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Abstract

How can architects improve the relationship between the occupant and the space in regards to offering the occupant and enjoyable experience, which also fulfills their needs and expectations of function? Among many design fields, architecture is the one that has a constant correlation with everyday life, as most people spend a significant portion of their time within a built environment. The direct influence of the quality of space on the quality of occupants' lives indicates the critical responsibility of architectural design. Recognizing, respecting, and responding to the occupants' needs and expectations are the necessary steps in a design process that wishes to improve the quality of life. Thus, the consideration of occupants in the process of design will lead to the fulfillment of the occupants' needs.

In this paper, I will focus on two approaches that lead to improvement of the relationship between the occupant and the space: the multisensory experience and the true function. I am looking for approaches to bring both multisensory experience and true function back to architectural space in order to enhance occupants' daily experiences in the built environment. I propose the ways in which physical senses can be engaged in spatial experience, as well as assessing each sense with related spatial features. My assessments are based on my personal experiences, and other theoretical resources. I discuss function later with an introduction on affordance, a psychological approach to design, and their relation to one another, as well as introducing anti-functionalism and its consequences in frame of a case study.

Perception and Function in Occupant-Space Relationship

Introduction

Design as a process consists of three mutual relationships: between Designer, User, and Product. In this paper, the Designer represents Architect, the User is the Occupant, and the product is the architectural space or the built environment.

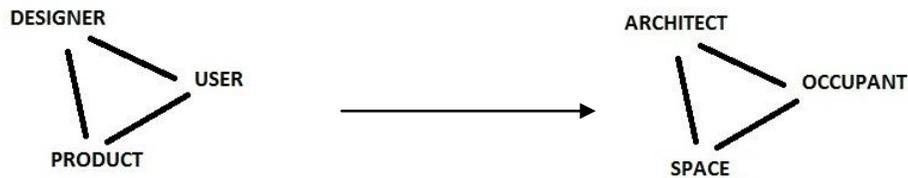


Figure 1. Relationships in design process

In the relationship between the Occupant and Architect the Occupant's demand for a well-designed space is evident. But the other side of this relationship is the responsibility that the Architect has to educate the Occupant in using and experiencing the space. Design for the Architect is a process to create a place, which not only suffices Occupants' needs, but also offers them a new perspective to perceive, experience, and enjoy.

and space. So the question is "How can Architects improve this relationship in regards to offering the Occupant an enjoyable experience, which fulfills their needs and expectations?"

There may be many answers to this question. Especially because this relationship is strongly influenced by the Occupants' background, culture, location, and even time. This paper concentrates on two general features, to reach a more general answer that works for different types of Occupants: Multisensory perception and Function. Multisensory perception is the involvement of diverse senses working together through which one can perceive the surroundings. The relationship between the Occupants and architectural space can be improved by design of an experiential architecture that engages Occupants in Multisensory perception and fulfills expectations of function.

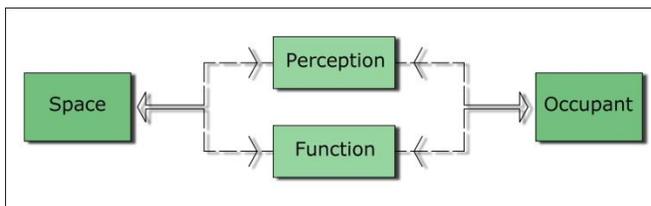


Figure 2. Conceptual Diagram

This paper focuses on the responsibility and role of the Architect as the designer in creating a relationship between the Occupant

Perception

Physical perception simply means what one sees, touches, tastes, smells, hears, feels and understands from the surroundings. Although its implication varies in different disciplines, the following description by Steven Holl, American architect reflects the meaning of perception with respect to architecture:

*"When we sit at a desk in a room by a window, the distant view, light from the window, floor material, wood of the desk, and eraser in hand begin to merge perceptually. This overlap of foreground, middle ground, and distant view is a critical issue in the creation of architectural space. We must consider space, light, color, geometry, detail, and material as an experiential continuum, and ultimately we cannot readily break perception into a simple collection of geometries, activities, and sensations."*¹

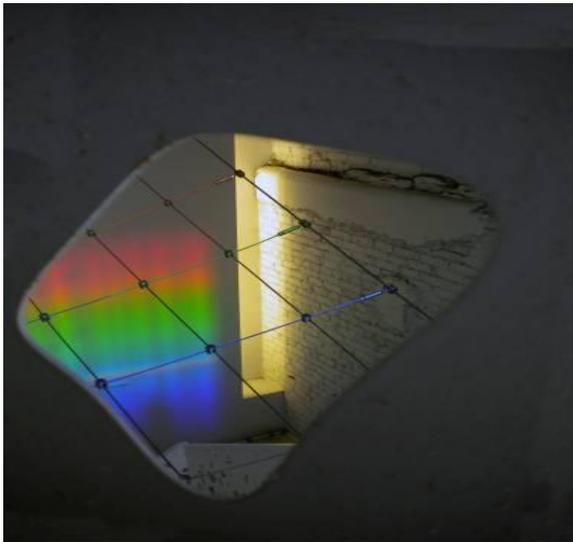


Figure 3. Multisensory approach in Design, NY University by Steven Holl

Holl emphasizes that perception is not only sensations, but also the integration of all senses and elements of space. Perception is an unconscious process of this integration through which one can come to know his/her surroundings. Perception in architectural space implies presenting a condition that can be

experienced through all senses. What is evident in most architectural spaces is the domination of visual perception versus Multisensory perception. Engagement of the other senses is a necessity, which is evident when we realize that not all people perceive their surroundings by vision alone.

Visual vs. Multisensory

As one encounters a space he/she is confronted with a surge of information through visual cues. Often times, the visual information of a space can be so overwhelming that it may interfere or prevent the Occupant from experiencing it through other senses, thus making it difficult to notice all the features that a space has to offer. Experiencing a space by simply watching it is turning architecture into an experience similar to that of looking at a picture. Juhani Pallasmaa in his article *The Architecture of the Seven Senses* says:

*"The architecture of our time is turning into the retinal art of the eye. Architecture at large has become an art of the printed image fixed by the hurried eyes of the camera. The gaze itself tends to flatten into a picture and lose its plasticity; instead of experiencing our being in the world, we behold it from outside as spectators of images projected on the surface of the retina."*²

In fact, full experience of a space is absent, because architecture tends to serve visual perception. In *The Eyes of the Skin*, Pallasmaa also discusses how the sense of vision has dominated the other senses since the Renaissance era. This indicates that domination of vision to other senses is not a new discussion, yet Occupant-Space communication is often considered only or primarily visual. However, people certainly can communicate with space in ways that are not limited to vision. To create a Multisensory experience, it is necessary to know what opportunities each sense can offer, and how they can be engaged

in a built environment. In searching for answers to questions such as How does a space communicate with people with other senses than vision? I planned an experiment. The building chosen for the experiment has a catwalk within a top-lit atrium space, leading to a balconied rotunda space. I asked the study participants to explore the space two times: first with open eyes and then with closed eyes. After the exploration, they answered some questions about their experience. The questions covered almost all of the space's features, such as material, sound, heat, smell, dimension, as well as any other personal experiences they had. This experiment assisted in understanding what aspects of the architectural design can be perceived, although they are not visual.

