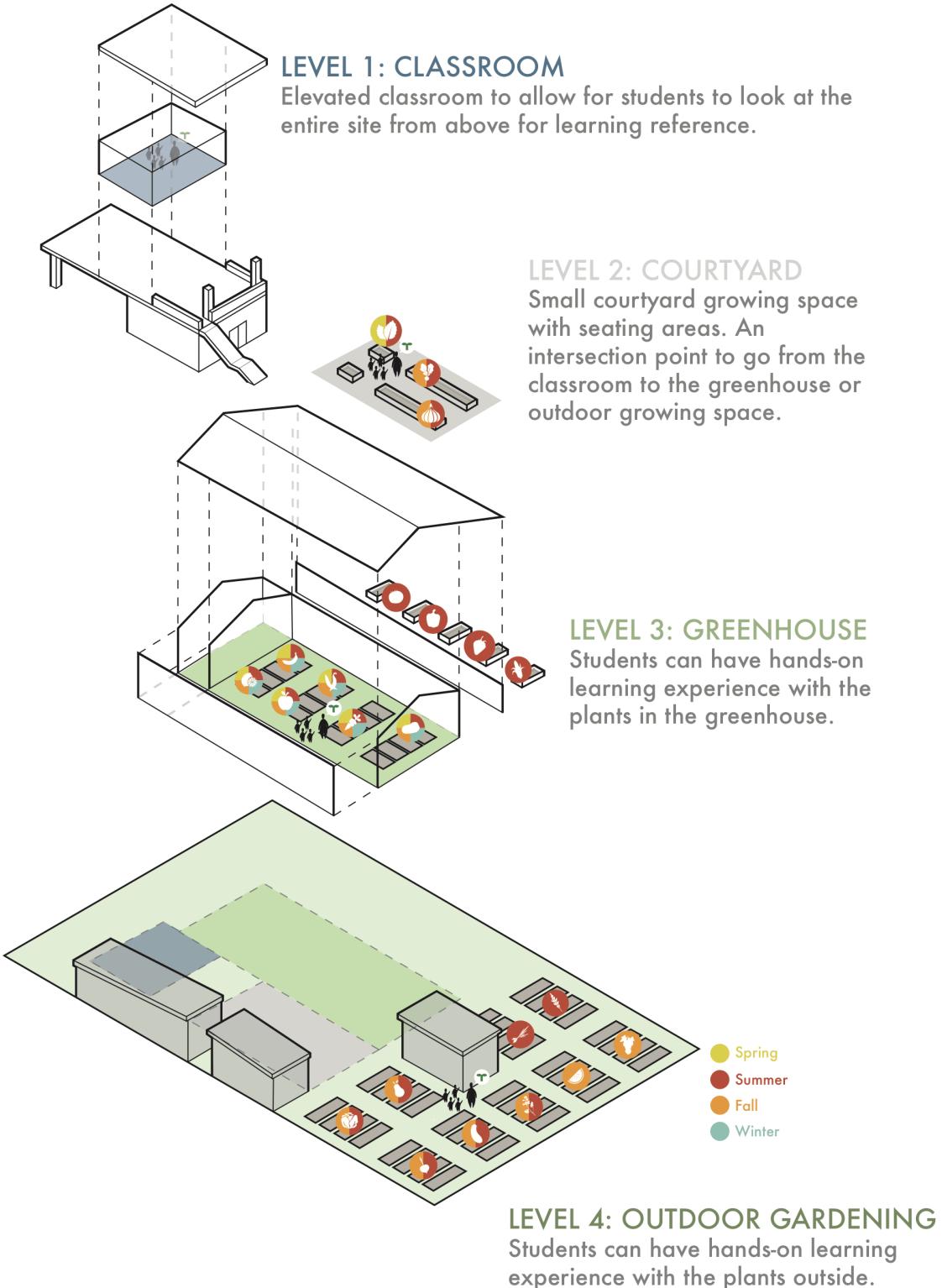


- VISITORS
- RESIDENTS
- PEDESTRIANS
- Greenspace
- Money Producing (Farmers Market + Cafe)
- Other Space

VISITORS vs. RESIDENTS

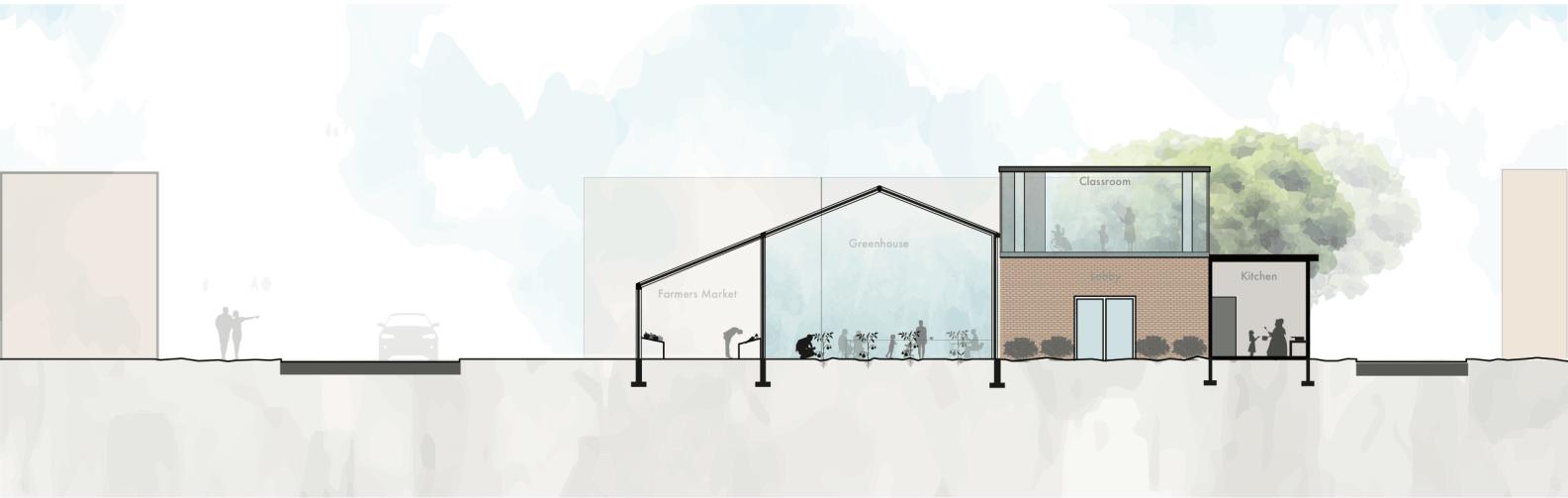
Building types were separated dependent on the type of people passing through each of the main circulation paths.





