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# Compelling Interactions

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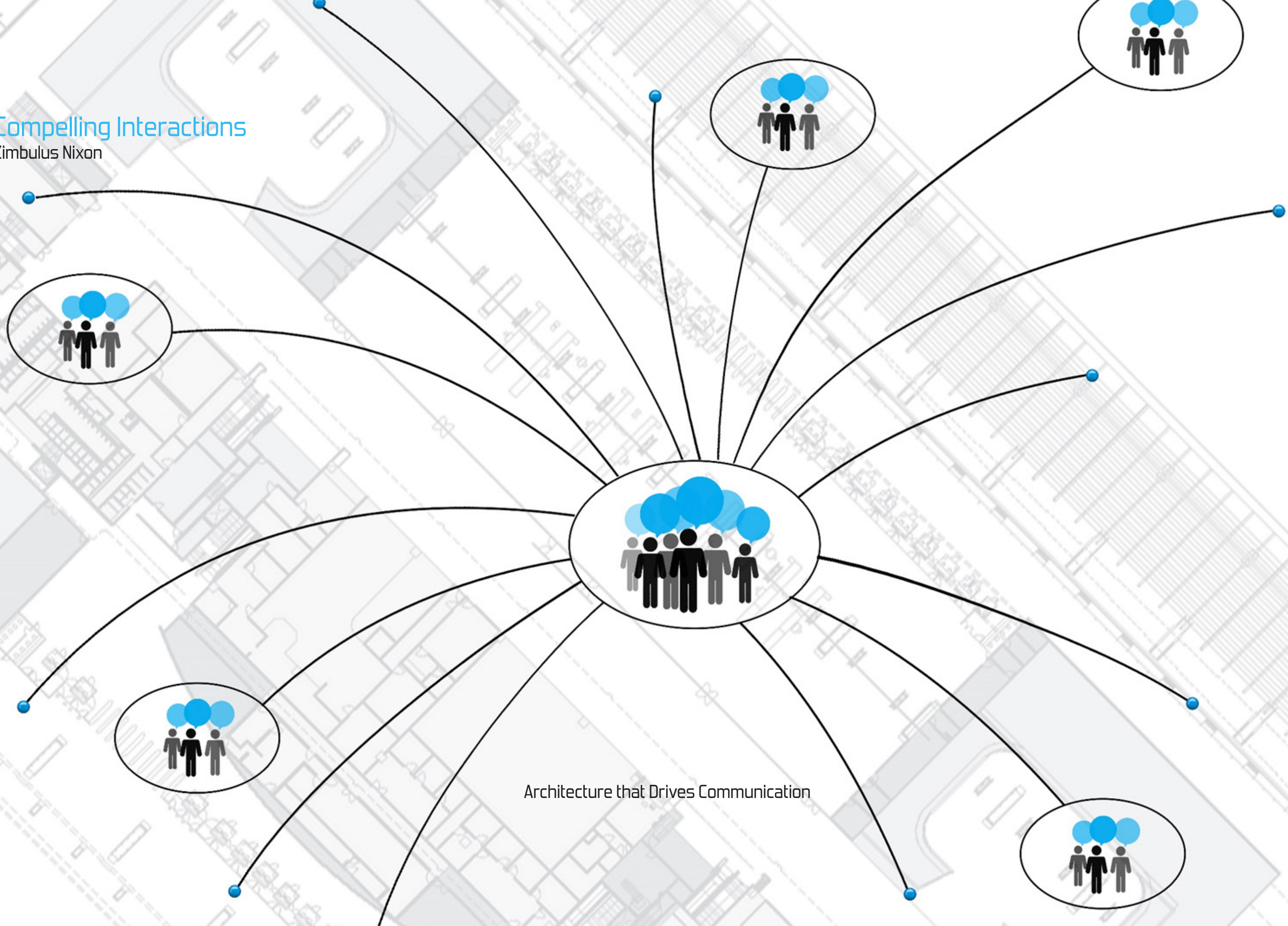
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Compelling Interactions  
Zimbulus Nixon



Architecture that Drives Communication

# Kennesaw State University

Department of Architecture  
College of Architecture and Construction Management

Thesis Collaborative 2016 – 2017

Request for Approval of Project Book

Zimulus Nixon

Thesis Project Title: Compelling Communication

Thesis Summary: Architecture can unite cultural diversity through means of communication via spatial orientation. Spatial and sensory experience are key components in developing spaces that can compel interaction. By fusing communication and architecture, a complex international airport terminal can transform into a structure that supports the notion of communication and interaction between people.

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Compelling Interactions - Architecture That Drives Communication  
Hartsfield-Jackson Atlanta International Airport

Thesis Proposal is Presented to the  
Faculty of the Department of Architecture  
School of Architecture and Construction Management

By

Zimulus Nixon

In partial fulfillment of the requirements for the Degree  
Bachelor of Architecture

Kennesaw State University  
Marietta, Georgia

May 3, 2017

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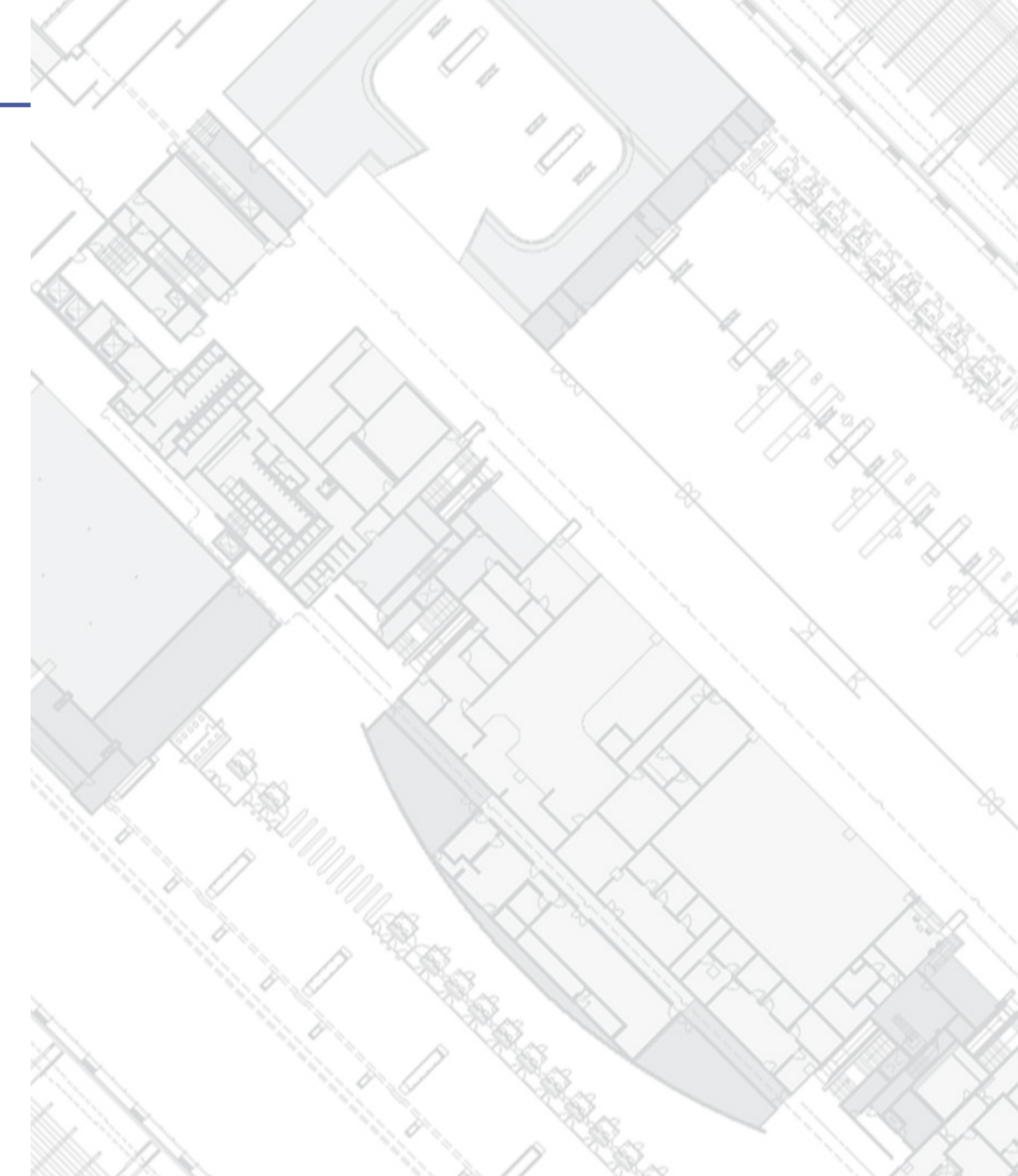
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# Research

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- 1.1 Thesis Statement
- 1.2 Relevance
- 1.3 Timeline of the History of Communication
- 1.4 What is Communication and Interaction?
- 1.5 Types of Interactions
  - Man-to-Man
  - Man-to-Machine
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- 1.6 Overlap of Interactions – Similarities/ Relationships



# Thesis Statement

The alarm sounds and wakes you from your sleep. It's 5 o'clock in the morning and a thought ran across your mind. You have a flight to catch. You frantically pack your bags and leave for the airport.

You arrived at the airport and go through the security line which is the final barrier between you and the terminal. After having your bags checked and passing through the metal detector, you head towards the terminal. There are new faces everywhere and none of them seem very friendly so you find a seat to wait out the remainder of your time. Hours pass by and you are uncomfortable and exhausted with an individual sitting right across from you. Now this is awkward. Neither you or the individual want to communicate with one another so what do you do?

The airport is a strict environment. In the past, passing through the airport was a much smoother process. Now with the increase in security protocol, just the simple notion of taking a flight becomes bothersome. We are advised to come to the airport hours before our flight and sit in a terminal in front of strangers who keep to themselves. Communication becomes awkward so we avoid any types of contact. People often spend their remaining time distracting themselves with their cellphones, reading material, or their laptops.

With my father being in the Navy for the first nine years of my life, I experienced the lifestyle of traveling. My family had to constantly frequent airports so the stresses of traveling are really apparent to me. I for one feel that the environment is strict and stagnant. I often felt out of place and wanted to keep to myself. Having to wait in the airport hours before my flight was rather aggravating especially when I didn't have anything to do or anyone to talk to.

The ideal location for this thesis is Hartsfield-Jackson Atlanta International Airport. Imagine a series of installations that function as a network of nodes reminiscent of a nervous system relaying information to nerve endings. These installations will utilize devices like the cell phone and the computer as the interface. Surveys and questionnaires about Hartsfield-Jackson can be accessed via the interface. Data will be collected and used to further improve the experiential aspect of the terminal. These spaces will act like coves for the users allowing people to relax and communicate with one another. Ultimately through the interacting with the device, the user will be inadvertently interacting with other devices and other individuals within the terminal. A separate yet connected network of communication.

# Propositional Essay



[http://www.freepik.com/free-vector/communication-icons\\_760438.html](http://www.freepik.com/free-vector/communication-icons_760438.html)

Architecture can unite cultural diversity through means of communication via spatial orientation. Spatial and sensory experience are key components in developing spaces that can compel interaction.

Spaces and program can be developed by utilizing communication and architecture. Communication can be the driving force that compels people to interact with one another.

Communication is necessary to relay information between people. The definition of communication is the exchange of information via signs, speech, or writing. This is how humanity has been connecting with one another through history. Cultural barriers and language barriers have been a big part in the lack of communication between people. The many languages around the world aren't necessarily compatible with one another. People are forced to either communicate via writing or signs if they cannot be verbally to one another. Even then this becomes regional since culture and language are tied together.

By fusing communication and architecture, a complex international airport terminal can transform into a structure that supports to the notion of communication and interaction between people. The reason being behind the airport terminal being the typology of focus is because of its suitable background. The airport terminal is designed around function and commerce. People can either purchase merchandise or wait in the terminal for their flight. In an international terminal, there are people of many races and cultural backgrounds. So there will always be new faces that pass in and out of the terminal walls. It is apparent that cultural background and language are unavoidable obstacles. If a person cannot understand another then a communication barrier is formed.

Time is the resultant of the overall experience within a terminal and this contributes to the overall lack of communication between individuals. The lack of understanding one another coupled with time creates an environment where people sit to themselves to avoid one another. Yes an airport terminal is designed to hold people until their flights arrive but the problem lies in the rigid atmosphere created by all of the factors. This creates the perfect scenario to prescribe an architecture that compels individuals to communicate with one another thus resulting in a much more pleasant waiting experience.

## Key Points

- Cultural Diversity
- Spatial Orientation
- Sensory Experience
- Interaction

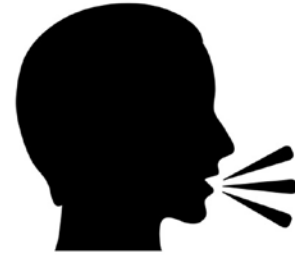


# Timeline of the History of Communication

# Timeline of the History of Communication

## THE ORAL TRADITION

200,000 BC  
Birth of human speech.



## THE VISUAL/SYMBOLIC TRADITION

30,000 BC  
Oldest surviving cave paintings.



3500 BC to 2900 BC  
The Sumerians develop cuneiform writing - pictographs of accounts written on clay tablets.  
The Egyptians develop hieroglyphic writing.



## THE WRITTEN TRADITION

1050 BC  
Phoenicians develop the first alphabet based on sound.

900 BC  
The very first postal service - for government use in China



776 BC  
First recorded use of homing pigeons used to send message - the winner of the Olympic Games to the Athenians.



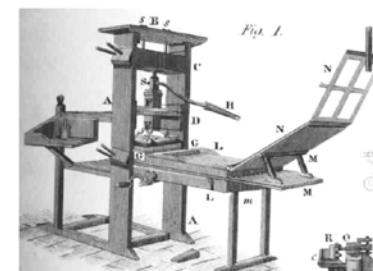
305  
First wooden printing presses invented in China - symbols carved on a wooden block.

1049  
First movable type invented - clay - invented in China by Pi Sheng.

1450  
Newspapers appear in Europe.

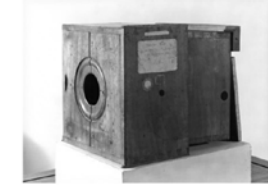


1455  
Johannes Gutenberg invents a printing press with metal movable type.

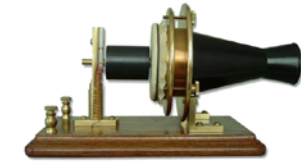


## THE MASS MEDIA TRADITION

1814  
Joseph Nicéphore Niépce achieves the first photographic image.



1876  
Alexander Graham Bell patents the electric telephone.



1877  
Thomas Edison patents the phonograph - with a wax cylinder as recording medium.



1920'S & 30'S  
Rise of radio and film.



1950's  
Rise of TV.



## THE DIGITAL AGE

1942  
ABC (ATANASOFF-BERRY COMPUTER) - The first electronic computer.



1973  
The ethernet was invented which allowed computers to connect to one another over short distances.



1994  
The American government releases control of the Internet and World Wide Web is born - making communication at light speed.



2005  
Birth of Youtube



2007  
The first iPhone



# What is Communication and Interaction?

Merriam-Webster Definition of **Communication** - an act or instance of transmitting; a process by which information is exchanged between individuals through a common system of symbols, signs, or behavior

Merriam-Webster Definition of **Interaction** - mutual or reciprocal action or influence

Merriam-Webster Definition of **Semiotic** - a general philosophical theory of signs and symbols that deals especially with their function in both artificially constructed and natural languages and comprises syntactics, semantics, and pragmatics

Merriam-Webster Definition of **Syntax** - the way in which linguistic elements (as words) are put together to form constituents (as phrases or clauses)

Merriam-Webster Definition of **Semantic** - of or relating to meaning in language

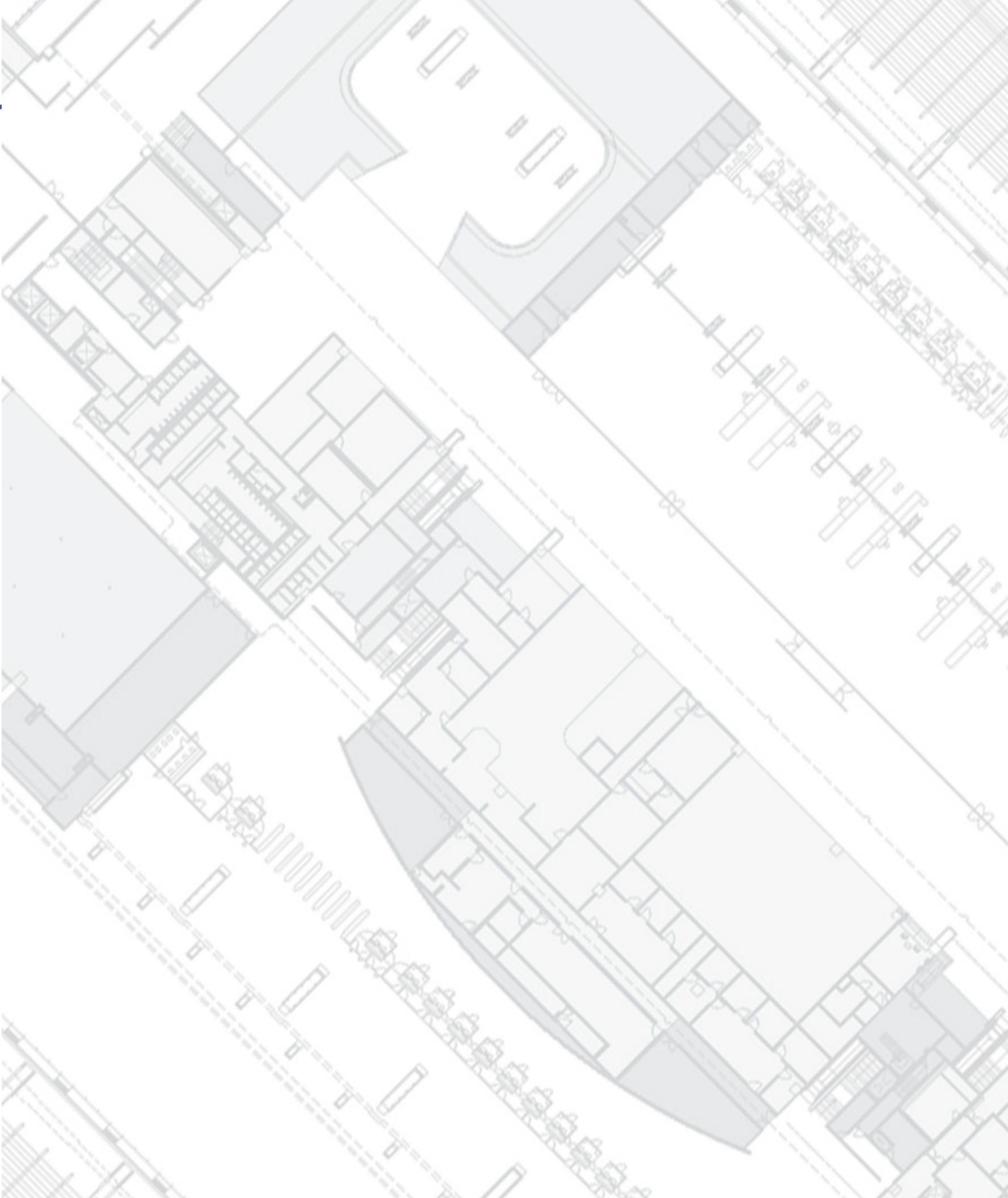
Merriam-Webster Definition **Pragmatic** - of relating to matters of fact or practical affairs often to the exclusion of intellectual or artistic matters : practical as opposed to idealistic

# Types of Interactions

Man-to-Man Communication

Man-to-Machine Interface

Machine-to-Machine Sequence





# Man-to-Man Communication

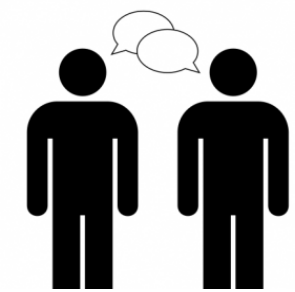
Man-to-Man communication is the concept of interacting with one another through means of symbols, signs, or behaviors. This is the primary and the most basic way humans interact with one another. Through history communication has evolved and it has become an integral part of humanity. People can communicate via the verbal method, written method, gestural method, or facial method. By exchanging information we are able to communicate to one another.

Speech is the most used method of communication. It is second nature and we often find ourselves relying on it heavily in our day to day lives. It is so important that we even use it while we interact with machines and devices.

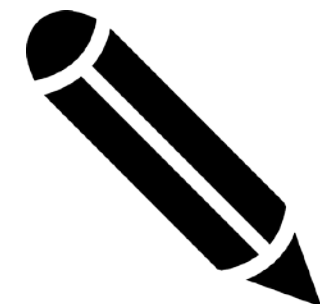
Writing has evolved over the ages and is also integral in the history of communication. Once we are taught to speak at an early age, it is routine we are taught to write since talking and writing compliment one another.

Gestural communication is using the body as a means of conveying a message. This is often used in tandem with verbal communication since we as humans always used this form through history. Gestural communication became more of an alternative to verbal communication due to the fact that it has a more universal foundation. The disadvantage to verbal communication is the fact that there are multiple languages in the world. Not every person speaks the same language as the other. The same applies for writing. If the verbal or written method wasn't enough to communicate then people often fell back on gestural as a habit and more of an aid to their current abilities.

Facial expressions convey emotions which tells a person how he/she feels. It is used in combination with the other forms of communication and is more natural. Anger, sadness, pain, pleasure, excitement, cheer are all forms of emotion and we display these emotions on a daily basis. Facial expressions are more like a reaction to the environment and through semiotics we tie a connection between the facial expression and the emotion to produce a message.



Verbal



Written



Facial Expressions



Gestures

# Man-to-Man Communication

## Rhetorical Communication

Getting others to do what you want or need them to do  
Getting others to think the way you want or need them to think



Influence



Individualistic



Persuasion



Sacrifice relationships to accomplish influence

## Relational Communication

Transactional/Coorientational  
Requires two or more people to coordinate their communication to reach a shared perspective



Relationships



Collectivistic



Group Satisfaction



Sacrifice influence to protect relationships

## Similarities

Accomplishing objectives  
Maintaining good relationships through communication

## Differences



# Man-to-Machine Communication

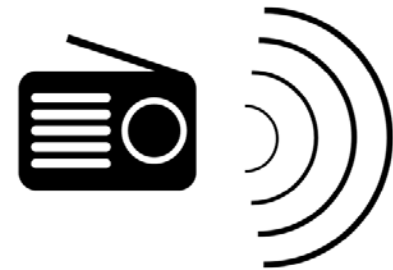
Man-to-Machine communication is the action of inputting data into a machine which results in that said machine performing an action. The way a person inputs that data depends on how the device was designed. There are several methods to communicating with machines. One method is programming. Programming is the process of instructing or learning by means of an instructional program. The idea of programming is to communicate with machines. It is through programming that the machine can perform certain tasks that it is intended to do. For example, by programming a device to react to a stimuli or convey a message is a form of communication between the person and the device. A task must be completed therefore by interacting with the machine that said task is completed through this interaction. A person talking to another over the phone is a variant of Man-to-Machine communication. The sound transmitted from a person is received through the phone speaker which then converts that sound into a frequency which is then transferred from one point to another via radio waves or landlines. A car factory is a complex system of machinery that require input data. Schematics are uploaded into the computer and the computer responds by creating a physical rendition of the schematic through a conveyor line. In order for a machine to perform a task the task must be input into the machine via human interaction.



Computer



Cellphone

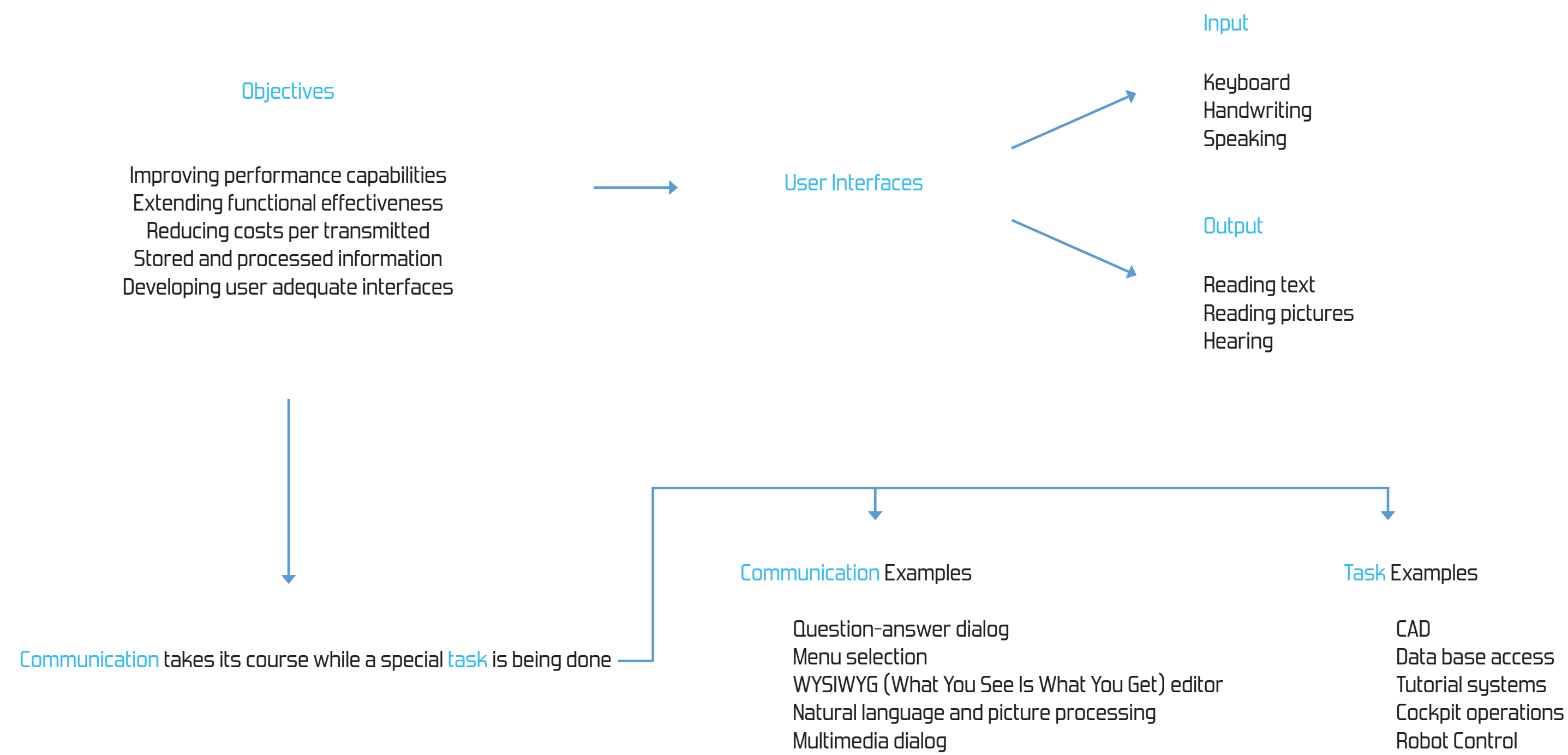


Audio



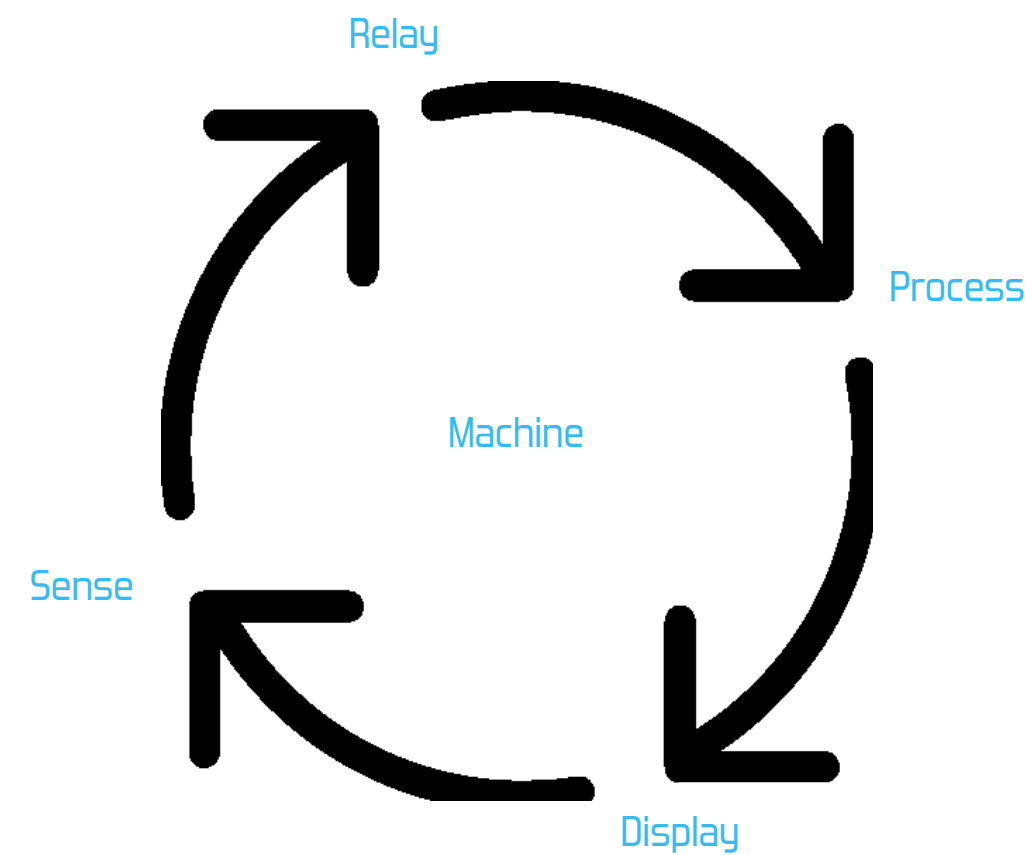
Video

# Man-to-Machine Communication



# Machine-to-Machine Communication

Machine-to-Machine or M2M is a type of communication that involves no human intervention. Its primary function in the world is performing tasks that are considered to tedious and require a time constraint. M2M are constantly communicating end-to-end. There are multiple advantages to this type of communication. Efficiency, speed, self-organization, and reliability are of the few but its main advantage is being its autonomous nature. Once a machine is programmed with the necessary actions it is required to fulfill, it will carry out those specified tasks without the need of a human having to interact with the device. Everything is self automated. M2M communication can be seen in everyday devices such as the computer or cellphone.



# Machine-to-Machine Communication

## M2M (Machine-to-Machine)

Device (water meter) which is monitored by means of sensor [in "uplink"]

Device (valve) which is instructed to actuate [in "downlink"]

Keywords: physical sensors and actuators; cost

## M2M (Machine-to-Machine)

Network which facilitates end-to-end connectivity between machines

Composed of radio, access network, gateway, core network, back-end server

Keywords: hardware; protocols; end-to-end delay and reliability; cost

## M2M (Machine-to-Machine)

Device (computer) which extracts, processes (and displays) gathered information

Device (computer) which automatically controls and instructs other machines

Keywords: middleware, software, application; cost

## End-to-End Network Examples

Access Network – Connecting the sensors and actuators

Wired

Wireless capillary or short-range

Wireless cellular

Gateway – Connecting access and backhaul/core networks

Network address translation

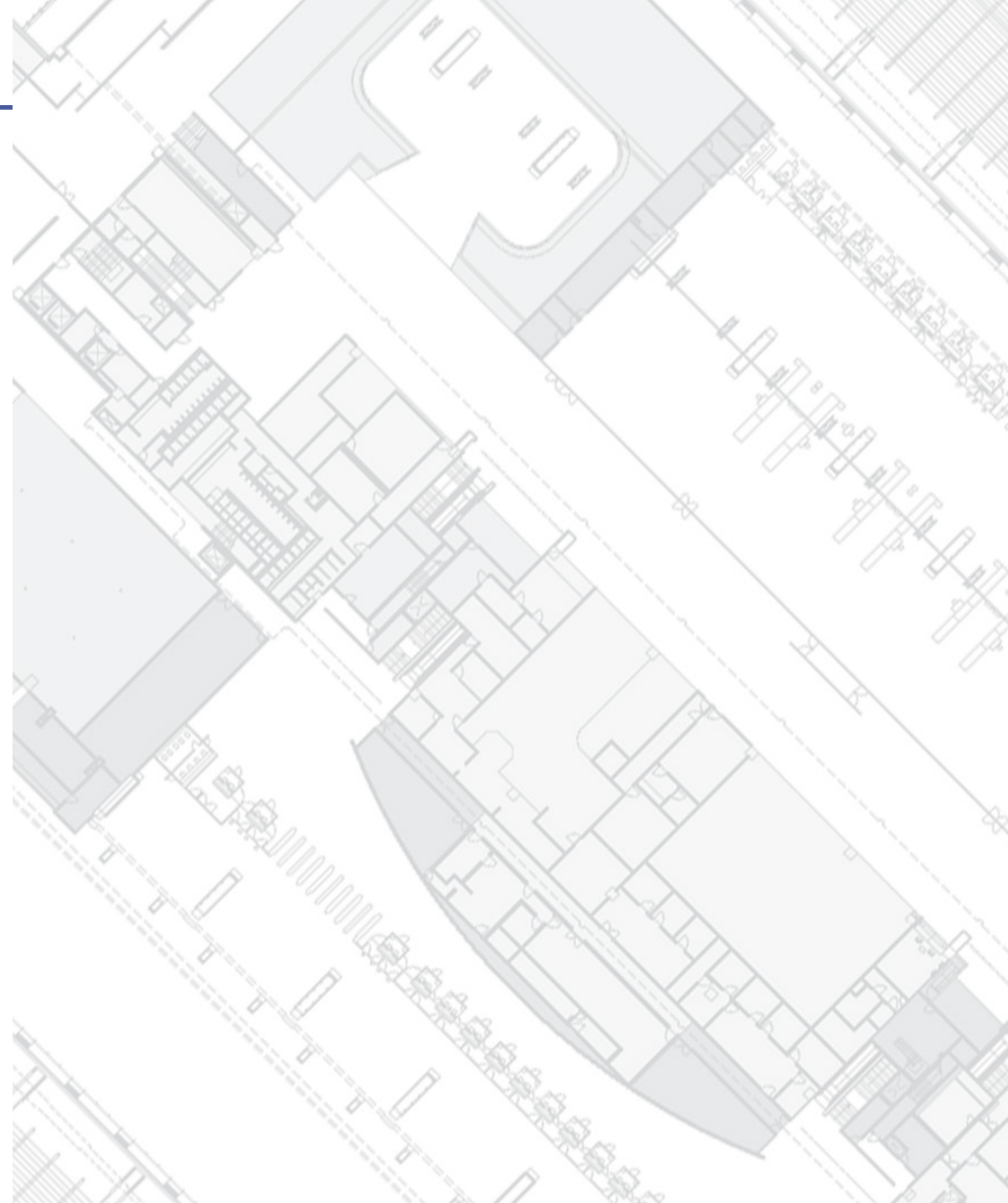
Packet (de)fragmentation

Core/Back-end/Internet Network – Connecting to computer system

IPv6 – Enabled internet

## Case Studies

- 2.1 Zero by Snohetta
- 2.2 Interactive Wall – Festo
- 2.3 The NSA Muscle
- 2.4 Roll it House
- 2.5 Results from Studies



## Case Studies

### Zero by Snohetta, Milan, Italy, April 12, 2011

An experimental installation, it was designed with the notion of connecting design awareness to environmental awareness. The Zero Cube has an empty center that can be used as a habitable space. The users define how the space is utilized. Made of marble, it shows how architecture can create organically man-made spaces.