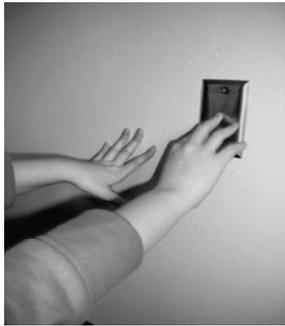


Figure 4. Blindfolded experiment- Participating haptic sense in perception



Figure 5. Blindfolded experiment- sunshine, temperature, and haptic sense.

The results showed people communicating with the space either through

sound or touch, when their visual perception was removed. Some participants admitted that there were things that they did not notice before until they touched them, such as the shape of the holes in the brass railing. The way they perceived those elements before was to recognize their existence perhaps in a glance. People who are able to see usually rely only on their visual sense, and try to acquire all the environmental information by watching. But the fact is that through this quick perception (seeing), they may lose much information. On the other hand, the participants had different reactions to the situation. Some tended to engage their haptic senses in perceiving space while some relied on sound and what they could hear. This indicates how perception varies from person to person, and this differentiation brings about diverse experiences of the same space for different persons. Another benefit of creating a space with a Multisensory experience is to give a wide range of people with different perception capabilities a chance to perceive a space and enjoy it.

Multisensory Experiences, Senses and Space

After vision, touch and audio are the most powerful senses in perception. Touch gives an opportunity to explore details that are not noticeable when seeing them. Perception through touch is a slower process than perception through vision; perceiving detailed elements through touch is so different with the information one perceives just by observing. Architectural space should highlight spatial features beyond vision so that the other senses are participating in perception as well.

An example of a space that reflects many characteristics of architecture with Multisensory experience can be MIT Chapel designed by Eero Saarinen. Built in 1956, the chapel is located on the campus of the Massachusetts Institute of Technology.³ The entrance of the brick cylindrical chapel is through a glass hallway. The circular interior layout implies a continuous connection between people and altar. The dark interior, which is lit

both with the skylight above the altar and the light reflection from water in an exterior moat to the walls, offers a dramatic and peaceful sense to people. The metal leaves hanging above the altar area are shining under the penetrating light from the skylight. While I was visiting the chapel, I started asking visitors some questions about the experience they had with each specific sense while visiting the chapel.

People's experience was typically through the vision sense. But they had experiences with other sensations as well. For instance, in the chapel the unusual metal objects hanging above the altar drew much attention, because by only observing them, people were not able to know exactly what they are, so they were starting engaging other senses to discover them. So, the benefit of each sense can be exposed mainly when other sensations are not able to respond to the curiosity one has upon confronting a new object.

Some asked questions are: Did you notice any special lighting strategies? (Natural or artificial light), How did you realize the material difference in the space? Based on sense of touch, did you feel temperature difference and air pressure? Did smell sense help you at all?"



Figure 6. MIT Chapel

People's experience is mostly through the vision sense. Vision provides a broad opportunity of experiences. But as mentioned before, physical perception is a process of engaging all senses, although frequently one only notices different senses when something is not usual and draws attention. For instance, in the chapel the unusual metal objects hanging above the altar drew much attention, because by only observing them, people were not able to know exactly what they are. So, the benefit of each sense can be exposed mainly when other sensations are not able to respond to the curiosity one has upon confronting a new object. The following sections will be about each sense's experience with a space and the influence of different features of the space on Occupant's experience.



Figure 7. MIT Chapel, brick wall, wood furniture, and light reflection

Material, Scale, and Orientation through Sound

Sound has different effects in any space. It can make a connection with the scale of a space, the material used, as well as its orientation. Sound can directly make us aware of the quality of a space. The feeling that each person can have inside a space through sound and reverberation represents the quality of a space. In his book *Experiencing Architecture*, Steen Eiler Rasmussen asserts how unaware one is about how much he/she can hear. In fact, the impression of what one perceives is the contribution of various senses, although one may not be aware of that. He explains the perception through sound and audio:

*"When we say of a room that is cold and formal, we seldom mean that temperature in it is low. The reaction probably arises from a natural antipathy to forms and materials found in the room- in other words, something we feel. Or finally, it may be that the acoustics are hard so that sound reverberates in it; something we hear."*⁴

An overall knowledge about material can be gained just by relying on sound and echo. Echo, the reflection of sound, is that which connects sound with a space. An echo usually represents how big the space is and that the material used in the walls and ceiling is polished. The sound that one can hear from their footsteps on a floor while walking can be representative of the floor material. The softness or hardness of material through the echo of the sound is clearly noticeable. In the case of MIT Chapel, wood furniture, stone floor, brick walls, metal objects hanging above the altar, and the glass part of the ceiling were noticeable materials for visitors. The materiality is one the features that can be explored by much diverse range of senses: Vision, Touch, Audio, and Smell. Therefore, the consideration of material in design promotes the quality of the space in regards to providing an opportunity for people with different priorities.



Figure 8. Scale
Boston Public Library, Boston, MA

"The sound measures space and makes its scale comprehensible."⁵ This was also evident in the blindfolded experiment I directed; the participants could get a sense of scale just from the sound and the reverberation effect. The sound of walking or talking in a large space is different from walking or talking in a small space. An echo of sound is different in time and quality based on distance. The scale of a space is an effective feature in spatial experiencing. Scale can define the position of the body against the physic of space and make sense of being big or small, tall or short, and narrow or wide. Understanding these features brings a higher level of perception in which one can feel and connect their bodily presence with their surroundings. In other words, "Understanding architectural scale implies the unconscious measuring of an object or a building with one's body, and projecting one's bodily scheme on the space in question. We feel pleasure and protection when the body discovers its resonance in space."⁶ The space needs to make a connection with our body scale. The scale of the space can be coordinated with the body scale to make the connection.

The other spatial feature of sound is orientation. It assists one by locating themselves in a space, when they hear a sound and consider it as the source of direction, by moving toward it or by going against it. It helps to identify the different locations, especially in navigation through a space.

Touch

Sense of touch or haptic sense is another strong tool in perceiving a built environment. "The skin reads the texture, weight, density, and temperature of matter."⁷ Touch can open a new world of experience that is about materials: the softness or hardness that is felt with touching a wall, a handle, or a door with our hands. One can also feel the floor material while walking. Although this kind of haptic experience is not direct, the floor material can be strongly felt if it is a carpet, wood, or stone. Different materials can create different experiences through which they

identify themselves. In MIT Chapel, it was obvious that visitors could distinguish the type of material by their sense of vision. This capability of material recognition through seeing is based on person's previously gained knowledge through past experiences. This was evident, when many visitors of the building started to touch the metal objects hanging above the altar area. The visitors were not able to recognize the materiality of the objects through seeing them; therefore touching was the answer to the curiosity that draws the visitors to the altar.



