

# INTERACTIVE MUSEUM DESIGN FOR NON-TRADITIONAL ART FORMS:

LE MUSÉE DES ARTS DE LA PÂTISSERIE ET DE LA BOULANGERIE

Lauren Dahlia Bender



INTERACTIVE MUSEUM DESIGN FOR  
NON-TRADITIONAL ART FORMS:  
LE MUSÉE DES ARTS DE LA PÂTISSERIE ET DE LA BOULANGERIE

A Design Thesis Submitted to the Department of Architecture North Dakota  
State University

By Lauren Dahlia Bender

In Partial Fulfillment of the Requirements for the Degree of Master of Archi-  
tecture

RONALD RAMSAY  

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Primary Thesis Advisor

STEPHEN WISCHER  

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Thesis Committee Chair

May 2023  
Fargo, North Dakota

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# Thesis Proposal

# Thesis Abstract

**A**rt is our connection and expression of culture, history, and innovation. Paintings and sculptures showcase these works in museums and galleries across the globe, but what about other art forms that have an impact on our daily lives, such as baking? Baking is an artisanal practice that requires technical skill, and an appealing design to draw people to buy their products. Similar to any form of art, technique, design, and mastery are all requirements for any good bake. Specifically in France, baking upholds these connections and expressions in everyday habits and familial traditions. So why are there no cultural centers, galleries, or museums articulating this component of history and culture?

In this thesis we look at design to answer these questions, by creating a formula to show non-traditional art forms. French-baking is the beta-test to address which strategies are needed to create such a method. This thesis will use history, academic settings, circulation, as well as sustainable techniques to create a measurable design. In addition, look into ways that question and express the cultural significance of a subject: designing to showcase, preserve, increase awareness, and celebrate the medium.

## Thesis Narrative

“Can we design for non-traditional art forms through a new genre of integrative and interactive Museums?”

Museums and galleries can showcase many aspects of culture. These can signify an important moment in history with artifacts, memorabilia, and forms of art. This Thesis proposes a new approach for immersive art and cultural museums, designing for non-traditional art forms. Non-Traditional art forms are mediums of art that are performative, or process oriented, that require technique, design, and mastery. This type of art is sometimes considered a trade. Research and design will focus on one subject to test: the trade and art of French baking, looking at civic and academic typologies. Museums will be a basis to formulate designs that encapsulates and represents different types of art forms and cultural heritages. This would also meet the interest and needs for cultural and sustainable tourism.

The world houses many museums dedicated to numerous forms of art, history, and culture. In recent years people have been more inclined to learn about cultures, seen in a trend of museums being erected across the world. According to UNESCO, “Museums are more than places where objects are exhibited and conserved. Along with the dramatic rise in cultural tourism in recent decades, the number of museums around the world has increased from 22,000 in 1975 to 95,000 today.” (“Museums” 2022). Museum’s have become more than just conservation, but rather conversation. Cultural tourism defined ‘All movements of persons to specific cultural attractions, such as heritage sites, artistic and cultural manifestations, arts and drama outside their normal place of residence’.. Baking/cooking in general connected with culture is called Gastronomy and



the gastronomie capital of the world is Lyon, France, since 1975. This thesis will look closely at the cultural tourism through gastronomy, specifically bread and pastries in France.

The choice of using French Baking as a beta test for this design was intentional: understanding how baking has become heavily ingrained into their culture, how it can be articulated and designed for others to experience it. For example, “France enjoys the highest density of independent bakeries in the world — 32,000 — and the French consume around 10 billion baguettes a year.” (Beardsley 2013). France is well known for their bakeries due to the high density and large consumer base. Food can have such a cultural impact on our lives, it can be difficult to share home-made items without guidance or tradition. Recipes are often shared by friends, community, and family. Even with proper instructions recipes can be complicated, time consuming, and many traditional recipes can be very intimidating. In an interview with a professional baker, a baguette can take up to 5 hours to make from ingredients to bake time. 5 hours is a long commitment for something that may not turn out well. This research will focus on showing the cultural heritage, history, and methods of French baking in both a living museum and academic settings. This will test whether a formula to create a new genre of integrative art and cultural museums is possible.

The formula for creating a living and interactive museum will have to accomplish a few set goals, and architectural components. The first is to provide for cultural and sustainable tourism. Second, is to give anyone the opportunity to be as little or highly involved in the heritage and process of the medium in this case, French baking. This will be done with an academic setting: classrooms, and gallery spaces, allowing for enthusiasts and students across the world to experiment with innovation and techniques. In addition, dedicated spaces will be used to intertwine the circulation and allow for sustainable techniques in the architectural design. Lastly, in addition to the civic and academic typologies discussed, this design will incorporate retail, a Boulangerie/Cafe, to

bring the experience of French baking full circle and allow one to further the experience. This will support the cost of operation and sustainability aspects of the museum.



Figure 2

## Project Typology

Typologies that will be addressed are civic (museum), education, and retail. These typologies will be the basis in formulating designs that encapsulates and represents different types of art forms and cultural heritages. Using pedestrian traffic and gallery-like spaces of a museum, and traditional classrooms to teach specific skills. Dependent on one's own interest one can experience learning hands on or in front of them via the practice of experts. There will also be a Bakery that sells products made in house to support the funding of the building and limit food waste. All of these are important components of the project; however, each will be interpreted through sustainable design.

## Case Study - Le Cordon Bleu



Figure 3

## Case Study -Kunsthall



Figure 4

## Major Project Elements

First, Multiplied sized kitchens will be needed to prepare food. This space will house many ovens, proofing drawers and other necessary equipment. These kitchens will also include windows to show case techniques and the process.

Second, Classrooms will be necessary many of these will be fitted with kitchen equipment to teach group classes. These spaces will provide hands on experiences, essential to teaching pastry arts.

Third, Green roof will be sustainable element and practical use of space to produce some of the food to cut down on emissions and product supply chains. There will also be a composting space to properly reduce overall waste.

Fourth, Retail space to sell baked goods to allow visitors to taste the product to introduce another sense within the design/experience. This will help connect the public to the space if un-interested in learning they can still taste the food. This area will need sufficient space to produce a stopping point to the circulation.

Fifth, Standard building elements, bathrooms, parking, lobby spaces, staff spaces, circulation, exterior spaces, etc.



Figure 5

## Project Justification

Our knowledge of food starts at the mouth and ends at the stomach. We are only concerned on foods ability to sustain us and its taste. Pastries are an art form as much as they are delicious. We take paintings, sculptures, and artifacts putting them on display in museums to show the art as well as its representation of culture. Although perishable baked goods should be given the ability to share the information, through both in their impressive techniques and in their historical impact on society. Businesses from around the world profit from these treats, but do not give the consumer the opportunity to experience the art form. It would be difficult to accomplish these tasks without a physical environment, a building and space to truly interact with baked goods. Like any art museum we look, learn, and admire, but why not something that has been around longer. So not only should we create a space that can show baking techniques and processes, but we should look at its story

and teach it so generations after us can experience its history as well as its taste. Creating a school component will be able achieve these goals.

Sustainability also can have a role to play in this context, due to the constant production of food in the world we can address new methods to make these processes more sustainable on a smaller scale. Buildings produce a lot of waste during manufacturing/baking products and can be reduced if we address certain elements such as a building thermal envelope, and air pollutants. Looking into these correlating factors could greatly enhance designs in the future for a world to work towards lower emission rates.

## Project Emphasis

First, to create an interactive learning experience on French baking so that its history and technique can be taught to new generations. This experience will be communicated through the circulation of the building, and through specific building elements to protect the thermal envelope of the kitchen.

Second, Design a building under Sustainable techniques to draw a comparison to waste buildings produce and that of food preparation. Some of the sustainable focuses will be to address the thermal envelope, air pollution, and green roofs.

Third, Successfully design a building that reflect the historic and societal aspects of the community. This design must be a successful relationship to the site and context around it.

Lastly, use the specificity of my research to create a transferable method to other non-traditional art forms.



Figure 6



## User Client or Audience Description

The Public: Either Tourist or Local this project could be treated as a local museum available to anyone interested in learning the art of French baking. There would also be the possibility to purchase the pastries, allowing the elements of the senses to teach and inform, including taste.



Figure 7

The Baker: Either interested as a career or just curious to learn, this building would provide the opportunity to take classes and learn a wide variety of techniques. This opportunity would allow authentic and historical approaches to the art of baking



Figure 8

The Gastronome : The gourmet enthusiast, tasting the best and proper French pastries.

The Government: The Paris Climate agreement would be a drawing factor as well as the influx of tourism to the country from the state-of-the-art facility/ experience.