Marble - Marble is easy to carve, and that makes it useful for sculptural and ornamental practices. This material can also be polished to a high gloss shine. Decorative stones and floor panels are a few results of the use of polished marble in architectural and design aspects.





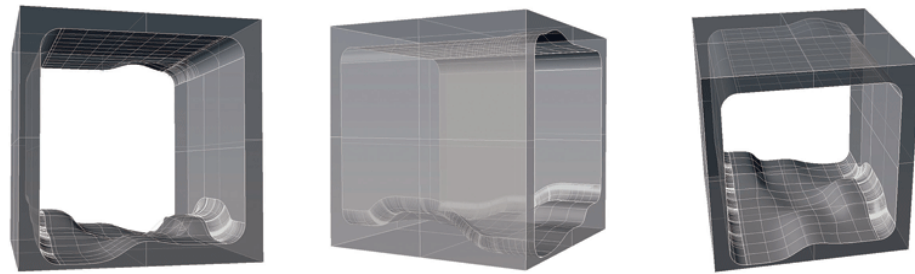
# Case Studies

## Zero by Snohetta, Milan, Italy, April 12, 2011

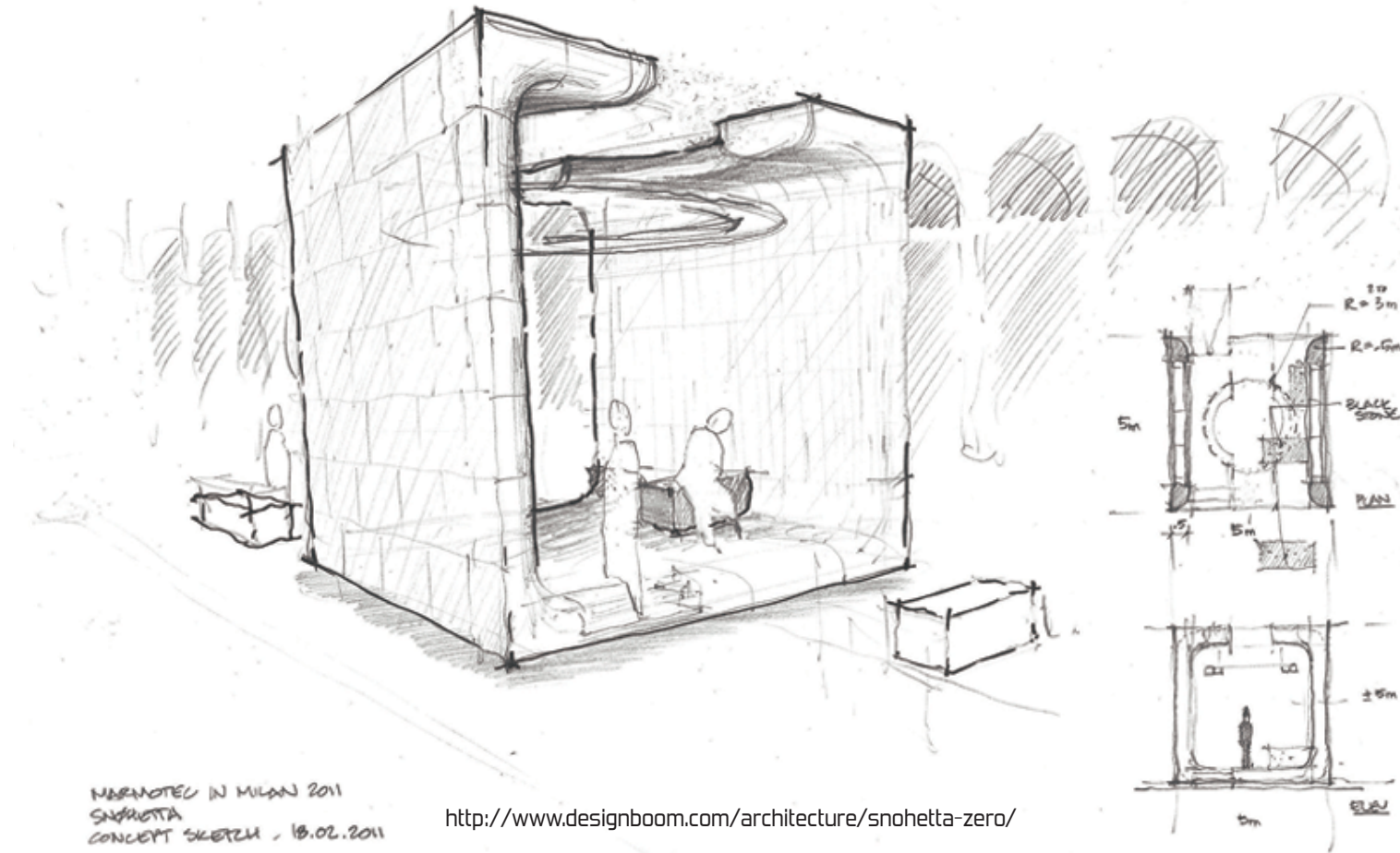
The entire cube itself is designed to be customizable. Different iterations are created to cater to a variety of uses. The project is dubbed as "mutant architecture" due to its customizable nature.

Material Interface : Marble

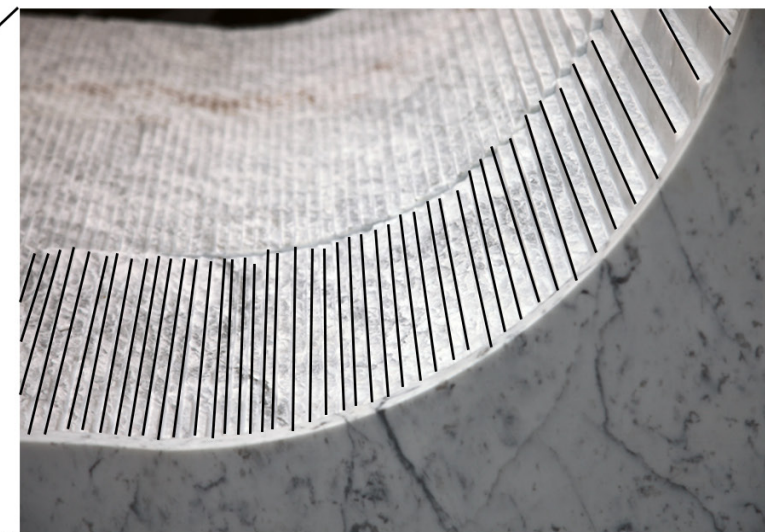
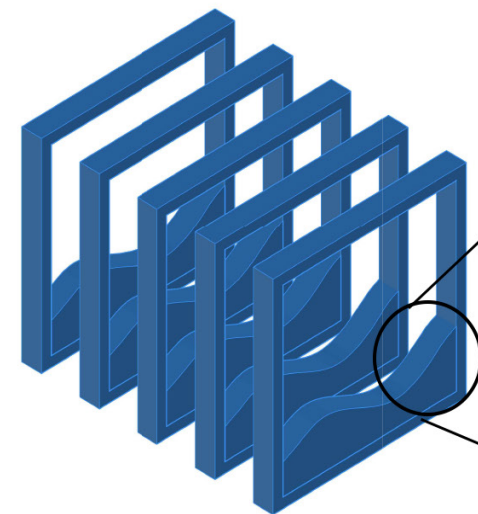
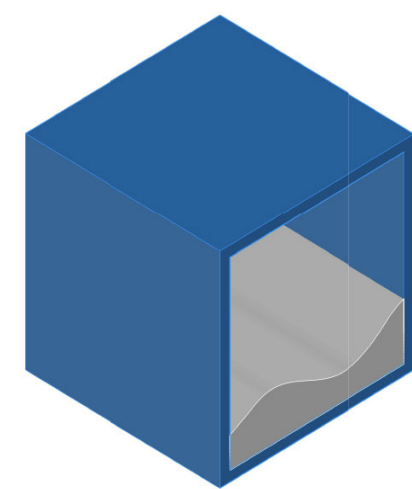
The exterior of the pavilion has a rough and unfinished while the interior is a complete contrast. The interior finish is smooth with soft edges. The seemingly organic surfaces on the interior of the pavilion contain ridges.



<http://www.designboom.com/architecture/snohetta-zero/>



<http://www.designboom.com/architecture/snohetta-zero/>



<http://www.designboom.com/architecture/snohetta-zero/>



<http://www.designboom.com/architecture/snohetta-zero/>

# Case Studies

## Zero by Snohetta

Communication type: **Man-to-Man**

Subcategory: **Relational Communication**

Reason: The installation's design emphasizes a community aspect. The users are placed into a public yet private environment. It seems as though relationships are a result of interactions between multiple individuals within the space. This project is labeled as **collectivistic**.

## Relational Communication

Transactional/Coorientational  
Requires two or more people to coordinate their communication to reach a shared perspective



Relationships



Collectivistic



Group Satisfaction



# Case Studies

## Roll it House, University of Karlsruhe

The roll it house is an experimental housing installation. The overall design focuses on the idea of flexible or versatile housing. Its cylindrical shape allows it to rotate to the users ideal set up. The installation is comprised of three sections. Each section is capable of rotating independently of one another which further increases its flexibility. The first section is houses the kitchen and sink. The second section is the exercise wheel. Finally the third section is holds the bed and table.



<http://blog.bellostes.com/?tag=casas-modulares&paged=2>



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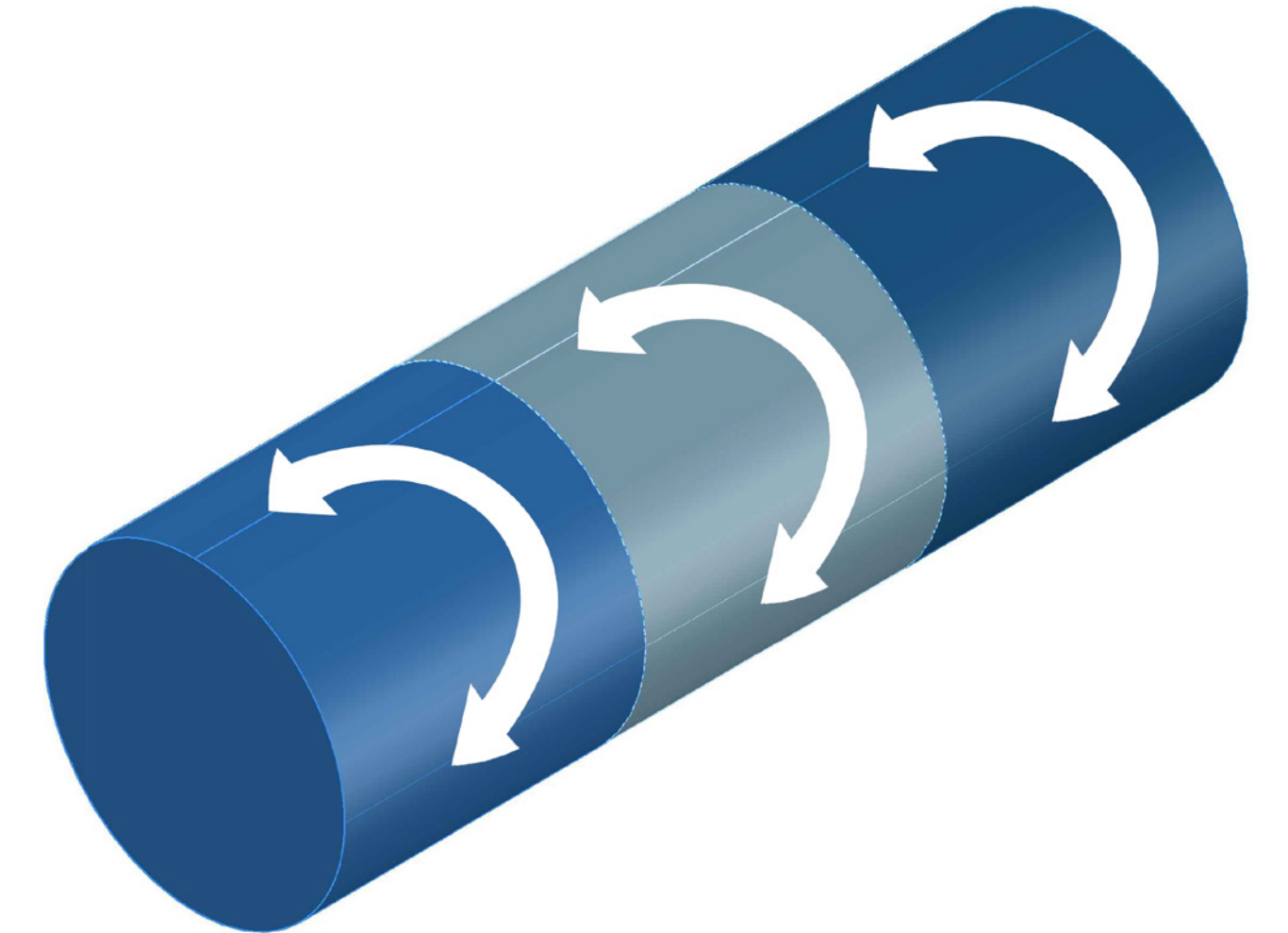


<http://blog.bellostes.com/?tag=casas-modulares&paged=2>

# Case Studies

## Roll it House, University of Karlsruhe

It looks as though the housing unit sits on a two boards that allows it rotate each section independently. The interior is clad in wooden panels to give the user a running surface. Its construction is based on an inner and outer frame system meaning the outer frame is supported by four ring which allows the interior to rotate. OSB panels cover the support rings and each ring section is manually rotated by the user. This design ultimately becomes the user interface due to its manipulative nature. The installation encourages its user to physically rotate each wheel thus making him/her physically active. This installation is considered a manual interface.



<http://blog.bellostes.com/?tag=casas-modulares&paged=2>





Roll it House, University of Karlsruhe

Communication type: Man-to-Man

Subcategory: Rhetorical Communication

Reason: The installation's design emphasizes an individual aspect. The user is placed into a private environment. It seems as though the installation influences the user to live a smaller and efficient lifestyle. This project is labeled as Individualistic.

Relational Communication

Getting others to do what you want or need them to do  
Getting others to think the way you want or need them to think



Festo – The Interactive Wall

An interactive structure. The device reacts to users via proximity. The device responds with a combination of motion, light, and music.



<http://www.hyperbody.nl/research/projects/interactivewall/>



<http://www.hyperbody.nl/research/projects/interactivewall/>



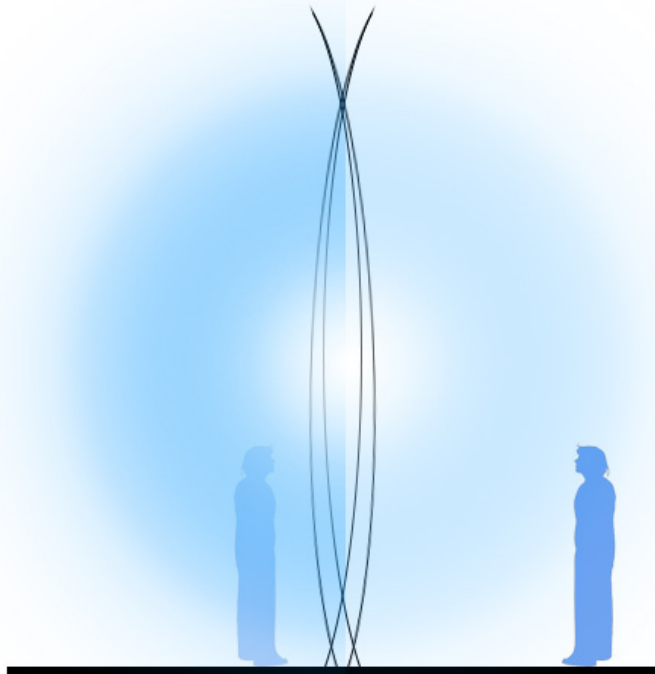
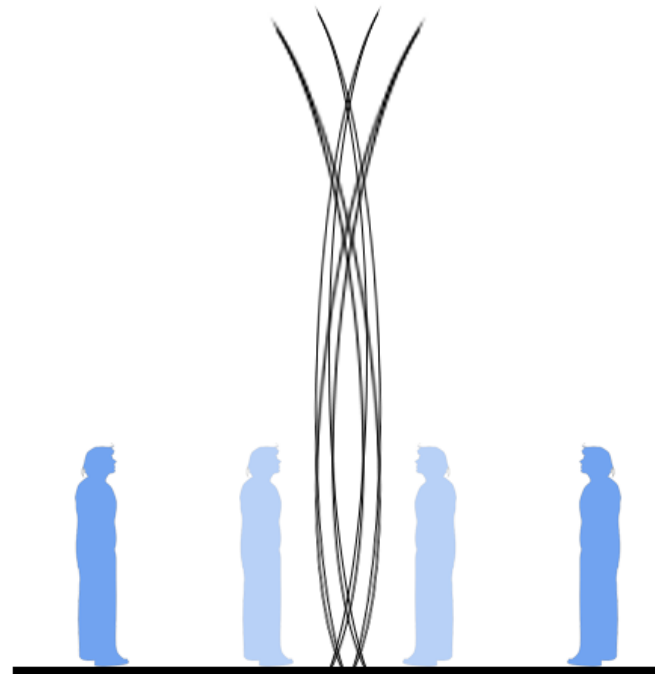
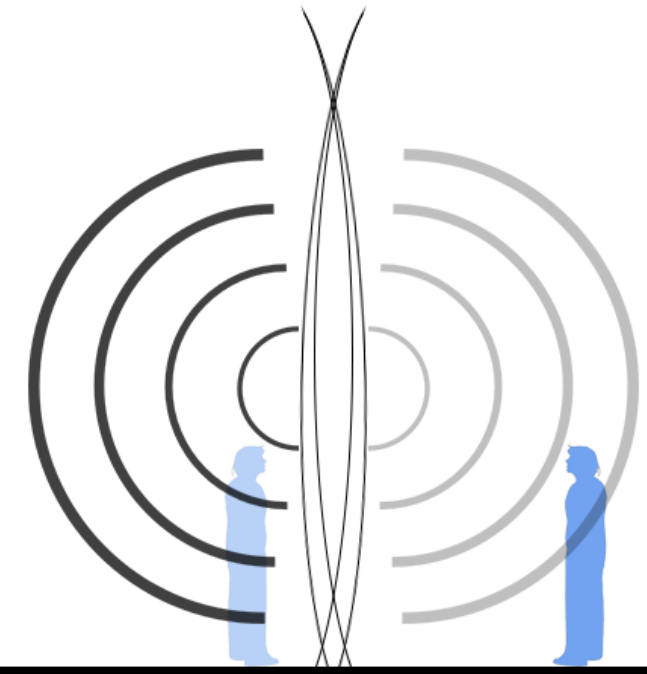
# Case Studies

## Festo – The Interactive Wall

The device is comprised of seven individual units that house a system of levers that make up the structural form of the elements. This construction is dubbed the Fin Ray Effect due to the fact that the design is reminiscent of a fish's tail fin. Concave and convex forms are made possible due to its structural system. The installation almost acts life like. The device ultimately acts as a massive interface that interacts to the user via motion, light, and music. Programming is flexible so the amount of user action responses are limitless. This makes its design extremely dynamic. This can be classified as a digital interface due to its automatic nature.



<http://www.hyperbody.nl/research/projects/interactivewall/>



# Case Studies

## Festo – The Interactive Wall

Communication type: [Man-to-Machine](#), [Machine-to-Machine](#)

Input: [Motion/Proximity](#)

[Programming](#)

Output: [Light intensity](#),

[Music Intensity](#)

[Undulation](#)

Reason: Physical sensors and Actuators are utilized in its frame. The installation can perform a multitude of tasks once it is programmed to do so. This makes the device versatile but it constantly requires both [man-to-machine](#) and [machine-to-machine](#) communications in order to perform its tasks.



## The NSA Muscle

An interactive inflatable structure. The device reacts to users via touch and presence and in turn reacts by changing its form. The skin is comprised of a 'muscle' that contracts and relaxes. Virtual control and pneumatics are utilized together to form this complex structure.



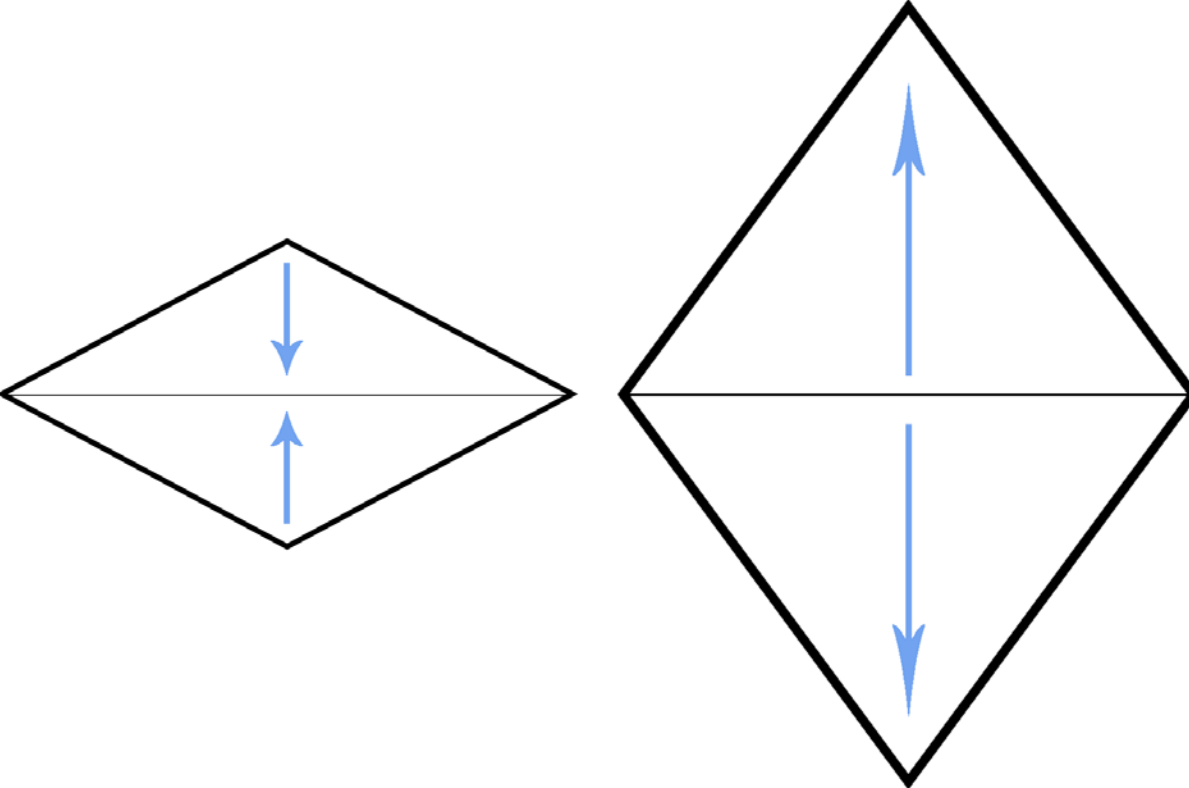
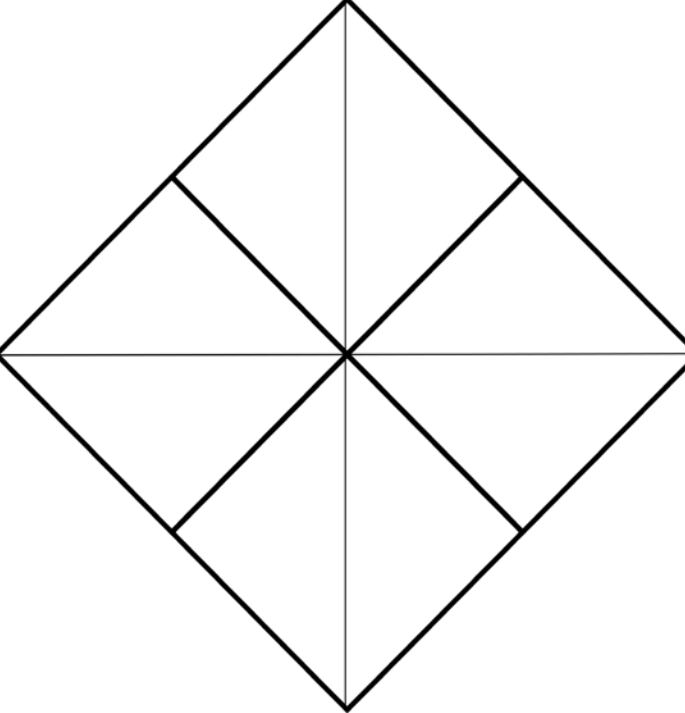
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<http://io9.gizmodo.com/incredible-transforming-apartments-turn-tiny-rooms-into-1612564245>

## The NSA Muscle

By utilizing pressure pumps integrated into the skin, the tensile muscles can change dimensions. Its length, width, and height can be adjusted as well to respond to external and interior stimuli.



# Case Studies

## The NSA Muscle

Communication type: [Man-to-Machine](#), [Machine-to-Machine](#)

Input: [Motion/Proximity](#)

[Programming](#)

[Touch](#)

Output: [Space](#) [Volume](#) [Adaptability](#)

Reason: Virtual Control and Pneumatics are utilized in its frame. The installation can change its shape depending on the amount of inhabitants within its space. This makes the device versatile and autonomous once it is programmed.

# Results from Studies

A series of installations will be designed with the focus of compelling communication among individuals. These installations will be placed in the concourses in Hartsfield-Jackson International airport due to its high traffic conditions as well as the placement of its departure gates. I hope to use a manual interface with a slight use of a digital interface. This installation will comprise of a series of modules and these modules will have a kinetic nature. By manipulating the modules within this larger system, it will create moments of communication.

Airport Observations: [Isolation by distraction](#):

Cellphone, Laptop, Reading Material, Headphones

Module Complexity: [Simplistic](#)

A simple module will be designed to garner more attention and hands on interaction. A complicated module within a larger system will cause the user to avoid the installation. I hope to achieve a complex design with a simplistic module. Using a combination of both a manual and digital interface will cater to both the users who choose to use a digital device and to those who prefer to manual interact with the installation. Of course there will be more of a focus towards the manual interface.

# Interfaces

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## Manual Interface

### Possible Materials

Natural: [Wood](#), [Stone](#), [Grass](#)

Simple Machine module within a larger system.

**Objective:** Increase communication between individuals by interacting with device.

Higher emphasis

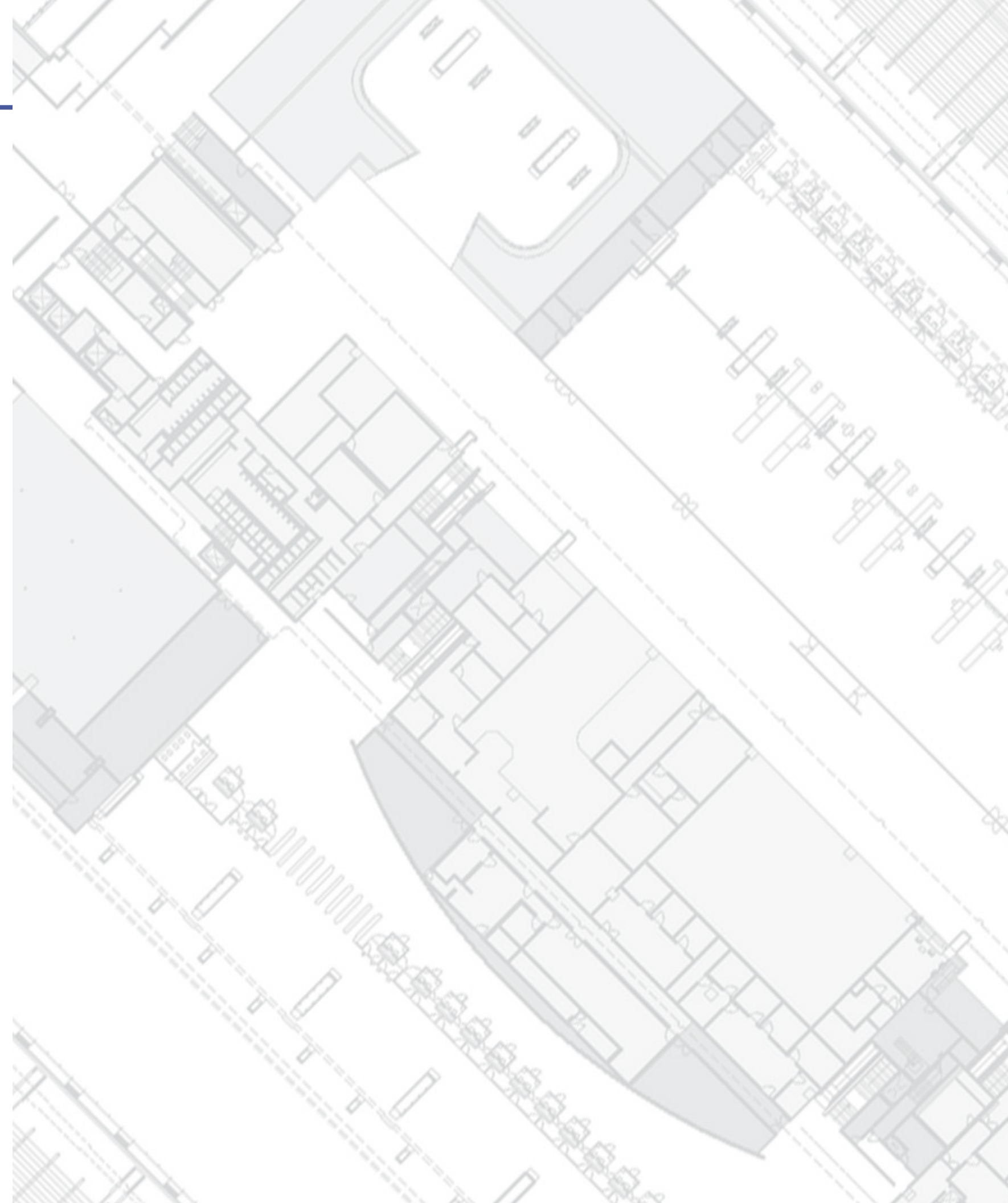
## Digital Interface

### Possible Digital Devices

[Touch interface](#) – Limited emphasis



- 3.1 Site Selection and its Significance to the Proposed Project
- 3.2 Airport Layout
- 3.3 Site Potentials and Constraints to the Proposed Project
- 3.4 Site Location
- 3.5 Site Analysis



## Site Selection and its Significance to the Proposed Project

The International Airport is located in Atlanta, Georgia. Its current typology is that of an airport. This specific typology fits the scope of the proposed project. The site houses multiple concourses as well as having a domestic terminal. There is also a constant influx of people entering and exiting the airport. Gathering data on human behavior as well interior and exterior conditions will be most beneficial to the project.

There has to be a clear concise method that has to be applied in order to tailor to the international airport terminal. For one all of the factors pertaining to the problem within the terminal as far as programmatic layout and behavior in its inhabitants should be taken into consideration. The factors that lead to the lack of communication between people in the terminal are cultural backgrounds and language barriers. International airports are a melting pot of cultural diversity so that means that the amount of people as well as the type of people are constantly changing throughout the day. The architecture needs to be designed with the prime goal of promoting communication. New situations will be created at every moment so the architecture must be able to adapt to the new events that unfold between individuals at the terminal. A series of spaces will be developed to house these situations and compel individuals to communicate with one another.

This will promote the notion of communication and will bypass language barriers and cultural backgrounds. Of course this architecture will have to cater to multiple groups of people that have specific wants and needs. Large communal spaces will cater to those who hope to interact with large groups of people. Smaller intimate spaces will cater to those who chose to speak with either smaller groups of people or with a single individual. Finally there will be spaces that for people who prefer to spend time to themselves. This type of communicative architecture will cater to multiple groups but at the same time gradually encourage the idea of communication without being too forceful on the people.