Figure 9. Material and Temperature Difference
NY University, NY

Smell

Smell is the sense that is closely related to memory. Providing a condition to offer the sense of smell can add another dimension to the architectural space by providing the opportunity for someone to remember past memories and experiences. Smell can also participate in material recognition, as different materials can have different aromas. In the MIT Chapel case, less than half of the visitors mentioned that they smelled the space; they described it as stale, like smelling humid soil. The brick and wooden furniture of the chapel did not provide much scent. But still there were people who had some kind of aromatic experience in this building. Other examples of using smell in

architectural space would be when there is a wood, old brick, or even vegetation. In addition, memorable aromas of food can be related to the openness of a kitchen and its connection to the dining area. The sense of smell and its strong connection to memory provides a unique experience as the Occupant perceives the surroundings.

Recognizing and applying sensory features in a right place assigns that space to its unique character. Also, to achieve a desired experience, one's perception of the surrounding is necessary and Multisensory experience assists the process of perception to occur. The application of sensations is in strong correlation with memory and past experiences. Memory is the connection between the sensations and the previous gained knowledge that allows the process of perception happens. However, there are new situations that one may not have any previous knowledge about. In these cases, *affordance of object* is the first step of perceiving it. Affordance is the clarity of identity, which will be discussed in the next section. After affordance and visual introduction to the object, applying sensations is the next step in perceiving the object. Hence, affordance in cooperation with sensations is a way of perceiving new things.

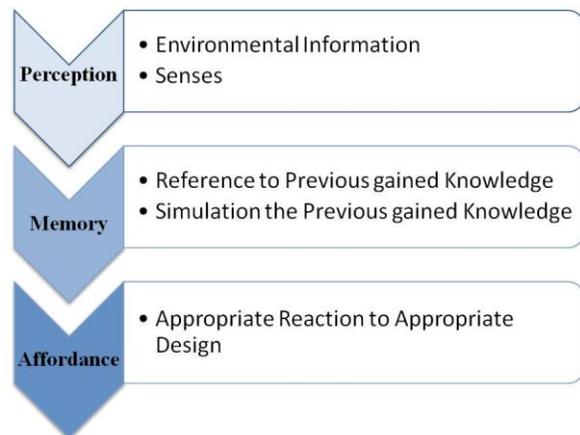


Figure 10. Perception, Memory, and Affordance Relationship

Affordance in Psychology, Function in Architecture

One of the important points that should be considered in design process is to know whom we are designing for. Discerning the ultimate user is important in recognizing their needs and expectations. To utilize the perception process for a user, a designer can consider affordance as a major part of the design process. Affordance is an approach in psychology that explores how an object can be designed in a way to be better perceived. In other words, the design should signal the appropriate action. People are likely to be confused when they confront a new object. The confusion is because of the number of possibilities that exist in process of knowing a new object. Affordance accentuates the real task of an object by its design.⁸

As an example, for a door, its design should be clear enough to represent its function and identity. In his book *Psychology of Everyday Things* Donald Norman exemplifies a person's experience with a new designed door. The person enters a building through a door, but he encounters a problem while trying to exit from the same door. He pushes the door but nothing happens, the door is stable. He tries again and he fails again. He is scared and feels lost. Then a group of people enters from another door and he rushes toward them to exit from that door which is still open. The door was elegant, but what its design lacked was the presentation of its identity: from which direction does it turn?⁹

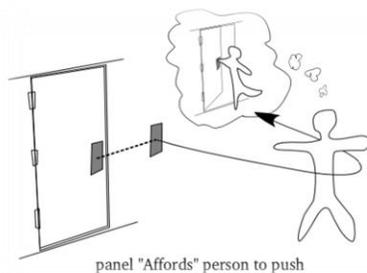


Figure 11. Reflection of Affordance in Design

Architectural space consists of many small elements like door or window. A user doesn't like to get lost or scared when he wants to try an innovative designed object. Considering users, designers should provide affordance within any object they design. It can also be true about Architects. Although Architects' job is mostly designing space in general, paying attention to small details in space also is part of their job. Affordance in architecture can be found in terms of function.

Function is the identity of a space; it defines a space. For instance, a design of a house should be representative of its function, which is being residential. A classroom should be a room specified for educational purposes and provide an environment that facilitates education. If a building is called a house or a space called bedroom, then the expectation is to experience a house or to experience a bedroom.

In spite of people's different reactions to different situations, there are still some similarities. For instance, some expectations from a designed space are similar. Function is the response to these similar expectations and initial comfort needs within a space. On the contrary, anti-functional architecture can be one that not only does not provide Occupants with what they expect and need, but also creates a situation in which Occupants need to struggle to achieve a minimum level of comfort.

House VI, a project by Peter Eisenman completed in 1975, Cornwall, Connecticut, is an example of architecture that is anti-functional.¹⁰ The house is designed based on intersections of geometric forms and a concentration on structure. It is a project well known to show the process of design, but what is obvious in this process is the lack of considering users who are going to deal with every aspect of the house. House VI has only one bathroom, which is accessible from the only one bedroom. The bedroom is divided by a glass slot in the floor that prevents Occupants to have a double bed. The stairway is not supported by handrails. There is a column in the kitchen table that separates diners. In the book *Peter Eisenman's*

House VI: The Client's Response. The client, Mrs. Frank, complains about some of the architectural aspects of the house: "The most inconvenient element in Eisenman's design, however, was the slot in the bedroom floor, which sliced right through the middle of our bed. This forced us to sleep in separate beds, which was not our custom. " ¹¹



Figure 12. Glass Slot in the Bedroom, House VI by Eisenman

Eisenman, in an interview with Charles Jencks, says his houses are not anti-functional, but they are against the symbolism of function. "Those houses keep the rain out, you can sleep in them", he states that living in those houses is not with great difficulty, but "with different attitudes towards what it means to function as a house." He claims his works are against the traditional notion of dwelling. "Having a column in the middle of the bedroom so you could not put a bed in it certainly attacked the notion of how you occupy a bedroom."¹²

A fulfilling design requires significant consideration of users and their needs in the design process. Occupants can communicate better with architectural space or any built environment, if the space provides them with what they expect. A space that is created based on its true function has an identity toward its Occupants. True function can offer comfort, clarity in use, and enjoyment.

Conclusion

Architects are responsible for improving the relationship between the Space and

Occupant. There are many factors involving in this relationship. The variety of factors emerges from the fact that Occupants are different because of their background, culture, personality, context, and so on. To be able to improve the relationship between space and the Occupant, one can focus on the general features of this relationship. The general features are those that involved in expectations of the majority of Occupants in spite of their differences. Two of these features are Perception and Function. Perception basically happens through sensations. So, the sensations connect one with his/her surroundings. A comprehensive perception occurs through engagement of all senses. The architectural space needs to involve sensory design to establish a stronger connection between the space and Occupant. Perception occurs through sensations; however it is not the only approach to a stronger perception. The other necessity in design is Affordance. "Affordance refers to the perceived and actual properties of the thing, primarily those fundamental properties that determine just how the thing could possibly be used."¹³ Affordance clarifies the identity and purpose of an object. Affordance in architecture can be named Function. Function is the identity of each architectural space. So, it clarifies the purpose of the space and invites the Occupants to use that space according the aimed purpose. Function is also what Occupants expect from a space. If a function of a space meant to be living room, then they expect a space that is aimed to be a living room.