Figure 9

## The Site

After research pastries and their cultural influence on France, I have narrowed the choice of the site to the city of Lyon, France. Due to the large population and nearby agricultural industry, this city provides good context for sustainable techniques. I want to optimize on locally sourced food, for production of the baked goods and pastries in the proposed facility. Lyon has 10,600 hectares of farm land and 92 farms that sell through local distribution channels. PATLY, the Lyon area's food project, makes this city agreeable to a sustainable and cultural design my proposed building shall address.

Lyon is also a founding member of the International city Network on food and Gastronomy. I hope to connect Lyon's food initiatives into the correlation and design of food waste and impact on sustainable design.

Additionally, Lyon is the 3rd largest city in France with a lot of tourism. Tourism is a main focus like any museum or civic typology, you want the people involved. Lyon has a specific initiative for sustainable tourism and is actively supporting the city's economy and tourism dynamics. This with its process of green initiatives and partnership with many schools and culinary institutes makes Lyon a great candidate.

Lastly, and maybe most obviously Lyon is in France and one of the many



Figure 10



Figure 11| Lyon Site Contextual Museum Map



Figure 12| Lyon Site Contextual Restaurants/Cafe Map



Figure 13| Lyon Site Contextual Boulangerie and Patisseries Map



Figure 14| Lyon Site Contextual Universities Map



Figure 15| Lyon Site Contextual Map

river, another highly popular museum nearby, The museum of confluence. Having such a notable museum would help create traction for new areas and facilities such as the proposed building in this thesis. In addition to adjacency to other high traffic tourist areas, the map (figure 16) depicts the culinary and other universities in the Lyon metropolitan area. Having facilities such as these nearby create an amplitude of possibilities for the proposed site. Whether finding new ways to promote local farmers in the world of business or opening the proposed project's doors to future generations of bakers and pastry chefs. In general looking for ways to promote sustainable tourism and share the cultural influence the proposed building will represent.

Other than Museums and Universities the proposed site also considered the local gastronome factor. Through research and utilization of Only Lyon a business website to promote the on going development, tourism, studies, conferences and businesses in Lyon. Utilizing these resources to discover restaurants, cafe's, and other food retailers

contributors to our knowledge of French patisseries today.

After choosing the city, an analysis of the potential location was narrowed down through factors such as: proximity to museums, culinary and other universities, local patisseries and boulangeries, and lastly, other restaurants/cafes practicing local Sourcing of food. These factors helped determine the best out come of foot traffic and influx of tourist that would come across the proposed site

The map (figure 13 ) is a cumulation of the local museums in Lyon. Although the proposed site is a little secluded near the

that promote green and local sourcing of their ingredients. The map (figure 14) depicts these sites in the metropolitan area. In addition to these the map (figure 15) represents the boulangeries and patisseries in the area.



Figure 16| Lyon Site Contextual Map

## Goals of Thesis Project

The Goals of this Thesis are the following:

Represent the cultural significance of a subject by designing to increase awareness and designing to celebrate the medium.

Designing to preserve the medium by making art forms and techniques accessible and create spaces and opportunity for innovation

Sensory experience through taste, smell, hearing, touch, and sight

Participation of all people that make up the art form: baker (Staff), tourist, local, Student of the culinary arts, professional of the culinary arts, farmers, and agricultural scientists

Sustainable Design and Sustainable Tourism, using French policy

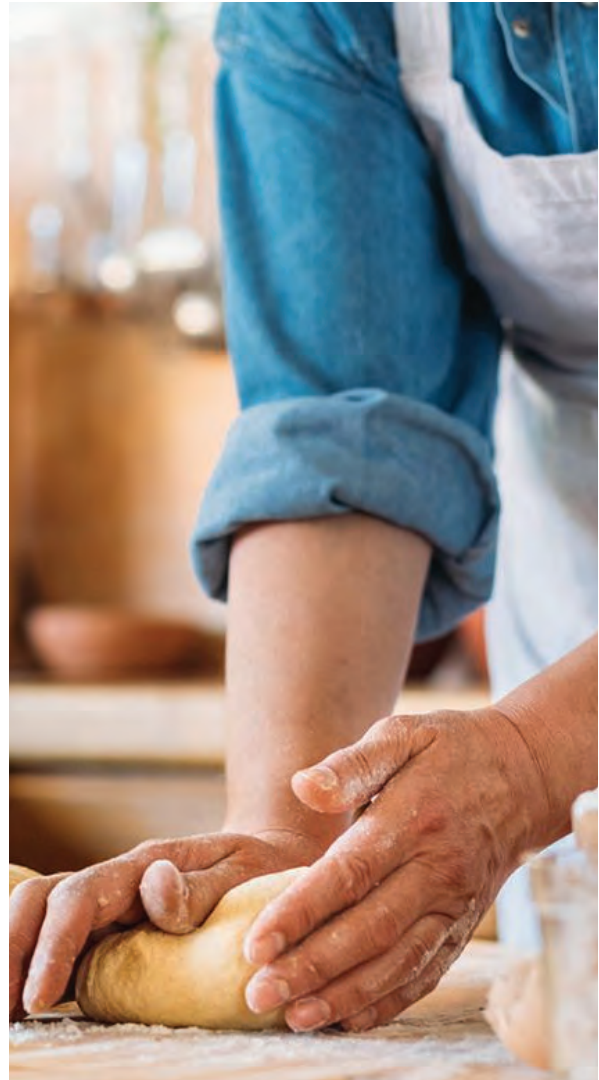


Figure 17

# Plan for Proceeding

## **Definition of Research Direction:**

The research direction I will be taking will focus on the following techniques: project typologies and historical context.

In order to conduct research the project typology, case studies will be a primary source for of research. Case studies are important because the proposed design will not fit into a single typology. This research will be specifically looking at academic and civic typologies: Culinary schools and Museums. During this investigation I will look into the different patterns in circulation, culinary teaching environments, engagement of the senses, and sustainable design practices.

Additionally the other direction of my research will follow historical context. I will look into methods and designs associated with traditional French baking. These case studies will address the importance of baking on the French culture and tying in the need to represent baking as an art form. I will also use case

studies on how conventional art forms are showcased, in relation to France, such as Claude Monte and The Louvre.

## **A Plan for Your Design Methodology:**

The Methodology use will be Case Studies. As I elaborated in my research directions case studies will be an integral part due to the documentation of human patterns and traffic throughout spaces. Due to the specific nature of this design learning from other designs will help me incorporate both circulation, engagement of the senses, and sustainability through the new and successful methods .

## **A Plan for Documenting the Design Process:**

I will document the design process through a specific location, proposed design, and the particular emphasis on French baking. I will document the successes and challenges through this non-traditional art form, to create a written process of steps need to take to develop similar designs.

# Plan for Proceeding

## Project Schedule

- 
- **August to September**  
Thesis Investigation
  - **September to Mid-October**  
Thesis Proposal
  - **Mid-October to December**  
Thesis Research and Program Analysis  
- Follow Plan to proceed with the emphasis in Case Study Research
  - **January to Mid-February**  
Schematic Design  
- Analysis, Context, Spatial, Massing, and Passive Sustainable systems
  - **Mid-February to Mid-April**  
Design Development  
- Floor Plans, Active Sustainable systems, Materials, Structure, Assemblies, Details, and other additional elements.
  - **Mid-April to May**  
Presentation  
- Drawings, Boards, and Models



# Thesis Research

## Sensory Research

**D**esigning for the senses: sight, touch, sound, taste, and smell, is a primary goal in this thesis in order to capture a fully integrated experience. The book “Creating Sensory Spaces: The Architecture of the Invisible,” by Barbara Erwine investigates this topic and articulates how architecture can be used to capture each sense. Using these techniques will help specify a formula in which the sense can be incorporated in a new genre of museums for non-traditional art forms.

Bara Erwine explains each sense starting with Sight and how professional architects prioritize this sense over the rest in order to determine a “good” design. (Erwine p.10 2017) The author emphasizes the human perspective and feeling within the space and that as architects it’s our job to go more in depth with design. In addition, a sense of place is the cumulation of the senses within levels of comfort and cultural identity. Each of floor plans were thought out in regards to this primary goal to capture a fully interactive experience. Erwine investigates this topic and articulates how architecture can be used to unite each sense. “...these sense are not separate as they overlap with each other and intermingle in a synesthesia of experience,” (Erwine 36) In my design I engage the sense through different techniques, whether its with passive designs, using orientation, visual points of interest, circulation, thermal envelope, and other such design elements. This is important to the overall goal in which author, Lisa Hescong, puts in best in her book Thermal delight also addresses this “Since each sense contributes a slightly different perception of the word, the more senses involved in a particular experience the fuller, the rounder, the experience becomes.” (Hescong 29). Using these techniques partnered with the attributes of an art form, allow for a full engagement mentally and physically to create a new genre of interactive museums for non-traditional art forms.