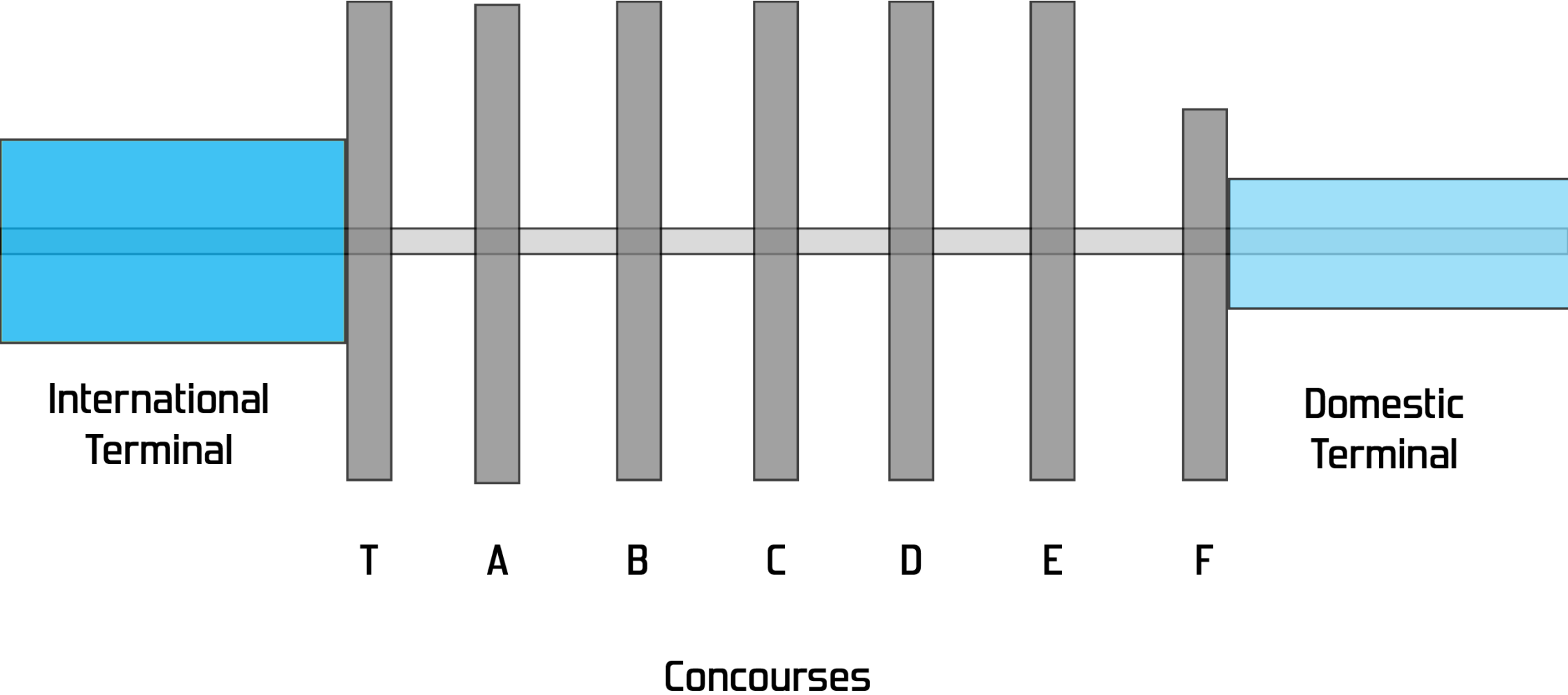




# Airport Layout

The international airport is separated into multiple structures. These structures are the terminals and the concourses. There are a total of seven concourses and 2 terminals. Each concourse consists of gates, food & beverage, retail, services, and airport/airline facilities. There is a Domestic as well as an international terminal. The domestic terminal consists of the same program as the concourses albeit with an atrium and a main security check-point. The international terminal is comprised of three levels which houses shops/restaurants, gates, and arrival walkways. Every terminal and concourse is connected by a trolley system that runs from the ends of the terminals through each concourse structure.

People navigate through the entire airport via a train system or by walking through the spine of the airport. The people enter the concourses at its center where it overlaps the spine. From there they travel the narrow rib.



# Site Potentials and Constraints to the Proposed Project

Since the concourses are narrow in design, this limits the physical scale of the project. Design will have to shift towards a narrow and linear form. The interior of each concourse is rather tight due to the large amount of people walking within the space. The installation will have to be open and light. A heavy form will only block the concourse traffic as well as take up a large amount of space. The challenge will be to find a method of design that will not result in a form that doesn't adapt to the current constraints within the terminal.

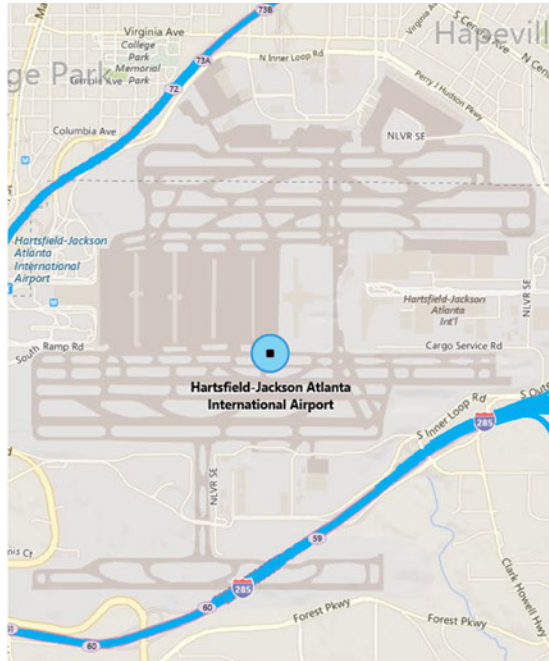
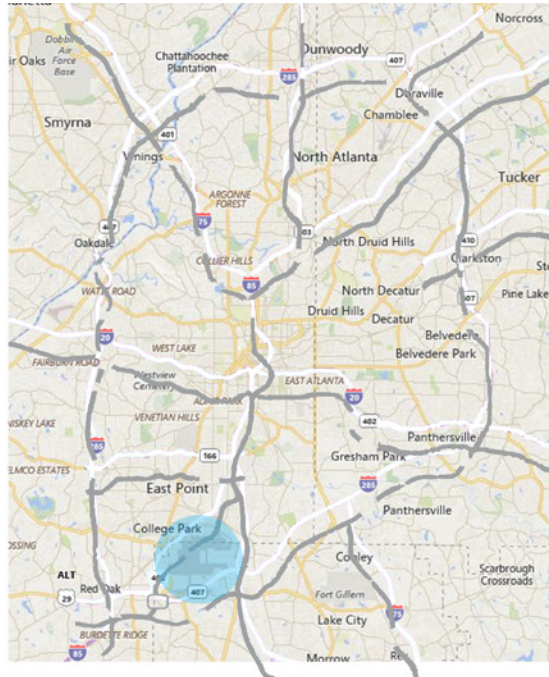
The seating arrangements are tight due to the sporadic placement of the seats. So the placement of the installation as far as branching out into the seating area will have to be methodically planned in the design phase. Once again the design will be linear and narrow.



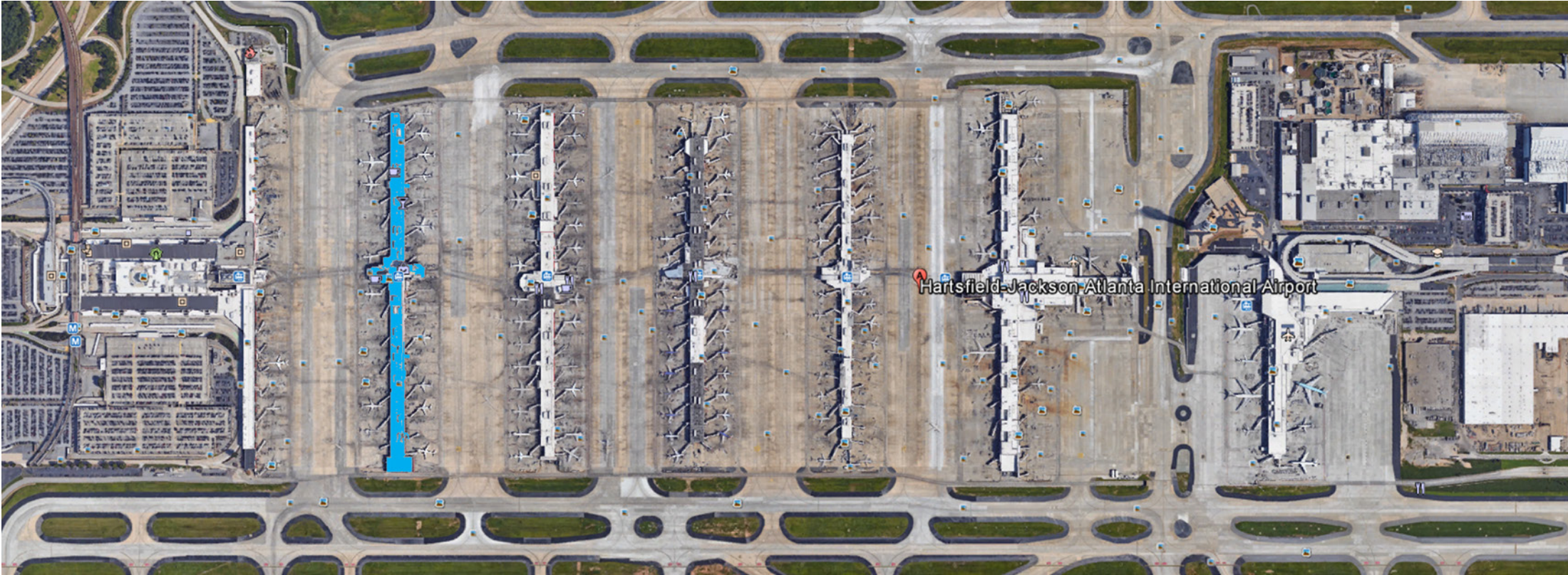
# Site Location

## Hartsfield-Jackson Atlanta International Airport

Address – Department of Aviation 6000 North Terminal Parkway Suite 435 Atlanta, GA 30320

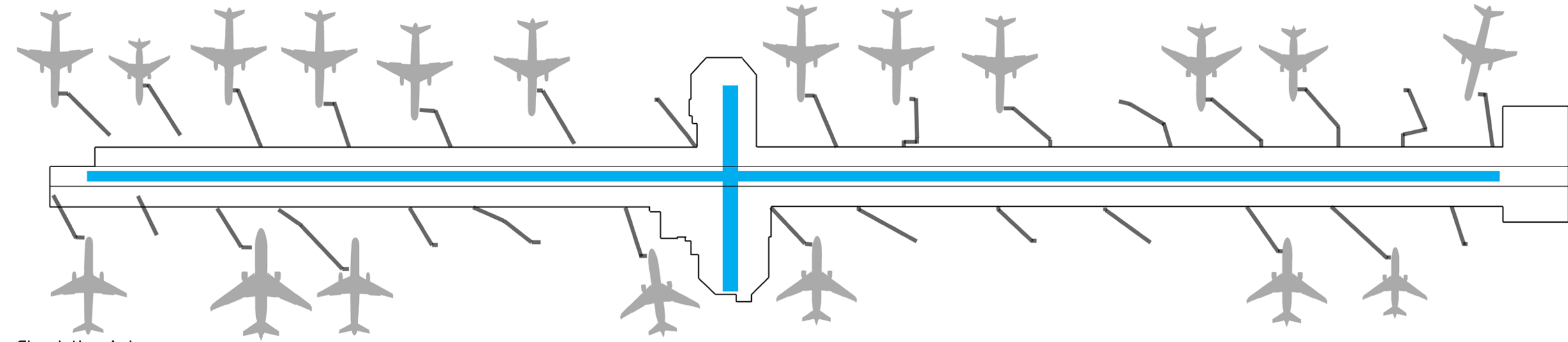


# Site Location - Concourse A

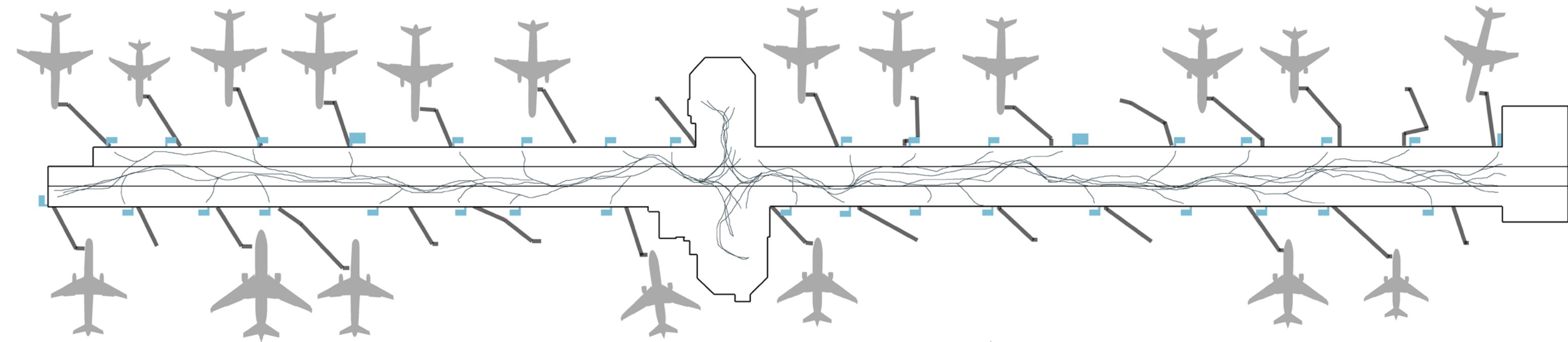




# Site Analysis

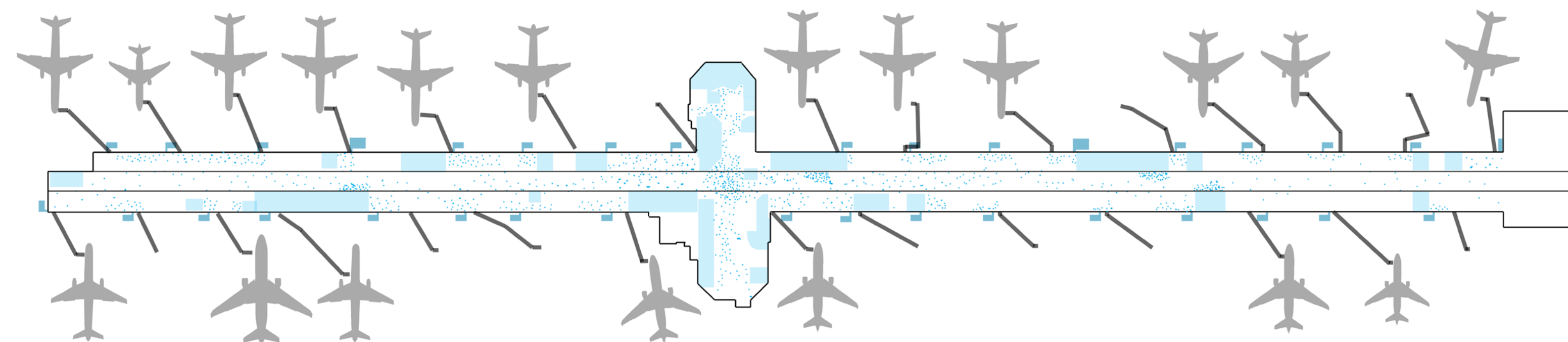


Circulation Axis



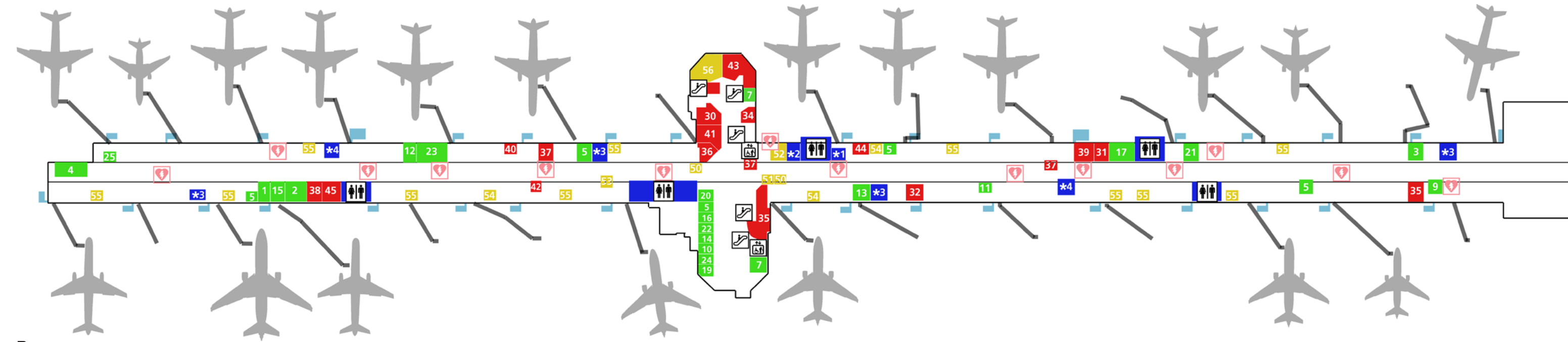
Circulation

# Site Analysis



Density

# Site Analysis



Program

## Food & Beverage

- 1 A - Bar
- 2 Abica Coffee
- 3 Asian Chao
- 4 Atlanta Hawk's Highlight Factory
- 5 Boar's Head
- 6 Boardwalk Burgers & Fries
- 7 Brioche Doree Cafe
- 8 Budweiser Bar & Grill
- 9 Caribou Coffee
- 10 Chick-Fil-A
- 11 The Coffee Bean & Tea Leaf
- 12 Freshen's
- 13 Goldberg's Bagels

## Retail

- 14 Great Wraps
- 15 Krystal
- 16 Low Country
- 17 Mcdonalds
- 18 P.F. Chang's
- 19 Piano Bar
- 20 Piece of Cake
- 21 Pinkberry
- 22 Qdoba (24 hours)
- 23 Sweetwater Brewhouse
- 24 Varasano's Pizzeria
- 25 Vending Machines

## Services

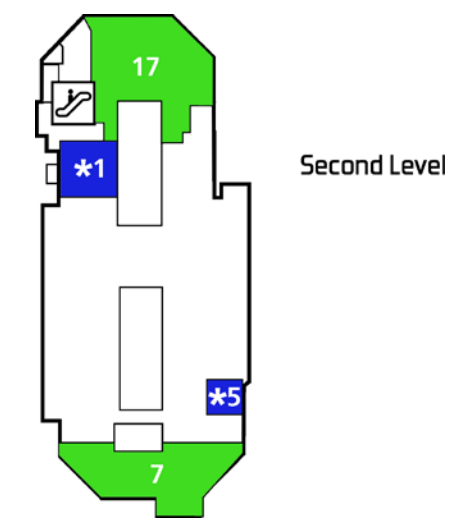
- 30 Airport Wireless
- 31 ATL.net
- 32 B Iconic
- 33 Best Buy Zoom
- 34 Brighton Collectibles
- 35 CNBC News Atlanta
- 36 Ermenegildo Zegna
- 37 Inmotion Entertainment
- 38 L'Occitane
- 39 Newsbeat ATL
- 40 Noelle
- 41 Salvatore Ferragamo/Bulgari
- 42 Shellis News
- 43 Simply Books
- 44 Straight Talk Wireless
- 45 Z-Market

- 50 ATM
- 51 Pre-paid Phone Cards
- 52 FedEx Drop Box
- 53 Currency Exchange/Rosetta Stone
- 54 Shoeshine
- 55 Telephones, TTY, Volume Control Telephone
- 56 Telephones, Volume Control Headphones
- 57 XpresSpa

## Airport/Airline Facilities

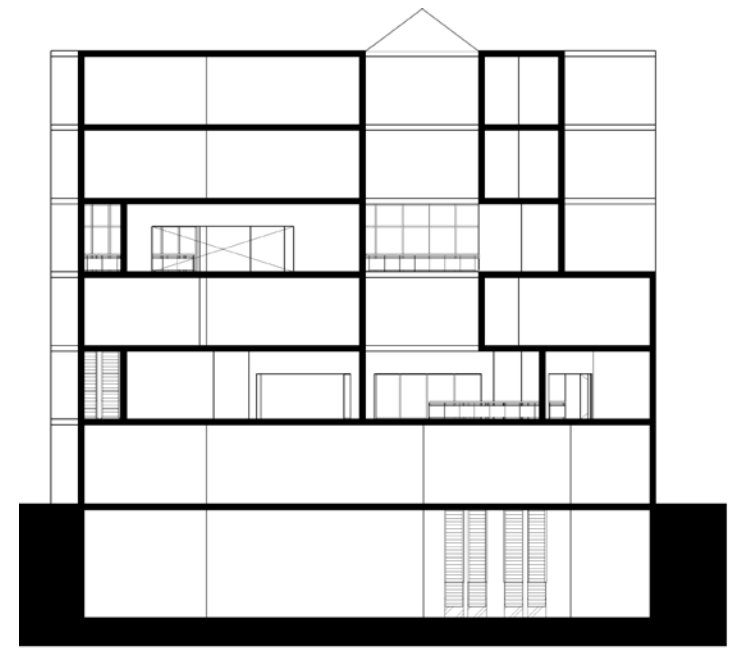
- \*1 Delta Sky Club
- \*2 Delta Air Lines Ticket Service Center
- \*3 Delta Recharge Station
- \*4 Delta Self Service Center
- \*5 Smoking Lounge

- Automated Emergency Defibrillator
- Elevator
- Escalator
- Restrooms

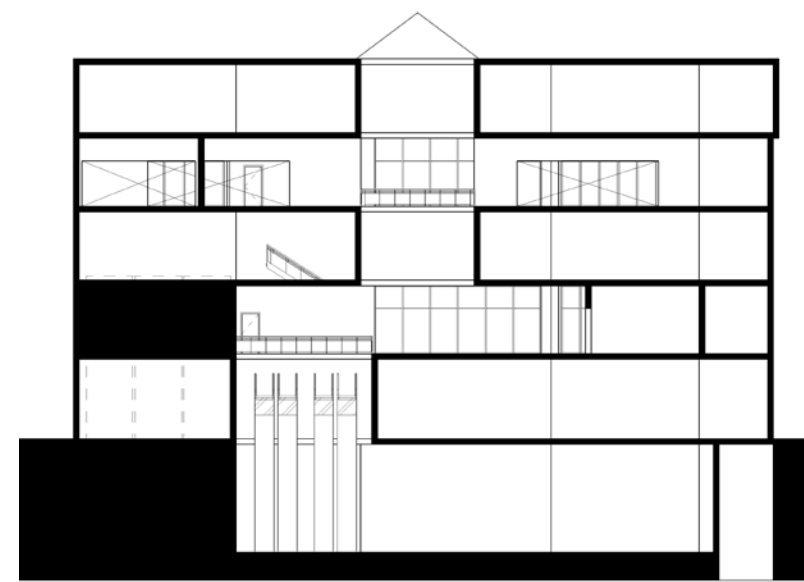


Second Level

# Site Analysis



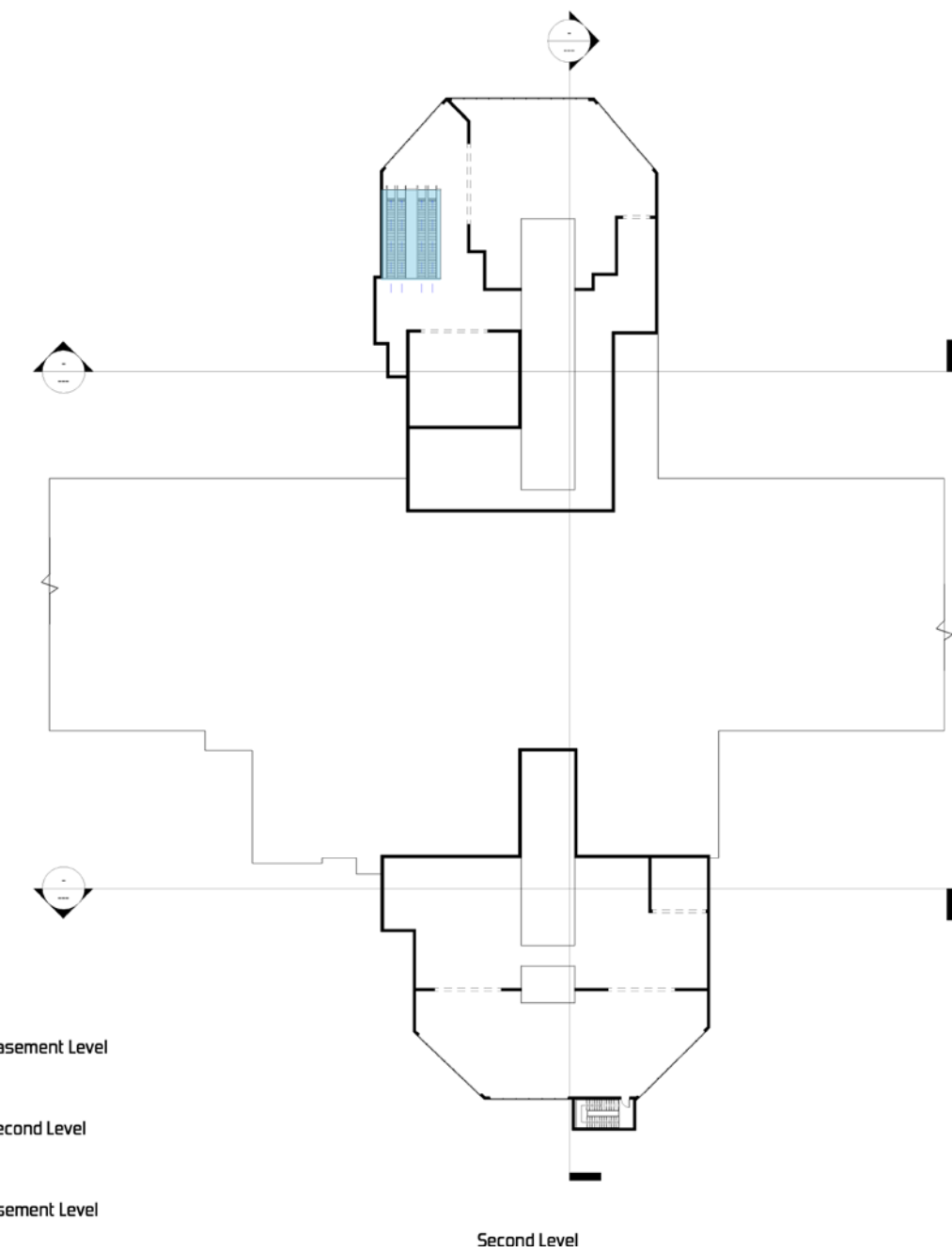
Transverse Section 1



Transverse Section 2

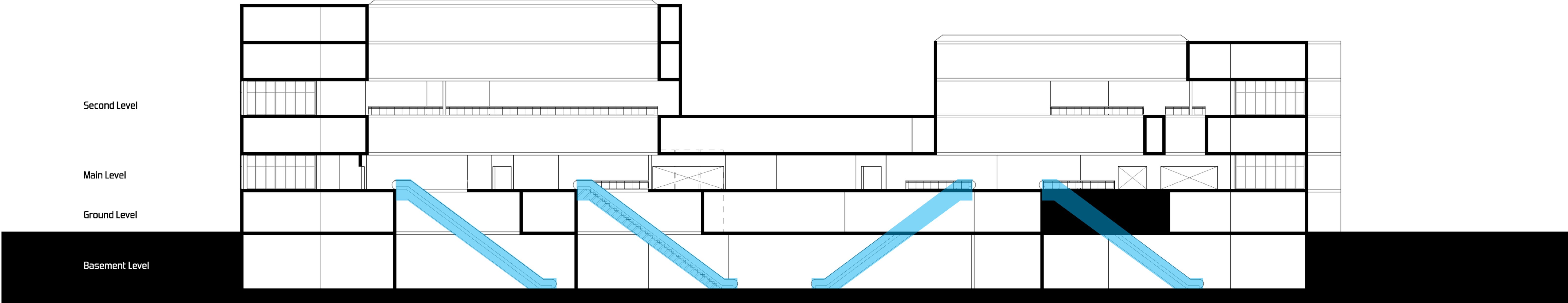


Main Level



Second Level



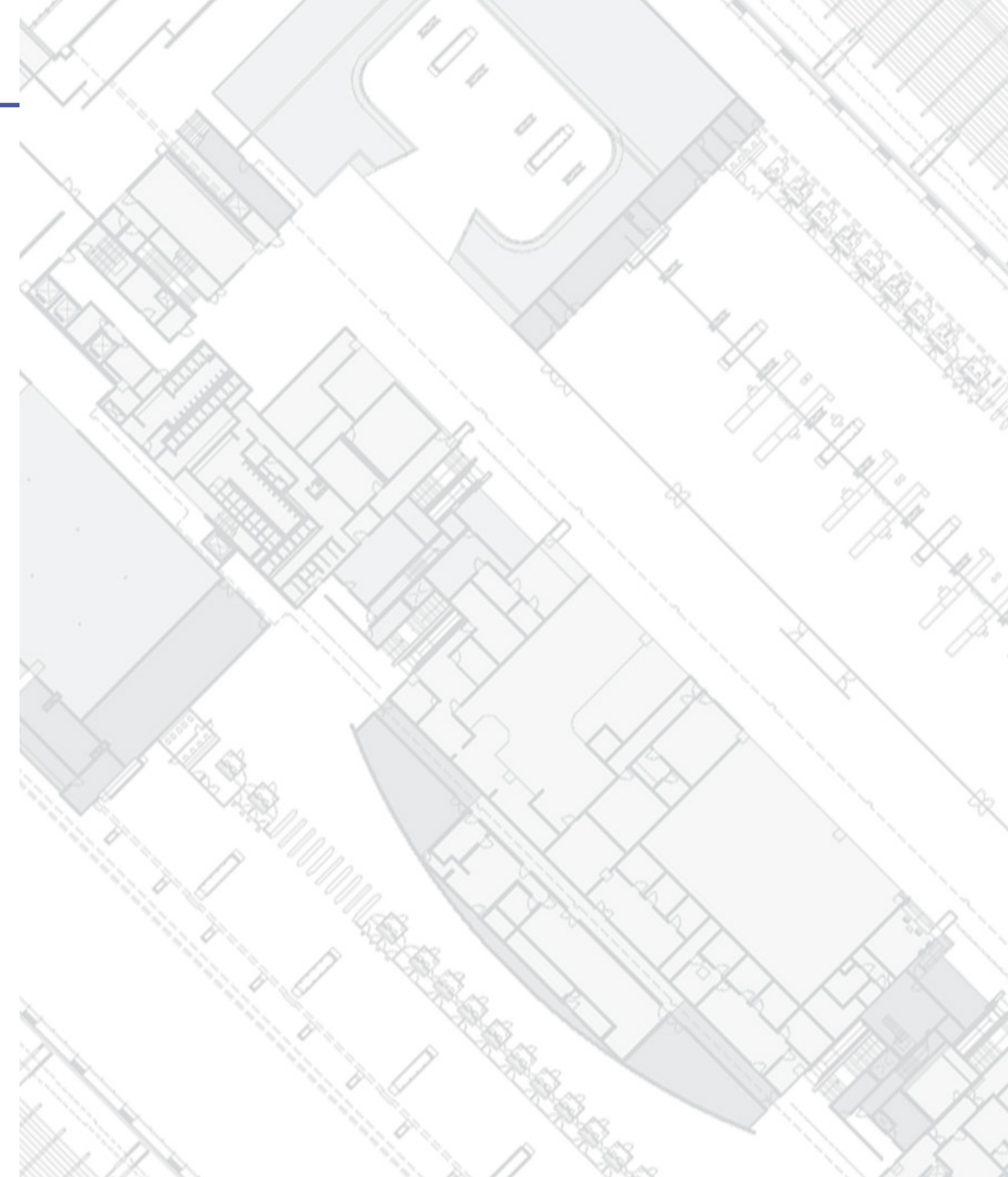


Longitudinal Section

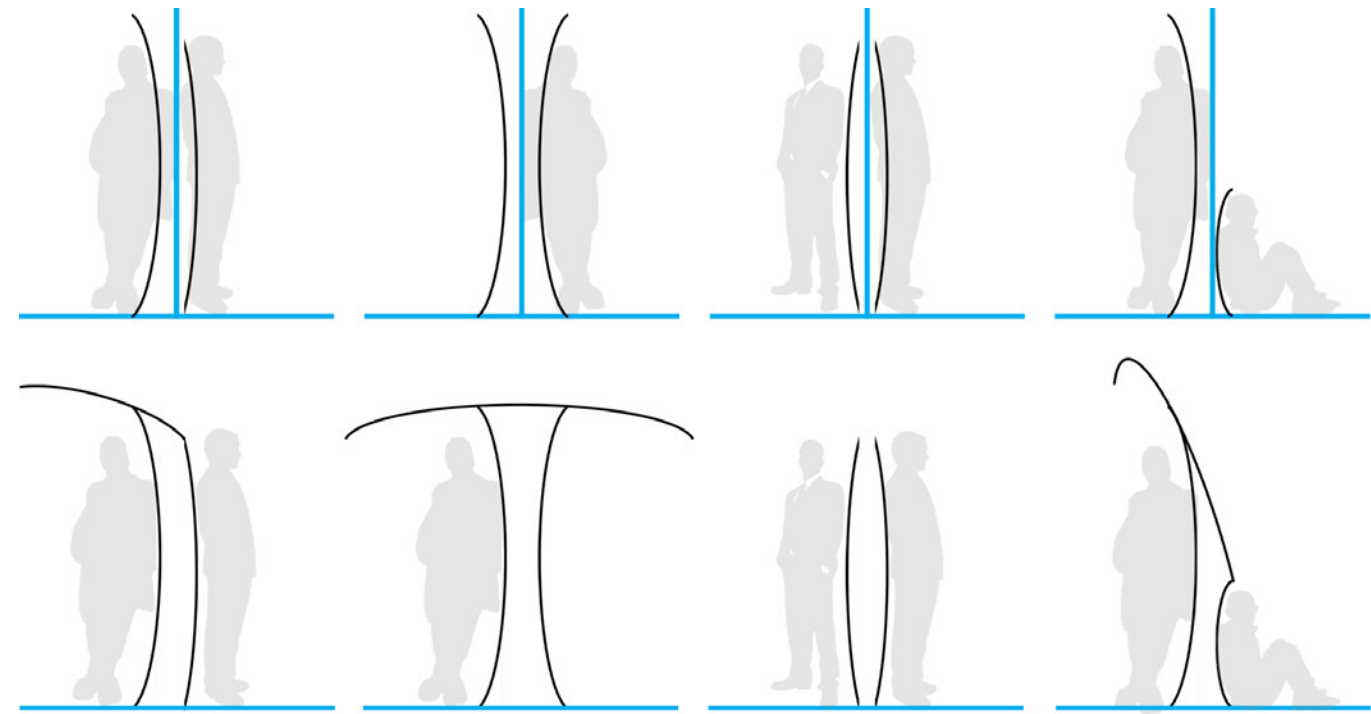
## Design

---

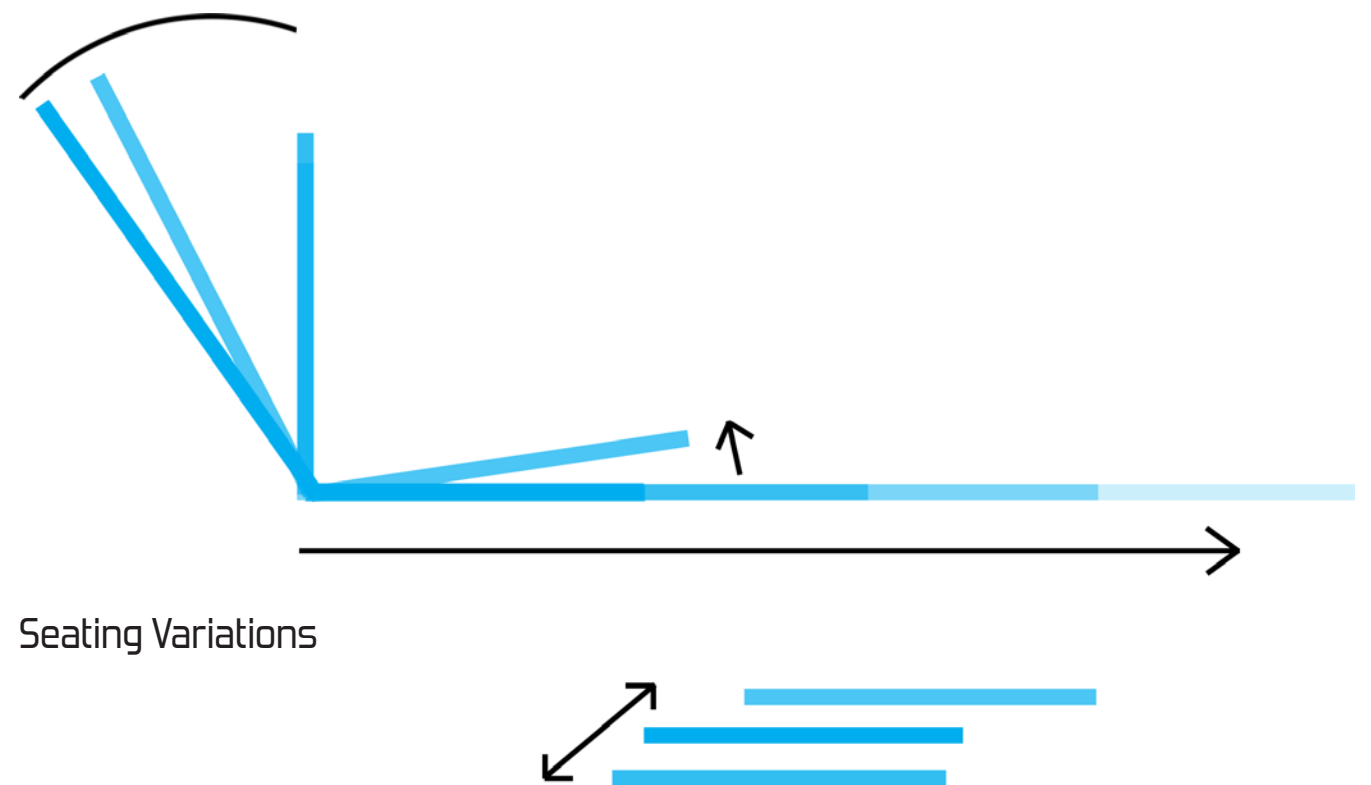
- 4.1 Spatial Studies
- 4.2 Technology & Materials
- 4.3 Interior Photos
- 4.4 Possible Installation Locations
- 4.5 Final Installation Location
- 4.6 Spatial Layout Process
- 4.7 Configurations
- 4.8 Installation Detail
- 4.9 Render