The connection of Multisensory experience and true function to memory and affordance engages new aspects to improve the relationship between the space and Occupant. Architects can fulfill the Occupants' desire in enjoying a space through applying multisensory features to a space and designing based on the aimed function.

Figures Citation

Figure 1: Diagram by author

Figure 2: Diagram by Author

Figure 3: Photograph by Author

Figure 4: Photograph by Author

Figure 5: Photograph by Author

Figure 6: Photograph by Author

Figure 7: Photograph by Author

Figure 8: Photograph by Author

Figure 9: Photograph by Author

Figure 10: Diagram by author

Figure 11:
www.communitywiki.org/en/whatisaffordance

Figure 12: <http://www.archdaily.com/63267/ad-classics-house-vi-peter-eisenman/>

Notes

¹ Holl, Steven, Juhani Pallasmaa, and Alberto Pérez Gómez. 1994. *Questions of perception: phenomenology of architecture*. Tokyo: E ando Yū. Maurice Merleau-Ponty, P 45.

² Holl, Steven, Juhani Pallasmaa, and Alberto Pérez Gómez. 1994. *Questions of perception: phenomenology of architecture*. Tokyo: E ando Yū. Juhani Pallasmaa. An architecture of the seven senses.

³ Saarinen, Eero, Eeva-Liisa Pelkonen, and Donald Albrecht. 2006. *Eero Saarinen: shaping the future*. New Haven: Yale University Press. P 4.

⁴ Rasmussen, Steen Eiler. 1962. *Experiencing architecture*. Cambridge [Mass.]: M. I. T. Press, Massachusetts Institute of Technology, P 224.

⁵ Perez Gomez, Alberto, Steven Holl, and Juhani Uolevi Pallasmaa. 1994. Questions of perception: phenomenology of architecture. *A + U: Architecture and Urbanism*

⁶ Juhani Pallasmaa, *The Eyes of the Skin* (England: Wiley-Academy, 2005), P 67.

⁷ Juhani Pallasmaa, *The Eyes of the Skin* (England: Wiley-Academy, 2005), P 56.

⁸ Norman, Donald A. 1988. *The Psychology of Everyday Things*. New York: Basic Books, P 9.

⁹ Norman, Donald A. 1988. *The Psychology of Everyday Things*. New York: Basic Books, P 3.

¹⁰ Mitchell, C. Thomas. 1993. *Redefining Designing: From Form to Experience*. New York: Van Nostrand Reinhold, P 22.

¹¹ Frank, Suzanne S., and Peter Eisenman. 1994. *Peter Eisenman's House VI: the client's response*. New York: Whitney Library of Design, P 60.

¹² Mitchell, C. Thomas. 1993. *Redefining Designing: From Form to Experience*. New York: Van Nostrand Reinhold, P 24.

¹³ Norman, Donald A. 1988. *The Psychology of Everyday Things*. New York: Basic Books, P 9.

Thesis Addendum

I believe the concepts generated in the final design represent the ideas in my thesis paper quite successfully. According to my thoughts in the paper, I intended to establish a more dynamic connection between the users and the built environment. Therefore, I found an entertainment center, which is dedicated to people to use it as an escape from everyday hassle of City life, a proper program for downtown Cincinnati. Along with fountain square, this museum and library can be counted as a major destination for Cincinnatians. During my review, one of the reviewers asked me how I connected the museum to the urban context. In response, I explained the site location is two blocks away from fountain square and is surrounded with a significant number of high-rises. This opportunity required me to consider the design of the aerial view, as well as pedestrians' experience that are mostly walking toward the site from fountain square area.

In attempting to design the museum, I reflected the main concepts of the paper in the museum's galleries. The main effort was to heighten the users' awareness about their senses and offer them an opportunity to explore a built environment through their sensations. So, the multisensory experience enhances their perception of the surroundings. The museum has permanent exhibits, which are the main part of the building to present dramatic spaces that interact with sensations. The exhibits are categorized in three groups. The first category includes exhibits that introduce the primary senses, such as touch, audio, and vision. The second category is dedicated to multisensory experiences. In this part, one can explore different experiences, such as embracing exhibit, surprising exhibit, and curiosity exhibit. The third part is the participatory section of the