## Case Study - Le Cordon Bleu



Construction Year: 2016

Figure 3

Architect: Didier Primard Architecte DPLG Cachan

Landscape Architect: Regis Guignard, Caulnes

**L**e Cordon Bleu is a prestigious culinary school with branches all over the world. There are various courses one can take, learning about food, gastronomy and nutrition, baking and pastry, pastry and confectionery, etc. These courses and certifications help those aspiring to a career in the culinary arts. Le Cordon Bleu's new headquarters is located in Paris, France and was constructed in 2016. This design includes many facilities dedicated to education. There are seven practical classrooms for cooking, pastry and bakery lessons. Three demonstration rooms for theoretical lessons. 6 modular classrooms in a reception area of 420 m<sup>2</sup>. One student area is equipped with multimedia equipment and a large library, offering a wide selection of French and international culinary books and magazines. One shop offers a selection of gourmet products and gifts recommended by Le Cordon Bleu Chefs, as well as a range of



Figure 18

cooking and baking equipment. One workshop dedicated to amateur cooking lessons, in groups or individually. Lastly there is one café - Café Le Cordon Bleu which allows students and passers-by to taste a range of quality preparations to take home or eat in, as well as many other spaces dedicated to the students and staff. In addition to the classroom spaces there, the building designed with eco-responsible operation and fresh ingredients. Their roof top has 800 square meters of garden for fruits, vegetables, edible flowers, herbs, as well as bee hives.

This roof top is a ZinCo roof model, specifically the Floradrain® FD 40-E and Aquatec® AT 45.



Figure 19

## Case Study - Kunsthal



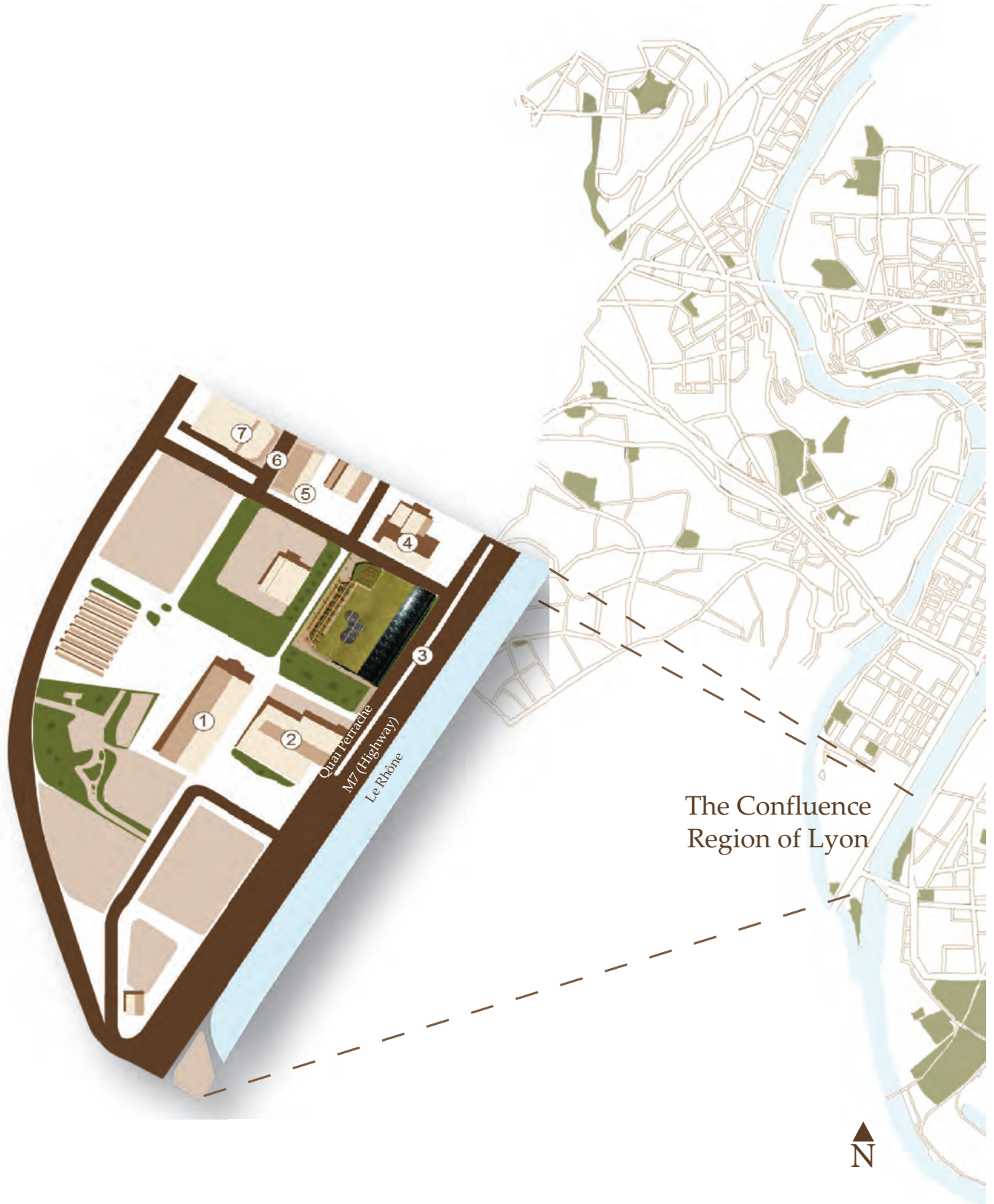
Construction Year: 1987-1992  
Architect: Rem Koolhaas  
City: Rotterdam, Netherlands

Figure 4

**K**unsthal is a 3300 square meter building with exhibition spaces, an auditorium and restaurant. This museum stretches three gallery spaces interconnected with a varying of slopes and paths of egress. The circulation is very seamless from once space to the next, and utilizes every aspect of the building with in the design. Spaces are small, but intentional. Back of house or staff employees are separated by another building and does not overlap the museum experience for a visitor. The cafe/restaurant was placed next to the ticket counter, creating a gather space to linger. Multiple levels are connected with slopes creating a sense of place and journey using subspaces to direct traffic.

## Site Analysis

The Confluence is a post-industrial site part of the city's urban renewal project. Housing many contemporary buildings and public spaces. This site had many appealing factors, being an empty lot near local entities, and far enough away for independent bakeries, based off of the previous analysis. Figure # , shows a variety of elements. 1 is a large functioning warehouse, 2 is the local food hall The Heat, 3 is the congested highway M7, 4 is university housing, 5 is a indoor skiing facility, 6 is a large metro stop, and 7 is large contemporary shopping center. These seven elements contributed to the chosen site: the main entrance of the proposed building, the design style, and location of passive sustainable techniques. The main entrance would be set on the north east corner to optimize on the views from the metro station and large congregation of people that come from that direction. This corner also would protect the masses from disturbances by the large highway. The design style will follow the contemporary styles in the area, unlike the historic region of Lyon, new construction is very prominent in this area. Lastly, The sustainable techniques used after a sun study of east and south sun exposure, finding a way to negate that with passive elements, and optimize on it with active elements.



The Confluence  
Region of Lyon



Figure 20

## Programmable Spaces

This thesis aims to address each user of the proposed building as a design tool to create a spatial program. Thinking of circulation and coordination between these areas, with a break down of each space and subspaces. These factors were addressed in the goals of the thesis project, and begin mapping out the necessary functions and potential connections of each space. Looking at these spaces, allow for an analysis of capacity and places that will be primary to the function of the senses goal.

### 3 Floors and Open Rooftop

#### Janitorial closets

- 1 for each classroom
- 1 for the bakery
- 1 for each floor

#### Offices

- 
- Staff conference room
- Coordinators

#### Staff break room

- Kitchen
- Lockers
- 

#### Coat check - like lockers at the Pompidou

#### Cafe + Boulangerie + Patisserie (cap. 150)

- Kitchen

- tables

#### Giftshop (50)

#### Gallery space for the history of French baking

- Section on local sourcing and sustainable tourism

#### Photo Gallery for pastry chef exhibition

#### Classrooms smaller for intimate groups/ or students 10 (3)

#### Experimental kitchen space (20)

#### Classroom space for preparation cap. 35 (3)

- Wash station (Sanitary)

#### Classroom space for baking-proofing 35 (3)

- Wash station (Sanitary)



Classroom space for plating and presentation 35 (3)

- Wash station (Sanitary)

Viewing galleries 30

Kitchen to prepare for classroom spaces.

