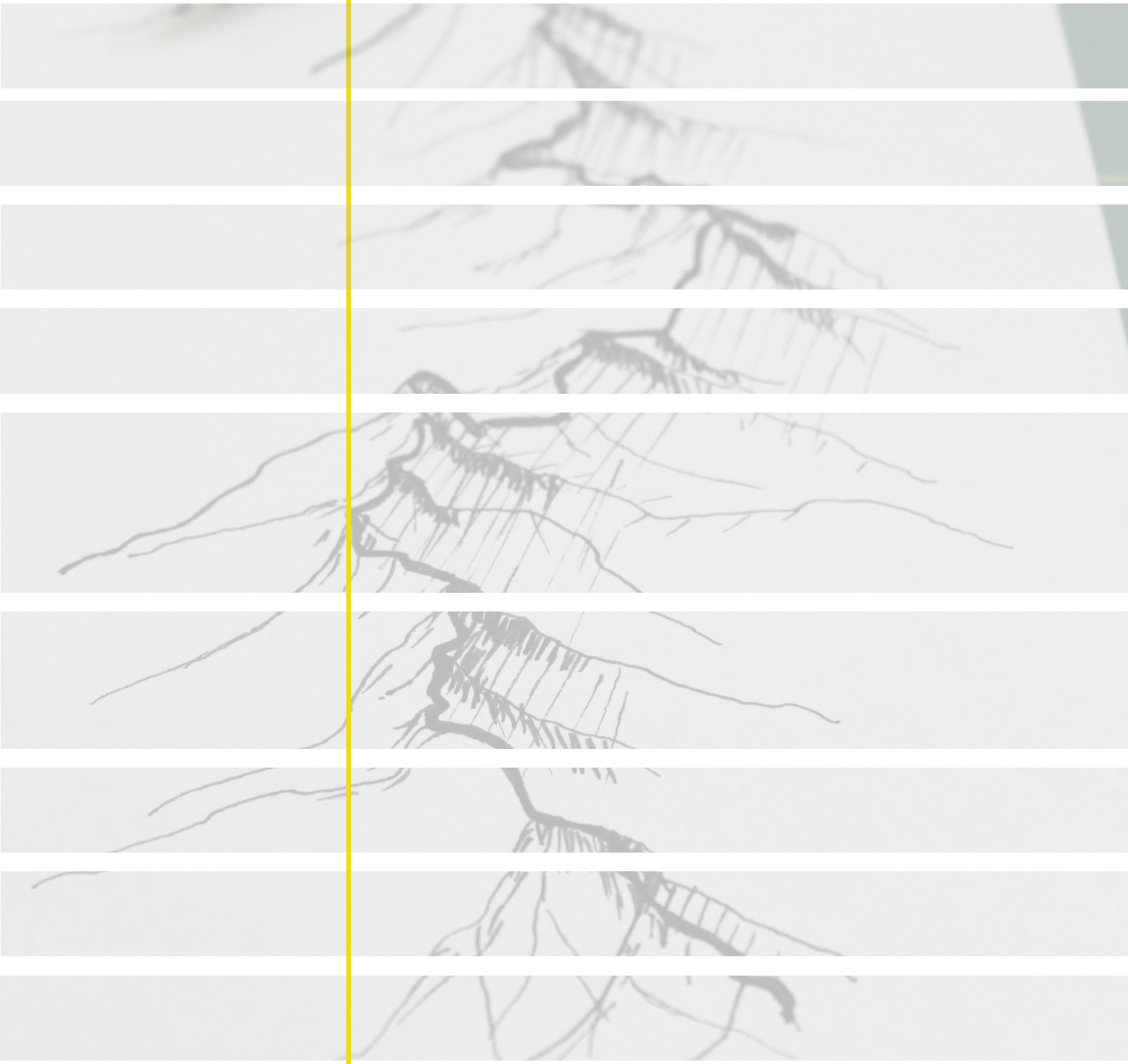
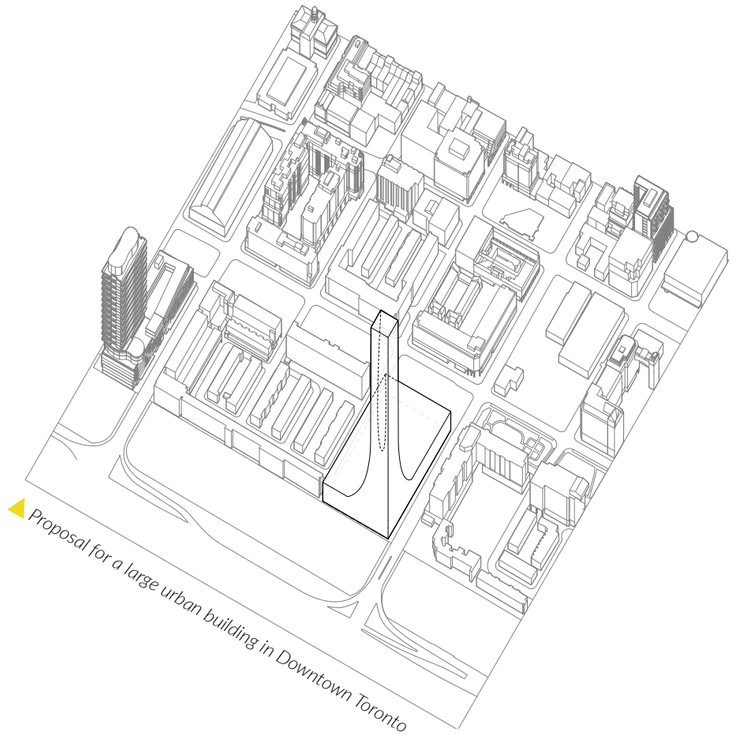
[PORTFOLIO]



• *suzanne f. r. merchant* •

CONTENTS



Proposal for a large urban building in Downtown Toronto

PROSCENIUM
ARCHITECTURE + INTERIORS INC.

1 WEST 7TH AVENUE
VANCOUVER BC V5Y 1L4 CANADA

P 604.879.0118
F 604.879.1486

www.proscenium.ca

December 19, 2014

Dear Sir/Madam,

Re: Reference for Suzanne Merchant

We were pleased to have Suzanne work for our firm from September to December 2014 at which point she left to return to her studies at the University of Waterloo.