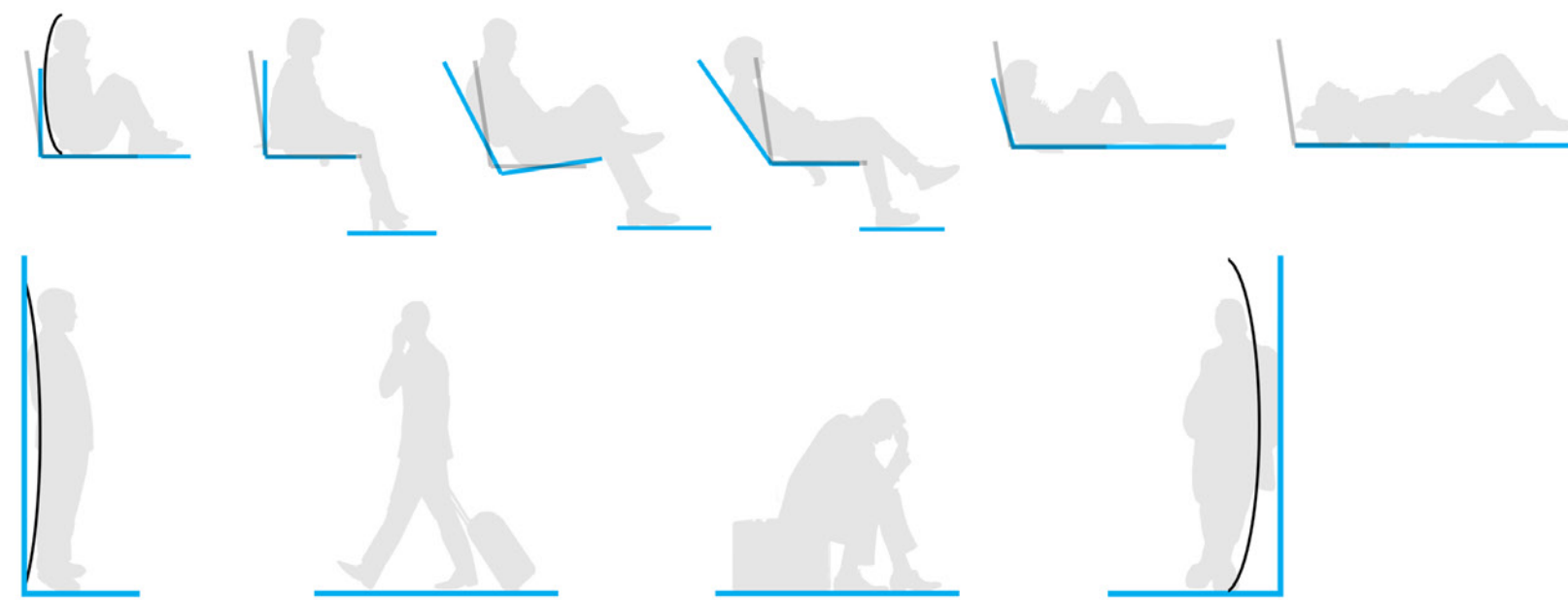




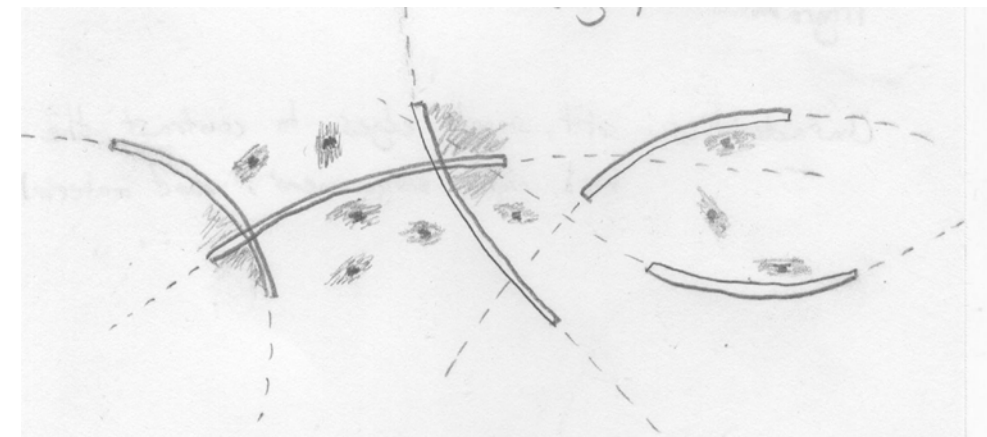
Standing Partition Forms



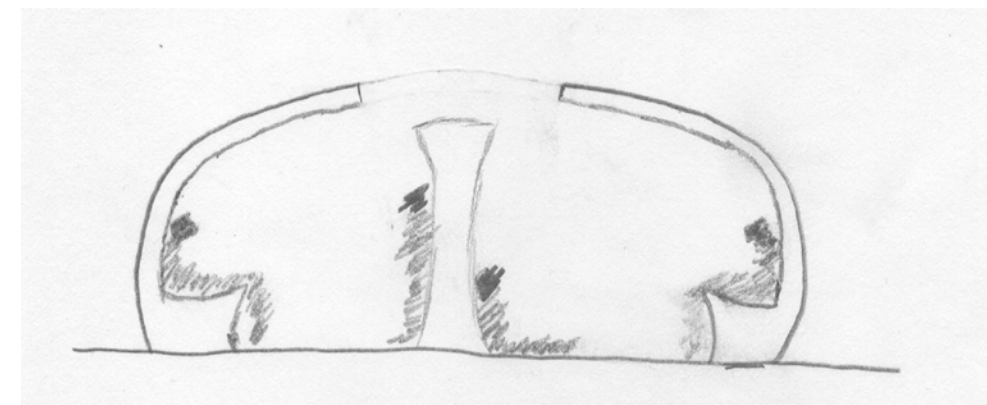
Seating Variations



Standing and Standing Position Study



Partitions are placed on a sliding track system. This allows the user to physically or electronically slide the wall partitions to customize spacial layout.



This design acts as a cove for the users. Within the installation, users sit alongside the outer wall or inner wall.

**Grove Kit** – A processor that is designed to connect to the real world via actuators and sensors, expansion boards and grove wires.

**Arduino Uno** – A microcontroller board based on the ATmega328P. It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 6 analog inputs, a 16 MHz quartz crystal, a USB connection, a power jack, an ICSP header and a reset button. It contains everything needed to support the microcontroller; simply connect it to a computer with a USB cable or power it with a AC-to-DC adapter or battery to get started.

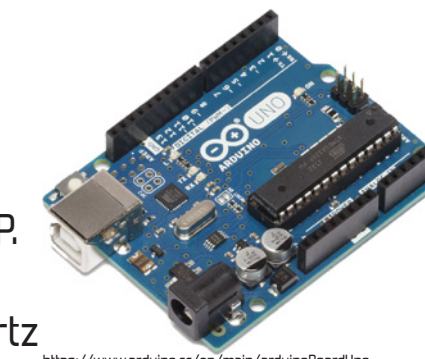
## Components

**Base Shield** – A component that simplifies the process of programming. Gets rid of the bread board and jump wires.

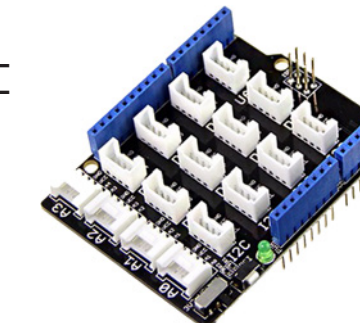
**Grove – Servo** – An actuator capable of precise controllable positions.

**Grove – Touch Sensor** – Can sense touch. Can detect the change in capacitance when a finger is nearby. A highly sensitive sensor that responds to direct contact and even if a finger is close to its surface.

**Grove – Button** – Contains one independent "momentary on/off" button. "Momentary" means that the button rebounds on its own after it is released. The button outputs a HIGH signal when pressed, and LOW when released. The button signals the SIG Pin of the Grove Interface while NC is not used at all.



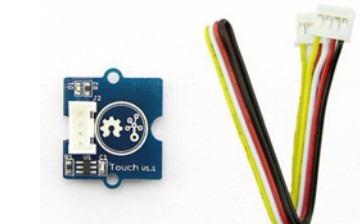
<https://www.arduino.cc/en/main/arduinoBoardUno>



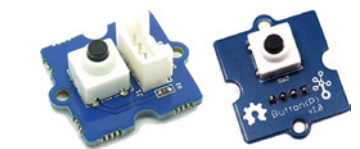
<https://www.seeedstudio.com/Base-Shield-V2-p-1978.html>



<https://www.seeedstudio.com/Grove-Servo-p-1241.html>



<https://www.seeedstudio.com/Grove-Touch-Sensor-p-747.html>

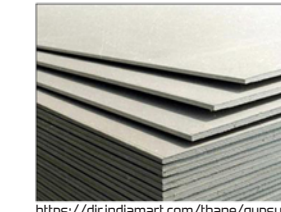


<https://www.seeedstudio.com/Grove-Button-p-768.html>

## Material Palette

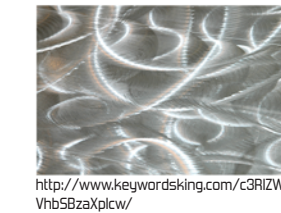
### Current Materials

Gypsum Wall



<https://dir.indiamart.com/thane/gypsum-board.html>

Polished Metal - Columns with metal skin



<http://www.keywordsking.com/c3RlZWwga5A1Ym-Vhb5BzaXplcw/>

Drop Ceiling Tiles - Drywall



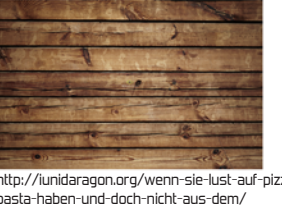
<http://www.glazewall.in/false-ceiling-services.html>

Marble Flooring



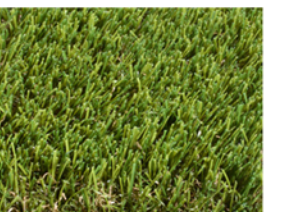
### Proposed Materials

Wood – Natural material, Warm and inviting



<http://unidaragon.org/wenn-sie-lust-auf-pizza-oder-pasta-haben-und-doch-nicht-aus-dem/>

Grass/Turf



<https://www.lowes.com/p/Lux-to-length-artificial-grass-Artificial-grass-Grass-grass-seed-Outdoors/4284812625>

Natural Stone/ Rough Stone



<http://www.dakolastonerockshop.com/roughstones-bythepound.html>

Water



<http://www.cheersonic.com/ultrasonic-disinfect/>

The list of proposed materials are necessary to create a contrast to the existing environment. The current environment is sleek and rigid. A natural and organic aesthetic will create a juxtaposition in the interior of the concourse.



# Interior Photos of Concourse A Center



<https://gaming.youtube.com/channel/UC910qTgSuljzCUGijRatD>



[https://www.tripadvisor.com/ShowUserReviews-g60898-d10339259-r413558532-Qdoba-Atlanta\\_Georgia.html](https://www.tripadvisor.com/ShowUserReviews-g60898-d10339259-r413558532-Qdoba-Atlanta_Georgia.html)



[https://www.tripadvisor.com/LocationPhotoDirectLink-g60898-d4549741150824087-Chick\\_fil\\_A-Atlanta\\_Georgia.html](https://www.tripadvisor.com/LocationPhotoDirectLink-g60898-d4549741150824087-Chick_fil_A-Atlanta_Georgia.html)



<http://tedium.co/2016/08/16/airport-stores-named-after-tv-networks/>



[https://www.tripadvisor.com/LocationPhotoDirectLink-g60898-d7262205-i196061466-Great\\_Wraps-Atlanta\\_Georgia.html](https://www.tripadvisor.com/LocationPhotoDirectLink-g60898-d7262205-i196061466-Great_Wraps-Atlanta_Georgia.html)



<https://www.moodiedavittreport.com/hojelj-opens-new-concessions-at-atlanta-international-airport/>



[https://www.tripadvisor.com/ShowUserReviews-g60898-d4729607-r172885806-Boar\\_s\\_head-Atlanta\\_Georgia.html](https://www.tripadvisor.com/ShowUserReviews-g60898-d4729607-r172885806-Boar_s_head-Atlanta_Georgia.html)



<http://www.lowcountry-restaurants.com/locations.html>



<https://foursquare.com/v/brioche-dor%C3%A9e/4b8ebefcf964a520923433e3>



# Possible Installation Locations

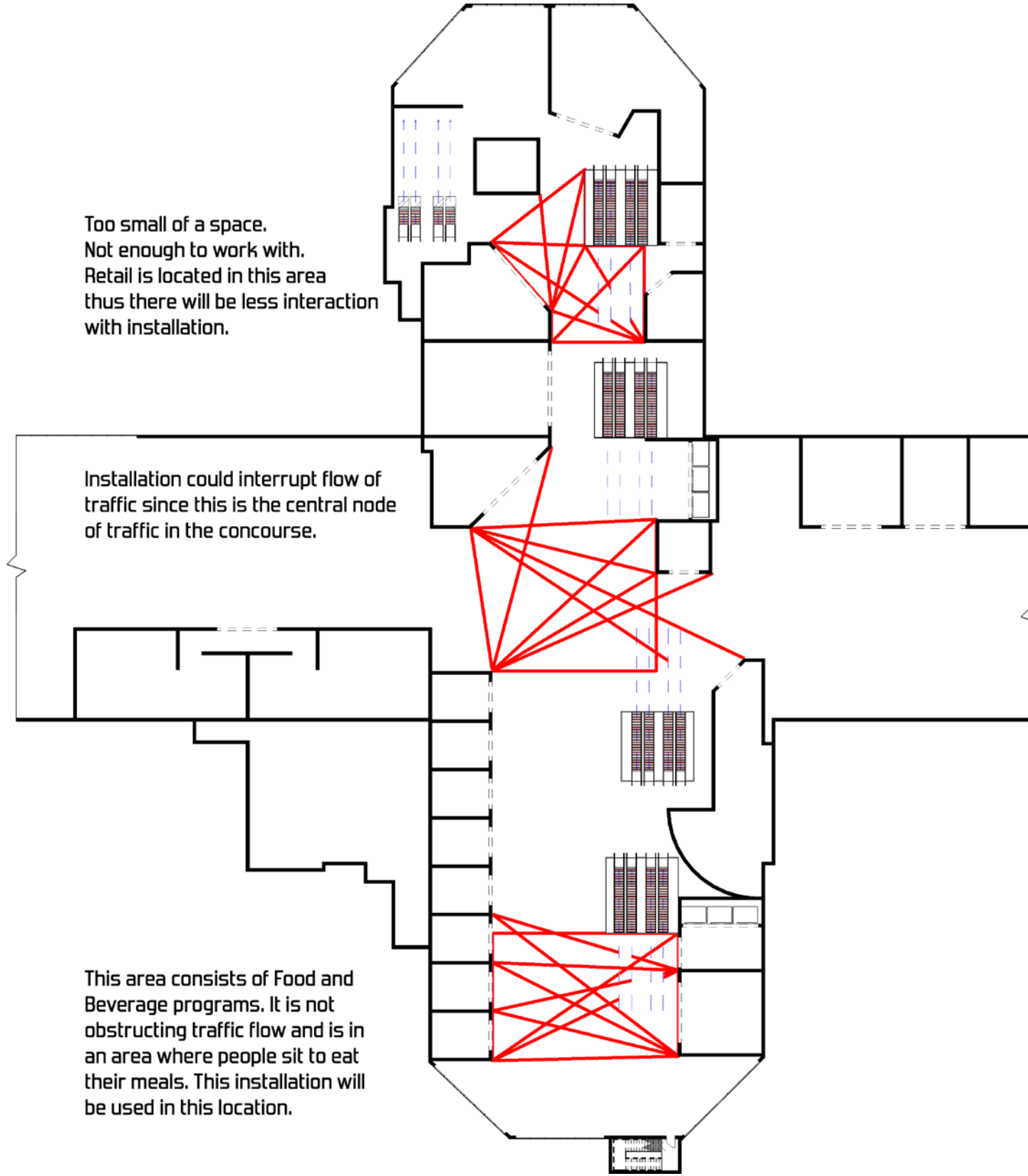
Possible areas for the placement of the installation.



Too small of a space. Not enough to work with. Retail is located in this area thus there will be less interaction with installation.

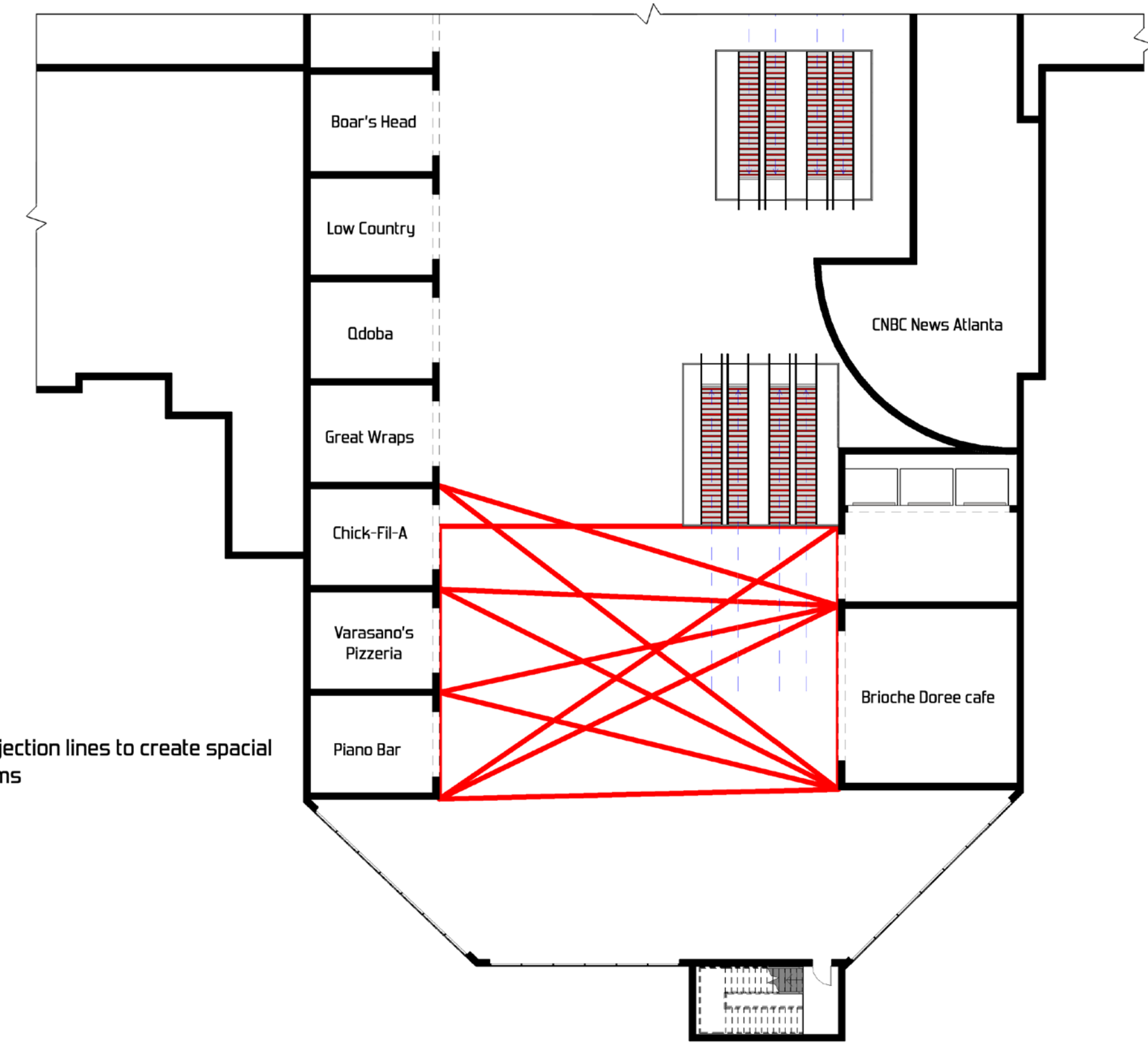
Installation could interrupt flow of traffic since this is the central node of traffic in the concourse.

This area consists of Food and Beverage programs. It is not obstructing traffic flow and is in an area where people sit to eat their meals. This installation will be used in this location.

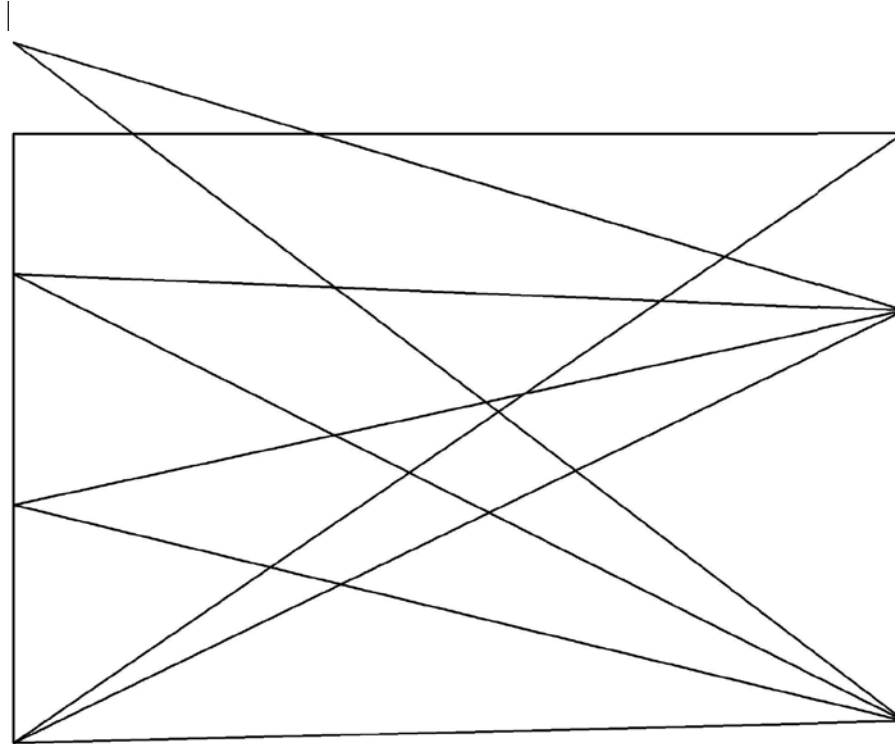


# Final Installation Location

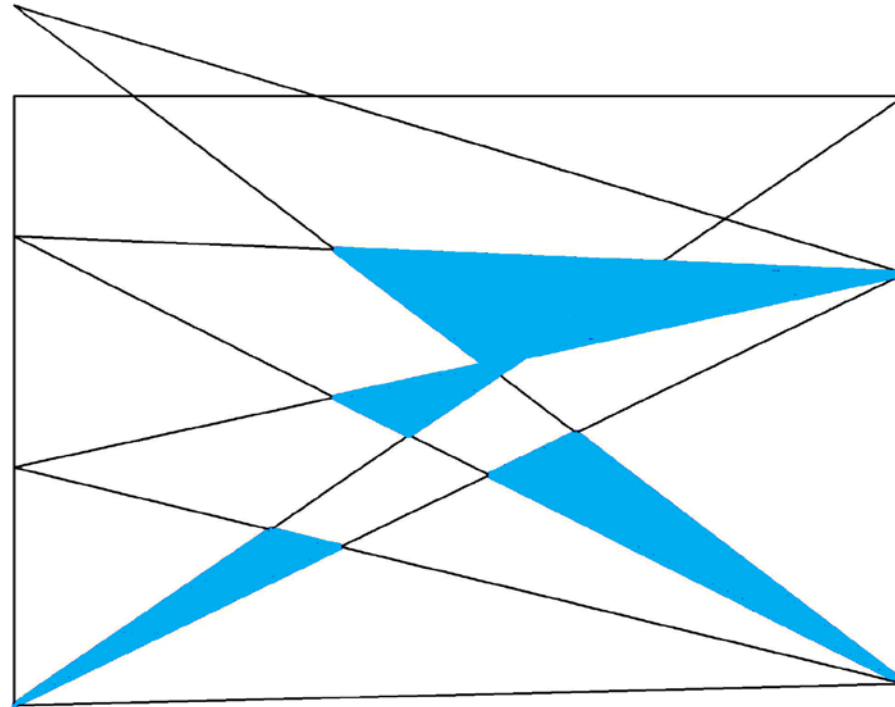
Projection lines to create spacial forms