Restrooms for Bakery/atrium

- 1 per 75 (both)

Restrooms for museum

- 1 per 125 (men)
- 1 per 65 (women)

Reception (cap. 100)

Ticket counter (4 workers)

Security (2 Workers)

Waiting room + Changing room

International baker apartment (2)

- a studio apartment for international educators

Freezer/fridge storage (3)

Ingredients storage (3)

Mechanical (Basement)

Rooftop garden

Mechanical for roof top

Loading doc

Auditorium

Cafe view gallery

# Design Solution

# Process Documentation

## Sketches

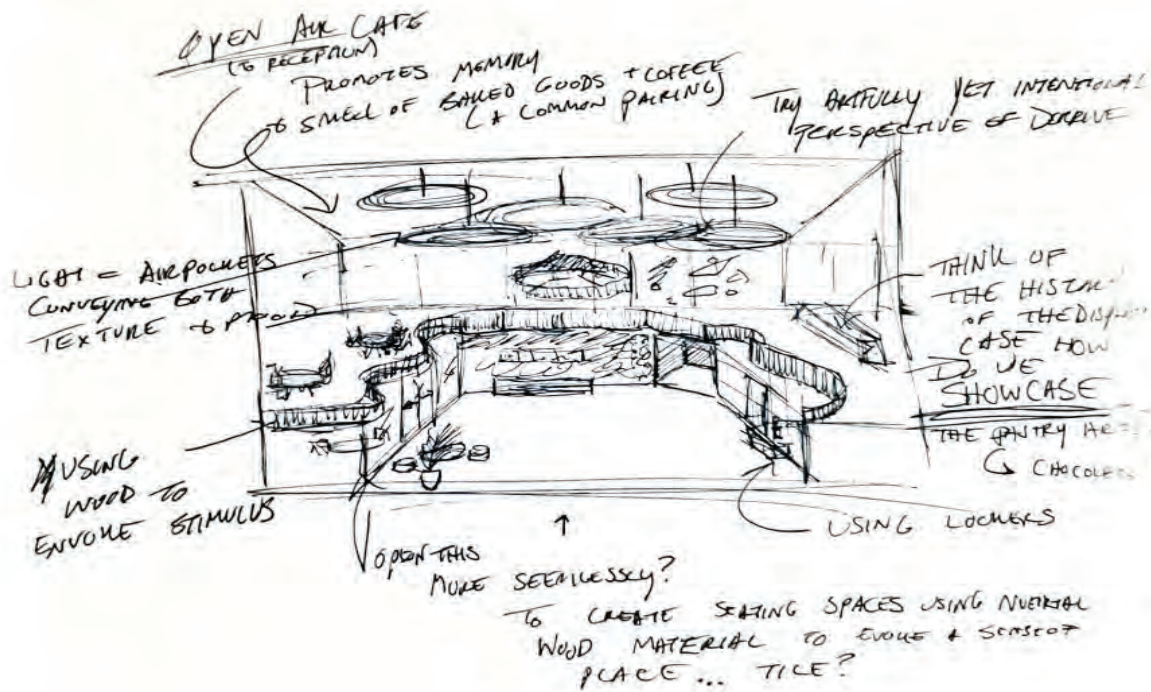


Figure 21

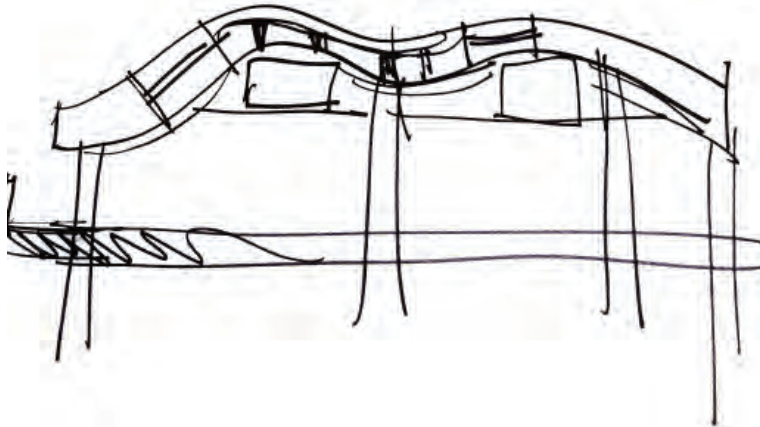


Figure 22

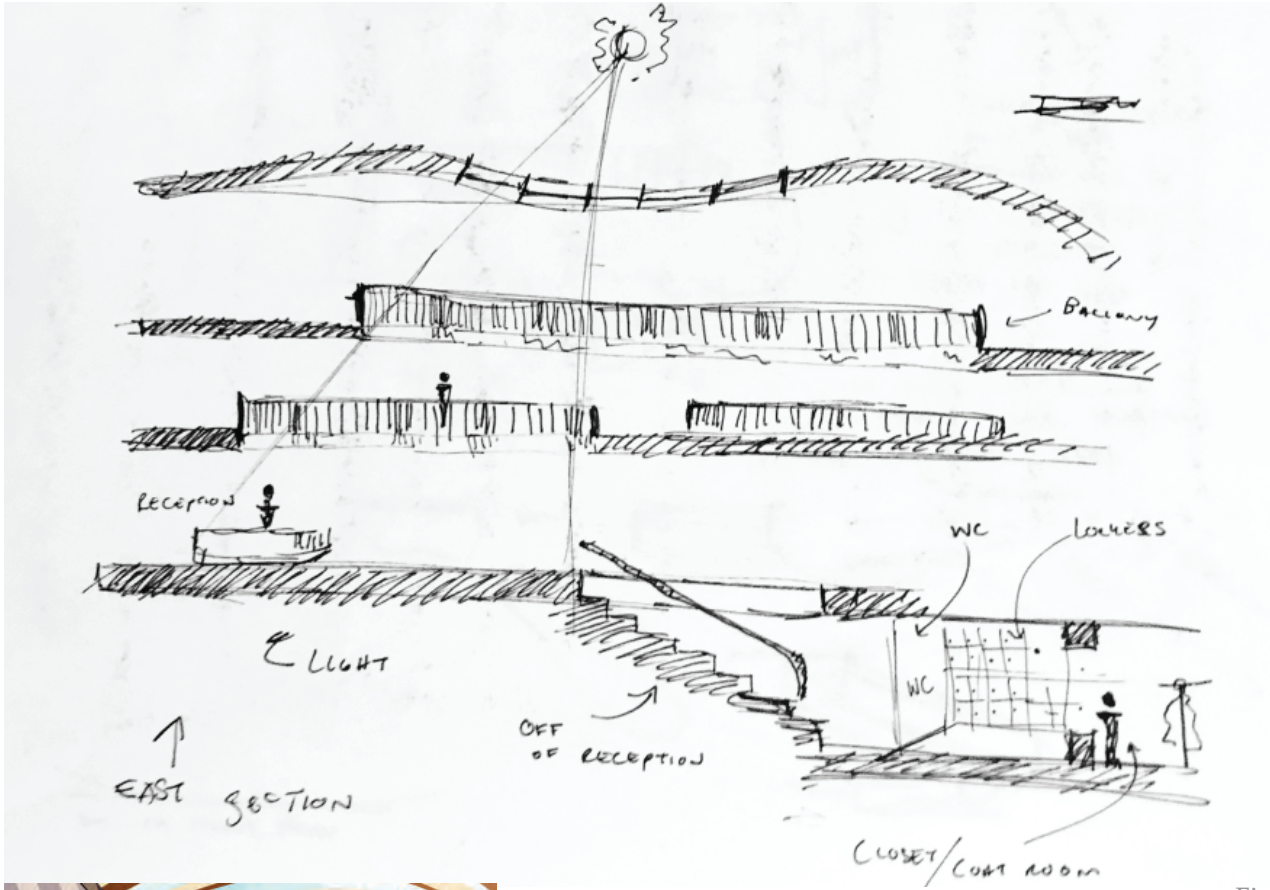


Figure 23



Figure 24

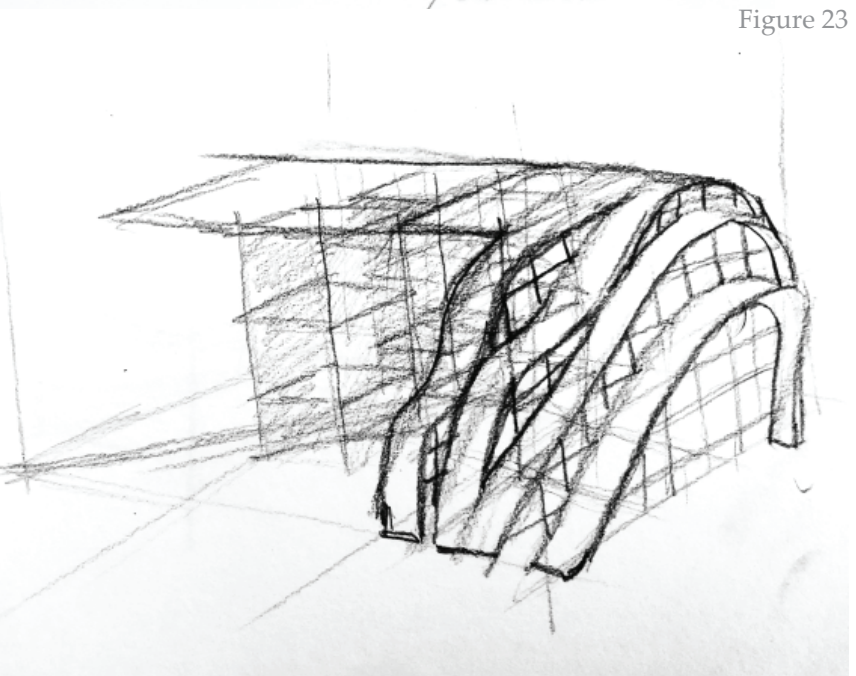
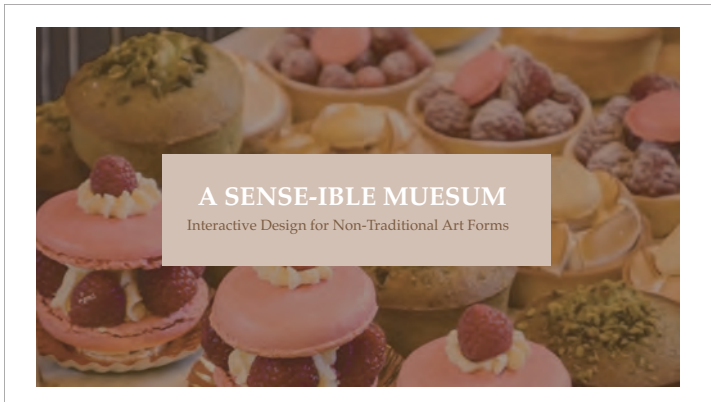


Figure 25

# Mid-Crit Presentation



## CONTENT

01	02	05	06	08
Narrative	Typology + Site	Goals	Process + Inspiration	Plans

## NARRATIVE

“Can we design for non-traditional art forms through a new genre of interactive Museums?”