During her time with us as a student architect, Suzanne became a valuable member of our team. Her contributions covered many aspects of project design and contract documentation. She proved herself a quick learner, eager to expand her knowledge.

Many of the projects Suzanne worked on were demanding and complex for a student architect. Suzanne to her credit had the confidence and determination to take on these projects, her involvement as a team member on the West First Theatre Center was productive and valuable to Proscenium.

Suzanne has developed a good understanding of what is required when putting together a contract documentation drawing set. She is very intelligent and capable and in her short time with us seamlessly integrated herself into our office. Given the skill set she demonstrated and her design acumen, we feel that she can offer a lot to any firm.

We have no hesitation in recommending Suzanne for another position. Should you have any questions please do not hesitate to contact me. We wish her the best of luck as she pursues her education.

Sincerely,

Hugh Cochlin, Architect AIBC, MRAIC, LEED® AP
Principal

KORI CHAN
ARCHITECT AIBC AAA MRAIC LEED® AP

HUGH COCHLIN
ARCHITECT AIBC AAA MRAIC LEED® AP

EILEEN CHEN
CGA

SUZANNE MERCHANT

Hello!
I am third year student at the University of Waterloo's School of Architecture.

My design interests lie in:
*a) the **process of making**: from the initial idea, to the drafts of drawings and models that refine and add finesse to the original, and then to the final product.*

I derive great satisfaction from this process and would love to hone my skills in its various stages further.

I hope to hear from you soon, Suzanne.

CONTACT

e : suzannemerchant@gmail.com

p : +1 (226) 600 8321

WORK EXPERIENCE

September 2014 - December 2014
Proscenium Architecture and Interiors / Vancouver, CA
Student Designer

January 2014 - April 2014
Hughes Condon Marler Architects / Vancouver, CA
Architecture Co-op Intern

EDUCATION

September 2012 - Present
University of Waterloo / Cambridge, CA
Candidate for Hons. B. Architectural Studies

TECHNICAL SKILLS

Adept

Adobe Suite
Illustrator/ Photoshop/InDesign
AutoCAD
Rhinoceros
SketchUp
Lasercutting
Processing/Arduino
Hand drafting - ink, pencil
Hand modelling

Learning & Improving

REVIT
Rhinoceros & VRay
Python
HTML/CSS
CNC
Machine and hand sewing

AWARDS

2012 - Present
University of Waterloo - Excellent Academic Standing

2013
Publication of Studio Project for UWSA Projects Review

2012
University of Waterloo President's Scholarship
British Columbia Provincial Examinations Scholarship
Point Grey Academic Medal and Scholarship
Point Grey Yearbook Award and Scholarship

2010
Shad Valley Alumna - Université Laval 2010

EXTRACURRICULARS

May 2014 - August 2014
Waterloo Architecture Student Association - Junior Secretary

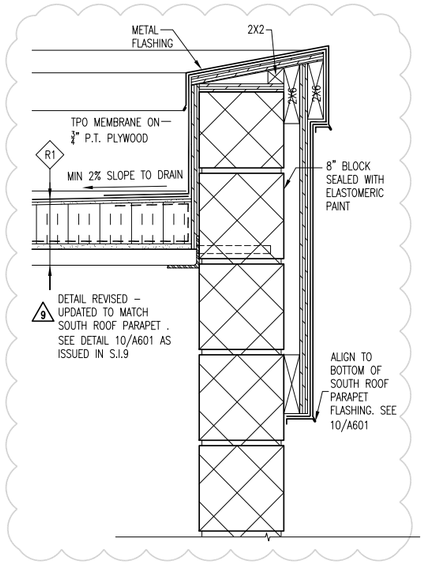
Bouldering | Singing | Sketching | Learning languages | Mathematical puzzle solving

Professional practice term
from September - December
2014

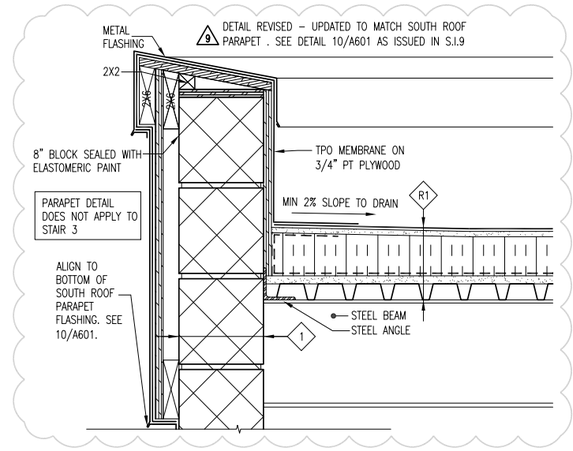
[*co-op: proscenium*]

As per the requirements of the University of Waterloo, I undertook a co-operative work term at Proscenium Architecture + Interiors where I mainly worked on construction drawings for a theatre/office project for Arts Club Theatre and Bard on the Beach. I also worked on construction drawings for a few other smaller projects that the firm had.

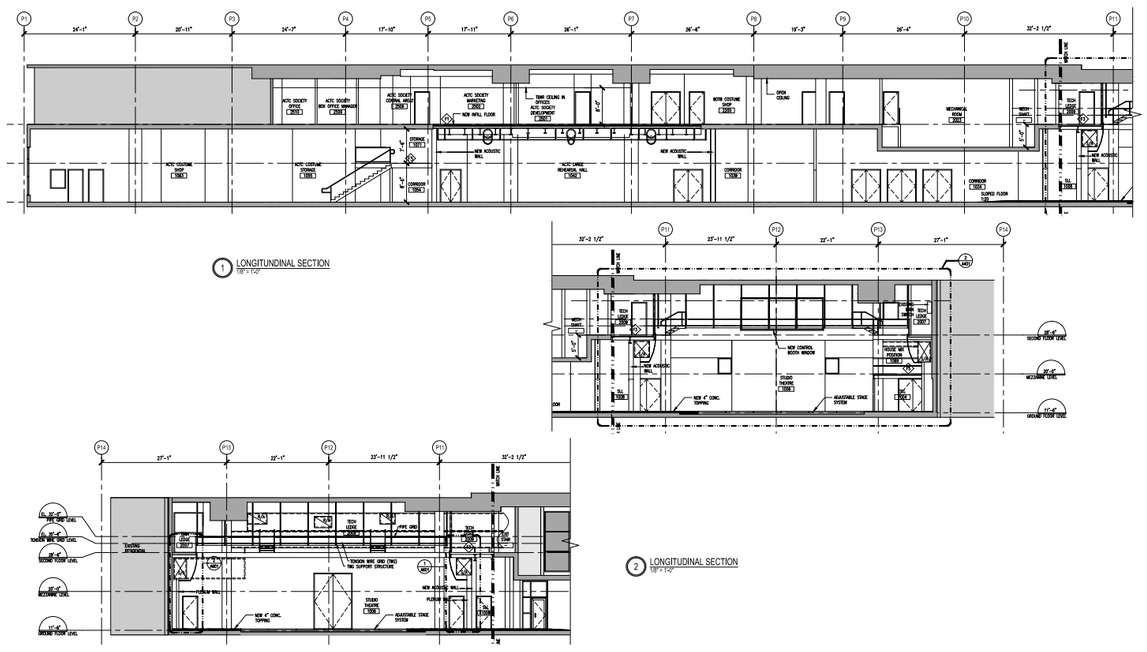
The drawings shown on the next page are a few of the construction drawings that I had worked on during my time at Proscenium.