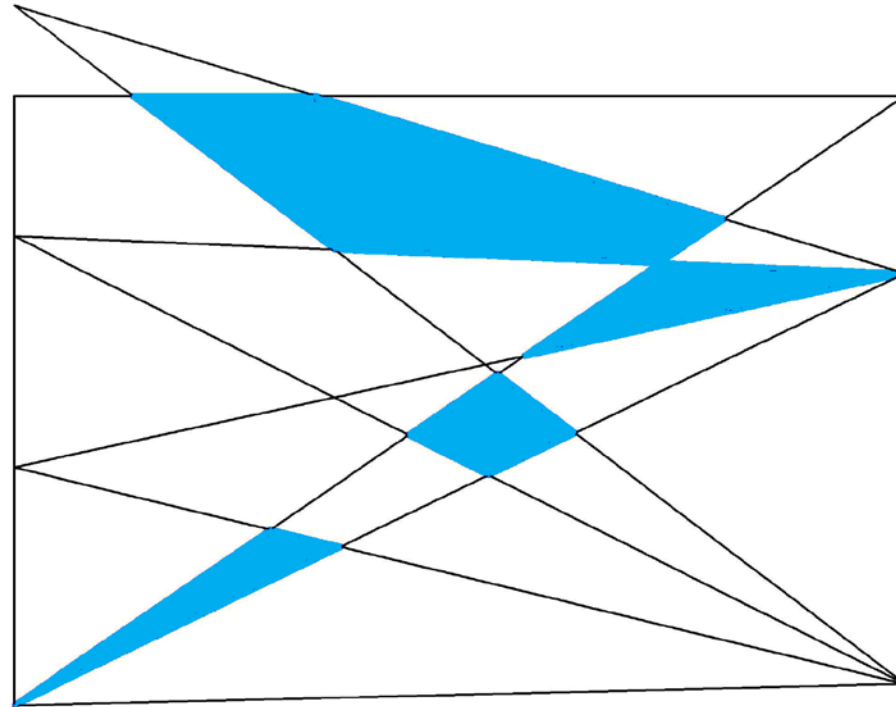
# Spatial Layout Process



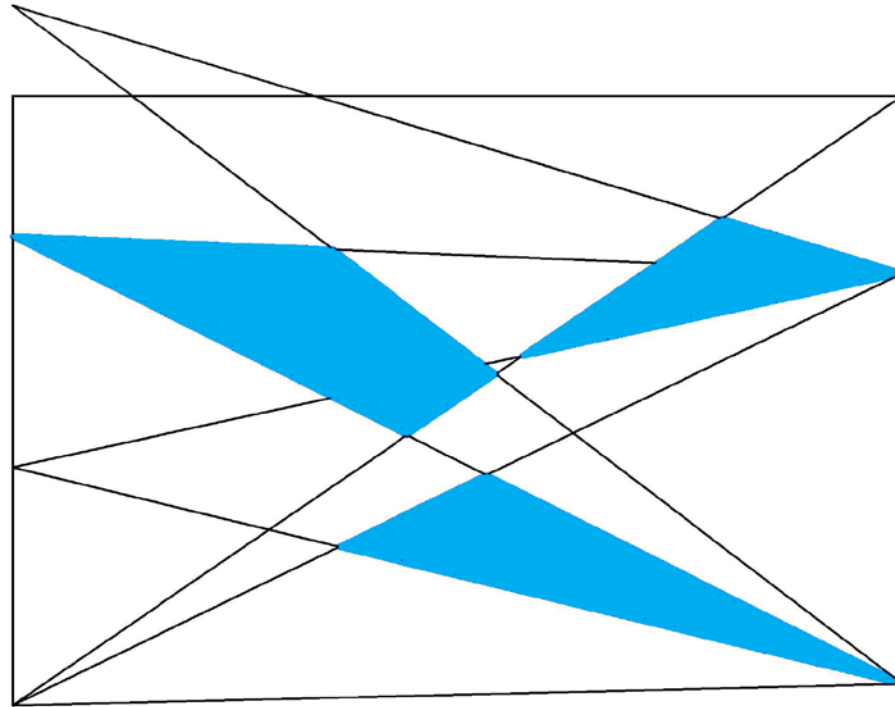
Base Pattern



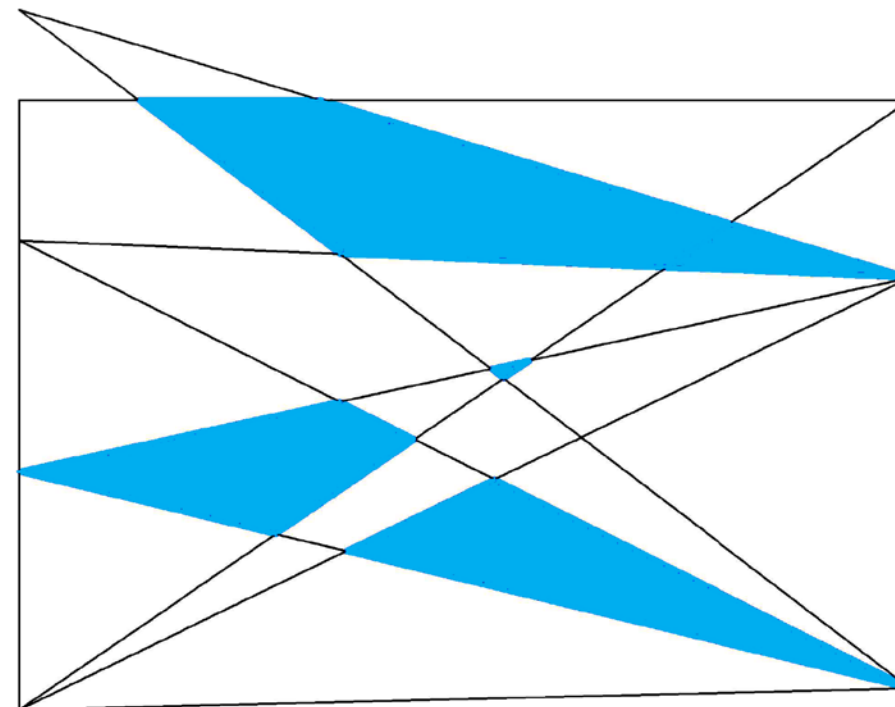
Iteration 1



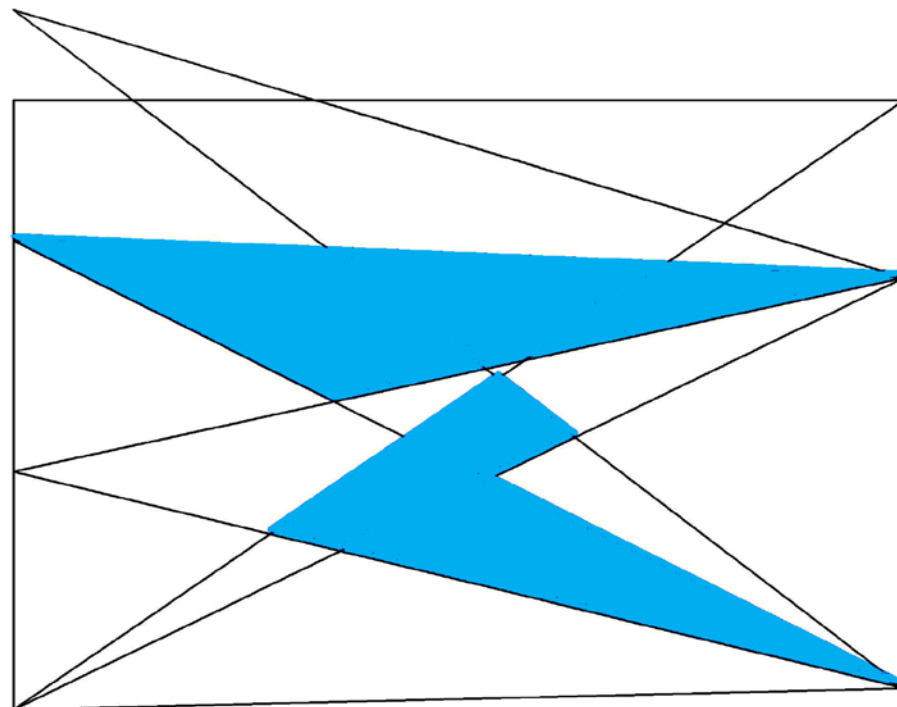
Iteration 2



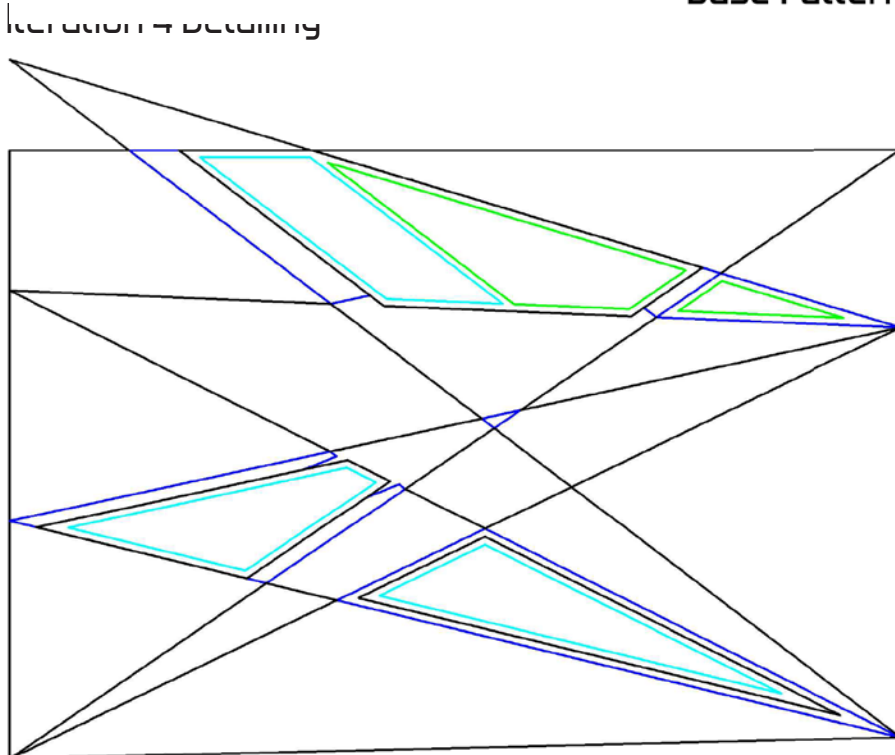
Iteration 3



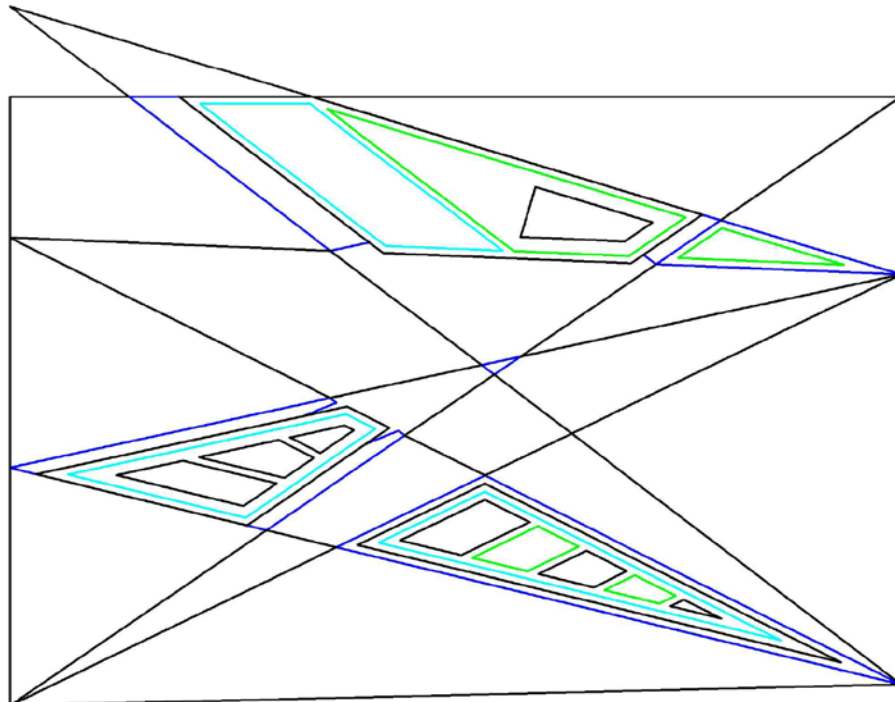
Iteration 4



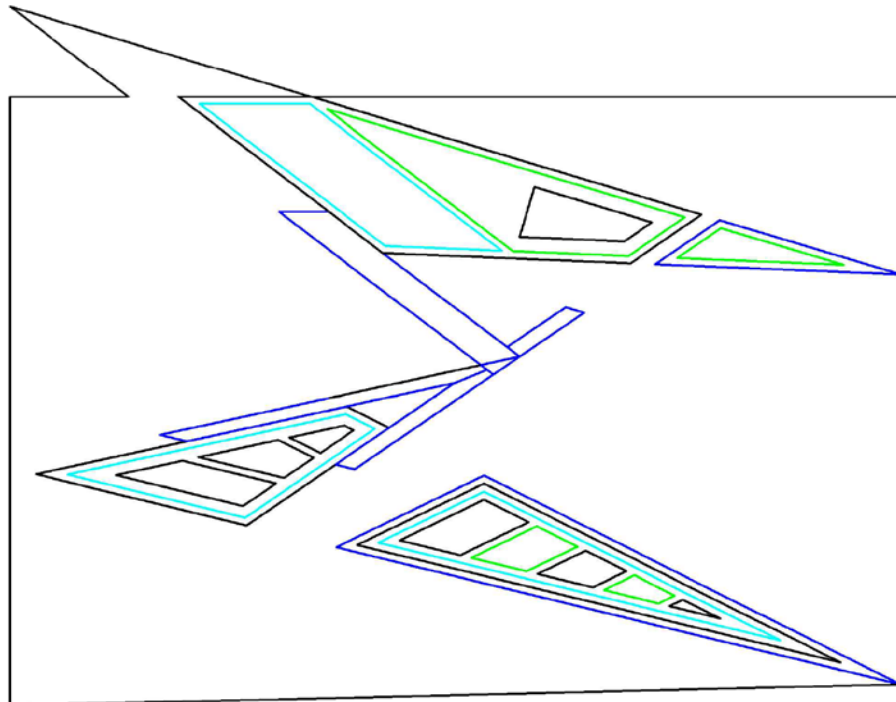
Iteration 5



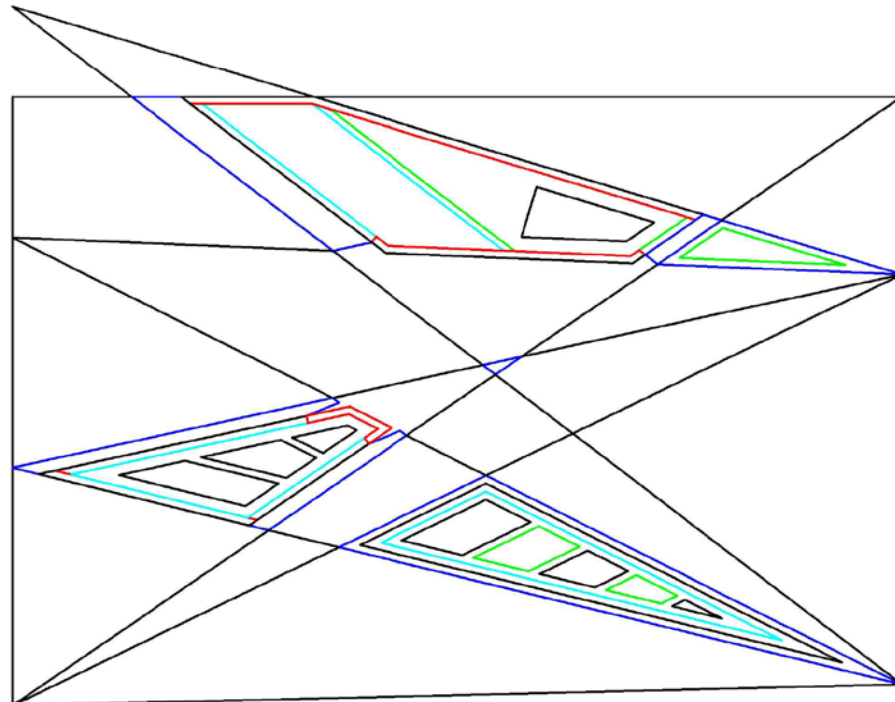
Iteration 4



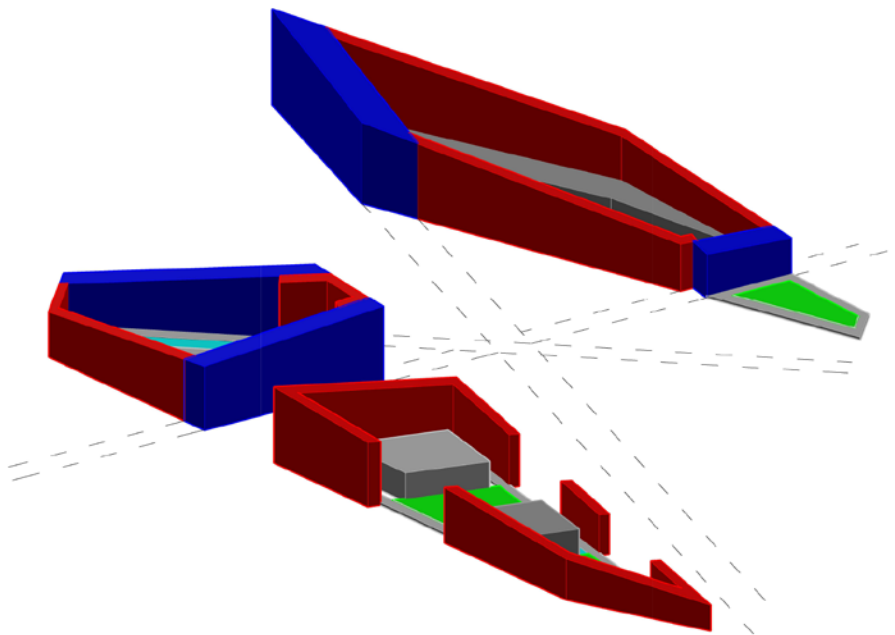
Furniture Layout



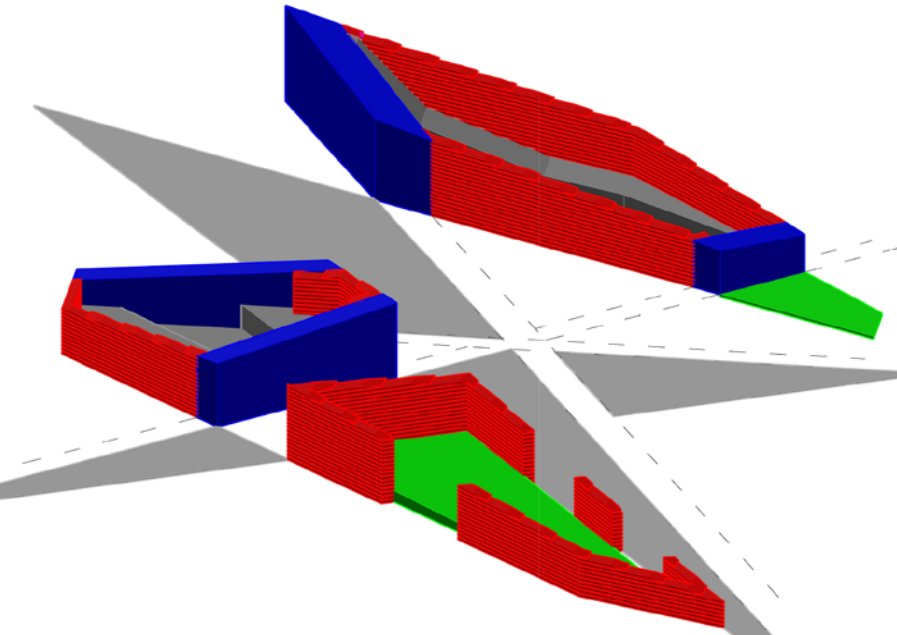
Sliding Wall Placements



Fixed Wall Placements



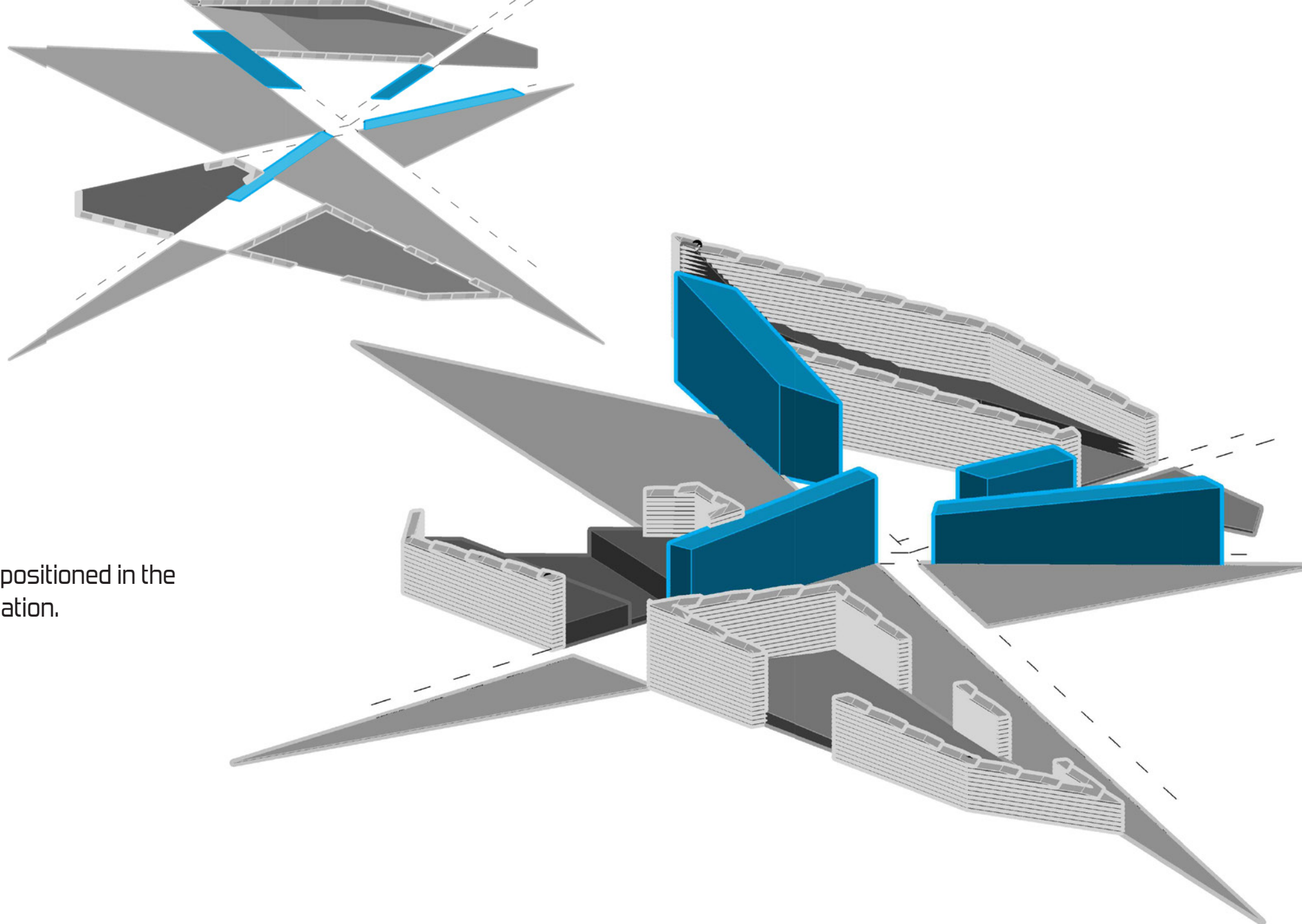
Extrusion of Surfaces



Floor Pattern with Wall Layering



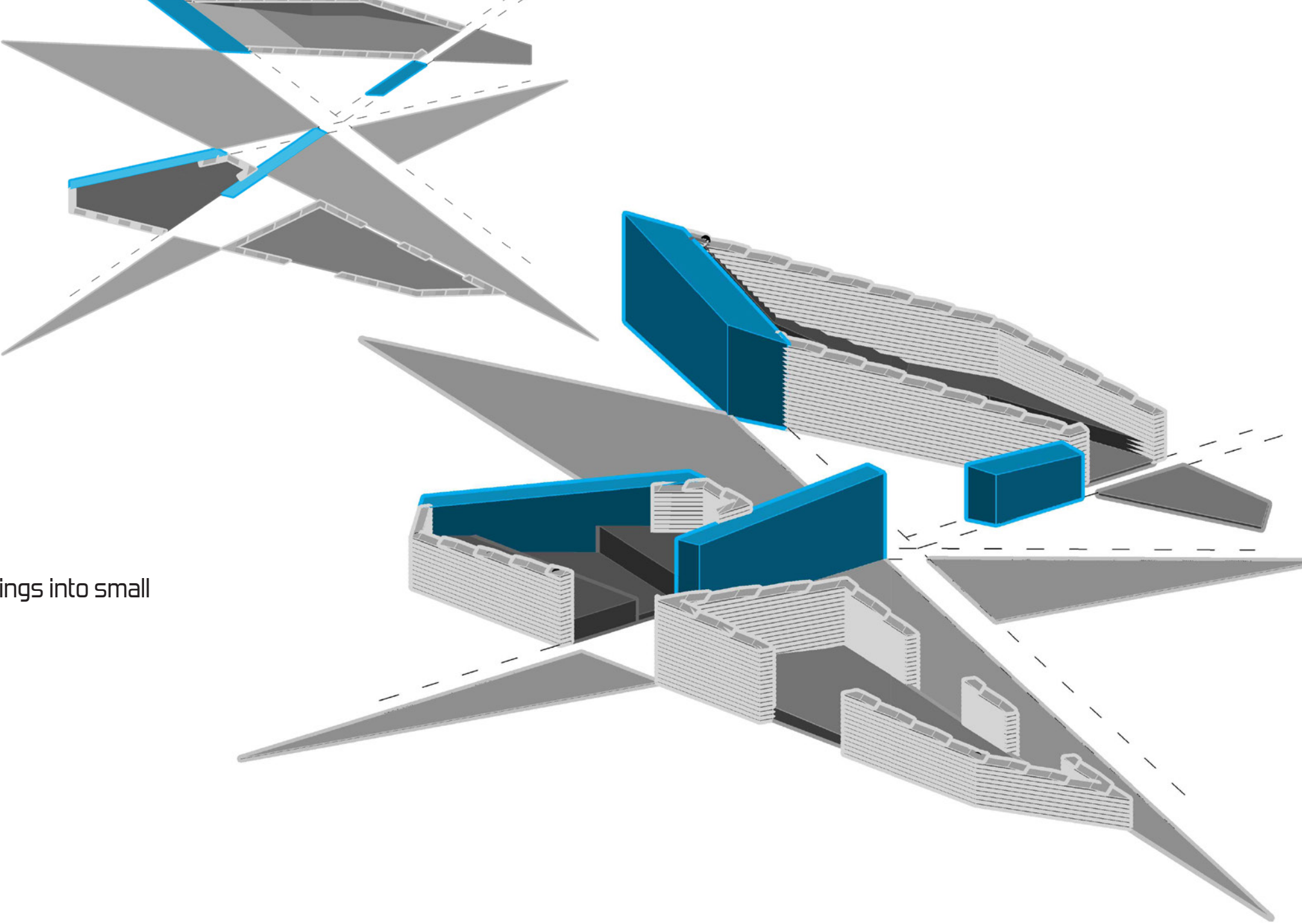
# Configuration 1



Configuration 1

All sliding walls are positioned in the center of the installation.

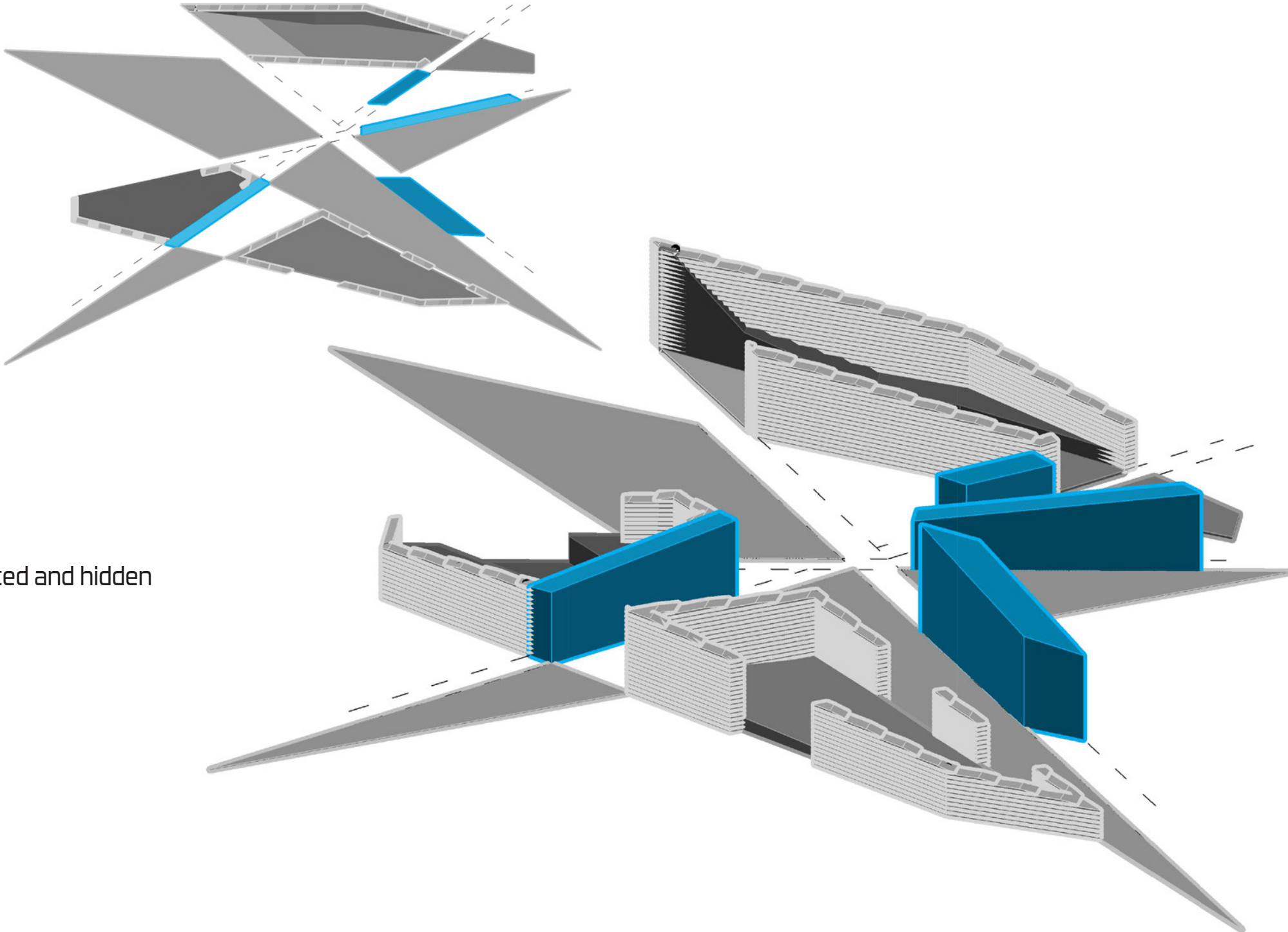
# Configuration 2



Configuration 2

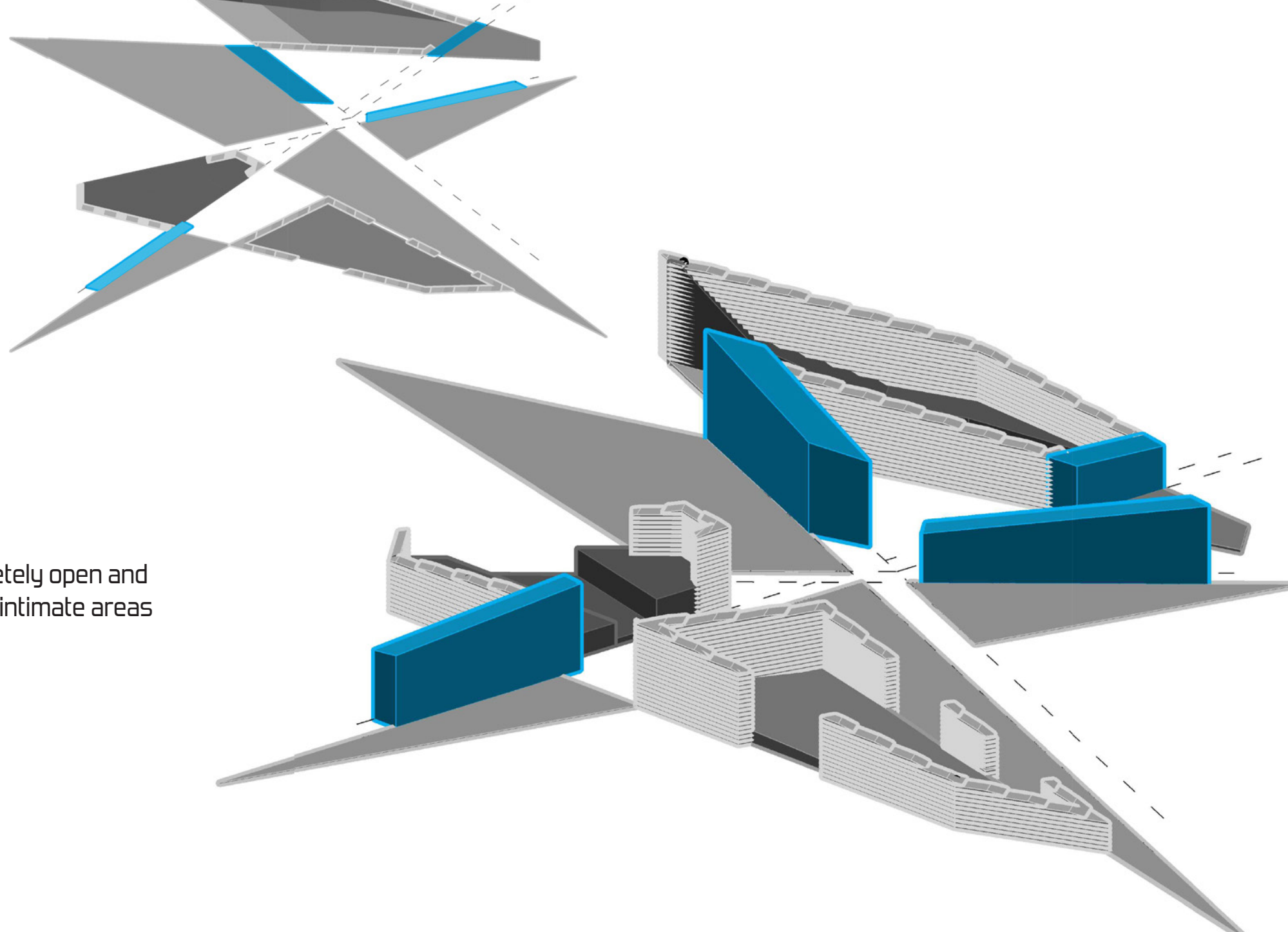
Sliding walls reveal openings into small alcoves

# Configuration 3



Configuration 3  
Defined spaces are created and hidden spaces are revealed

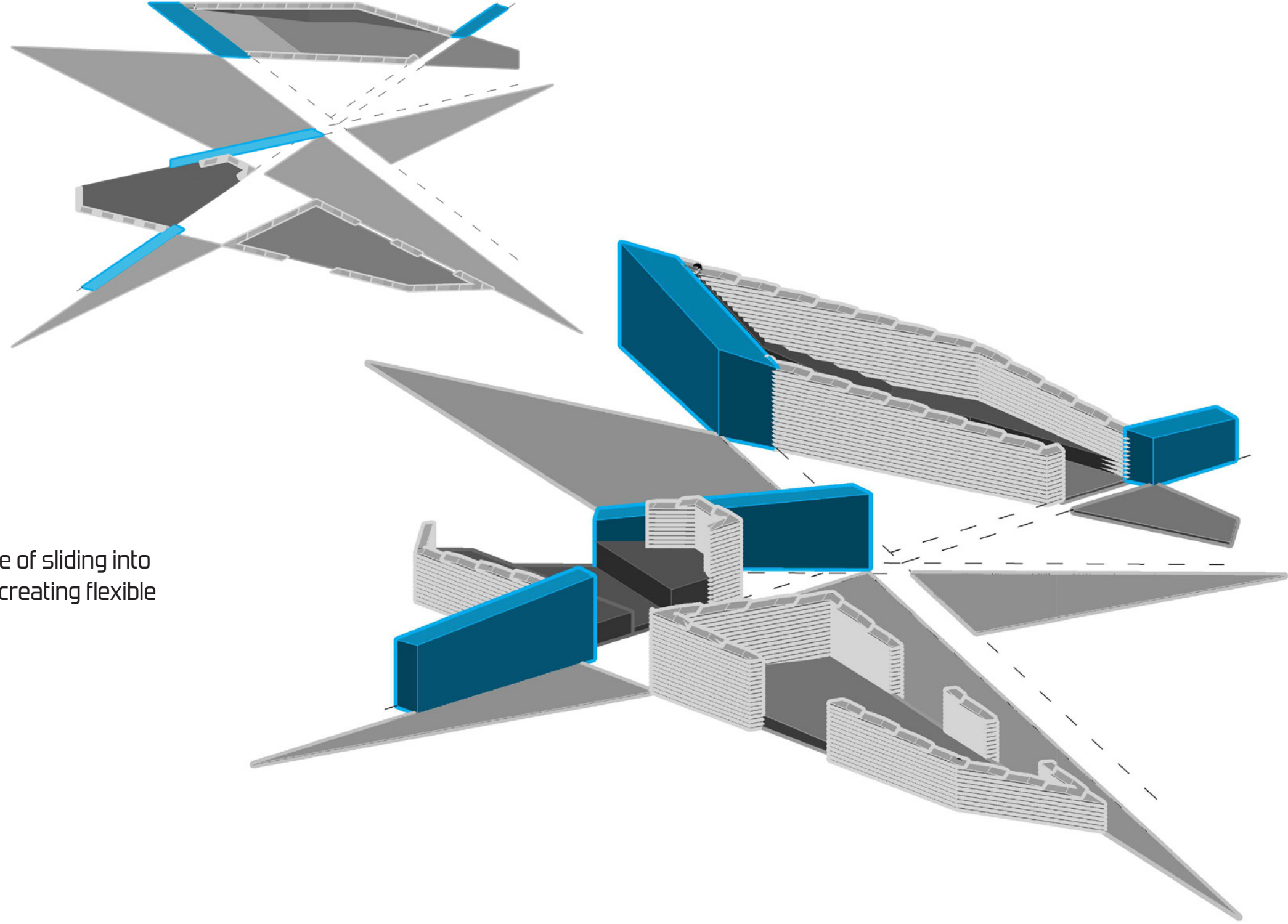
# Configuration 4



Configuration 4  
Some spaces are completely open and the sliding walls create intimate areas