## TYPOLOGY

**Museum + Education**

Museum + Education typologies will be the basis in formulating designs that encapsulates and represents different types of art forms and cultural heritages.

## SITE

Large population  
Agriculture industry  
Sustainable tourism

Map showing France, Rhone-Alpes Region, and Lyon. Neighboring countries: Belgium, Germany, Switzerland, Italy, Spain.

Map showing the Metropolitan Area of Lyon with a detailed site plan inset. Legend:

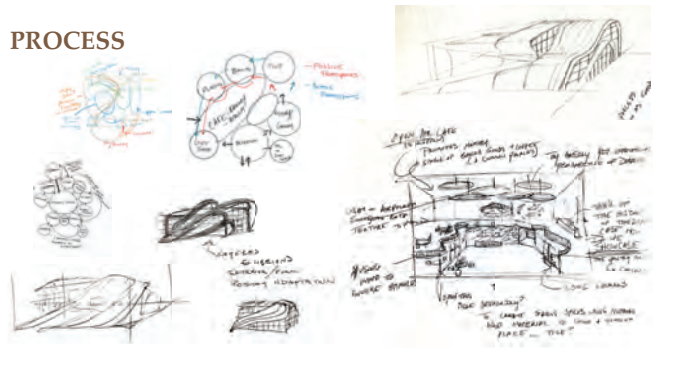
- Universities
- Boulangeries + Patisseries
- Muesums
- Local Source Restaurant

## GOALS

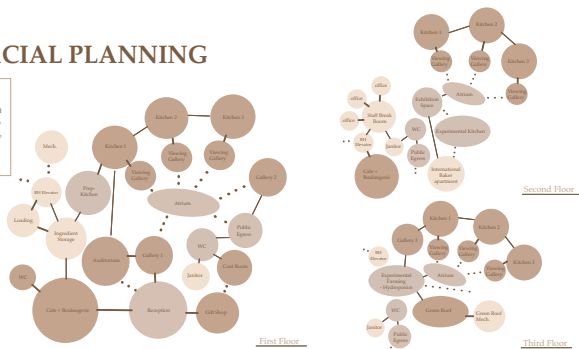


1. Represent the cultural significance of a subject
2. Preserve the medium
3. Participation of all people that make up an art form
4. Sensory experience
5. Sustainable Design and Sustainable Tourism

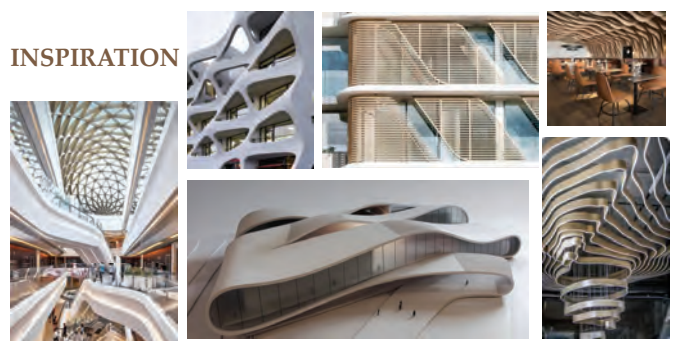
## PROCESS



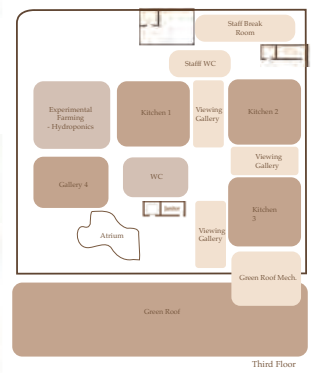
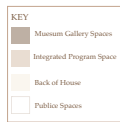
## SPACIAL PLANNING