1 4/A601: PARAPET DETAIL
1 1/2" = 1'-0"



2 17/A601: PARAPET DETAIL
1 1/2" = 1'-0"



Roofing details for a large storage building | Set of cross-sections through theatre space for Arts Club Theatre

A unique housing solution in leftover urban space.

[*screened courtyards*]

This project called for a set of homes to be built in a “junk” space in Cambridge that could be redeveloped later. Our solution comprised of three light steel framed apartment buildings which surround an internal courtyard. Each home is equipped with a three tier screening system that allows the residents to control shading and public exposure.

Exterior render of homes with courtyard

Interior view of screening system

▲▼ *Longitudinal section below, corresponding plan above*

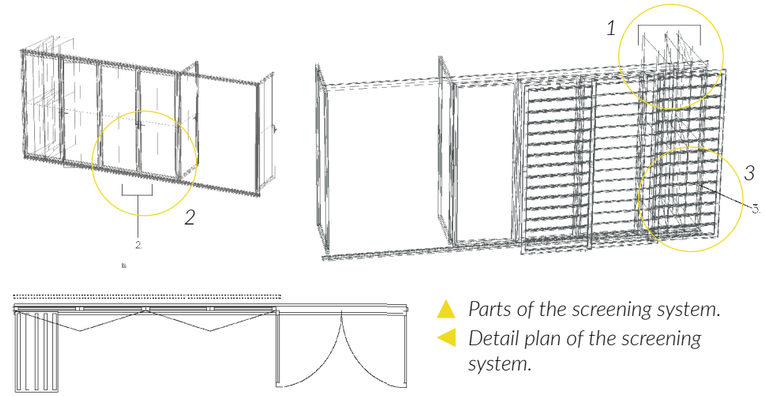
▲ *West elevation of buildings*

3 TIER SCREENING SYSTEM

Three tier privacy system consists of :

1. *Folding translucent paper screens*
2. *Movable glass doors*
3. *Operable exterior louvres*

This system allows the residents to manipulate their surroundings with regards to both privacy and thermal comfort by opening and closing different combinations of the screening system. The dynamic facade creates a more urbane environment.