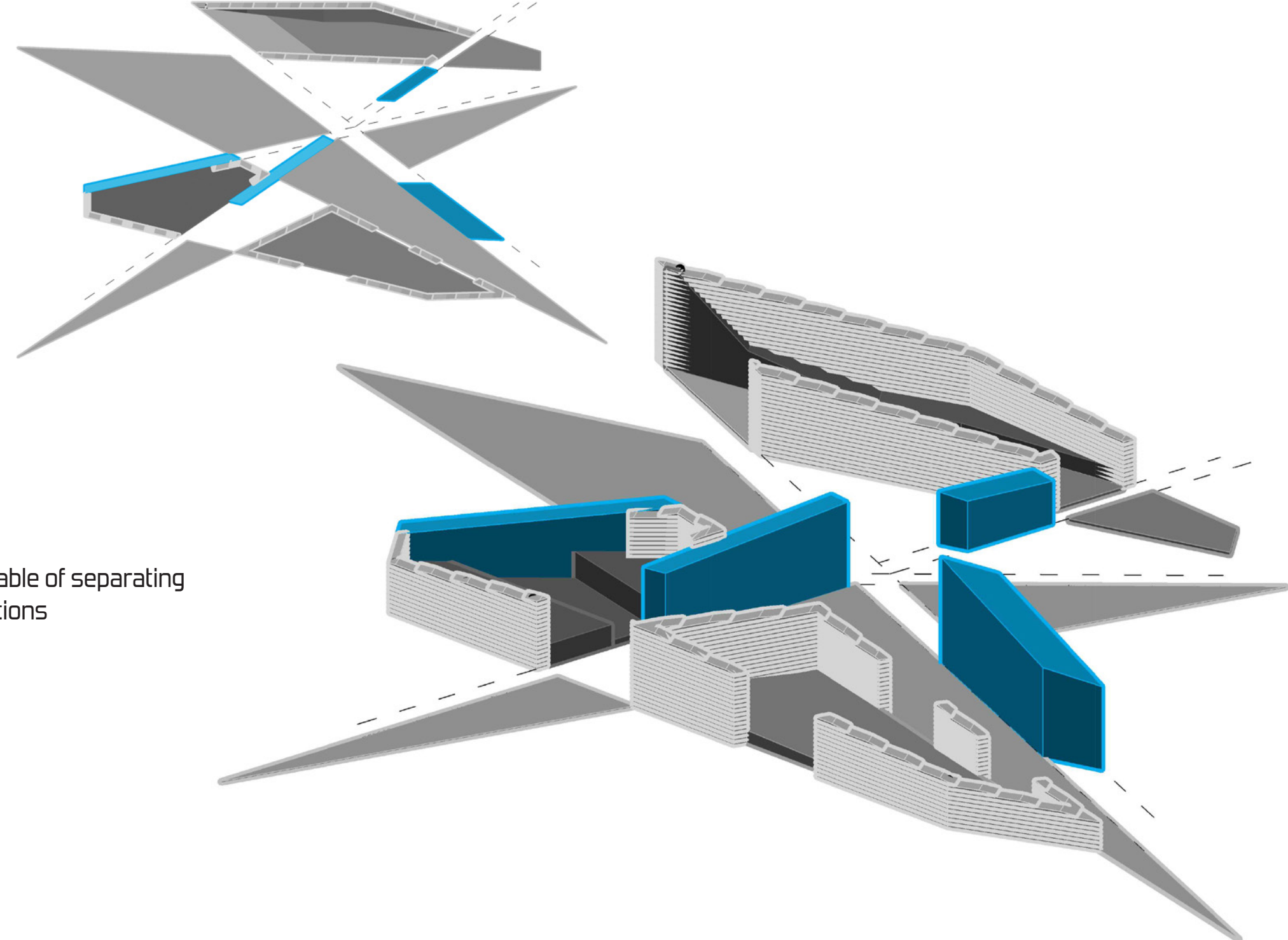
# Configuration 5



Configuration 5

Sliding walls are capable of sliding into multiple positions thus creating flexible spaces

# Configuration 6

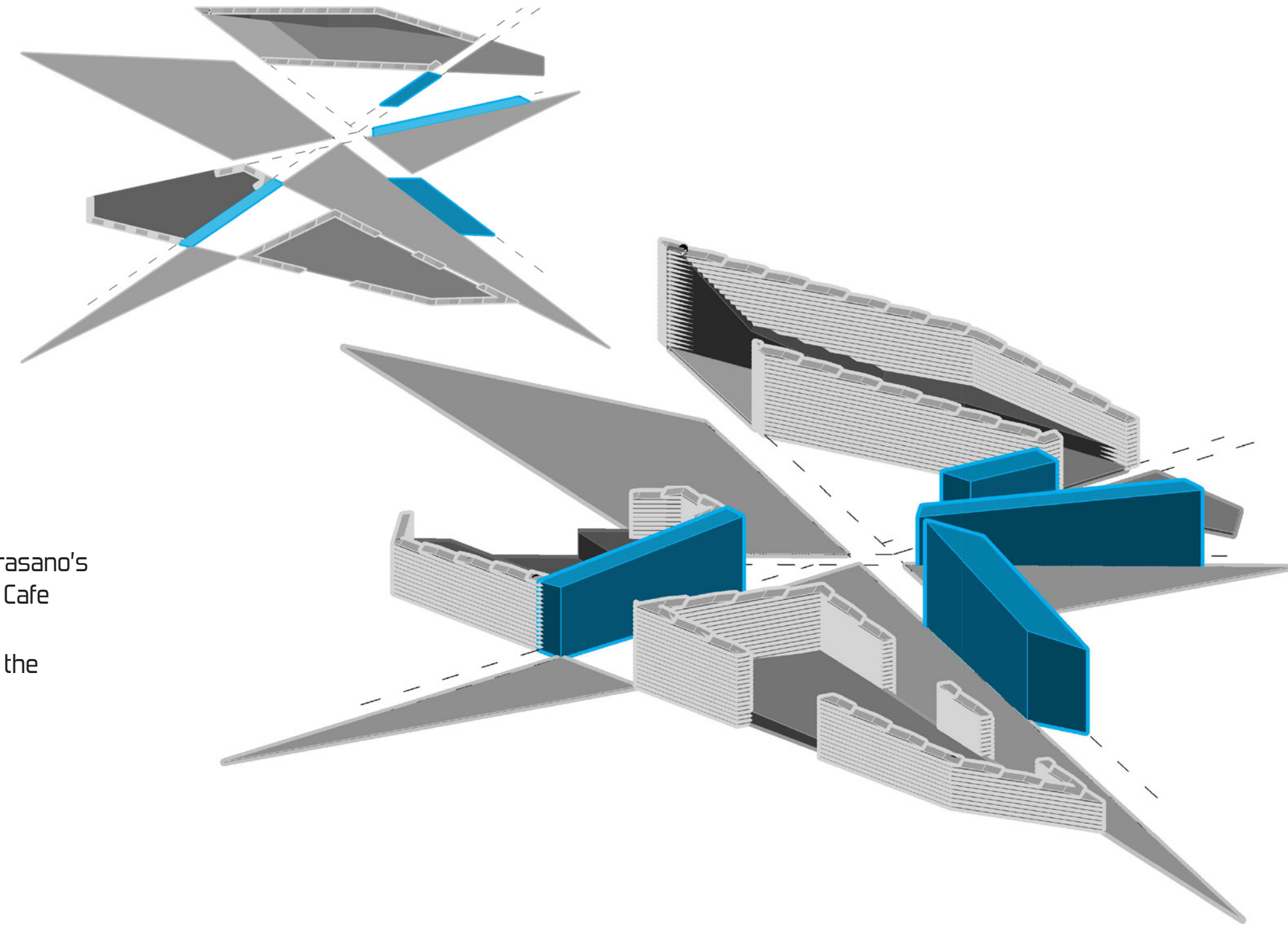


Configuration 1

All sliding walls are capable of separating from their original positions



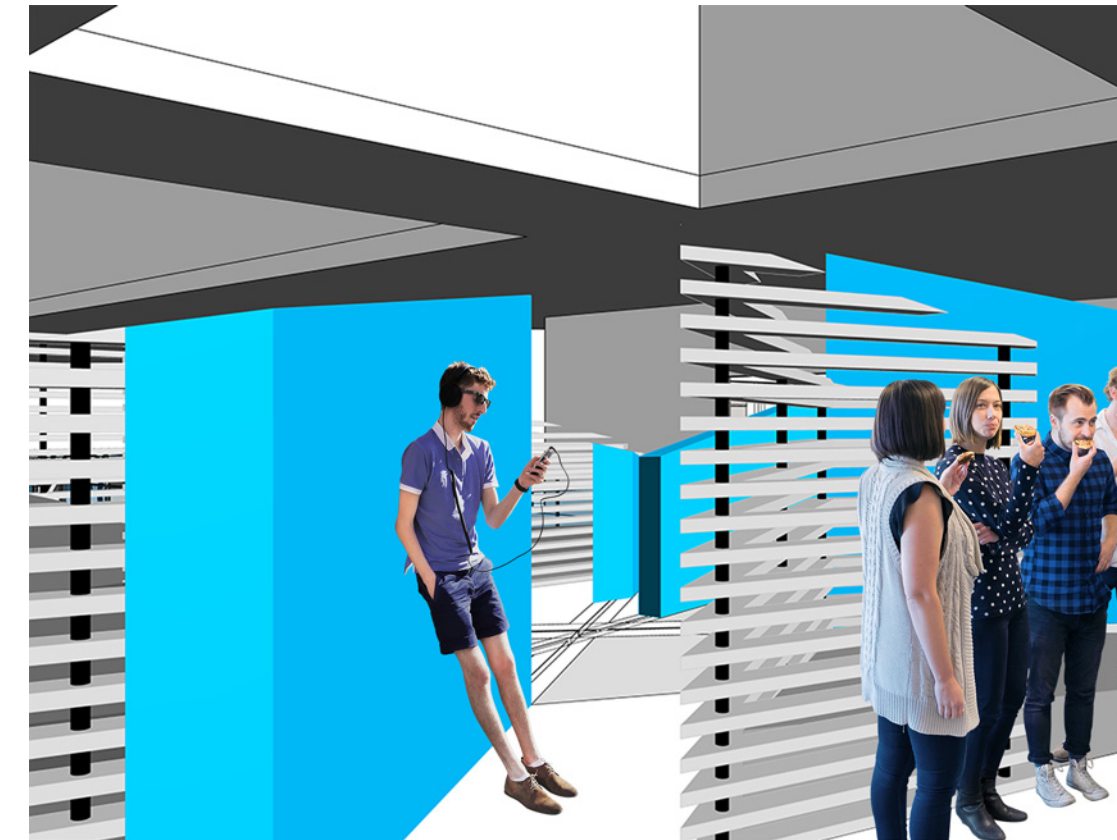
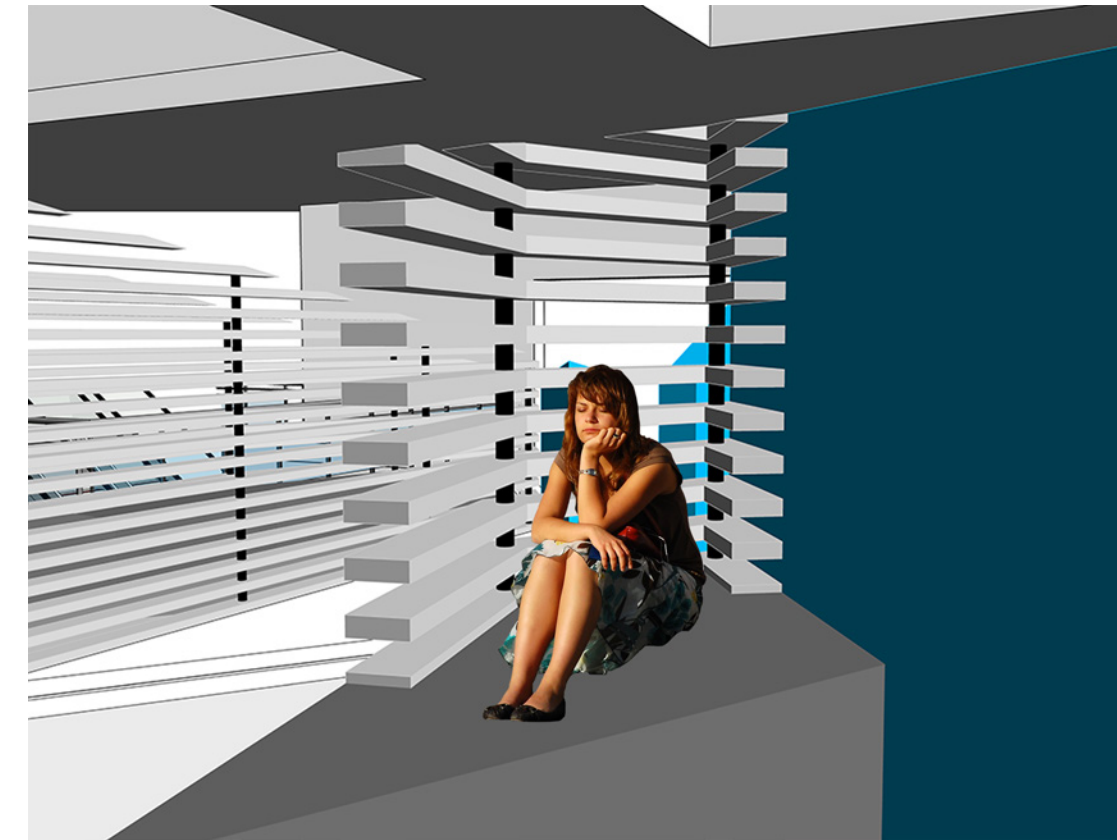
# Configuration 3



Configuration 3  
Program Enhanced: Varasano's  
Pizzeria, Brioche Doree Cafe

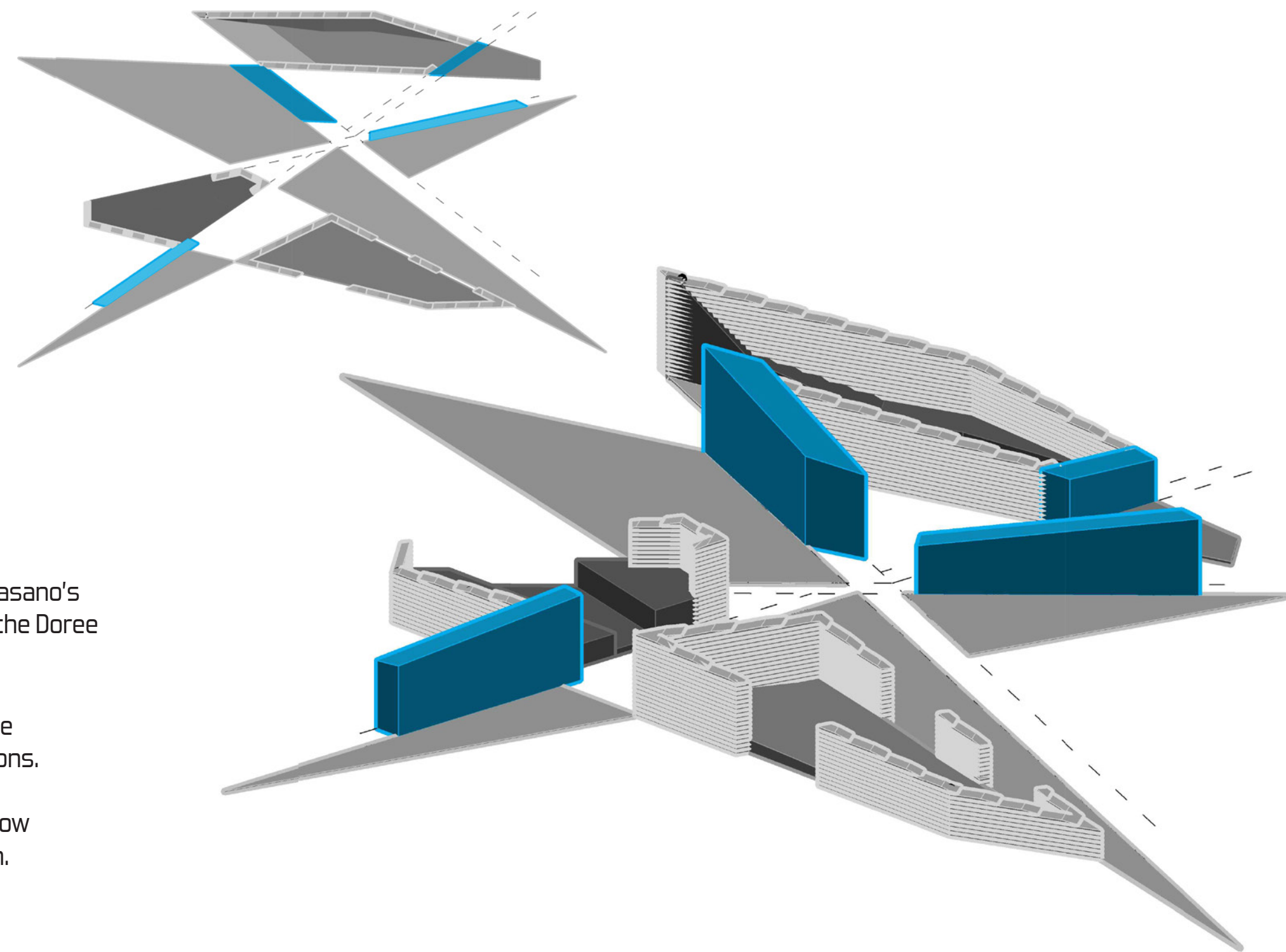
More spaces are revealed by the  
sliding of walls.

The sliding walls create and  
emphasize existing spaces.





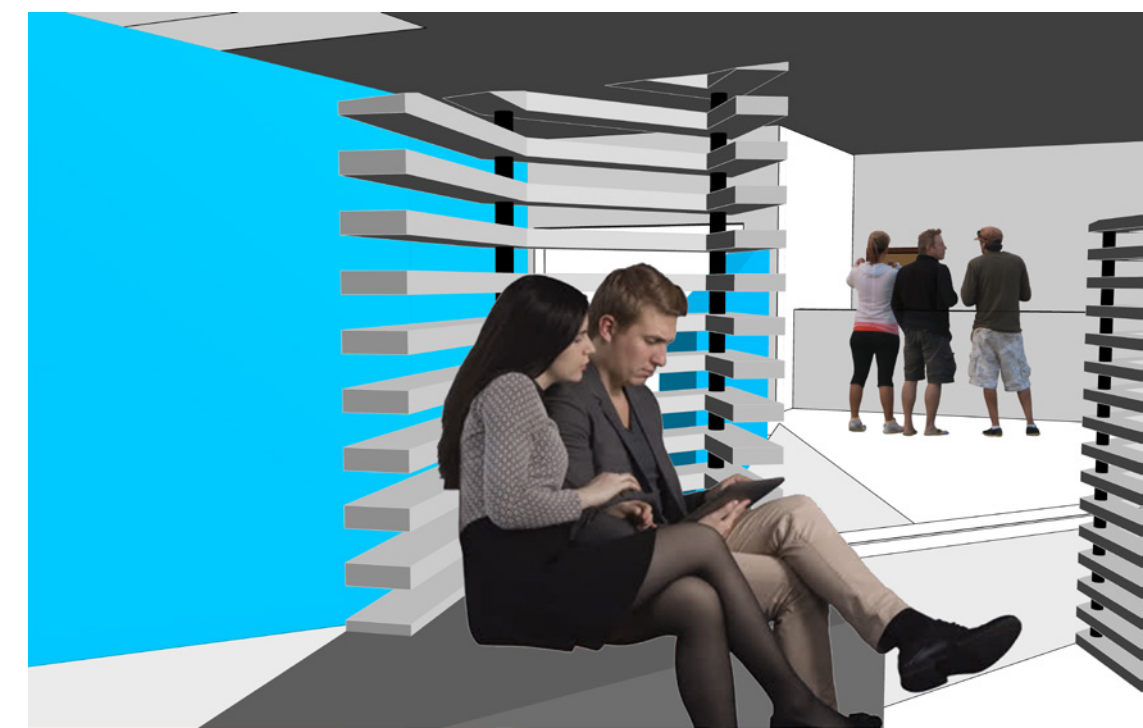
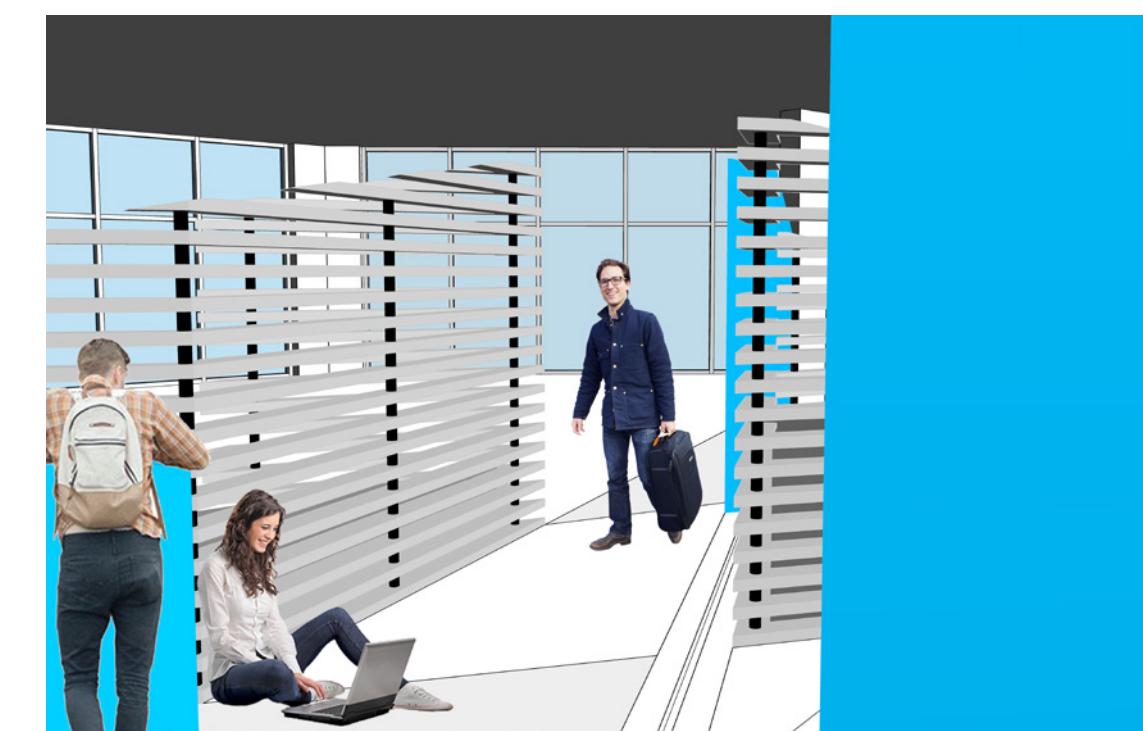
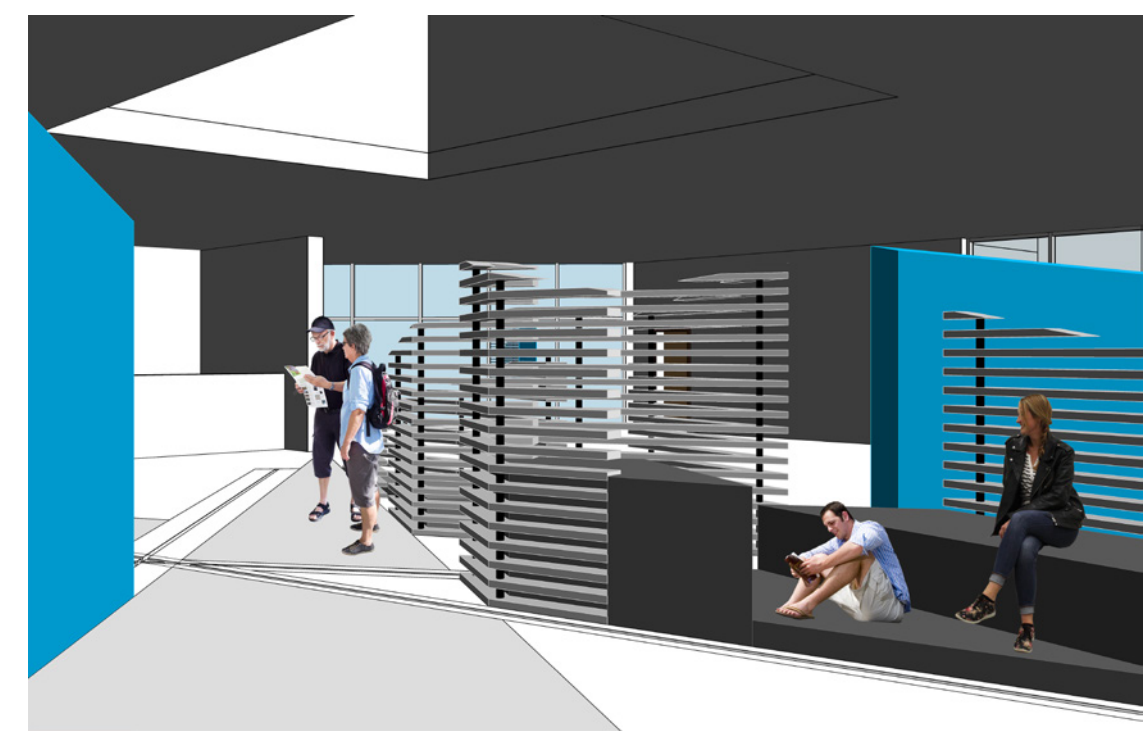
# Configuration 4



Configuration 4  
Program Enhanced: Varasano's Pizzeria, Piano Bar, Brioche Doree Cafe

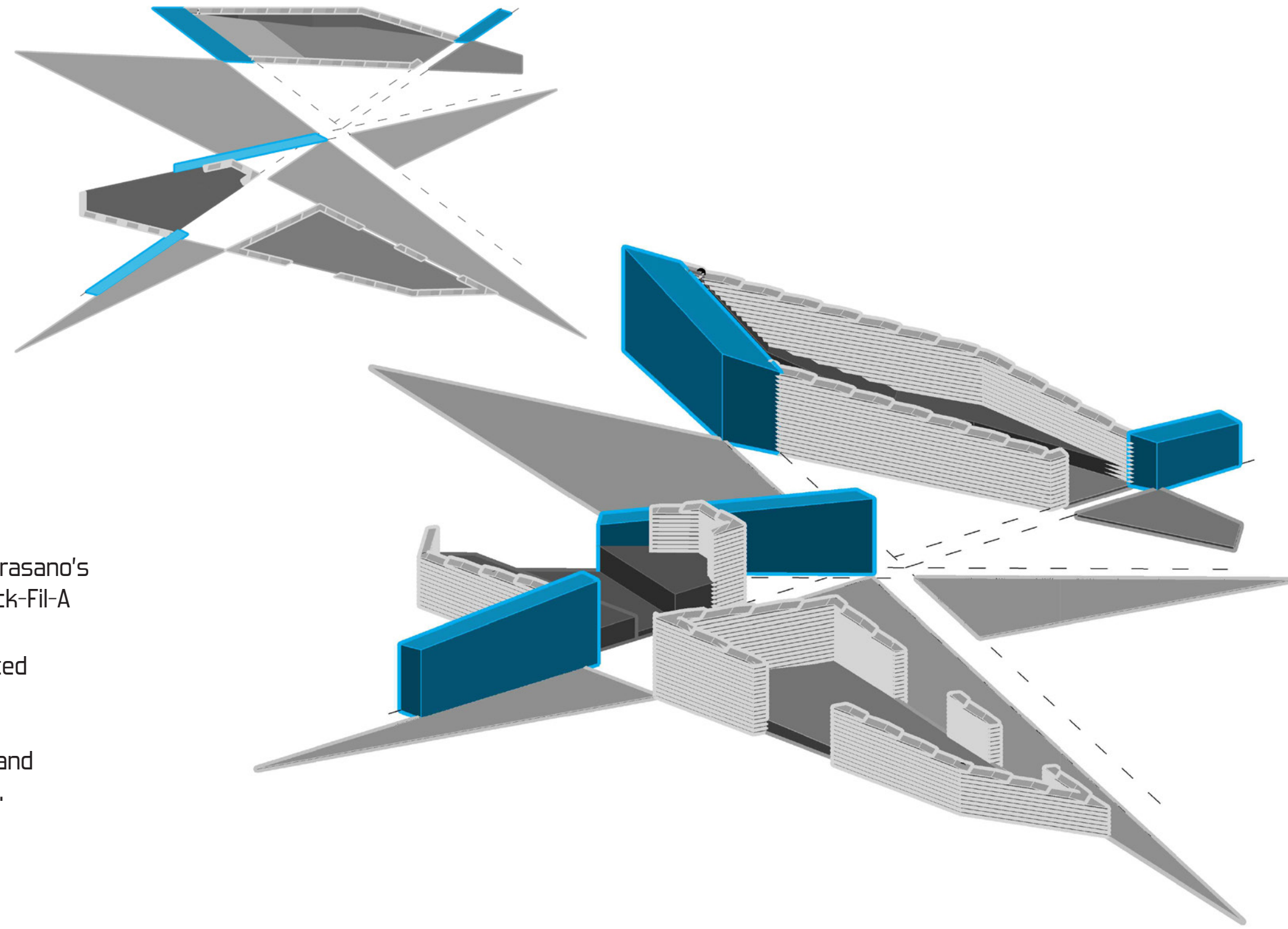
Pocket spaces open up to wide areas creating volume variations.

Sliding walls can change the flow of traffic within the installation.





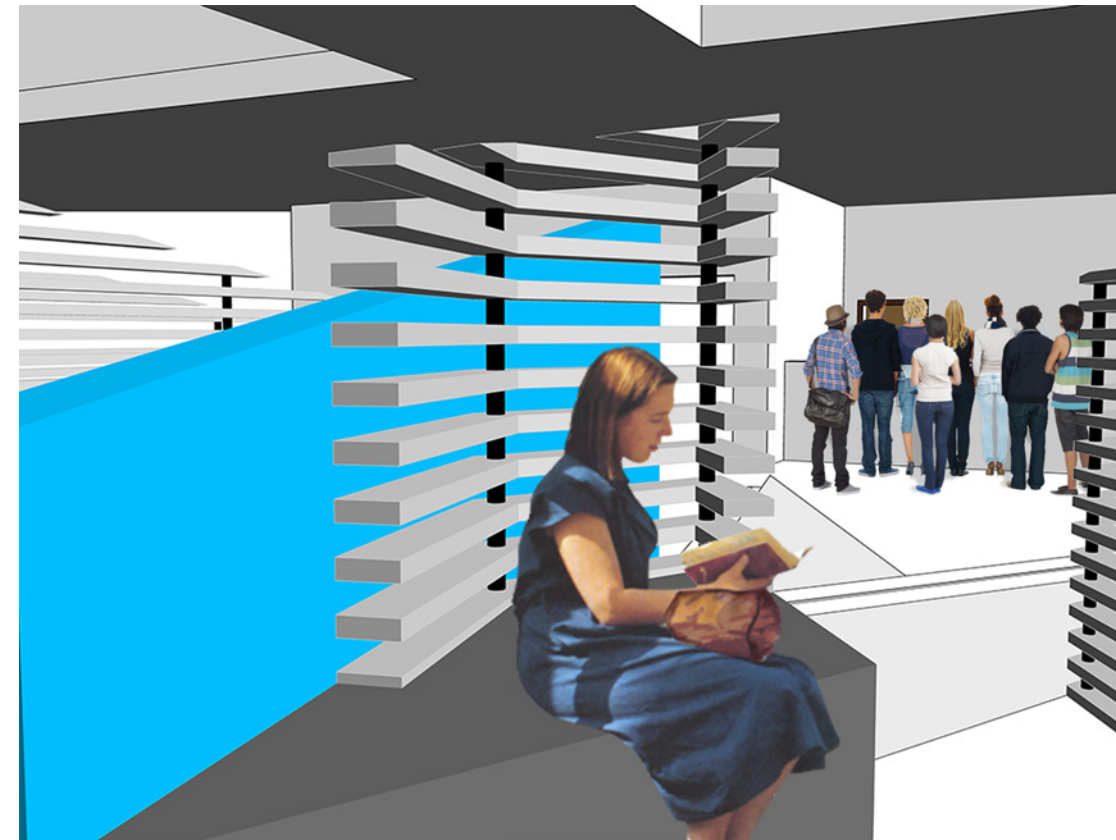
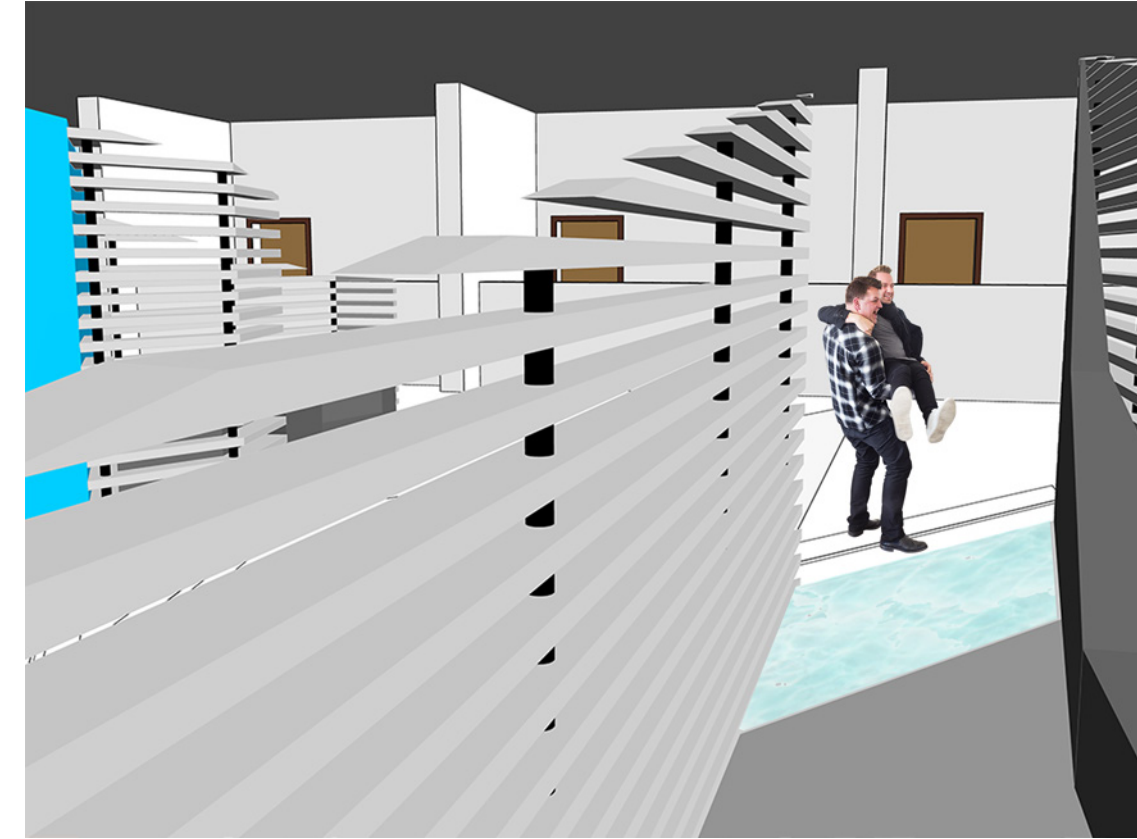
# Configuration 5