This design focuses a lot on the concept of “different levels of learning” to encourage different types of learning for the children of Homewood.

Another big focus for this project was the cost of construction and the materiality. Since this building is located in Homewood, which is a low-income area, I wanted to create a design that would be affordable and easy to build, shown through the simple structures. As for materiality, I tried to keep the original material of the building, brick, to retain the idea that this was once a historical building while also using a glass material to make the entire design flow between buildings better. It's as if the building is going from old to new vertically; the bottom layers of the building are made of brick while the top layers are made of glass.



Rendering of the view that the visitors primarily see when passing by the site.





HOOP HOUSE 02

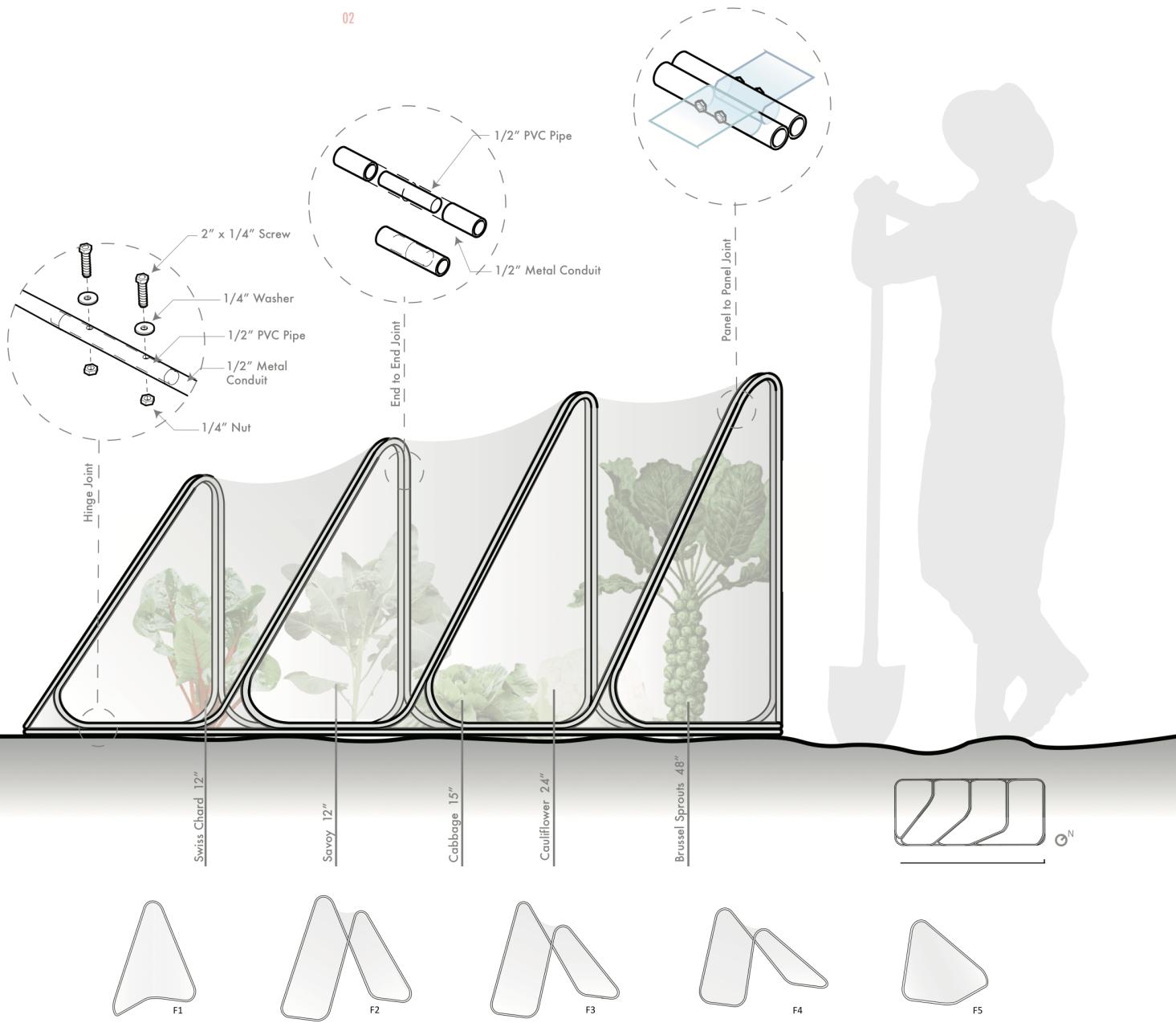
YEAR: FALL 2017

LOCATION: PHIPPS CONSERVATORY AND BOTANICAL GARDENS

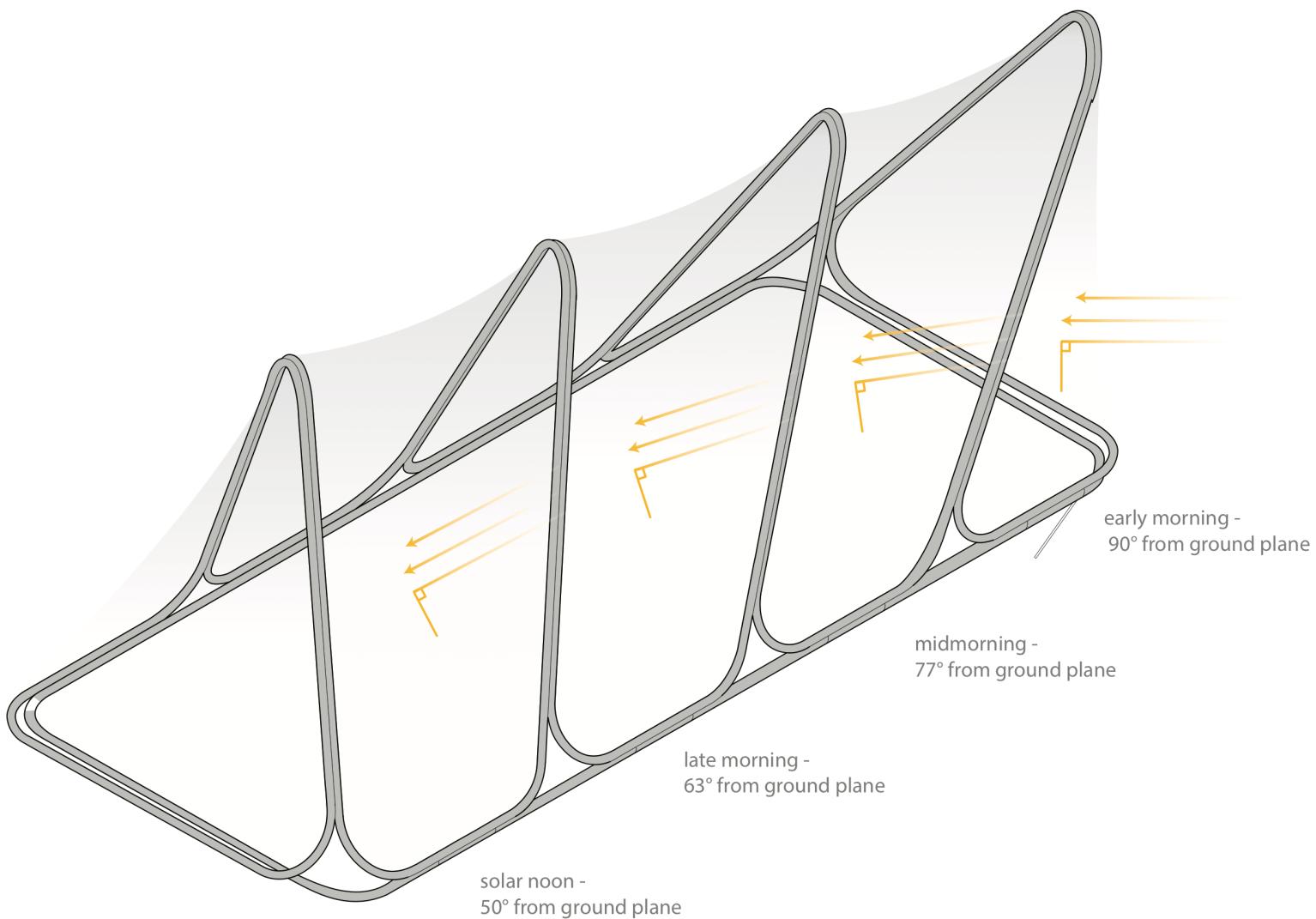
PROJECT: BUILT AND INSTALLED AT CONSERVATORY

GROUP MEMBERS: EDWARD FISCHER, RYU KONDRUP, ALE MEZA,
ISABELLA OUYANG, ANTHONY RA

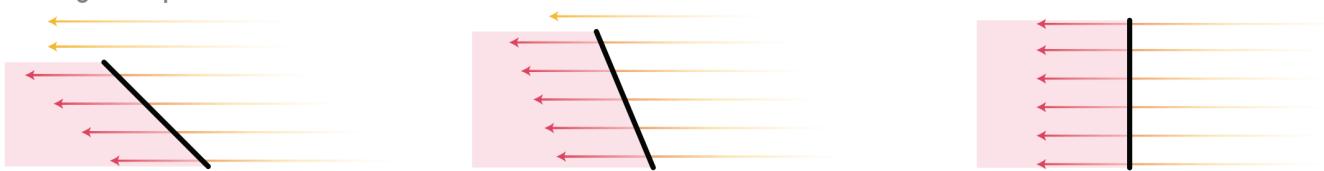
Each group designed a hoop house for the Edible Garden at Phipps Conservatory after being assigned a specific planting arrangement. Our group's planting arrangement was a 16 foot long planting plot that was partially blocked from the sun by a towering building. Key components that had to be kept in mind was: are the plants easy to maintain and water? Is the hoop house to assemble and disassemble seasonally? Will the plants be protected from frost and get enough sunlight?