▲ *Parts of the screening system.*
◀ *Detail plan of the screening system.*

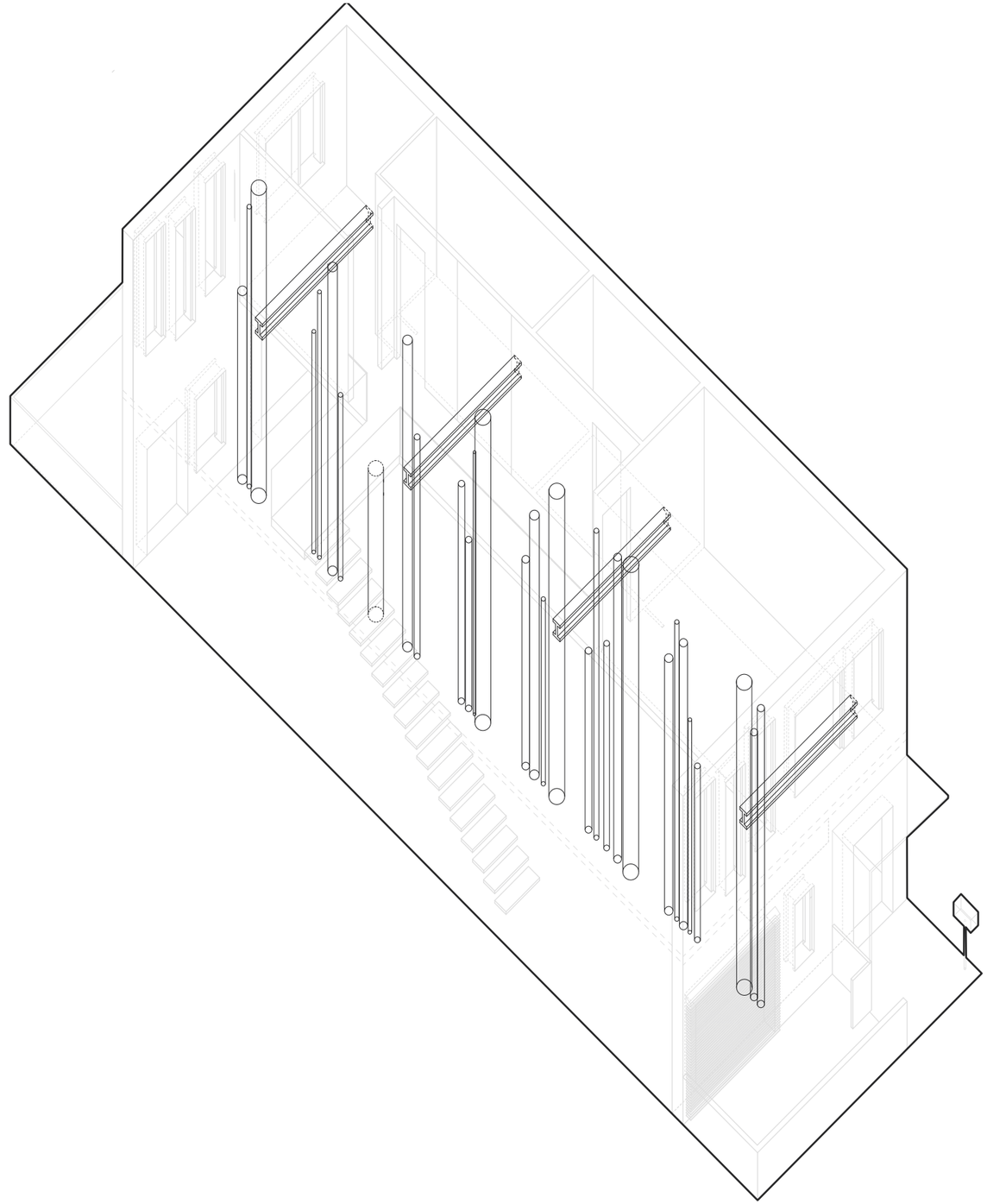
▲ *Model of screening system*

▲ *Model of South elevations*

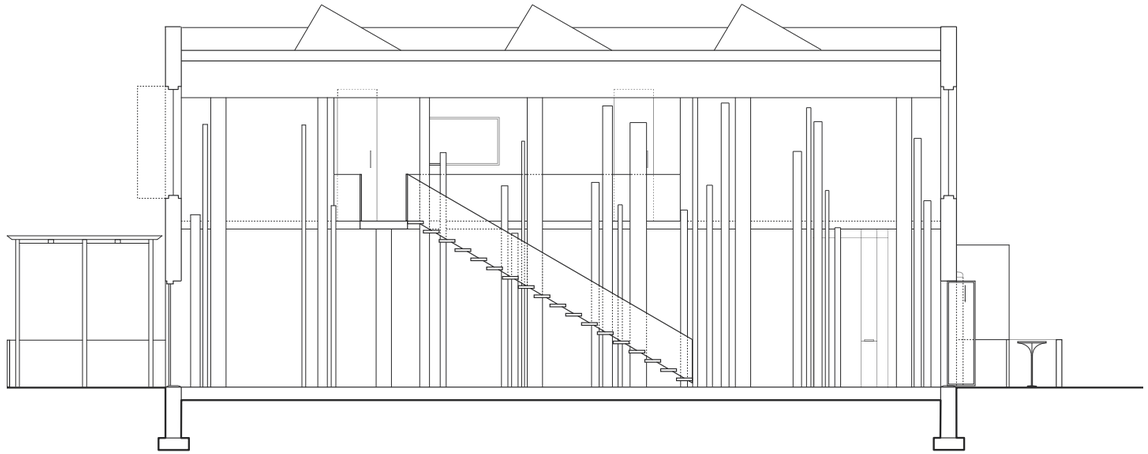
Urban luxury townhome proposal with a twist!

[*columnar forests*]

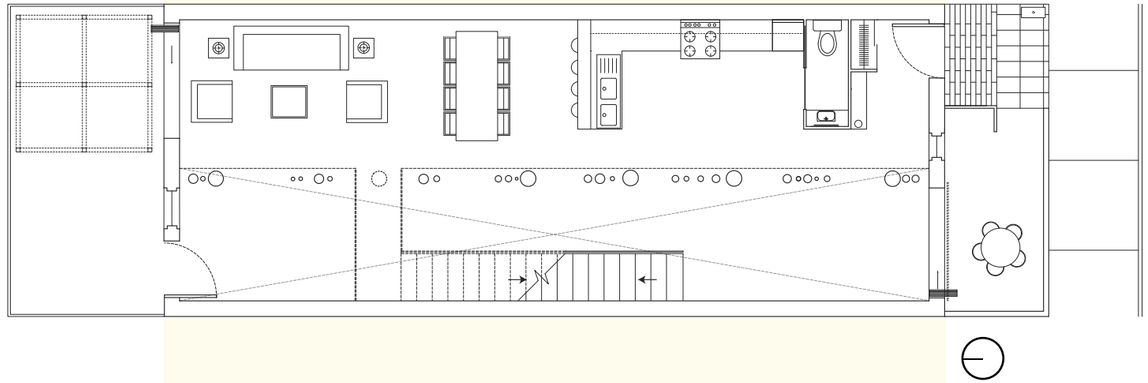
Located in downtown Cambridge, the (imaginary!) clients of this home wished to create a home that catered to both their love of socializing and the forests of their old home. As such, the focus of this tiny little townhouse is in the beautiful, long atrium which is separated and connected to the living spaces by a screen of wooden columns (designed out of recycled cardboard) that are reminiscent of the forests of the clients' previous home.

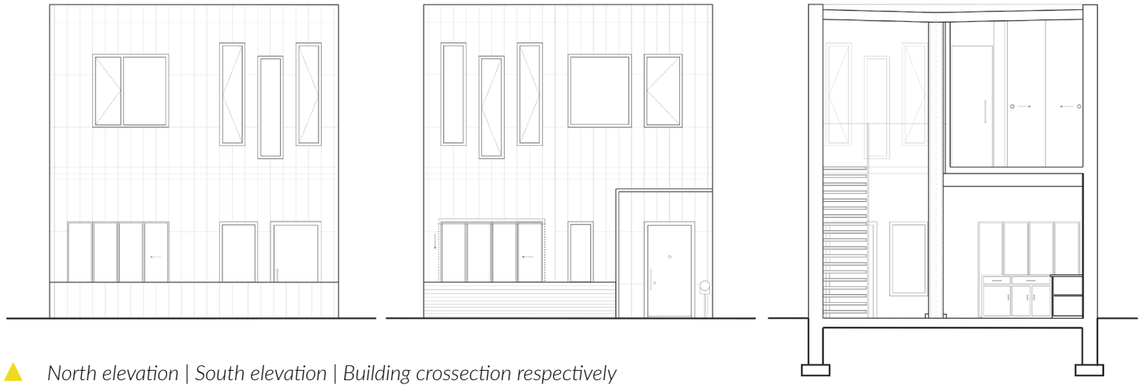


Structural axonometric - structural columns are paired with the steel beams to provide stability to the 2nd floor.