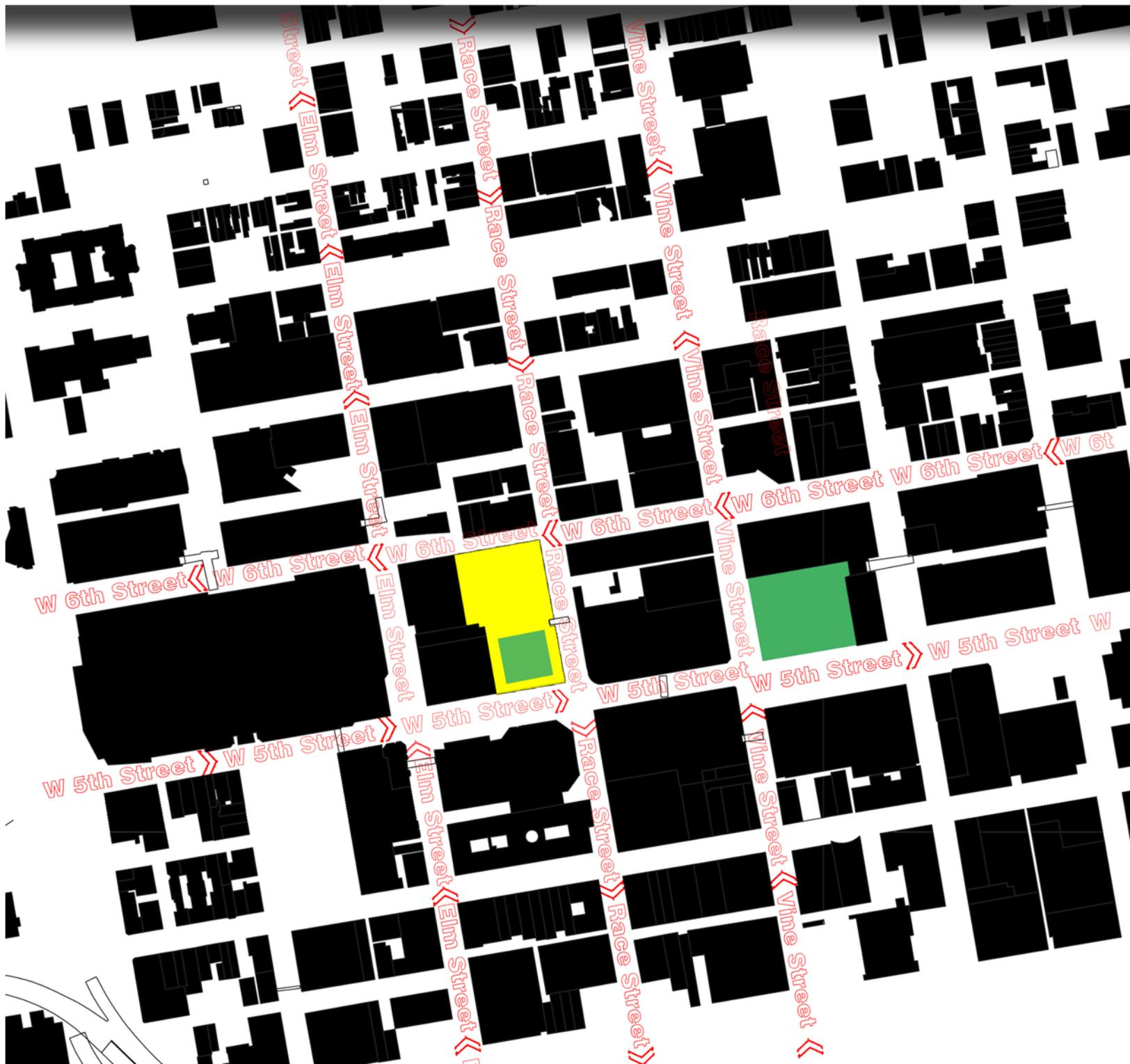
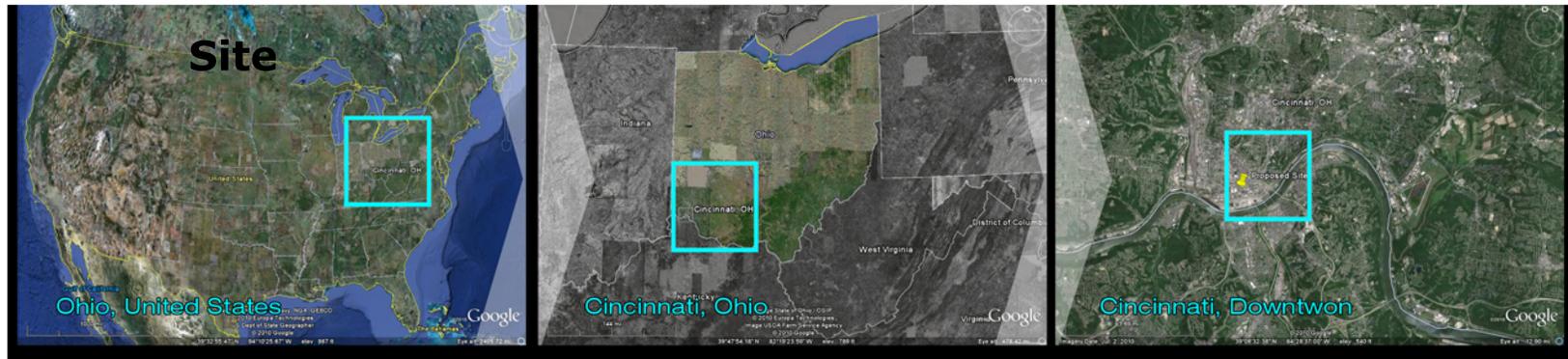
museum in which the users have the opportunity of expressing their ideas and perception of the architectural space and senses in their drawings and paintings that will be hung in this exhibit. They can also enjoy some other features of interactive art, such as shadow bag, which is a screen that can play back the shadows randomly.

The main concept of the building design was to create an internal building. This idea is maintained by designing two courtyards. The courtyards are the other main multisensory spaces in the building. The main courtyard offers some hints of the interior space to the outsiders as a welcoming gesture. Also, integrating natural elements into the building was another way of providing the multisensory experience, as nature is a perfect example of multisensory experience. Green roofs, trees in the courtyard, and pond are some examples of this integration.

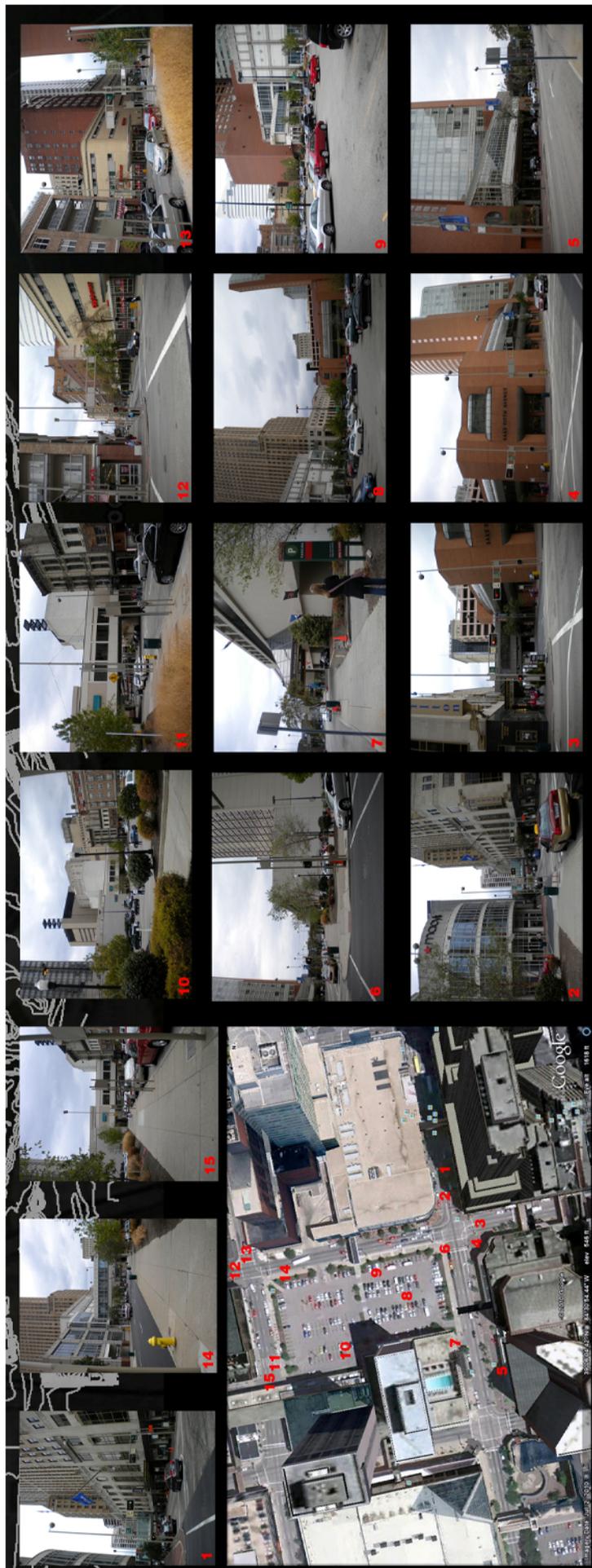
The other parts of the museum complex are Media center, Café, Restaurant, and temporary exhibits. These programs are supporting programs and chosen to provide a comfortable complex for the visitors. However, they were not my main focus in interior design process.