## INSPIRATION



## PLANS



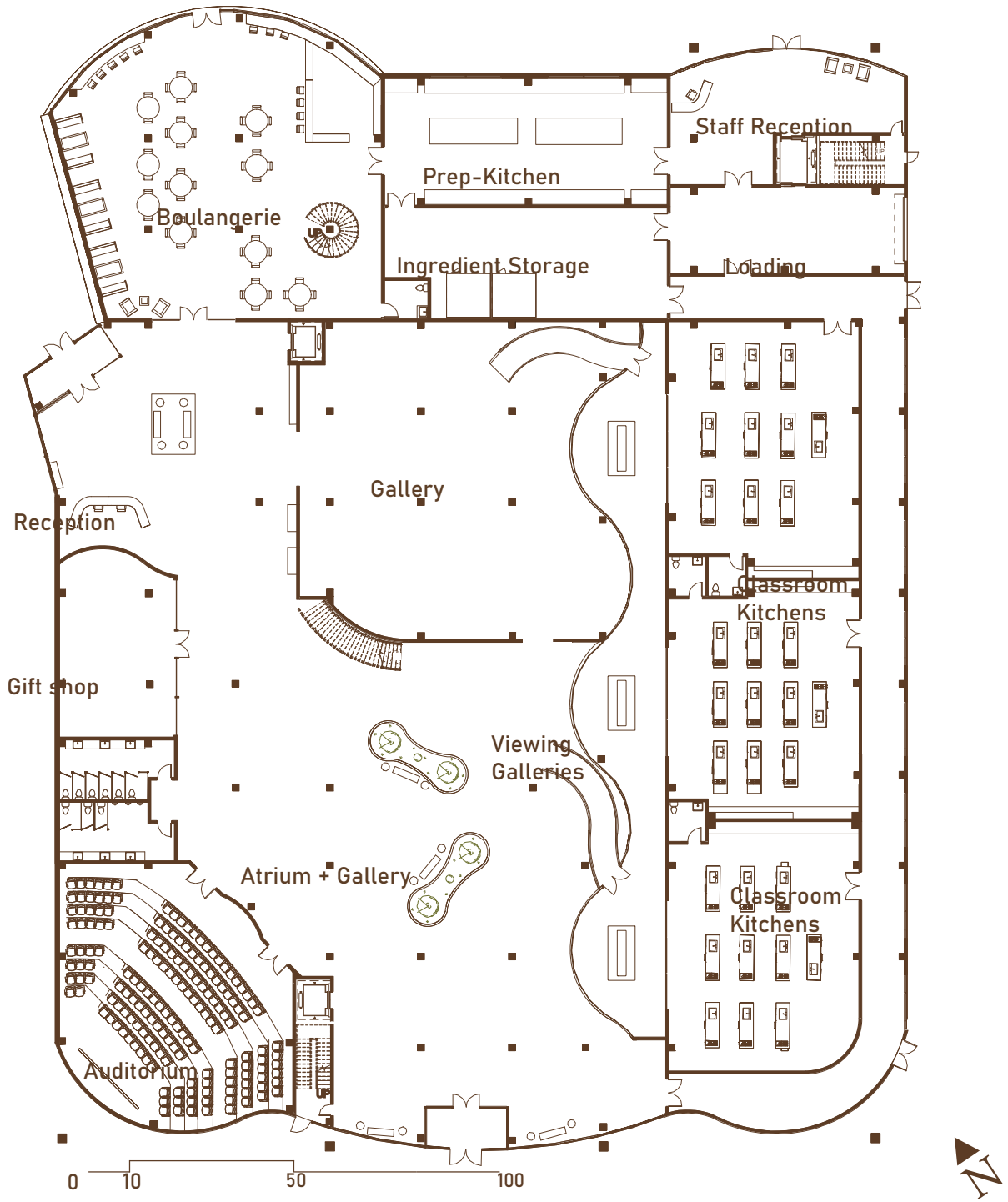
## Project Solution Documentation



Figure 26

Through the analysis of an art form held to the goals of this thesis the elements found necessary to determining the factors of a new museum typology are defining the subject, a non-traditional art forms, by identifying the subjects history, the way the subject is sourced: how it is created, and how it is used, then applying these factors through the process of design, optimizing on the ways in which all users will interact within the building. Through this lens identify the key aspects needed to represent, preserve, and promote innovation. Preservation and advancements adhere to the program and design allowing for accessibility. Creating an interactive experience through the engagement of the sense and prototypical elements. Doing all this determines these factors of a new museum typology: So by taking a SUBJECT and carrying it out through the PROCESS OF DESIGN under the lens that ADDRESS KEY ASPECTS of the ART FORM, it's tools, process, engagement of the sense, forms of representation and various participants to determine a recipe in which one can model future buildings under the umbrella of a new typology of interactive museums.