Configuration 5  
Program Enhanced: Varasano's  
Pizzeria, Piano Bar, Chick-Fil-A

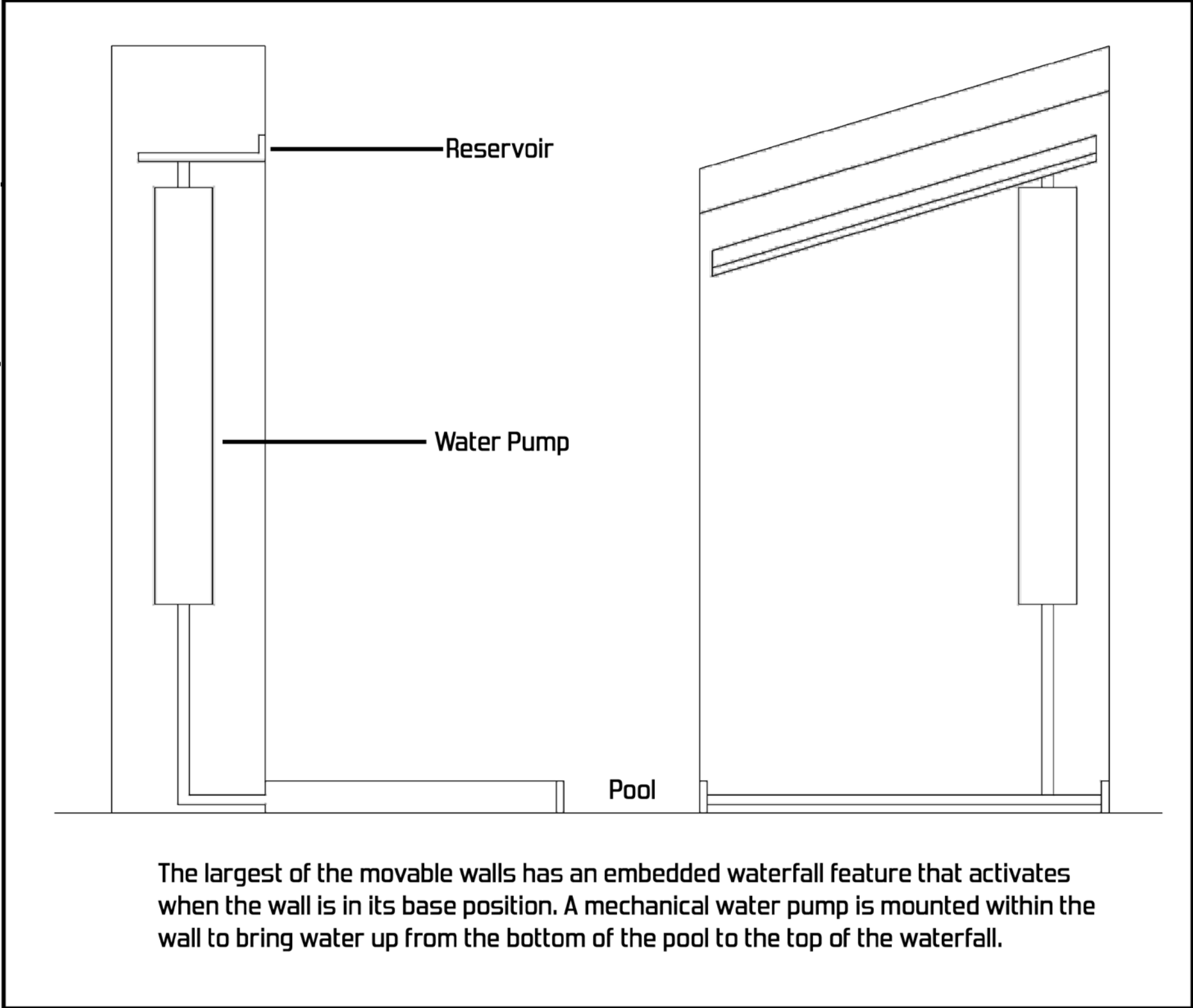
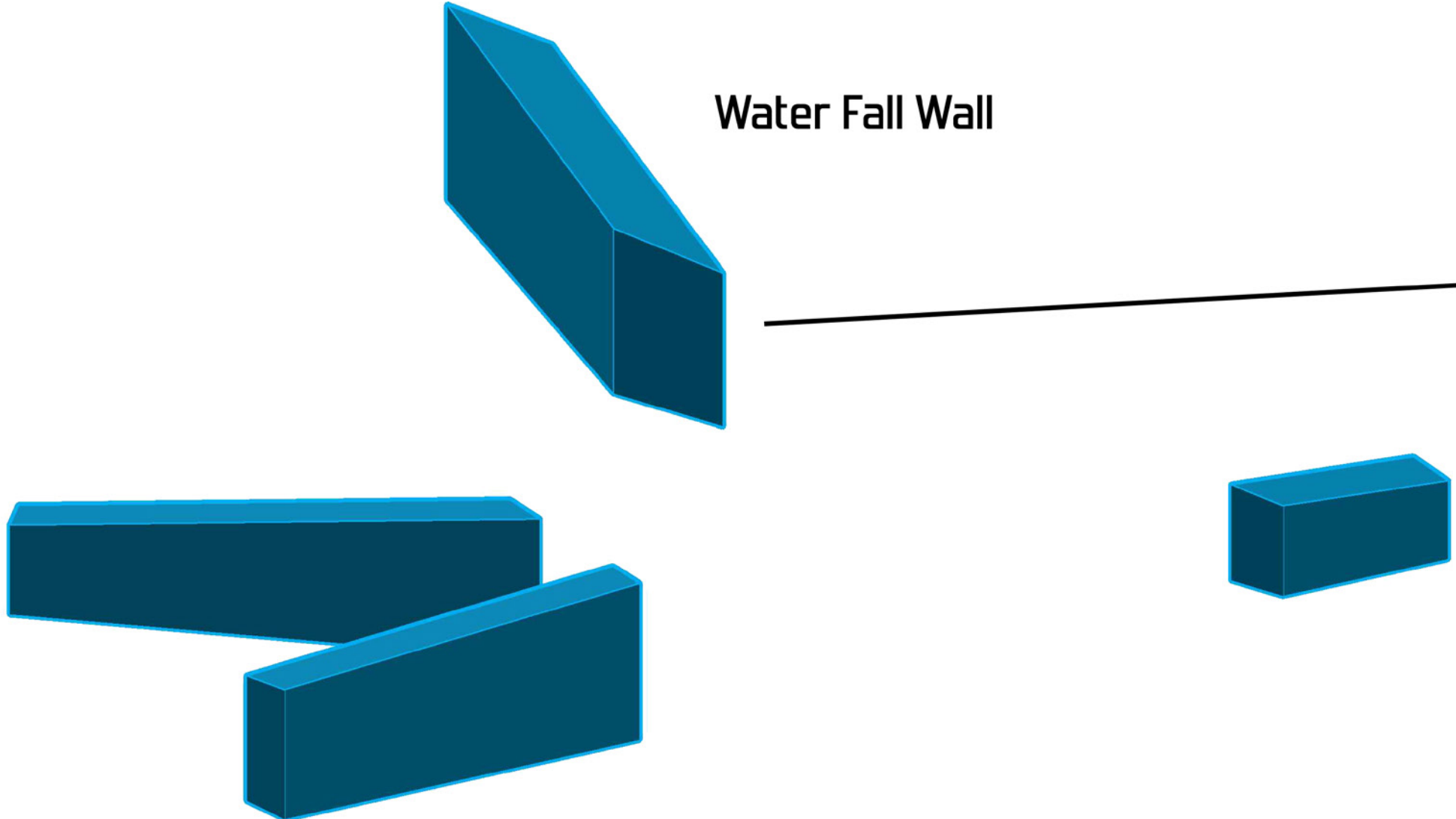
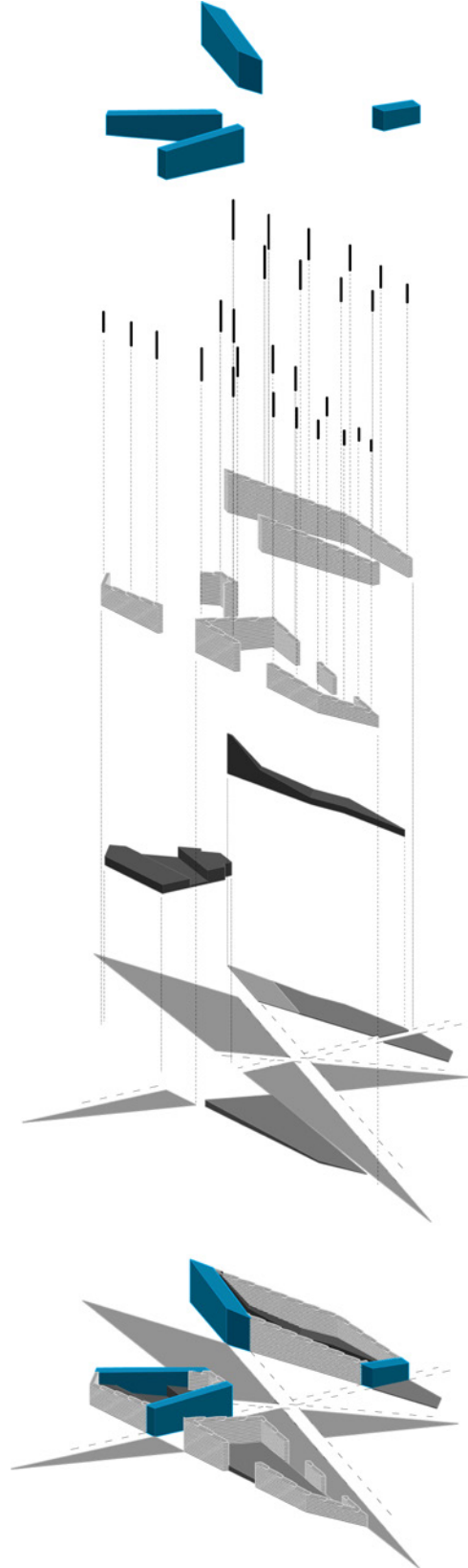
Intimate spaces can be created  
from these configurations.

Intimate spaces can quickly and  
easily become public spaces.

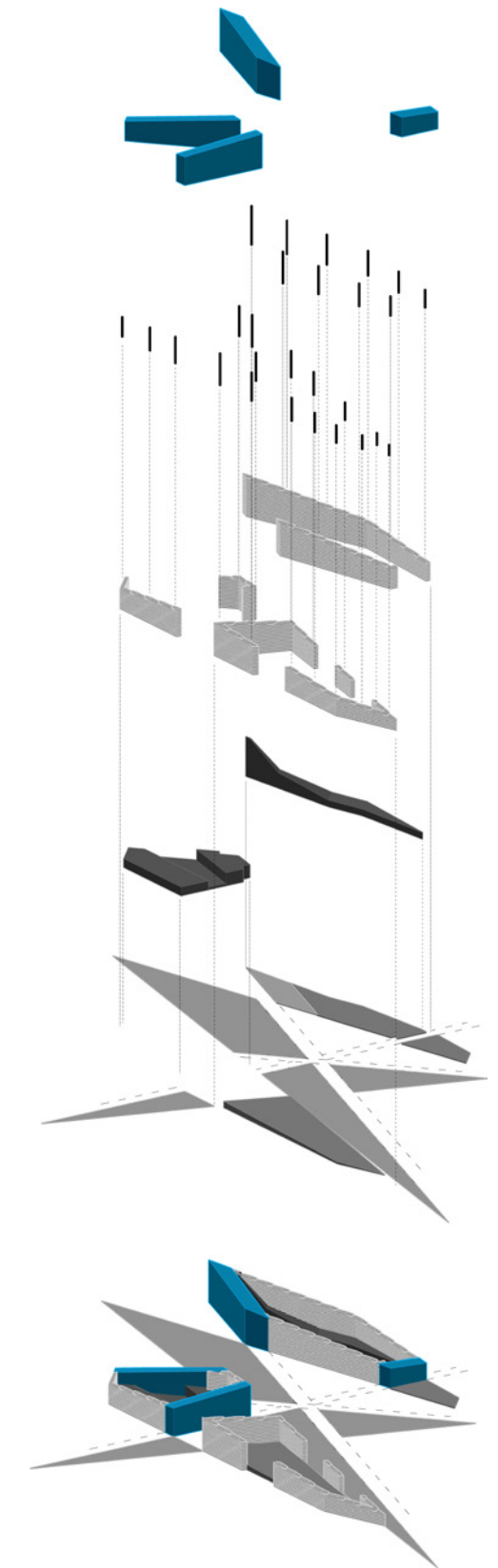




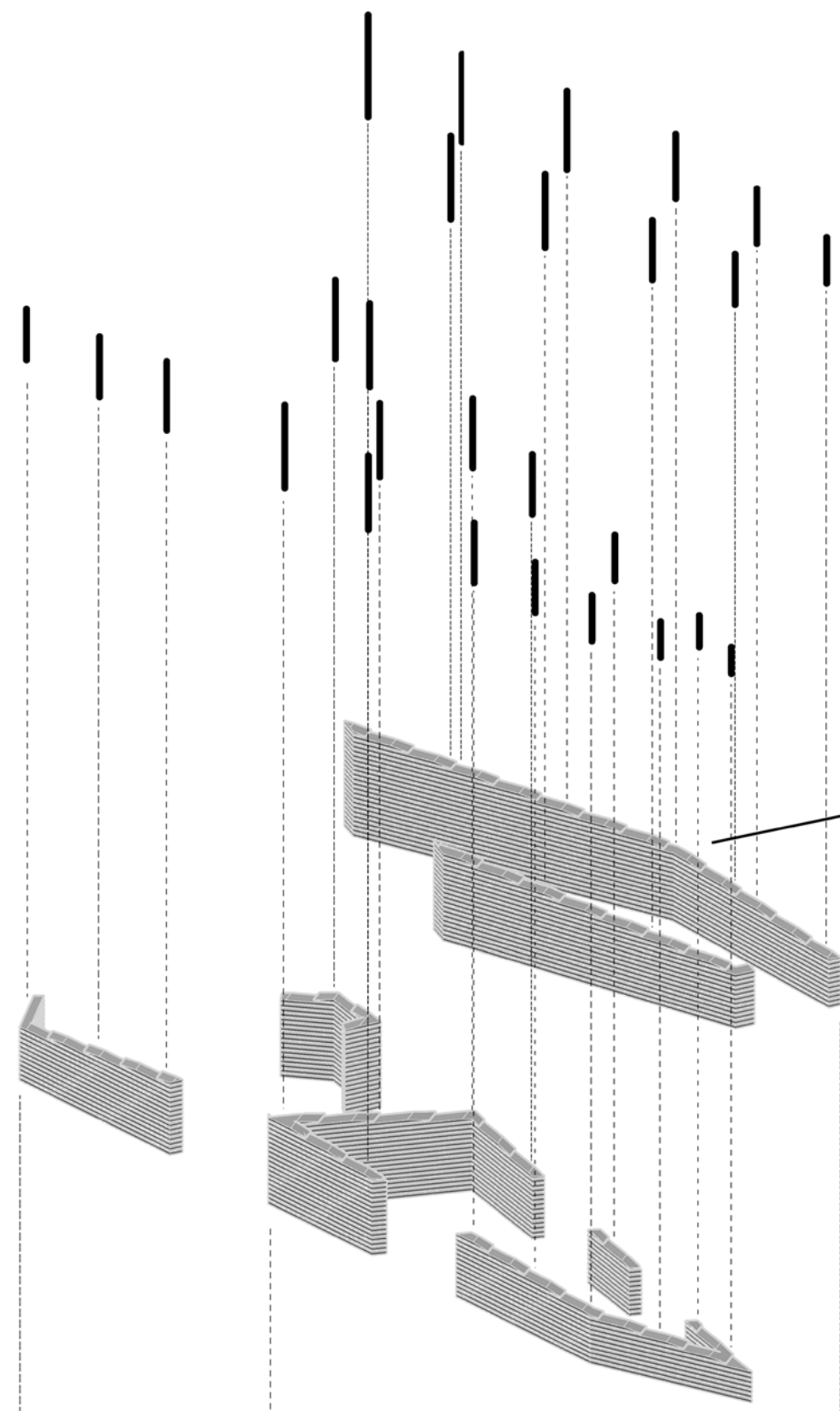
# Installation Detail



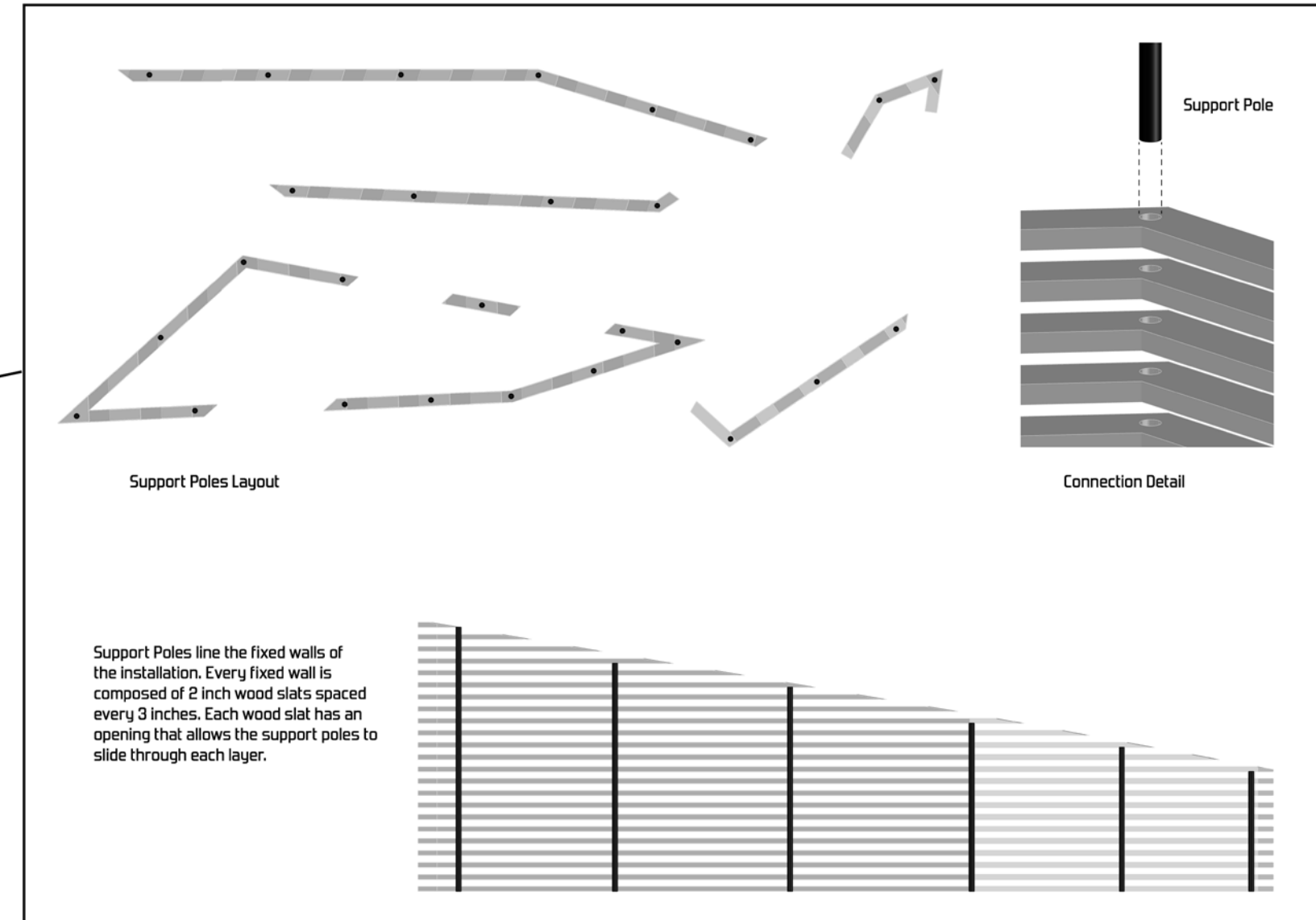
# Installation Detail



Support Poles



Fixed Wood Slat Walls



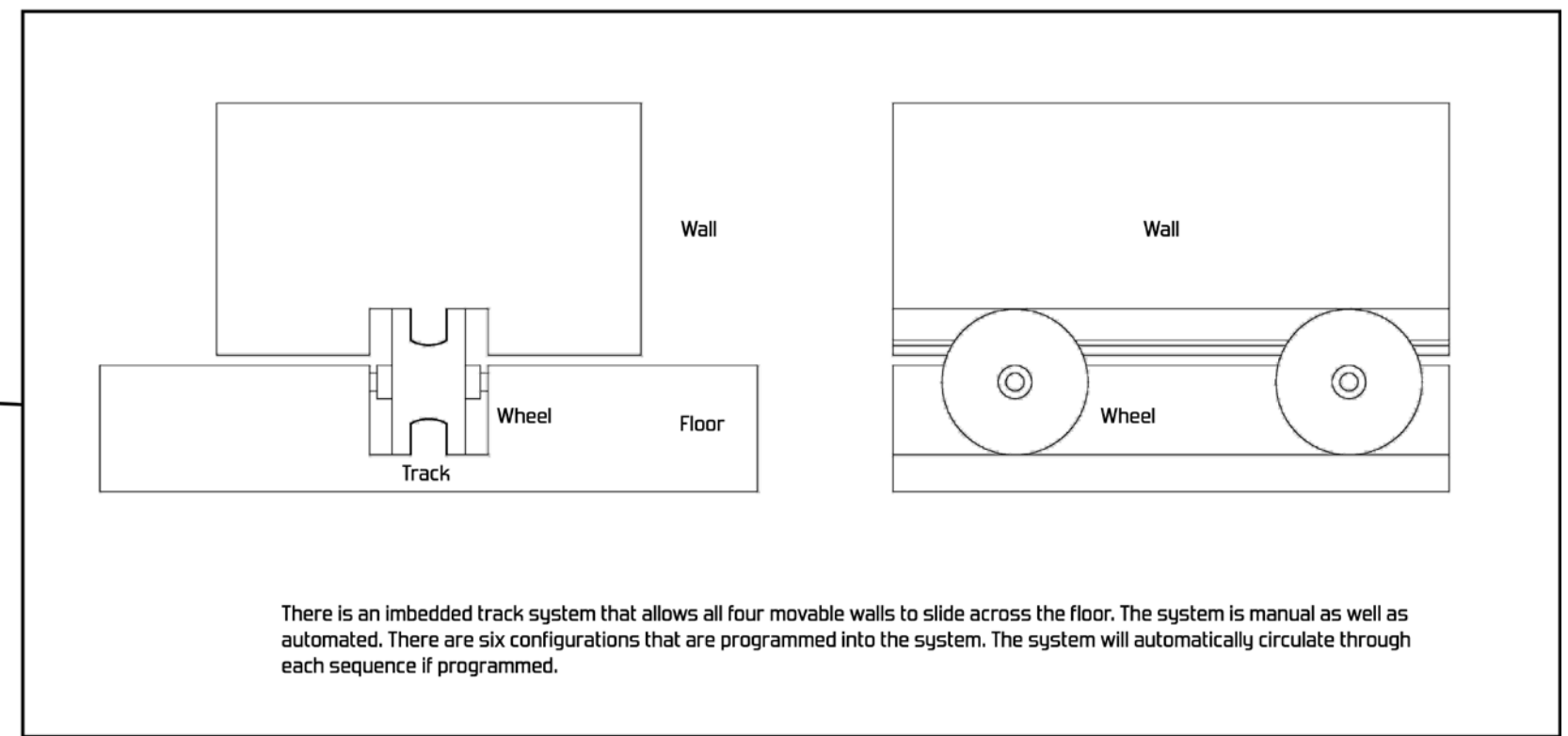
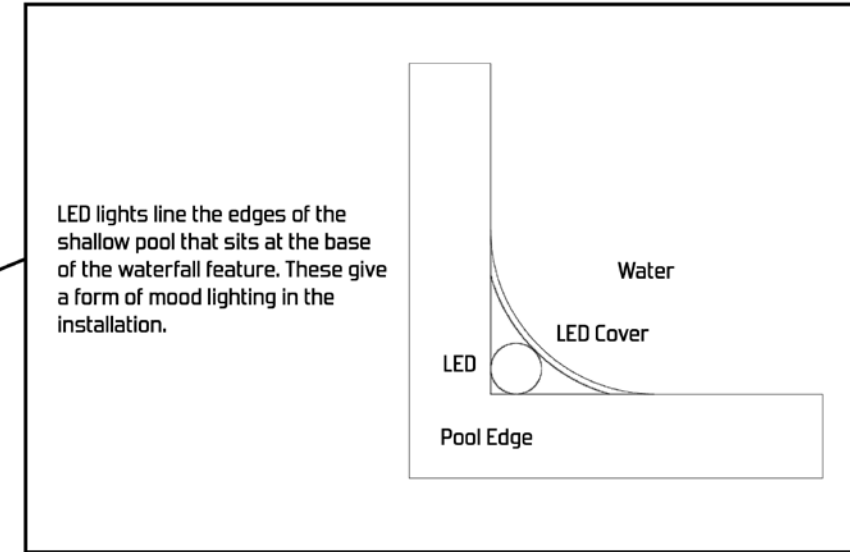
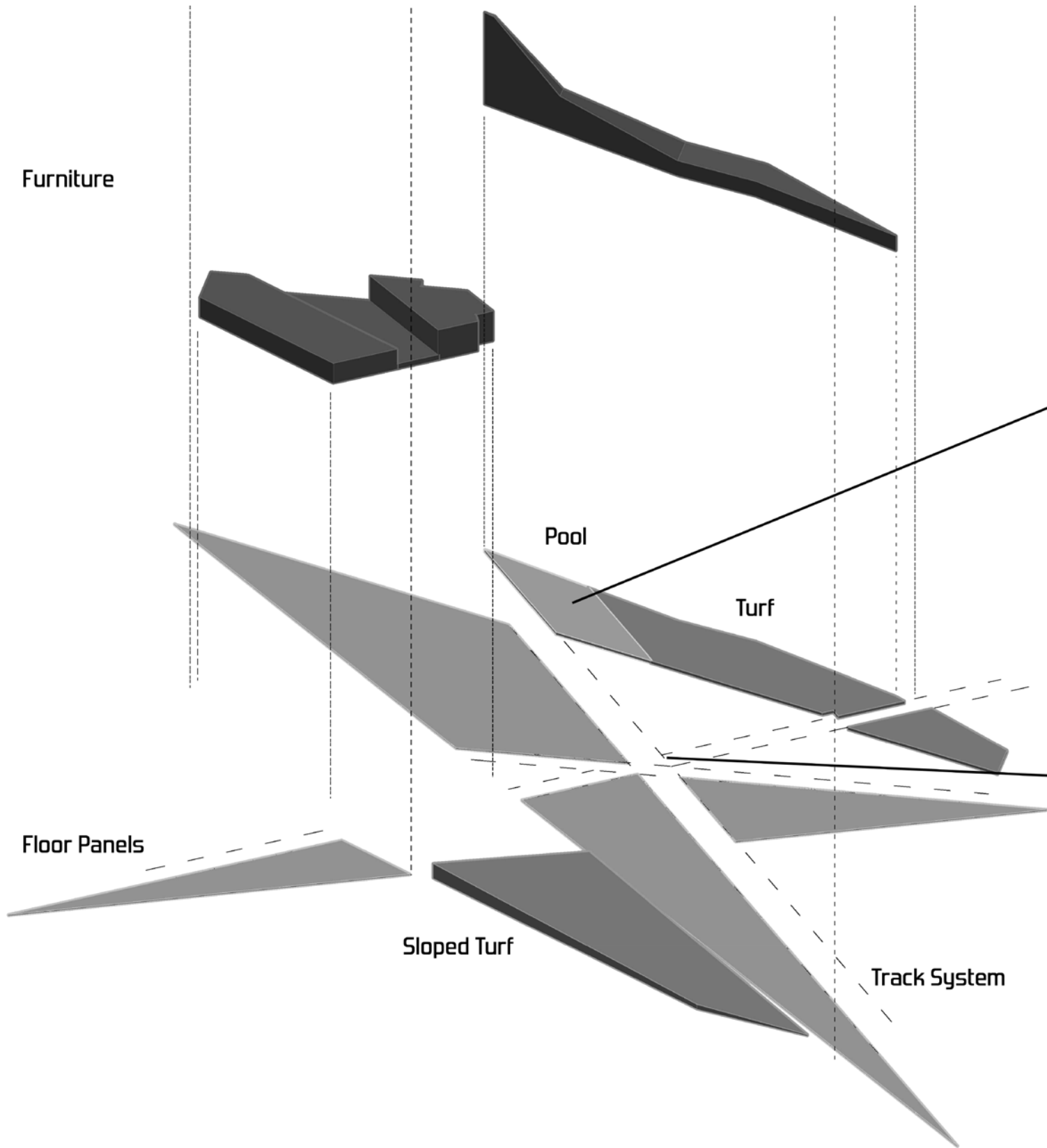
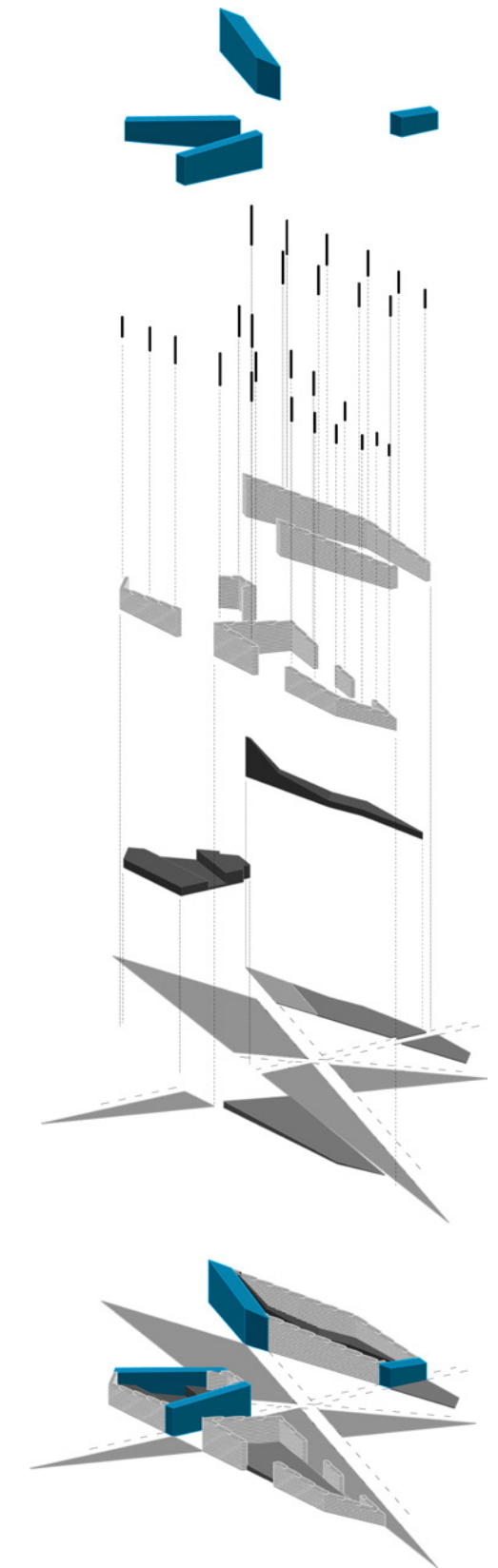
Support Poles Layout

Connection Detail

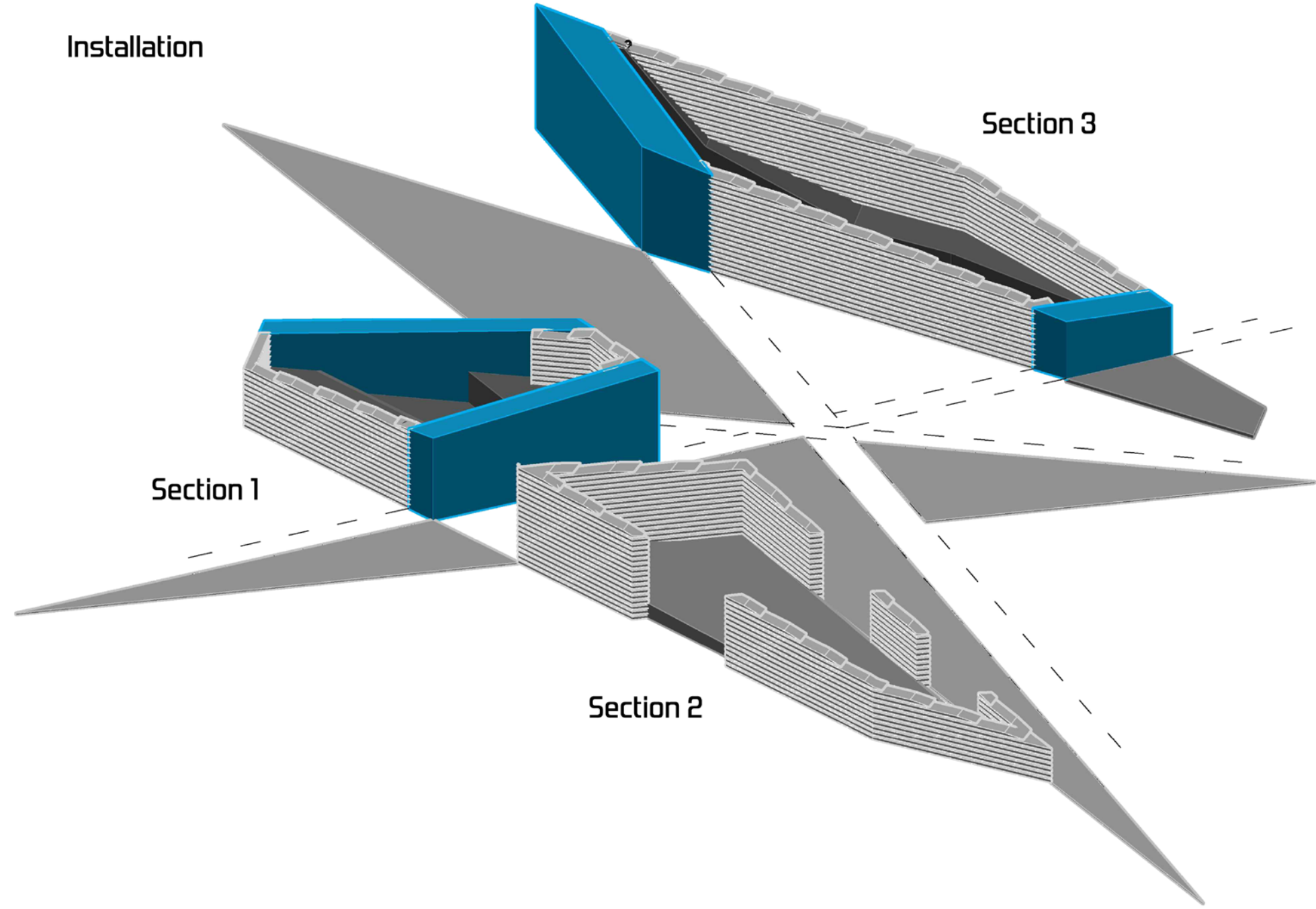
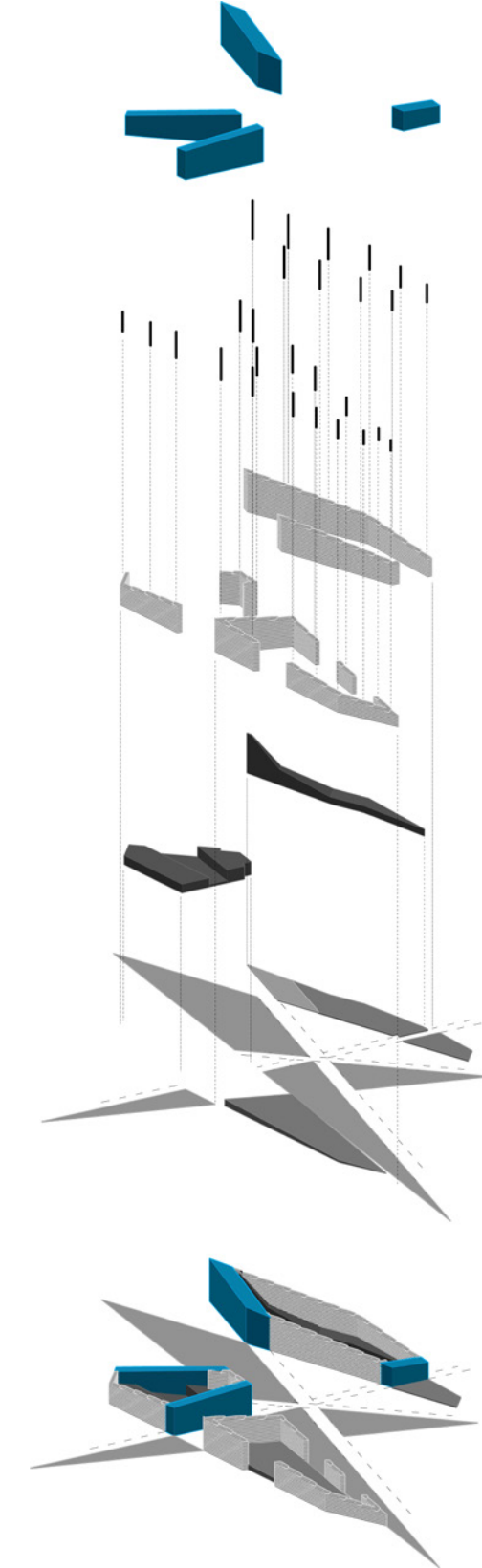
Support Poles line the fixed walls of the installation. Every fixed wall is composed of 2 inch wood slats spaced every 3 inches. Each wood slat has an opening that allows the support poles to slide through each layer.