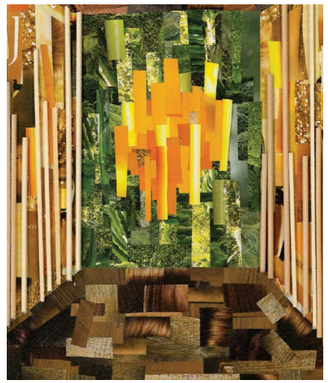


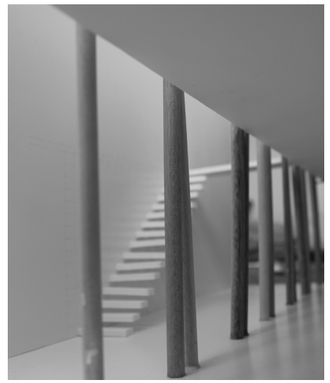
▲▼ *Longitudinal section with corresponding ground floor plan below*



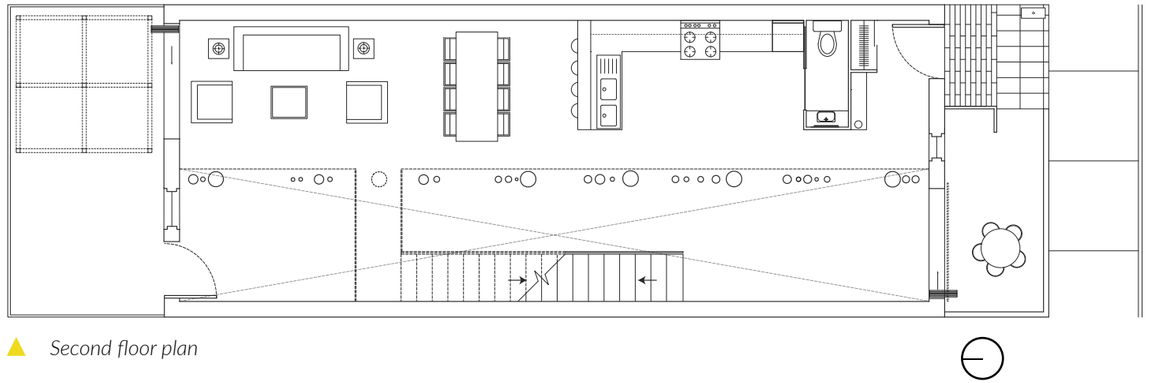


▲ *North elevation | South elevation | Building crossection respectively*





▲ *Vignette | Rough initial elevation model | Interior model of columns and stairs*



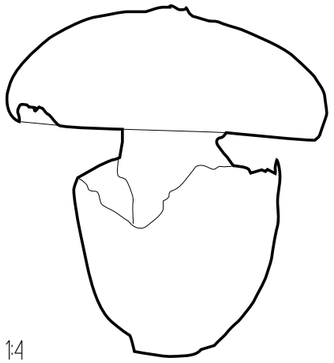
▲ *Second floor plan*

An excercise in mapping and presenting data

[*diagrams + mapping*]

Right: A sample of infographics that detailed the growth requirements of different species of mychorrhizal fungi that would be grown in a horticultural centre in a soon-to-be-abandoned quarry in Ontario.

Next: The Whale Housing Complex by de Architekten Cie is a superblock that I had to research for my current studio which deals with creating large, mixed-use urban buildings. The following pages show some of the diagrams and maps I produced for the case study.



1:4

AMANITA CAESAREA (M)

NATIVE DISTRIBUTION MEDITERRANEAN

FACTS & REQUIREMENTS

FRUITING SEASON

J F M A M J J A S O N D

HUMIDITY REQUIRED (%)

10 20 30 40 50 60 70 80 90 100

GROWING TEMPERATURE (˚C)

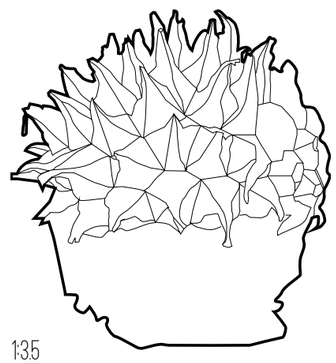
16-24˚C

SOIL PROFILE: LUVISOLIC

A B C

A: SHALLOW SURFACE SOIL FULL OF NUTRIENTS
B: IRON BASED SUBSOIL LEADING TO RED COLOUR. CAN VARY DEPENDING ON CLIMATE
C: PARENT LAYER - VARIABLE, CAUSING DIVERSE

OTHER TRAITS



1:3.5

CALVATIA SCULPTA (M)

NATIVE DISTRIBUTION TEMPERATE

FACTS & REQUIREMENTS

FRUITING SEASON

J F M A M J J A S O N D

HUMIDITY REQUIRED (%)

10 20 30 40 50 60 70 80 90 100

GROWING TEMPERATURE (˚C)

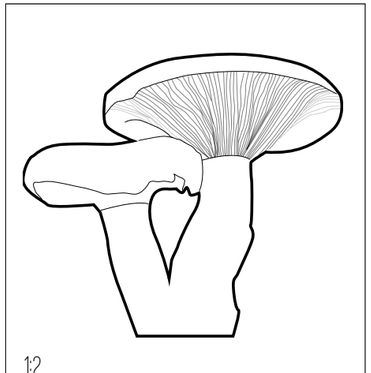
8-19˚C

SOIL PROFILE: PODZOLIC

O E A B C

O: LEAF LITTER/OTHER READY-TO-DECAY MATTER
E: BLEACHED ELEVUIAL HORIZON FROM EROSION
A: DEEPER SURFACE SOIL WITH COLOURED BY IRON AND HUMUS
B: ACIDIC SUBSOIL, BLEACHED BY ORGANIC ACIDS
C: PARENT LAYER - SILICEOUS ROCK, QUARTZIC SAND

OTHER TRAITS



1:2

LACTARIUS INDIGO (M)

NATIVE DISTRIBUTION TEMPERATE

FACTS & REQUIREMENTS

FRUITING SEASON

J F M A M J J A S O N D

HUMIDITY REQUIRED (%)

10 20 30 40 50 60 70 80 90 100

GROWING TEMPERATURE (˚C)