In the final review, there were some critiques stating that the museum's exhibits could be the dominant part of the complex and expanded more. Some other programs could be eliminated. I believe this idea can work as well and could be consider in future design decisions.

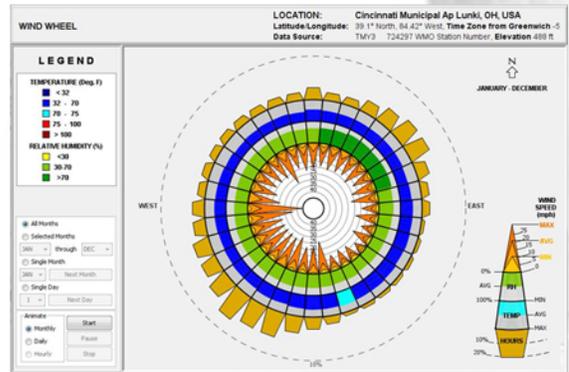
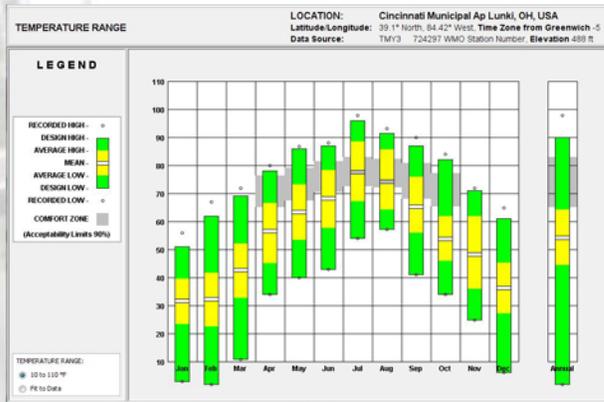
In conclusion, I believe the strengths of the design compensate the minor weaknesses. In my thesis journey, my main effort was to grow the notion of multisensory experience and interaction of the users with the space. I think in future considerations of this project the design could focus mostly on museum exhibits and the expansion of the multisensory experience in the other parts of the complex, such as café, media center, and the restaurant.



Site



Site



June 1, 2010



October 1, 2010

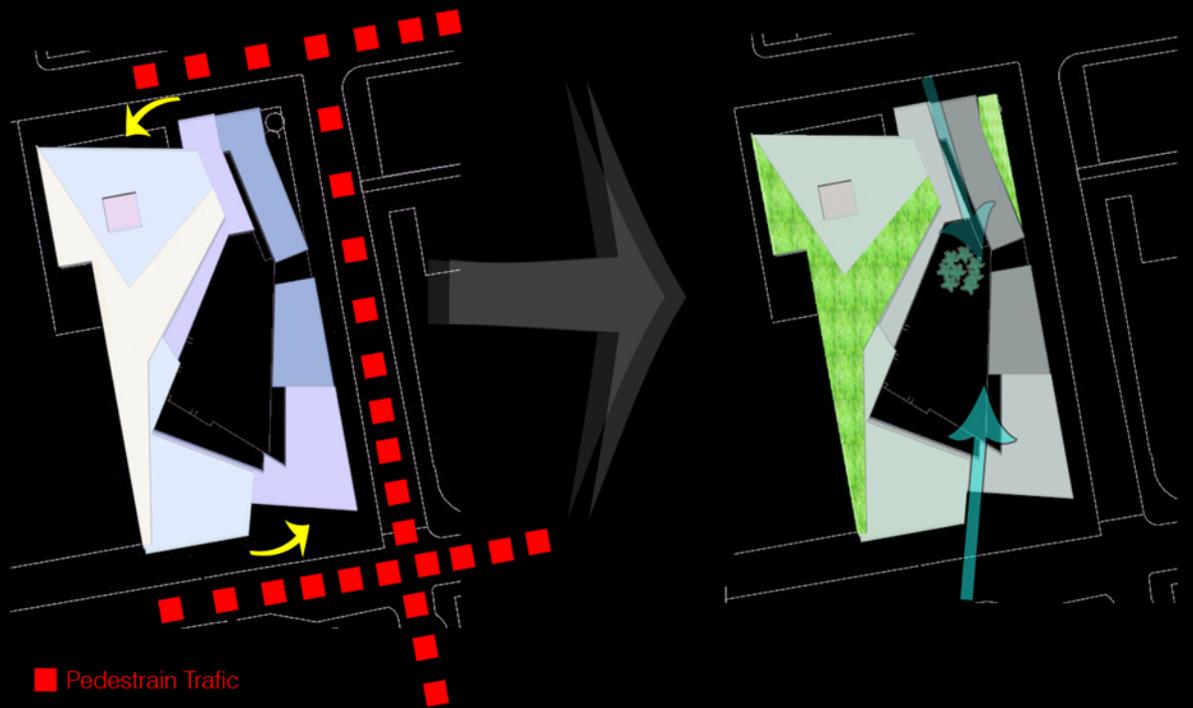
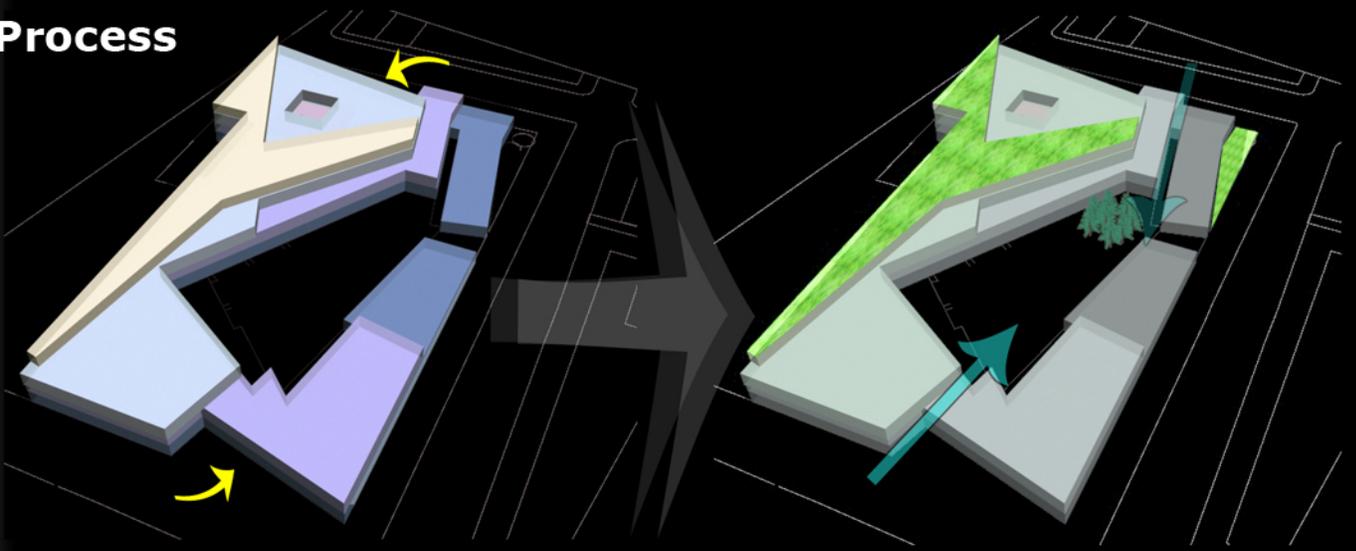