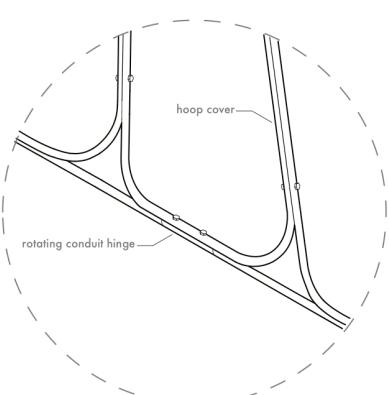
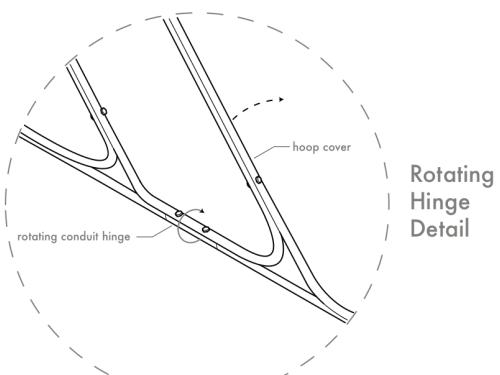
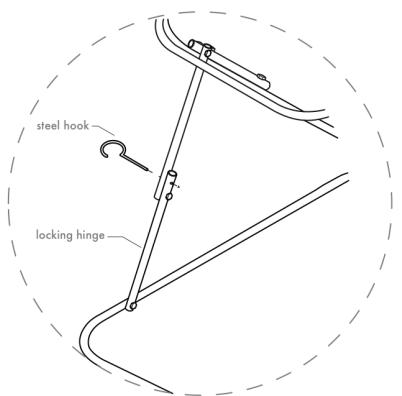
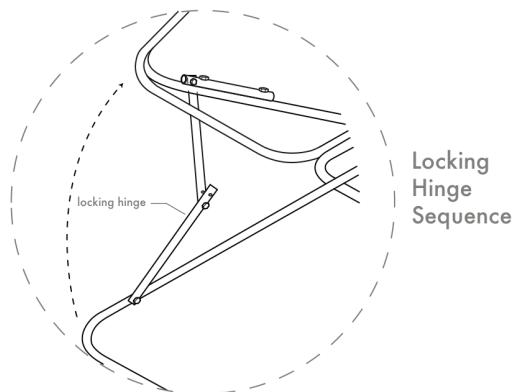


The angles of each panel was based on specific angles that were calculated on the sun position on different times of the day and by producing an angle perpendicular to the sun to maximize the sunlight collection through the hoop house surface. The dynamic, gradually increasing size of the hoop house from front to back was designed to house different types of plants since the botanical garden at Phipps had a wide range of plants from all different heights.



Maximizing Sunlight Collection through Hoop House Surface







FOLDED GARDEN 03

YEAR: FALL 2017

LOCATION: PHIPPS CONSERVATORY AND BOTANICAL GARDENS

PROJECT: BUILT AND INSTALLED AT CONSERVATORY

PLANT: PARSLEY



Front Elevation

Folded Garden is a project focused on constructing a growing armature to sustain a plant through the season's first frost. Students were given the opportunity to explore different shapes and plant properties that they wanted to take into account when constructing an armature for their given plant. The materials that were given included 0.062" or 0.032" thick wire and heat shrink wrap. The design aimed to create an armature that focused on certain issues that were faced while taking care of the plant during the week. These problems consisted of its vase-like shape and the amount of times the plant had to be maintained. Considering these factors, the design aimed to create an armature that was tall to support the height of the plant and have an open area to give a person easy access to the plant's stems, leaves, and roots. The shape of the planter was designed to provide the plant with enough space to freely grow without being too tight.



Top Elevation

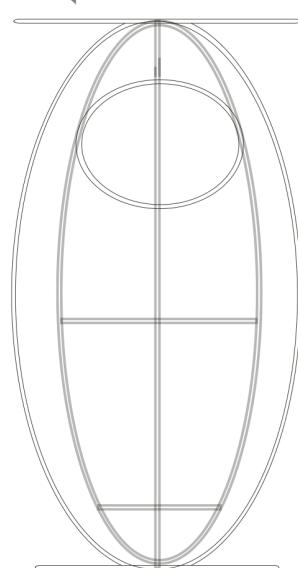


Side Elevation

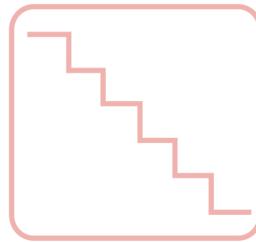


The opening in the armature for easy access to the roots of the plant, designed for tending to the plant.