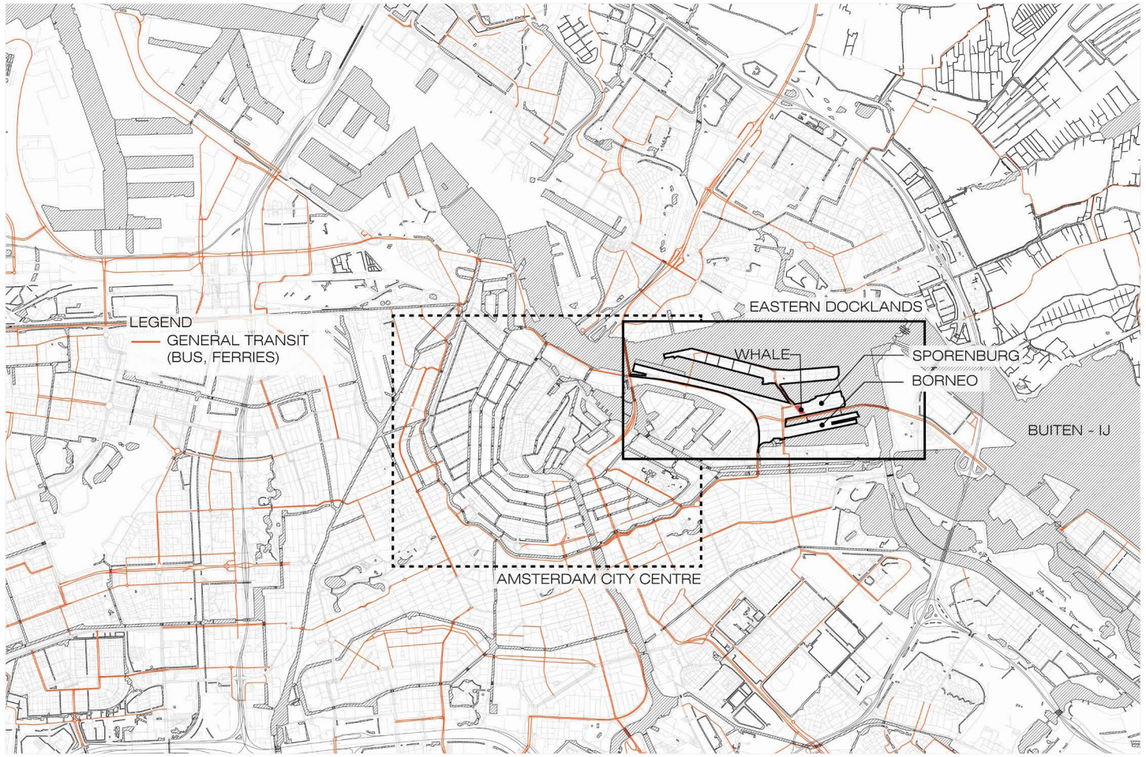
16-23˚C

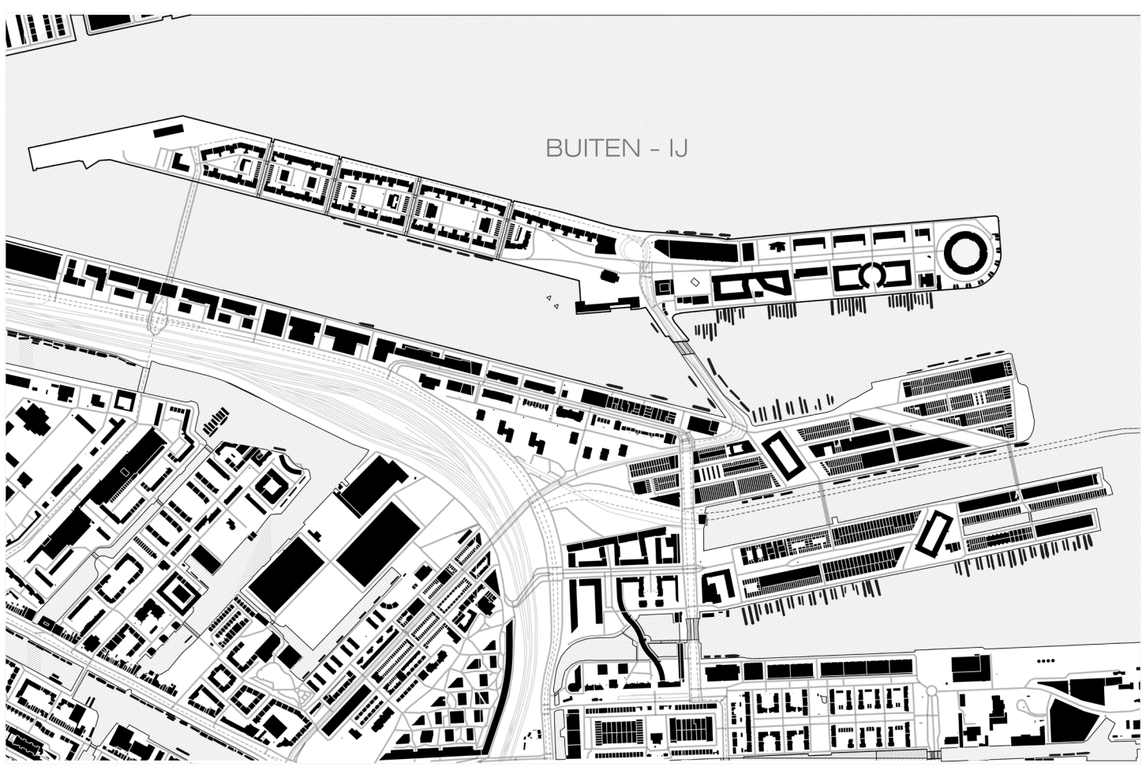
SOIL PROFILE: PODZOLIC

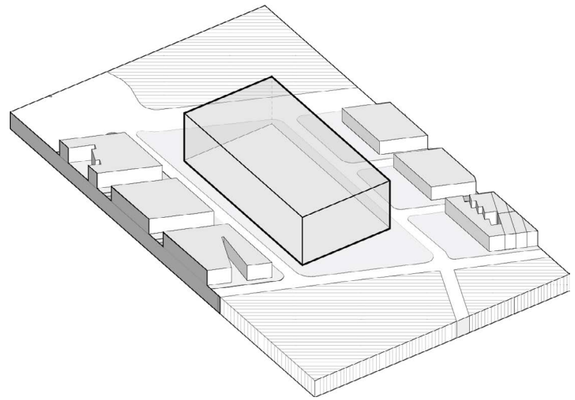
O E A B C

O: LEAF LITTER/OTHER READY-TO-DECAY MATTER
E: BLEACHED ELEVUIAL HORIZON FROM EROSION
A: DEEPER SURFACE SOIL WITH COLOURED BY IRON AND HUMUS
B: ACIDIC SUBSOIL, BLEACHED BY ORGANIC ACIDS
C: PARENT LAYER - SILICEOUS ROCK, QUARTZIC SAND