February 1, 2010

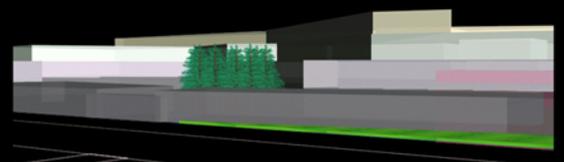
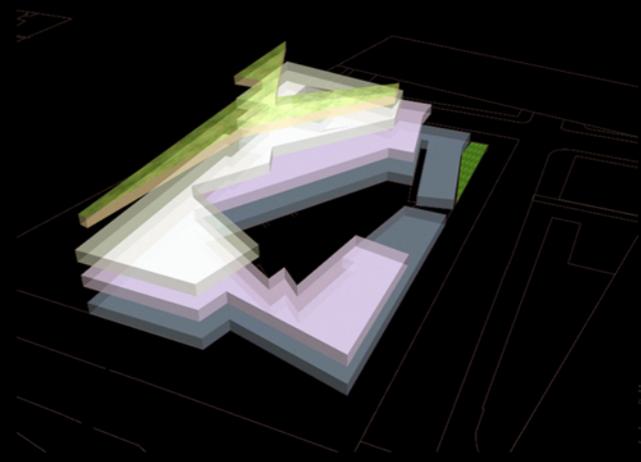


SUN/ SHADOW STUDY

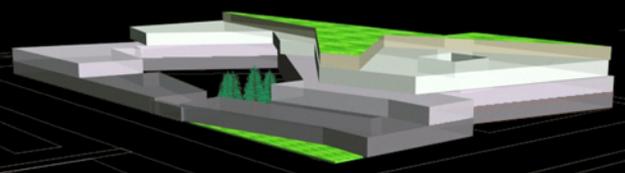
Process



■ Pedestrian Traffic



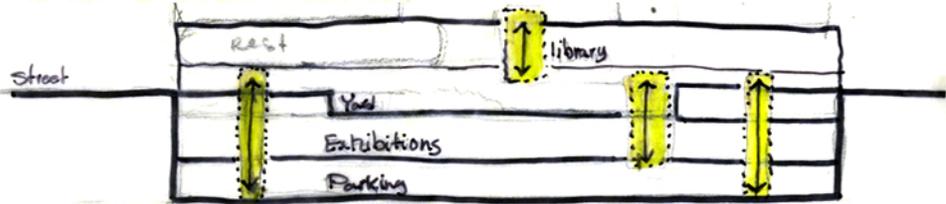
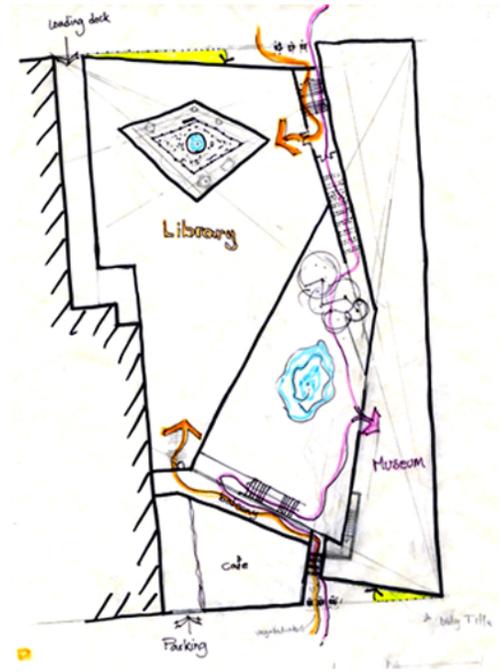
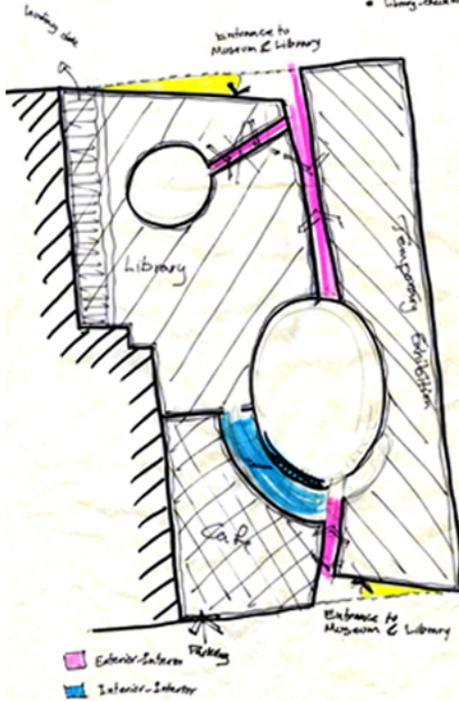
A hint of inside to outsiders



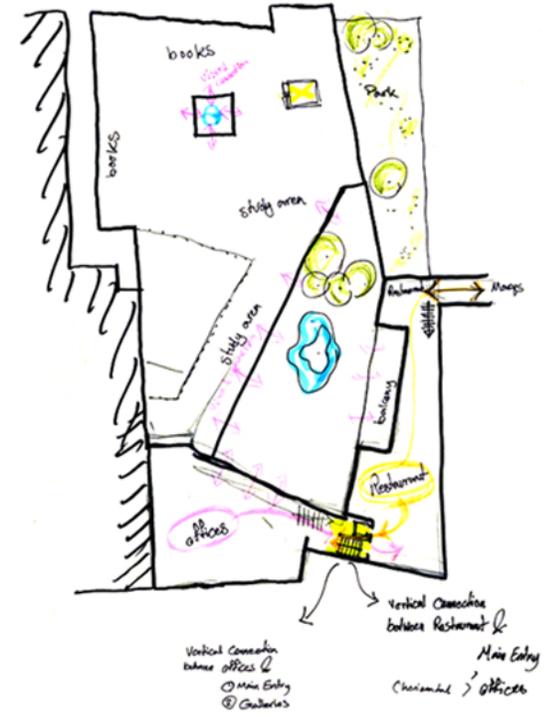
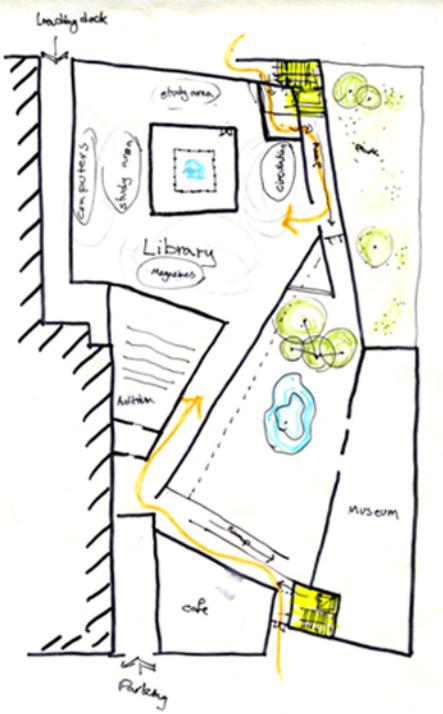
Trees of the courtyard are visible from the pedestrian sidewalk