# First floor





# Second floor

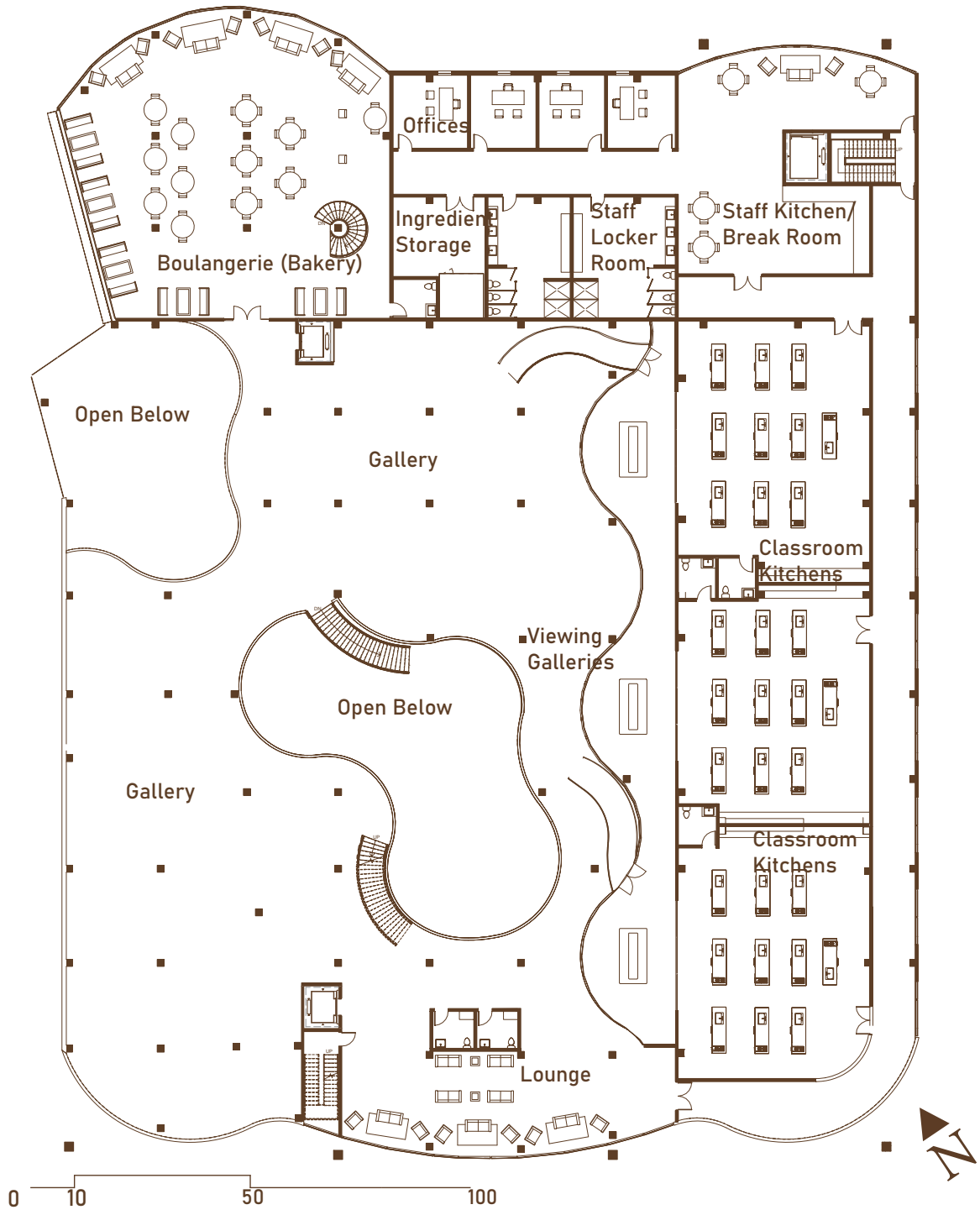


Figure 28 40

# Third floor

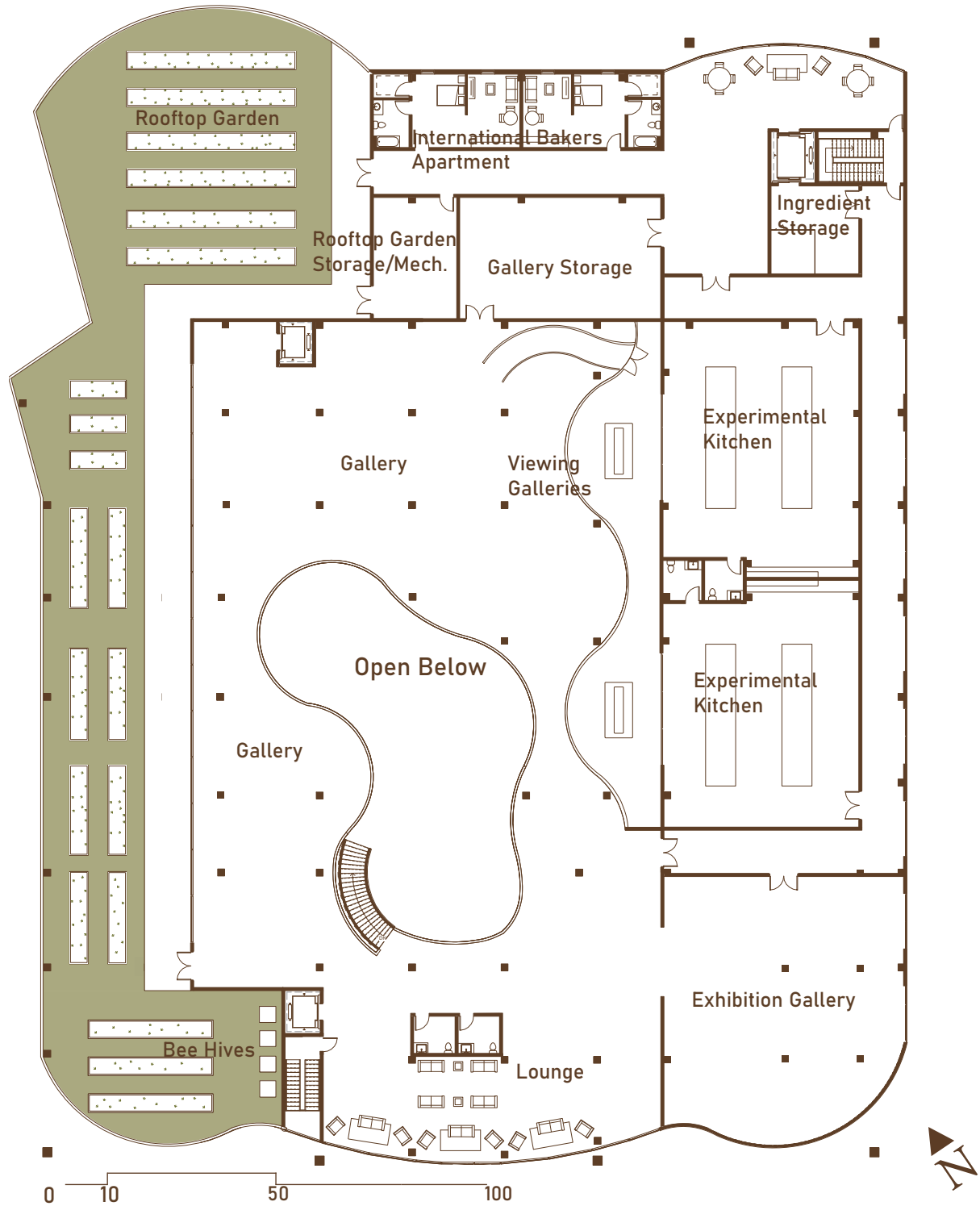




Figure 30



Figure 31



Figure 32



Figure 33

# Performance Analysis

## **Response to the Site:**

The entrance to the building is on the north west corner, due to optimal location from near by metro stops, and away from the congested highway on the east. Large beams and columns throughout the buildings form act as horizontal louvers, helping with heavy sun exposure. The site also optimizes on the walking path to the west to entice more visitors for the proposed museum.

## **Response to the Typologies + Research:**

Utilizing case studies to research existing museums, classical to contemporary, show a need for more immersive programs. The understanding of how users engaged with these typologies were understood through case studies and applied in the spatial programming. The lack of hands on participation and sense engagement, was found during this portion of research. A critique would be documentation, after 30 in person museum visits during study abroad, a lot of information was processed but not necessarily recorded.

## **Response to Goals and Project Emphasis:**

Each goal was implemented at some level. The cultural significance is shown throughout the buildings program and intent, creating gallery space to honor the historical reference, and the boulangerie/bakery honoring the present yet physical reference to culture.

The Preservation of the medium is done through both the honoring of the cultural significance, but also through the create of spaces that are accessible to pursue a non-traditional art form. Specifically, found in French baking this includes kitchens for both learning and innovative purposes.

The engagement of the senses is done through an investigation in different spaces, incorporating each sense. The olfactory sense was placed in prominent areas utilizes spaces adjacent to heavy circulation, the main entrance and viewing galleries.

incorporating each sense. The olfactory sense was placed in prominent areas utilizing spaces adjacent to heavy circulation, the main entrance and viewing galleries. The auditory engagement comes from instruction and presentations of real time kitchen experiences, instructors, and guest lectures. These come from the dedicated space: viewing galleries, auditorium, and prep-kitchen. The sense of touch is seen through tactile elements and thermal elements. Tactile being the hands on experience through active participation in the kitchens, as well as the physical food from the boulangerie. The thermal component comes from the viewing galleries allowing for real time thermal changes happen based off of the kitchens journey of baking. The last sense of taste is seen again in the programming, the kitchens, and boulangerie.

The last goal of sustainability is seen through the programming in regards to sustainable tourism. Creating spaces for gardening, and bee keeping. Promoting local sourcing at different scales. Physically the building uses photovoltaics for energy conservation. Mass timber is the main construction material which when sustainably sourced can minimize the carbon footprint and it is a 100% renewable carbon-sequestering resource. The rooftop green spaces and exterior green walls help maintaining energy loss in the building, and slows water runoff to the near by river which can contribute to flood control. One Critique would be to apply a program of measurement such as LEED to have a quantitative measure of sustainable performance/credibility.

### **Critique of applied research methods used in the thesis project**

Sensory research was engaged and thought out thoroughly in design process and product, but the methods in which HVAC, and other mechanical elements could have been elaborated and documented. Case studies were effective in determining circulation and necessary program layout.

## INTERACTIVE MUSEUM DESIGN FOR NON-TRADITIONAL ART FORMS:

LE MUSÉE DES ARTS DE LA PÂTISSERIE ET DE LA BOULANGERIE



“CAN WE DESIGN FOR NON-TRADITIONAL ART FORMS, TO DETERMINE A RESULTING TYPOLOGY: A NEW GENRE OF INTERACTIVE MUSEUMS?”



### FRENCH BAKING

“France enjoys the highest density of independent bakeries in the world – 32,000 – and the French consume around 10 billion baguettes a year.” (BreadStory 2015)



### TYPOLOGIES:

#### MUSEUM



#### EDUCATION





"Museums are more than places where objects are exhibited and conserved. Along with the dramatic rise in cultural tourism in recent decades, the number of museums around the world has increased from 22,000 in 1975 to 95,000 today."  
(UNESCO 2022)

### CULTURAL TOURISM

"All movements of persons to specific cultural attractions, such as heritage sites, artistic and cultural manifestations, arts and drama outside their normal place of residence" -Greg Richards



### SITE

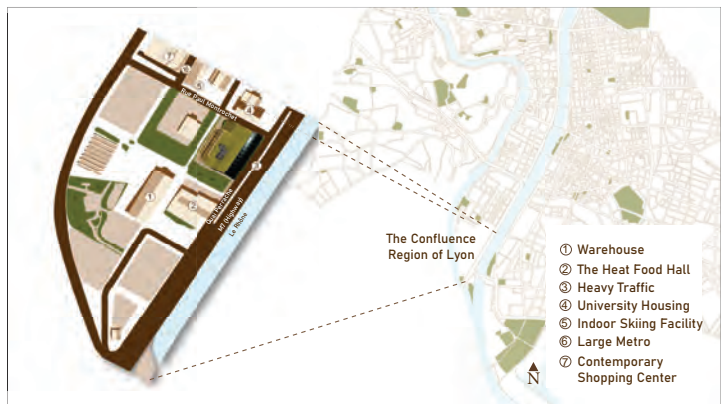


### SUSTAINABLE TOURISM

"Tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities" -The World Tourism Organization