# Installation Detail

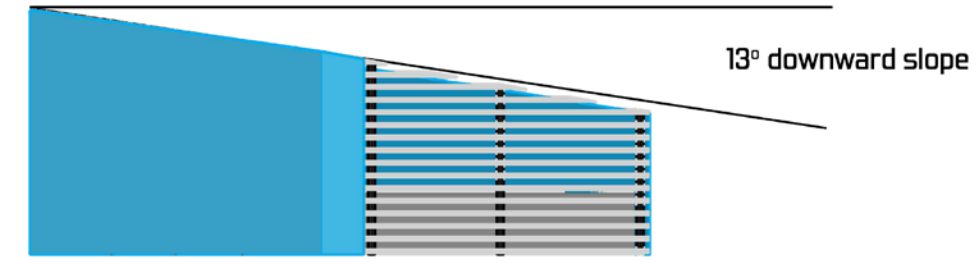


# Installation Detail



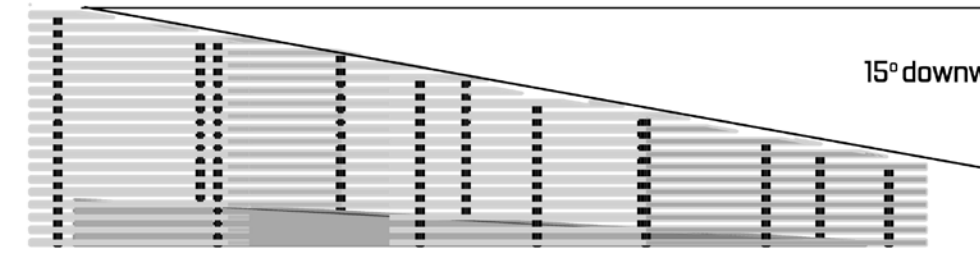
Each Section is sloped to play with the dynamics of the installation.

Section 1



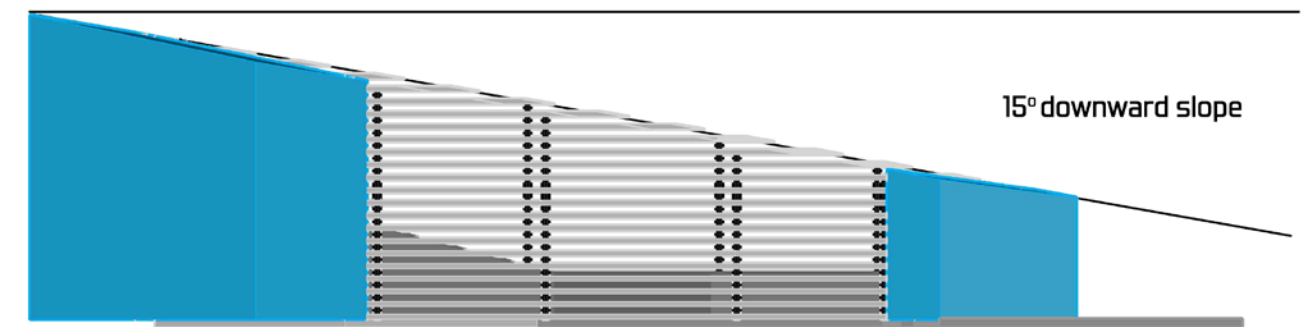
13° downward slope

Section 2



15° downward slope

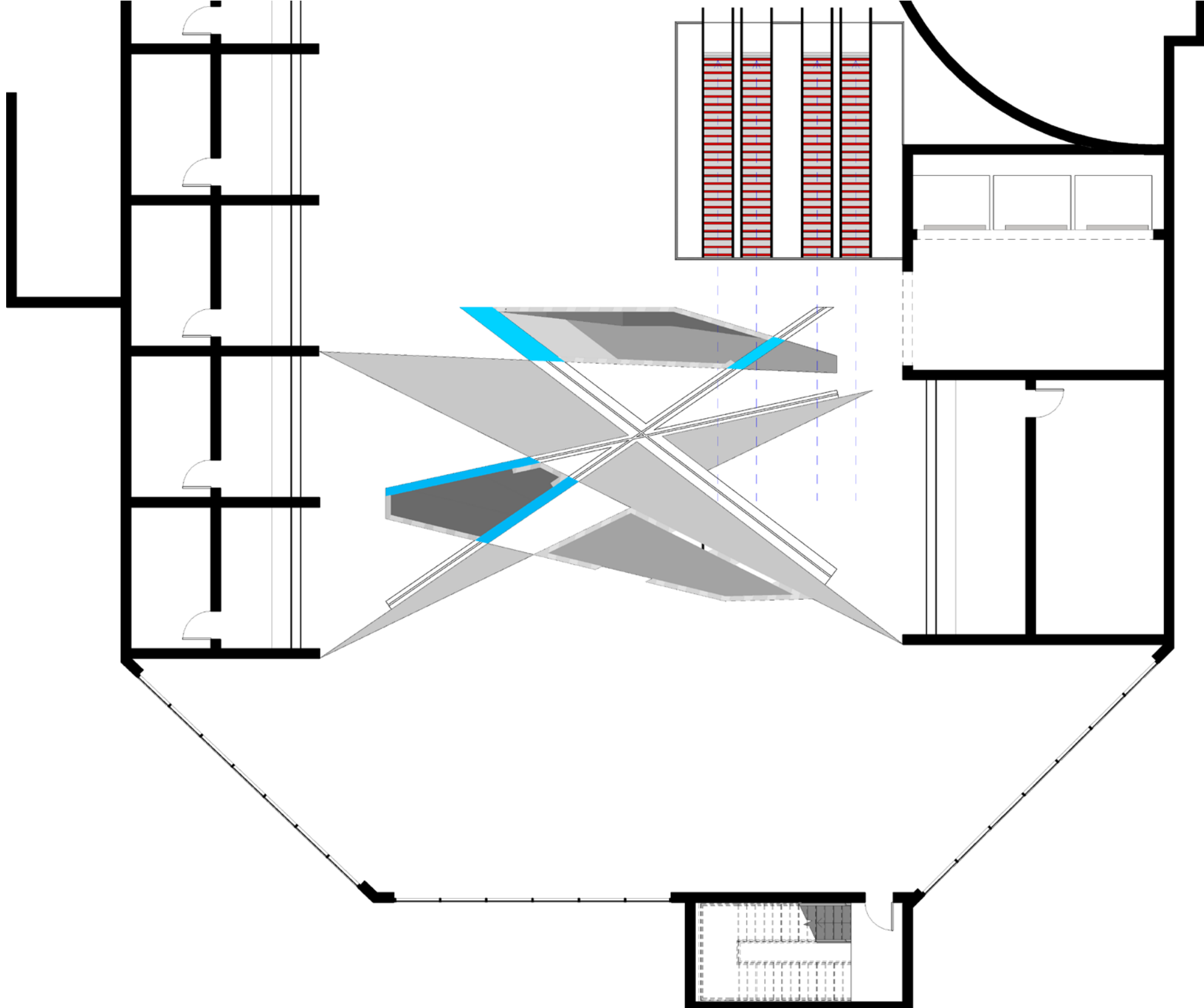
Section 3



15° downward slope

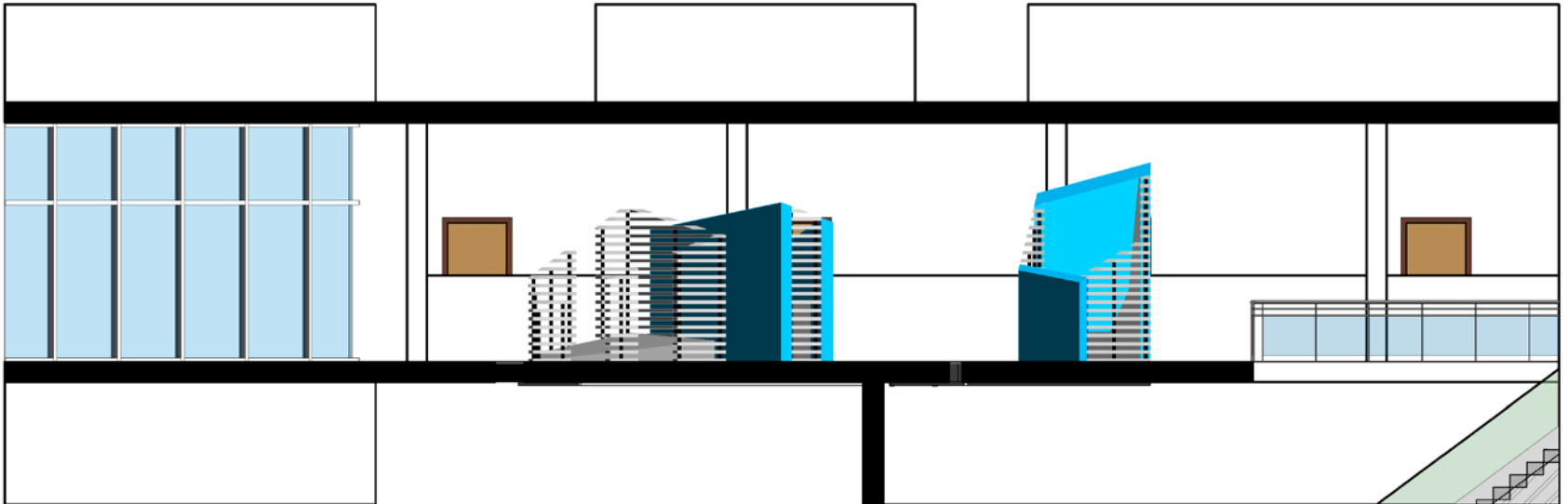


# Installation Plan View

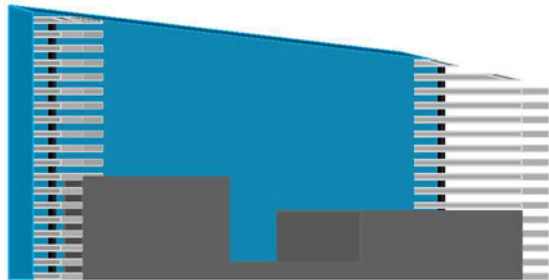
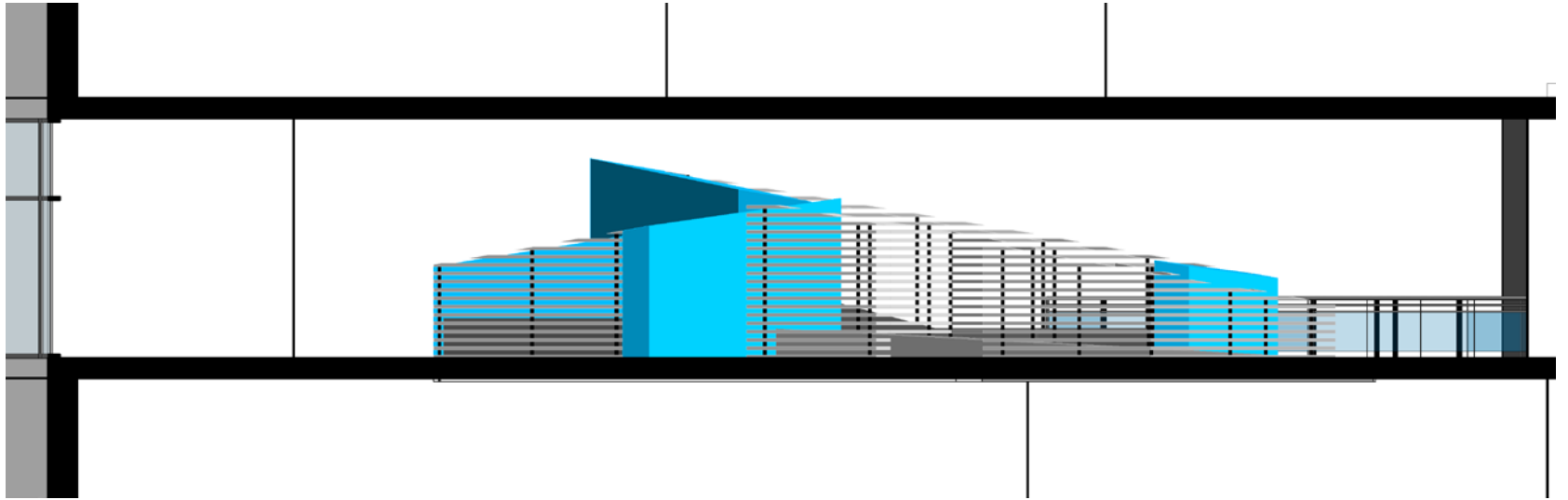


# Installation Elevations and Sections

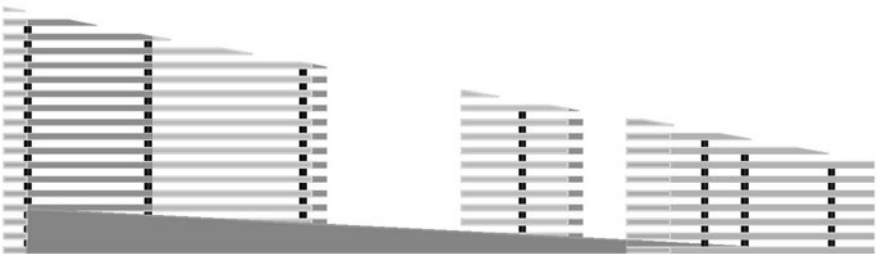
East Elevation



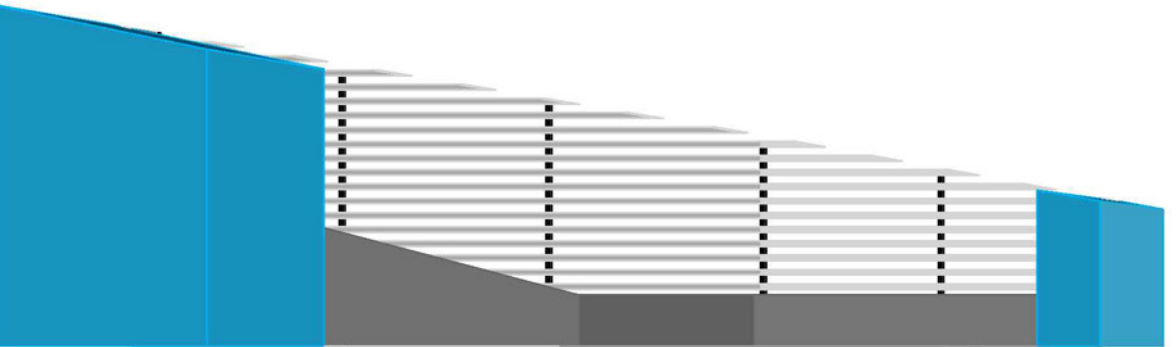
South Elevation



Section 1



Section 2



Section 3

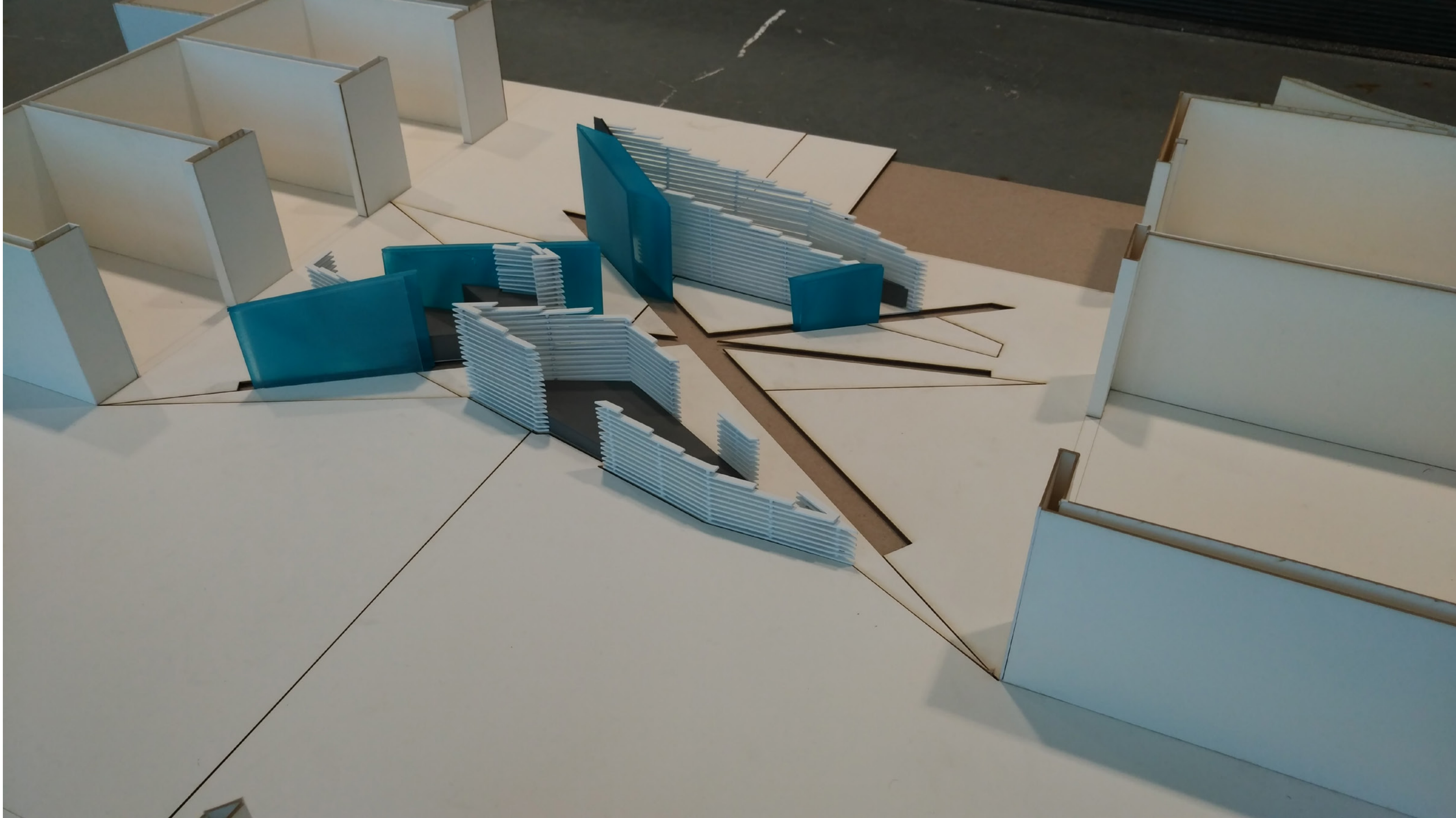


## Physical Model

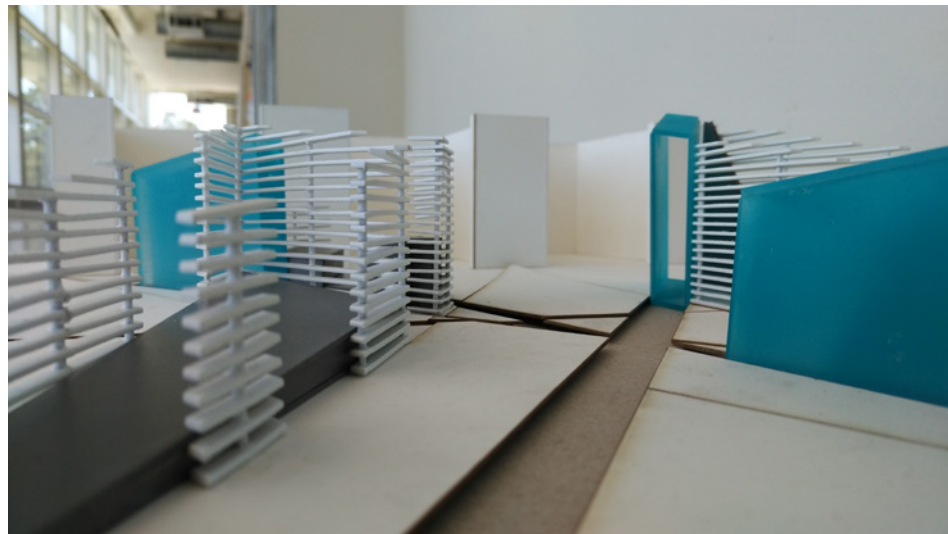
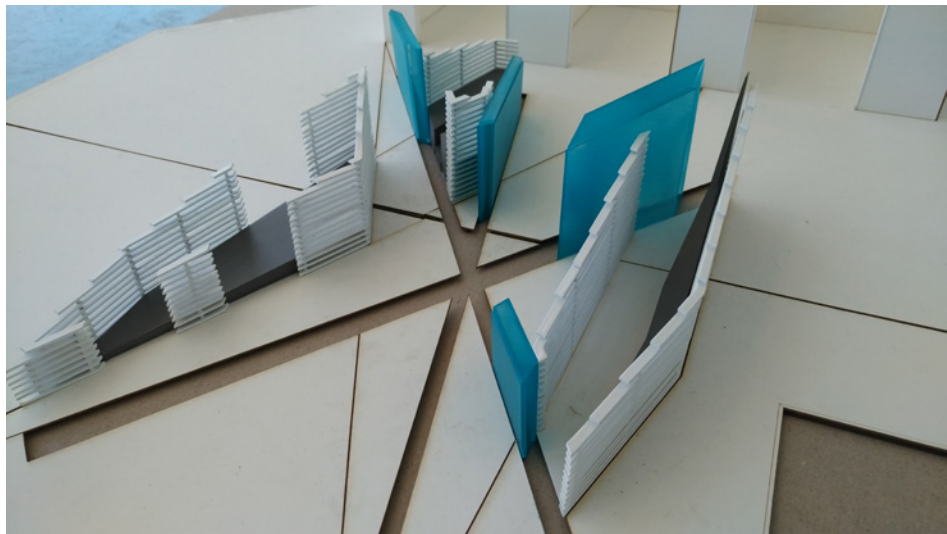
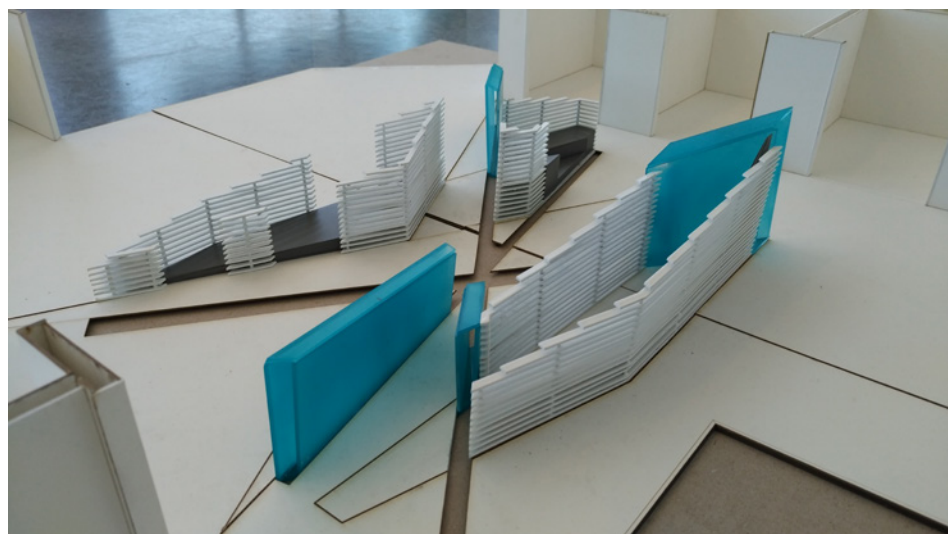
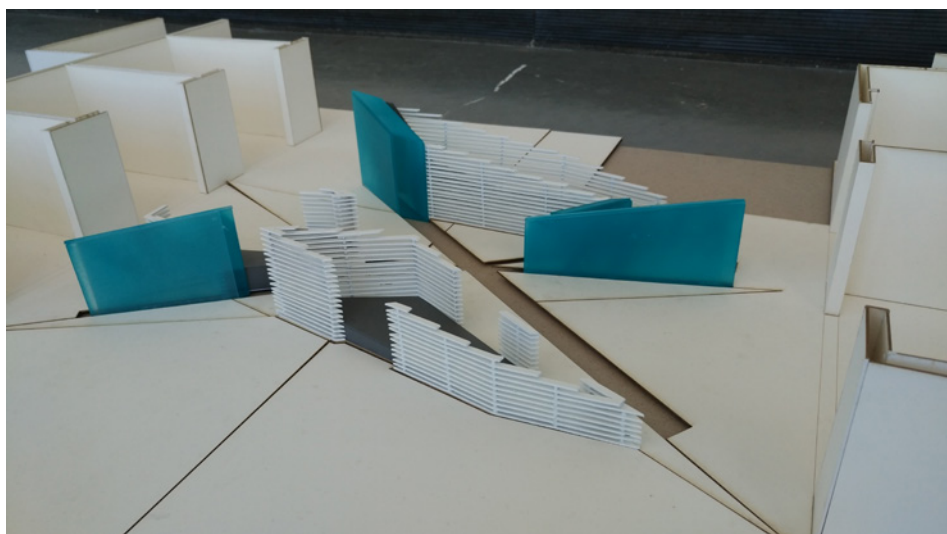
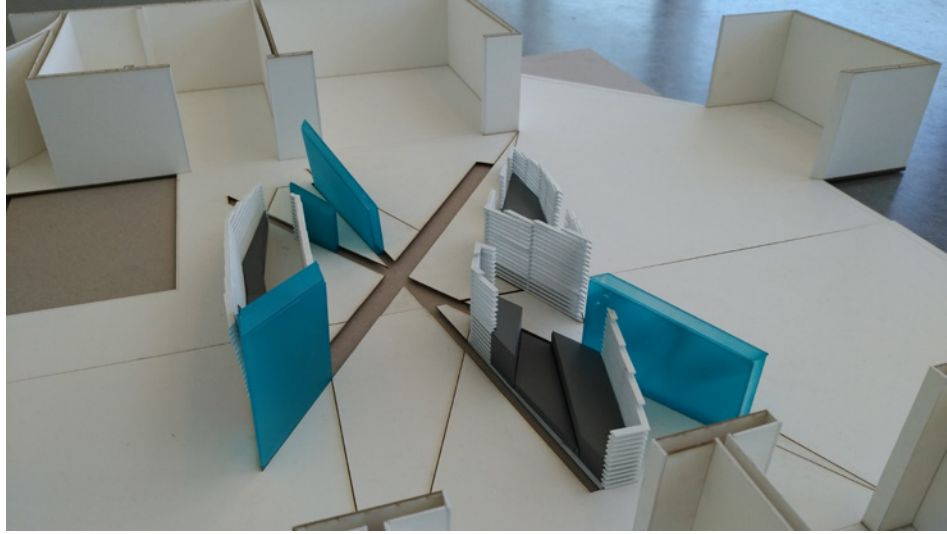
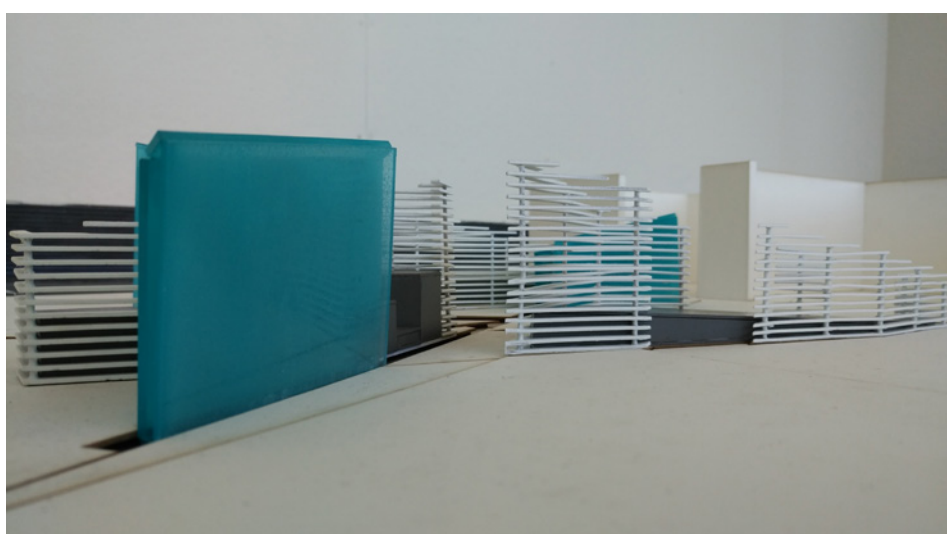
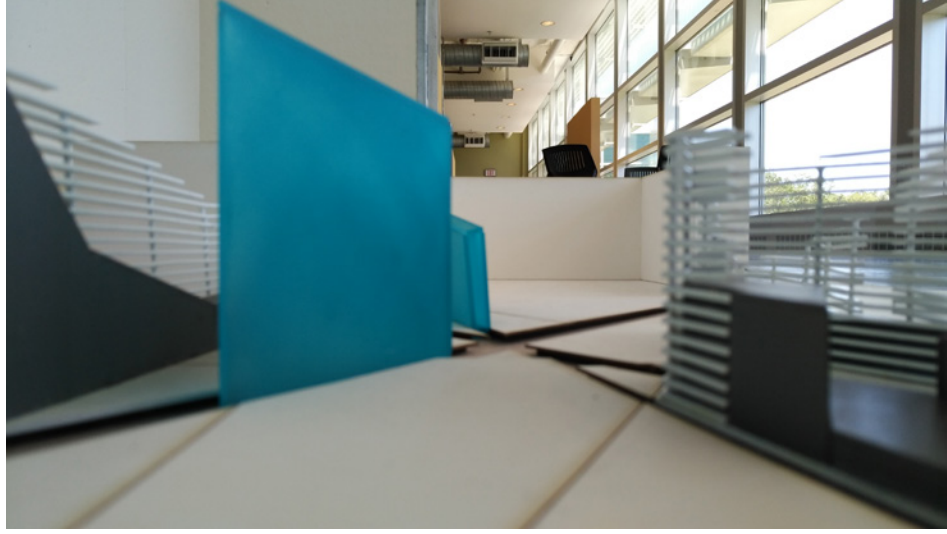




Physical Model



Physical Model





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