Circular Shaped Main Structure



Parts for Support Structure

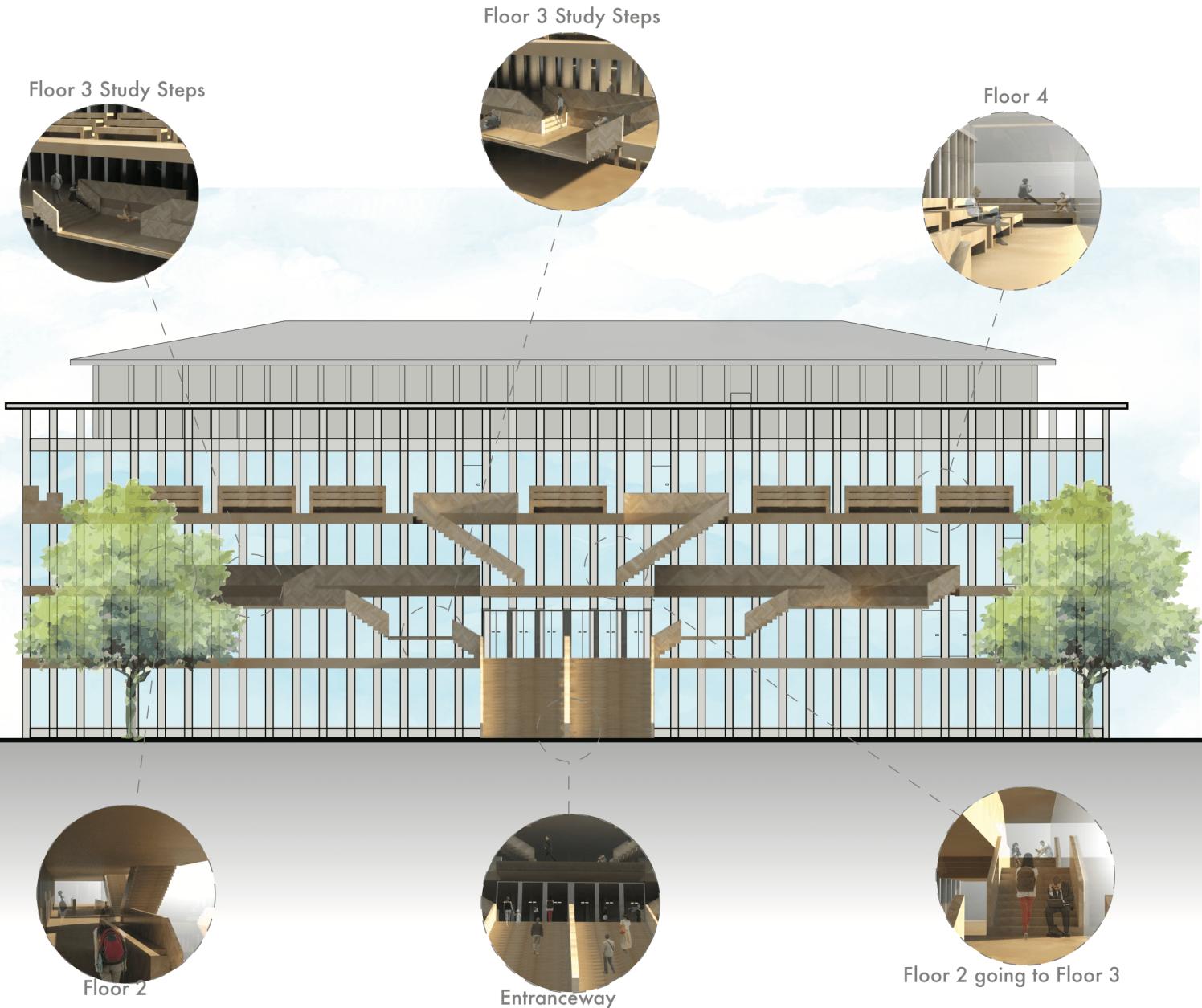


PARASITE 04

YEAR: SPRING 2017

LOCATION: HUNT LIBRARY AT CARNEGIE MELLON UNIVERSITY

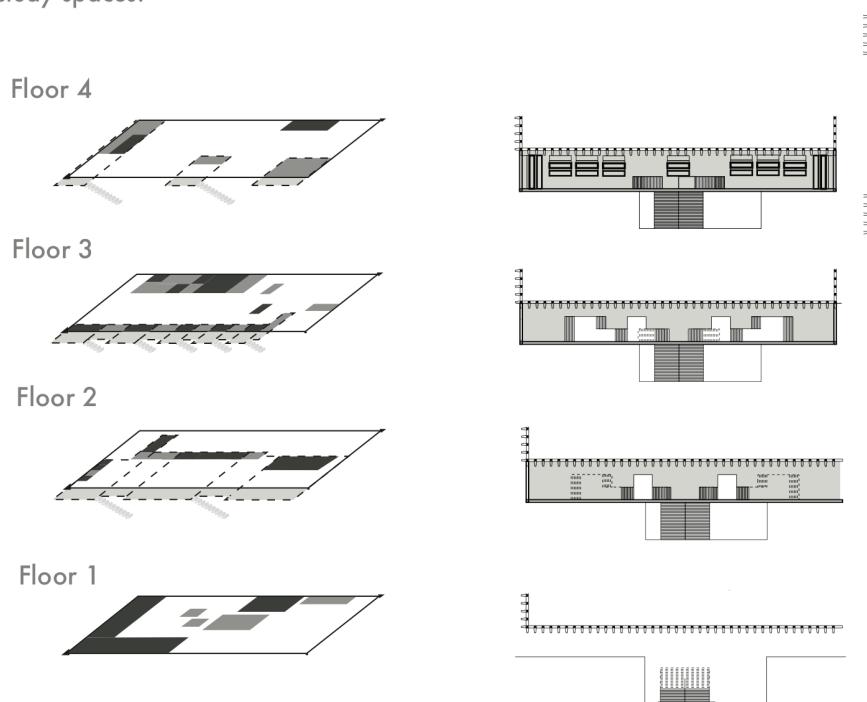
PROJECT: DESIGN PROPOSAL

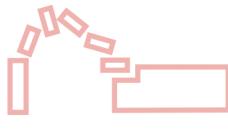


The design proposal aimed to try and add more study spaces to an existing building, Hunt Library, which is located on Carnegie Mellon University's campus. My design proposal focused on the idea of allowing people outside to be able to have a sense of what was happening inside through an "ant-farm" system. All of the stairs allowed for constant circulation while also providing different types of study spaces for visitors. Each floor has a different program, whether its individual study spaces, group study spaces, or a little bit of both. Circulation increases with all of the stairs that are added improving student conveniency no matter which building they are coming from because of the grand entrance at the very center of Hunt Library.



The different study spaces in hunt are used at different times throughout the day, but the most crucial time is the afternoon when students are out and about, going to and from classes. Using that diagram, spaces outside of the library were extruded from those spaces being used and were used to create the shape of each floor in the Hunt Library parasite. This data also helped create the different types of stairs on each floor and how many stairs to include on that floor; the more frequently used floors had more stairs and study spaces while the floors used less frequently had less study spaces.