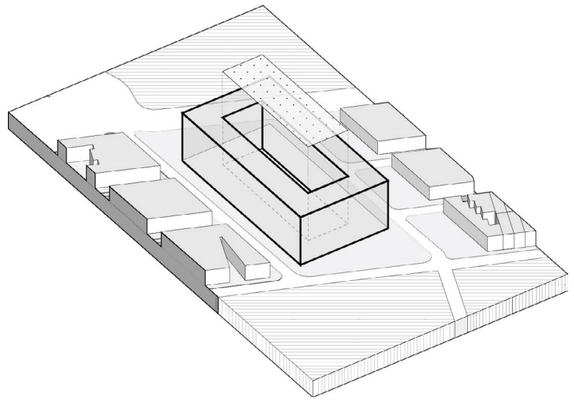
OTHER TRAITS



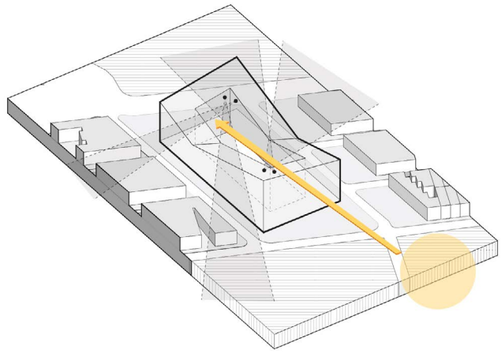




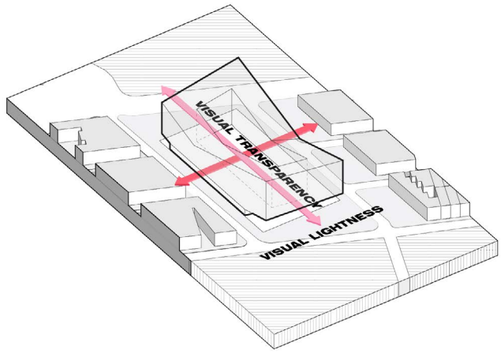
Begin with a typical block on site.



Hollow the block to create a typical perimeter block with a courtyard.

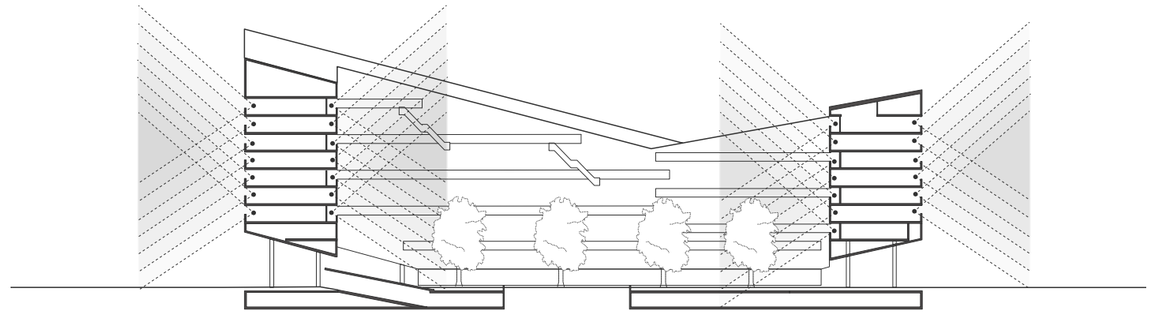


Raise corners to allow sunlight in and create views for apartments.



Raise building off of ground to create visual transparency through the courtyard axis, and visual lightness at ground level.

▲ *3D massing diagrams*



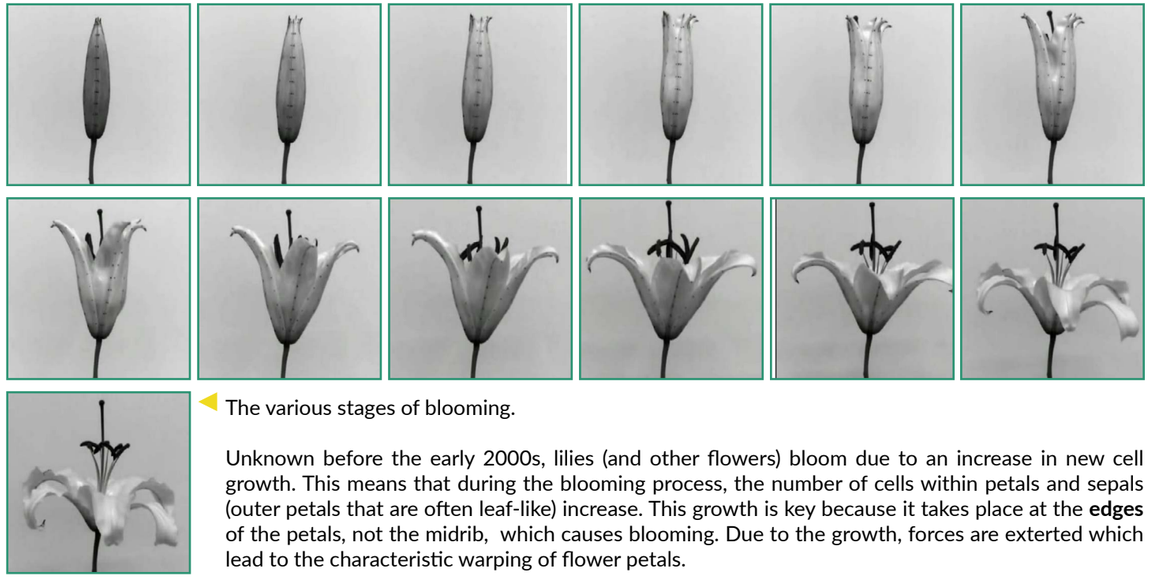
▲ *Sectional parti diagram*

◀ *Above: Map of Amsterdam including key locations + transit*
Below: Nolli map of the Borneo-Sporenburg area

Exploring movement in soft robotics.