### METROPOLITAN REGION OF LYON





## GOALS



Represent the Cultural Significance of a Subject



Preserve the Medium



Participation of all People that Make Up an Art Form



Sensory Experience

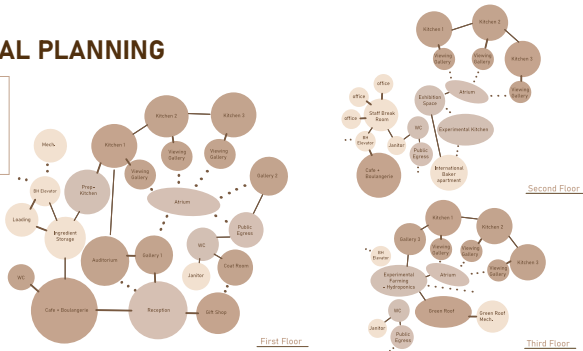


Sustainable Design and Sustainable Tourism

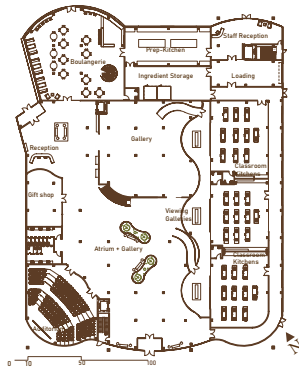
## PROCESS + INSPIRATION



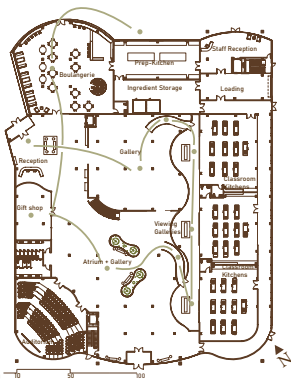
## SPATIAL PLANNING



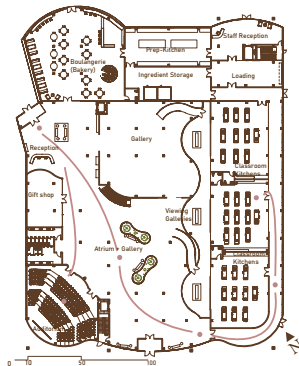
## FIRST FLOOR

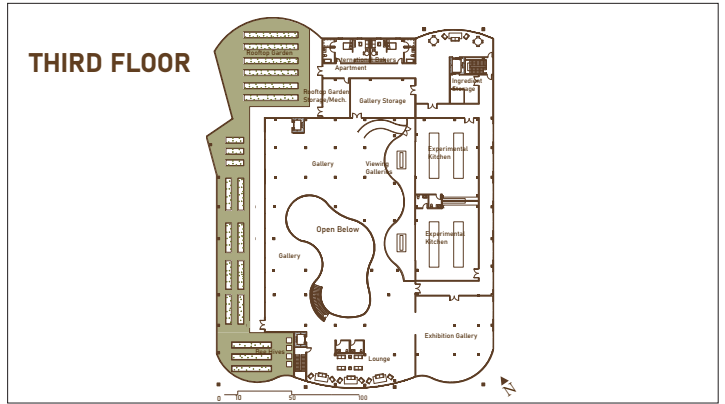
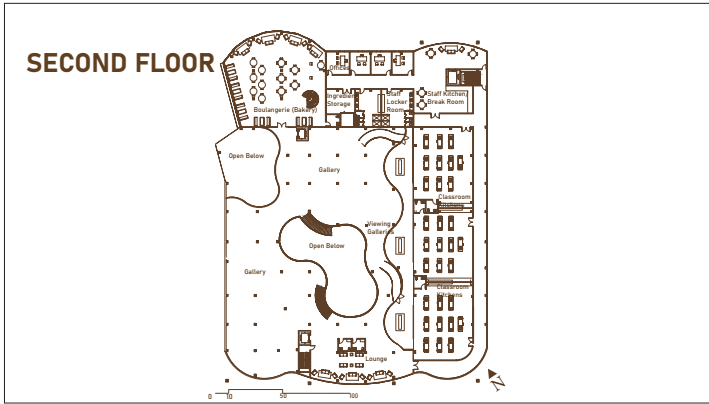


## PASSIVE



## ACTIVE





"...These sense are not separate as they overlap with each other and intermingle in a synesthesia of experience," (Erwine 36)

"Since each sense contributes a slightly different perception of the word, the more senses involved in a particular experience the fuller, the rounder, the experience becomes." (Steinhilber 21)

### ENGAGEMENT OF THE SENSES

OLFACTORY

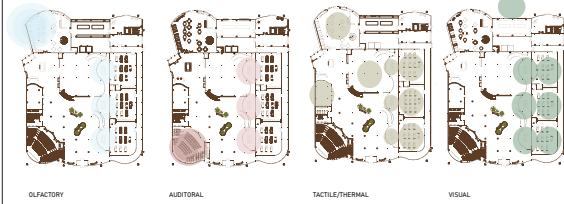
### ENGAGEMENT OF THE SENSES

OLFACTORY      AUDITORIAL

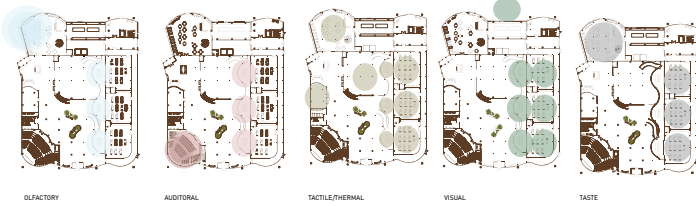
## ENGAGEMENT OF THE SENSES



## ENGAGEMENT OF THE SENSES



## ENGAGEMENT OF THE SENSES





"CAN WE DESIGN FOR NON-TRADITIONAL ART FORMS, TO DETERMINE A RESULTING TYPOLOGY: A NEW GENRE OF INTERACTIVE MUSEUMS?"

"CAN WE DESIGN FOR NON-TRADITIONAL ART FORMS, TO DETERMINE A RESULTING TYPOLOGY: A NEW GENRE OF INTERACTIVE MUSEUMS?"

SUBJECT

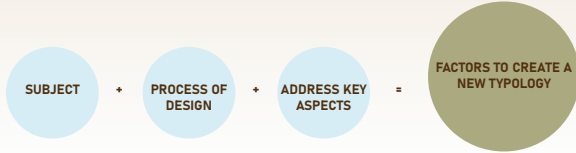
"CAN WE DESIGN FOR NON-TRADITIONAL ART FORMS, TO DETERMINE A RESULTING TYPOLOGY: A NEW GENRE OF INTERACTIVE MUSEUMS?"

SUBJECT + PROCESS OF DESIGN

"CAN WE DESIGN FOR NON-TRADITIONAL ART FORMS, TO DETERMINE A RESULTING TYPOLOGY: A NEW GENRE OF INTERACTIVE MUSEUMS?"

SUBJECT + PROCESS OF DESIGN + ADDRESS KEY ASPECTS

"CAN WE DESIGN FOR NON-TRADITIONAL ART FORMS, TO DETERMINE A RESULTING TYPOLOGY: A NEW GENRE OF INTERACTIVE MUSEUMS?"



# INTERACTIVE MUSEUM DESIGN FOR NON-TRADITIONAL ART FORMS: LE MUSÉE DES ARTS DE LA PÂTISSERIE ET DE LA BOULANGERIE



LYON, FRANCE

**"CAN WE DESIGN FOR NON-TRADITIONAL ART FORMS, USING THE PASTRY ARTS TO DETERMINE A RESULTING TYPOLOGY: A NEW GENRE OF INTERACTIVE MUSEUMS?"**

Art is our connection and expression of nature, history, and imagination. Pastry and doughnuts, however, have often been measured and gathered across the globe, but what about other art forms that have an impact on our daily lives, such as baking? Baking is an artisanal practice that requires technical skill, creativity, and precision to create an appealing design to draw people to the store or cafe. There is an inherent art technique, though, because, and mastery are all requirements for any good baker. Baking cabinets have made us well as construction and expressions in everyday habits and familiar traditions. So why are there no national centers, galleries, or museums articulating non-traditional art forms in our history and culture?

In this thesis, architectural design is used to test and answer the question by creating a museum to show the full process of non-traditional art forms to express French baking to the world, to create unique spaces and experiences that are meant to create such a typology. This museum will help people to learn and express the cultural significance of a subject, designed to stimulate, preserve, increase awareness, inspire, and celebrate the medium.

- GOALS**
- Represent the Cultural Significance of a Subject
  - Preserve the Medium
  - Participation of all People that Make Up an Art Form
  - Sensory Experience
  - Sustainable Design and Sustainable Tourism

This design is located in Lyon, France to honor the site's rich history and to take advantage of the accessibility of the city. Lyon was chosen for its proximity to sustainable tourism approach and to a central location. The site is located in the Confluence Region of Lyon, France, which is a post-industrial site part of the city's urban renewal project, housing many contemporary buildings and public spaces.



- Site Context Key**
- Warehouse
  - The Meat Pood Hall
  - Heavy Traffic
  - University Housing
  - Indoor Skiing Facility
  - Large Metro Stop
  - Contemporary Shopping Center

## FLOOR PLANS

### THIRD FLOOR

- 1 Gallery
- 2 Ingredient Storage
- 3 Viewing Galleries
- 4 Lounge
- 5 Gallery Storage
- 6 Rooftop Garden Storage/Meat
- 7 Bee Hives
- 8 Exhibition Gallery
- 9 Experimental Kitchen



### SECOND FLOOR

- 1 Gallery
- 2 Ingredient Storage
- 3 Viewing Galleries
- 4 Lounge
- 5 Classroom Kitchen
- 6 Boulangerie (Bakery)
- 7 Staff Kitchen/ Break Room
- 8 Staff Locker Room
- 9 Office



### FIRST FLOOR

- 1 Gallery
- 2 Ingredient Storage
- 3 Viewing Galleries
- 4 Classroom Kitchen
- 5 Boulangerie (Bakery)
- 6 Gift Shop
- 7 Auditorium
- 8 Reception
- 9 Atrium
- 10 Loading Doc
- 11 Staff Reception
- 12 Prep-Kitchen



ATRIUM



VIEWING GALLERY



ROOFTOP GARDEN



RECEPTION

Figure

# Appendix

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# Appendix

Previous Student experience:

## **2nd Year | 2019 -2020**

Fall Studio: Charlotte Grube

Land Artist Studio | Boat House

Spring Studio: Emily Guo

Dwelling | Boutique Hotel

## **3rd Year | 2020-2021**

Fall Studio: Bakr Aly Ahmed

Wood Design - SODAA School | Masonry Design - Olympic Resort and Spa

Spring Studio: Cindy Urness

Concrete Design -Day Surgery Clinic | DanLanz Competition - Red River Pavilions

## **4th Year**

Fall Studio: Mark Barnhouse

Miami High-rise

Spring Studio: David Crutchfeild

Marvin windows Competition | Fargo Housing Association - Affordable housing