MOTION⁰⁵

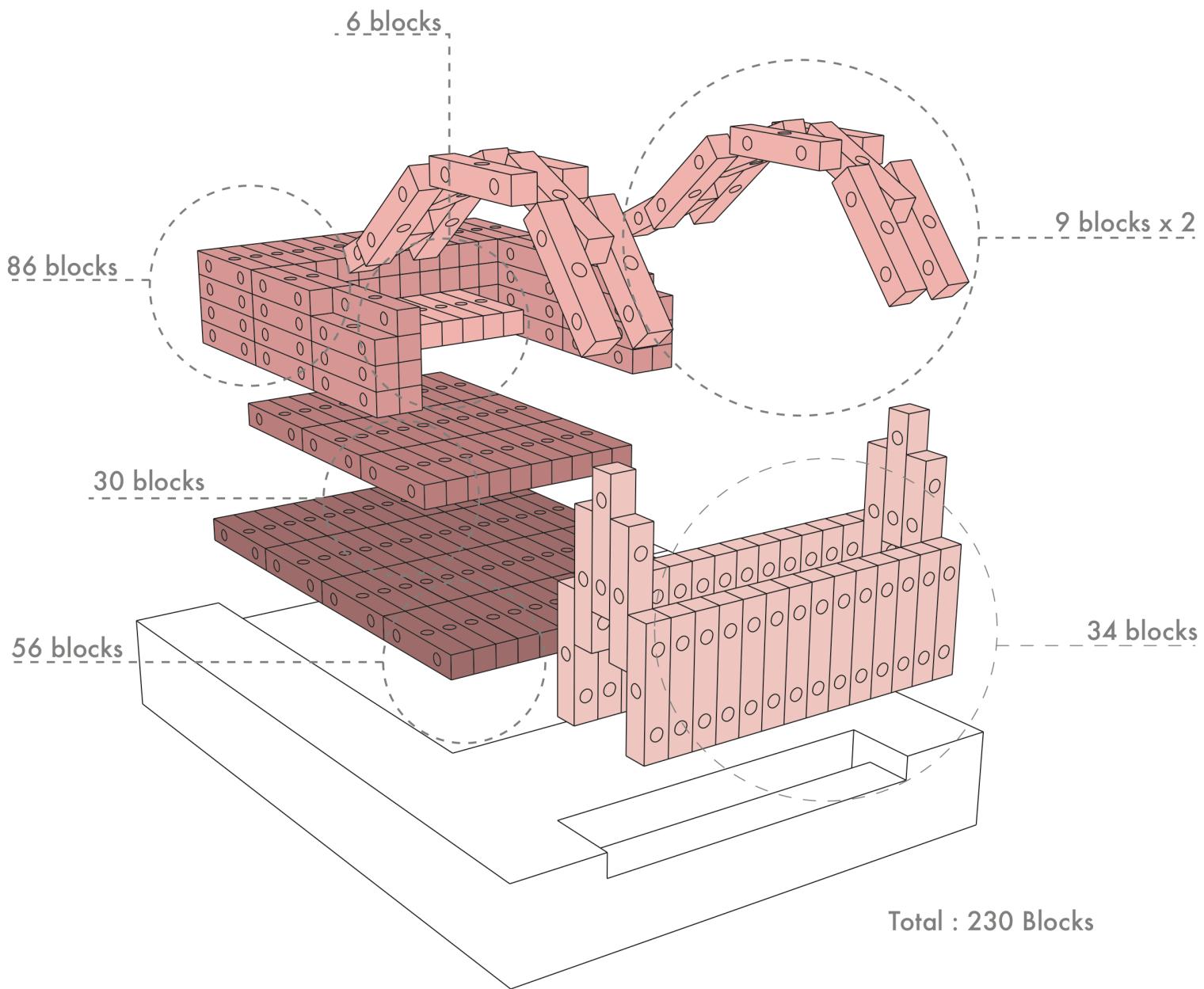
YEAR: SPRING 2017

LOCATION: n/a

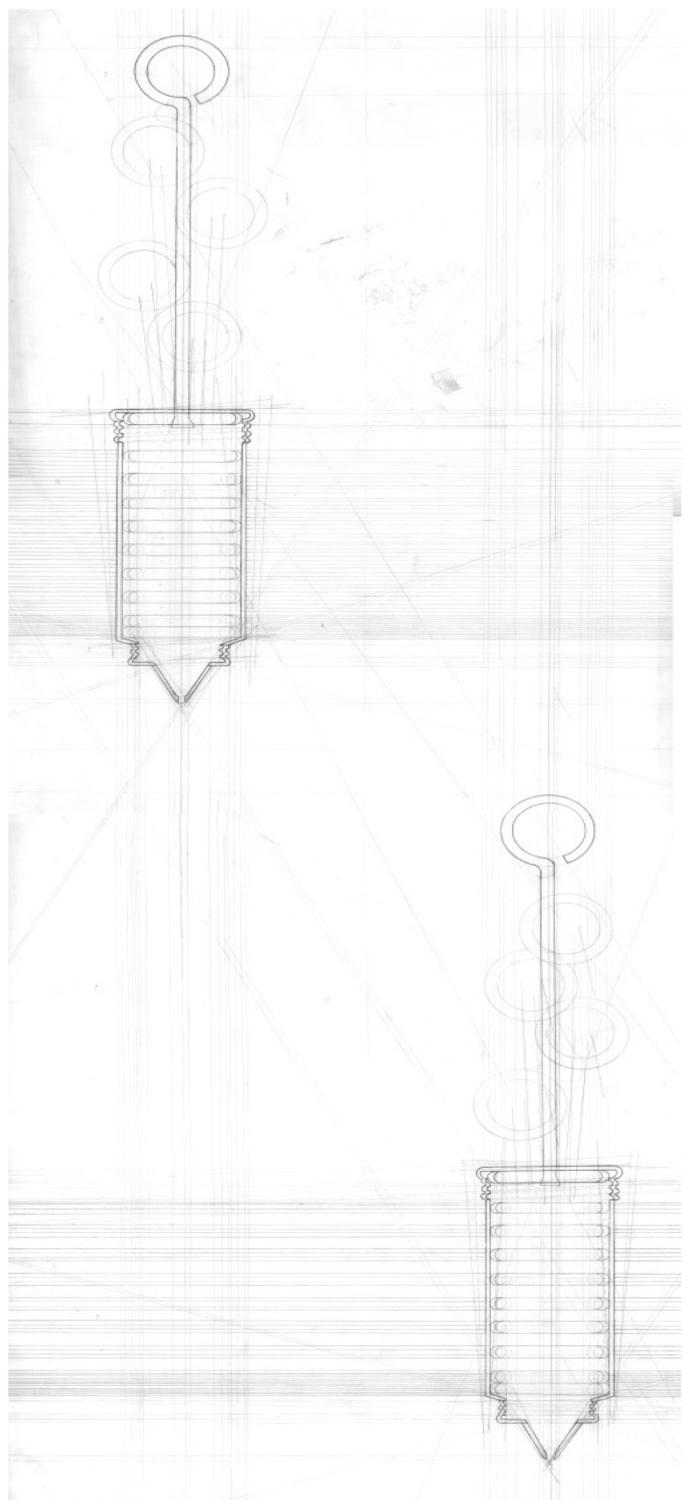
PROJECT: DESIGN

PARTNER: CAMERON DRAYTON

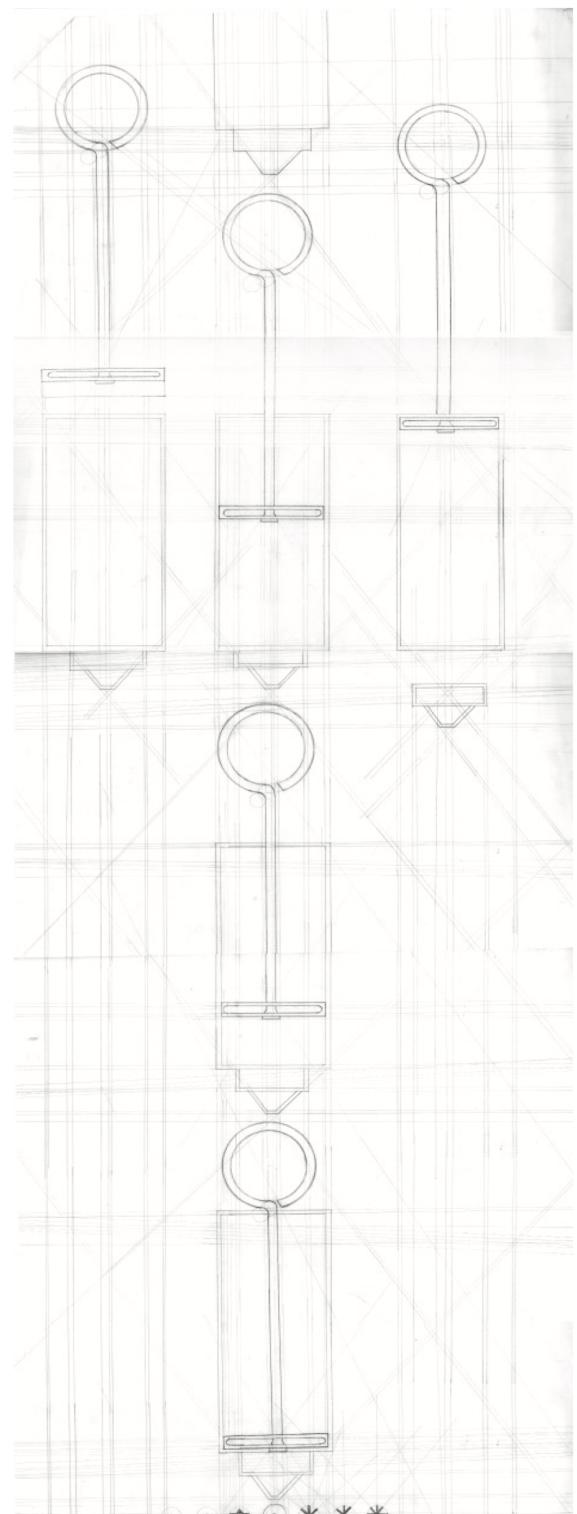
Each student was given a different kitchen tool. I was given a froster. After studying the shape of the tool and studying how it moves, students were paired up to try and create a motion model that represented both of their kitchen tools. My partner's tool was a potato cutter. The concept of our model was to make the entire model using the exact same piece repetitively over 200 times. The verbs we were trying to aim for in our model were: layering, splitting, time, and bending. There are two sides to the model to represent the two different kitchen tools, the left represents the froster and the right, more rectangular part, represents the potato cutter being bridged together with the same sized piece.