[bloom]

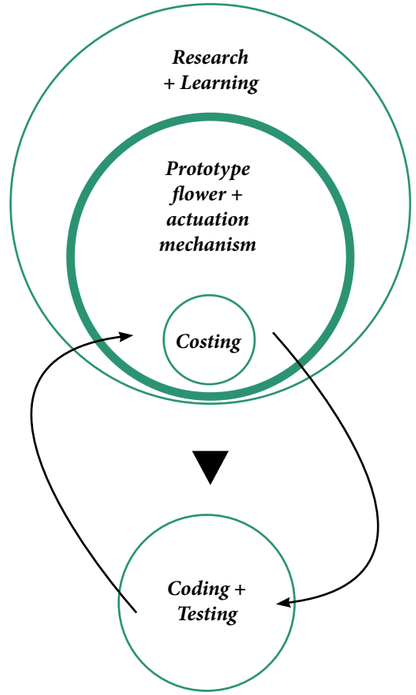
Living things are in constant motion. Yet, when we think of motion we rarely think of the subtle movements that plants undergo. *bloom* is my exploration of a flower's (specifically, a lily) blooming mechanisms and its faithful reproduction (in movement) with robotics. As I have just started, these are my ideas of how to make *bloom*, which I hope to use in a larger installation sometime in the future.



The various stages of blooming.

Unknown before the early 2000s, lilies (and other flowers) bloom due to an increase in new cell growth. This means that during the blooming process, the number of cells within petals and sepals (outer petals that are often leaf-like) increase. This growth is key because it takes place at the **edges** of the petals, not the midrib, which causes blooming. Due to the growth, forces are exterted which lead to the characteristic warping of flower petals.

Anticipated Process



I assume that the bulk of project time will be used in learning new concepts and directly applying them to the prototyping. I believe I am looking at a time frame of 4-6 months, and budget that is TBD.

Ideas for Actuation & Materials

Stem, stamens, pistils
House electronic wires, etc. that may be necessary; material could be 3D printed, I envision a clear material.

Petals (x3), sepals (x3)
Both petals and sepals will be made out of fabric or some other soft material; these choices are TBD.

1

2

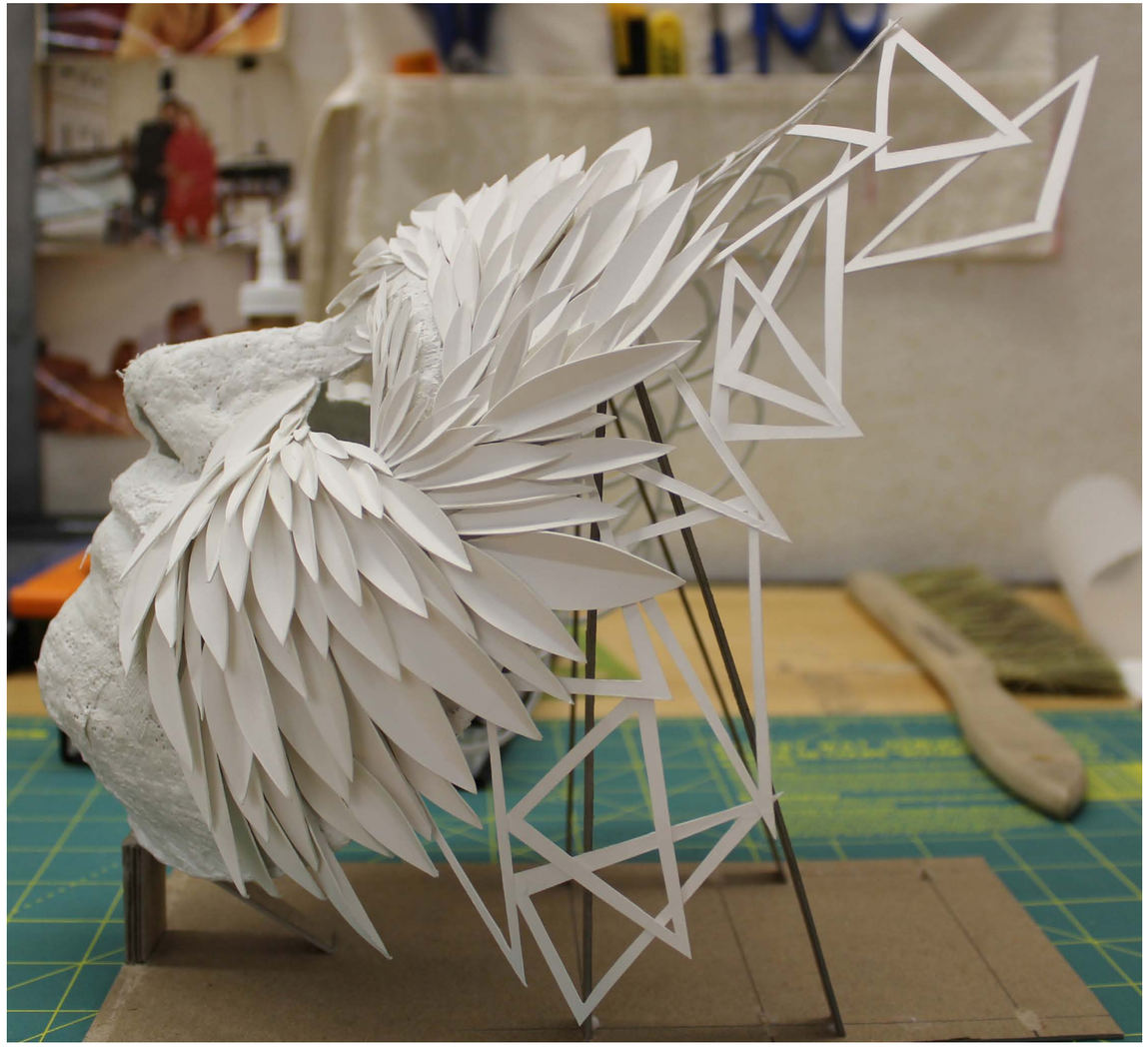
The actuators are the toughest part of this project; the ideas I have are thus.

1. Use a shape memory alloy (SMA) covered in cloth. As the SMA is annealed to a particular shape, when the metal is reheated, it will respond by reverting to the shape it was first heated to.
2. A pneumatic or hydro-based (which is more accurate to the physiology of a plant) actuator - this requires more research.

An experiment in paper sculpture.

[*masking it all*]

"Man is least himself when he is in his own person. Give him a mask and he'll tell you the truth."
- Oscar Wilde



▲ *Top view of completed mask | 1st trial of mask form | 2nd trial of mask form | Test of paper shapes on mask*

PHOTOGRAPHY

Tiny flower, big detail

Fields of light flowers in a dark wood, Queen Elizabeth Park

Thank you for your time!

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