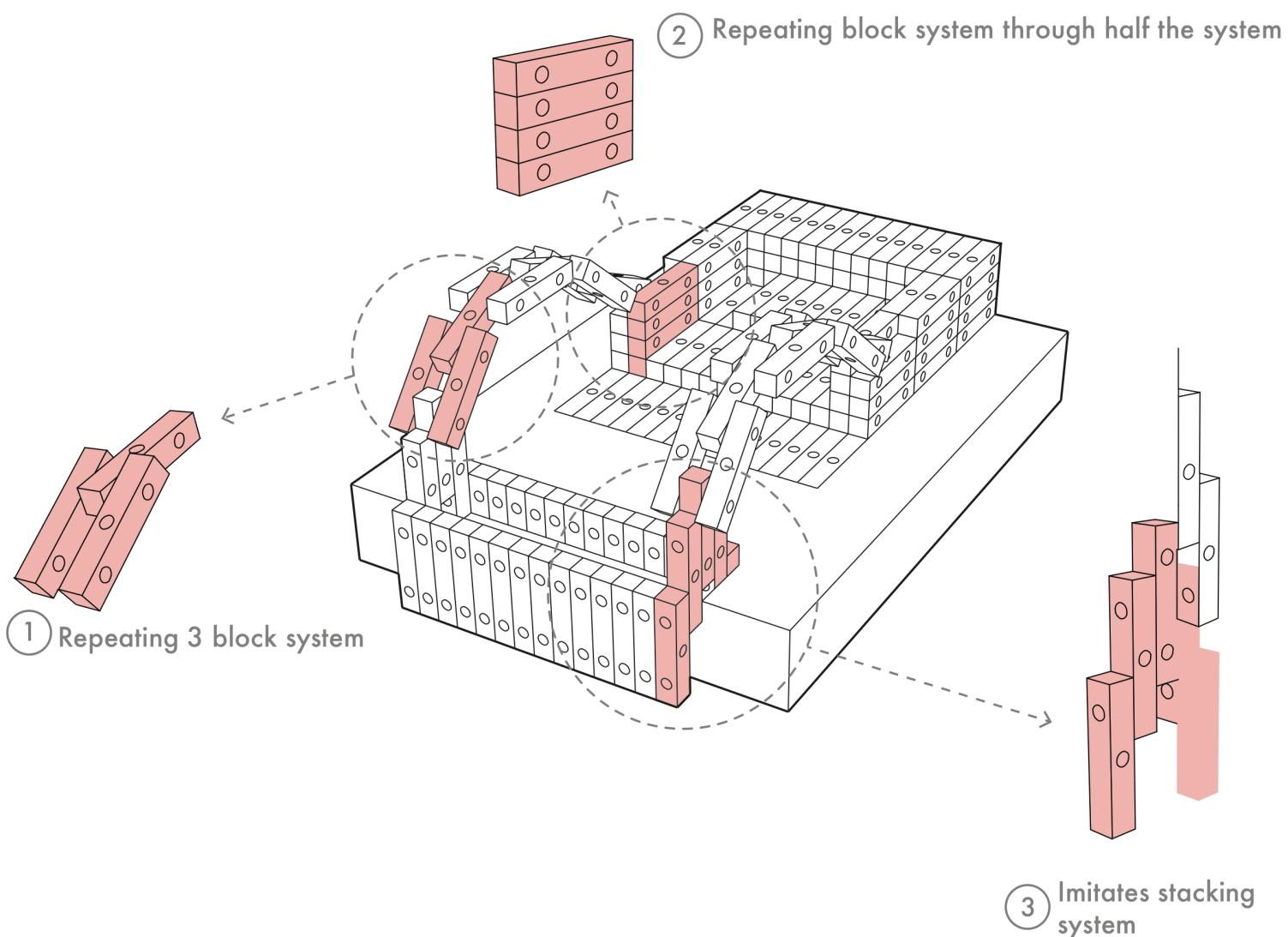
Initial studies of the object and how it moves.



Froster Motion Drawing



Froster Object Drawing



The different parts of the model are clearly shown above. There is a clear separation in the shape of the pieces being used on the varying sides of the model. Number 1 represents the froster and number 2 represents the potato cutter while number 3 represents the connection, or bridge, between the two sides.