Process

- Exhibitions & Entry Area
- Yard & Plaza
- Library space & Plaza
- Library & Exhibition into a shared hub

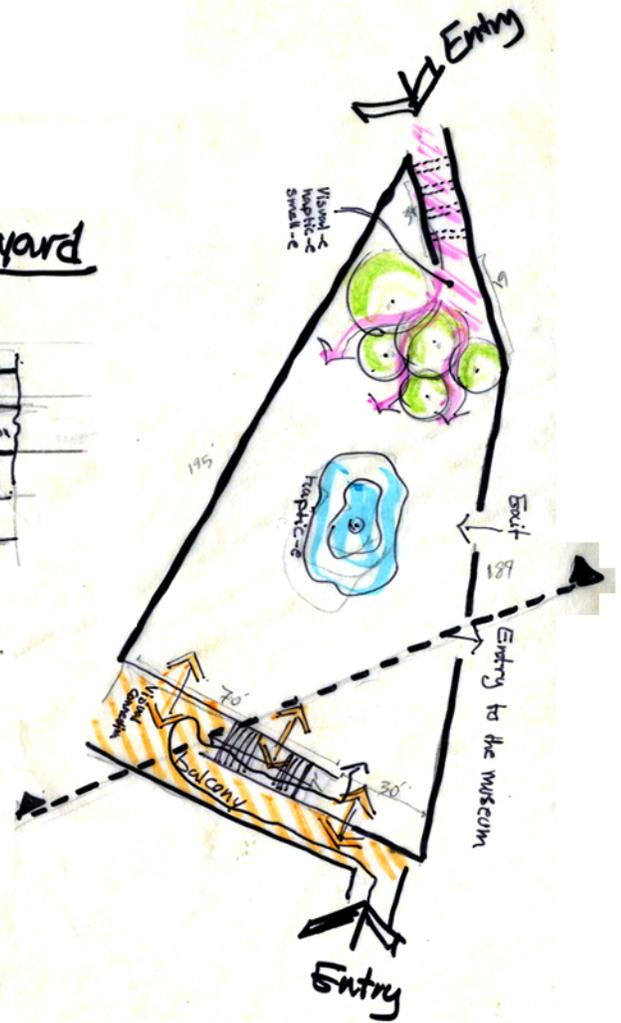
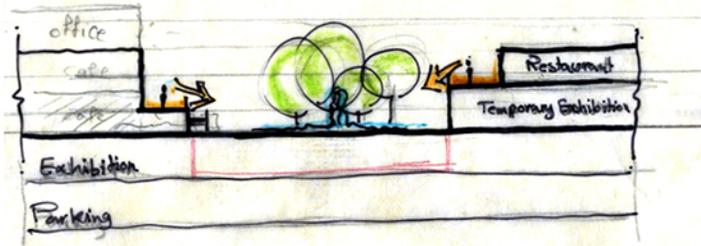


Section

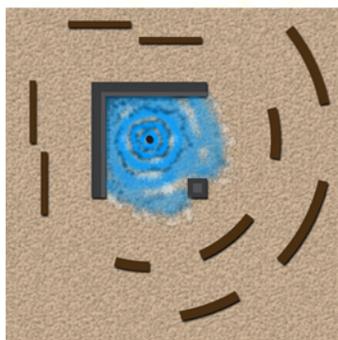
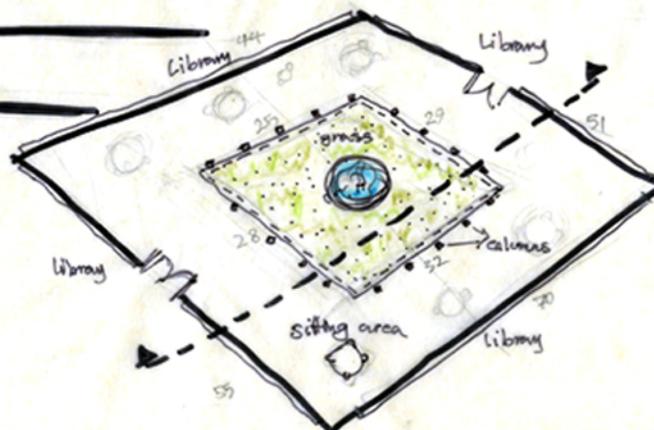
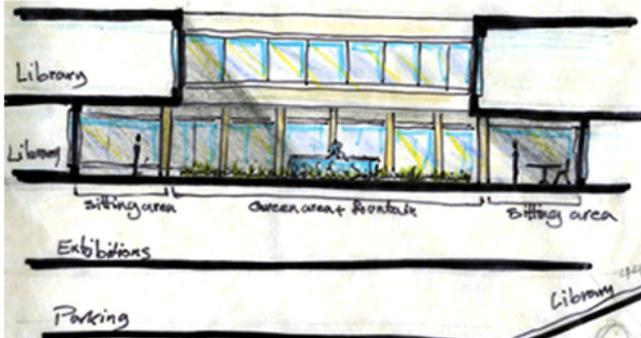


Process

Main Courtyard

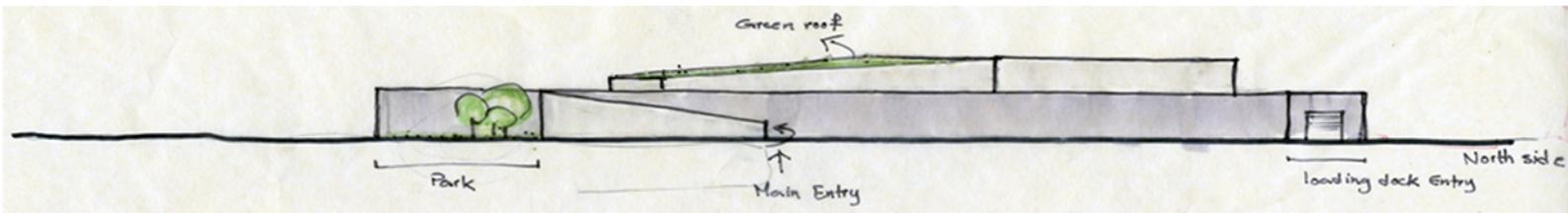
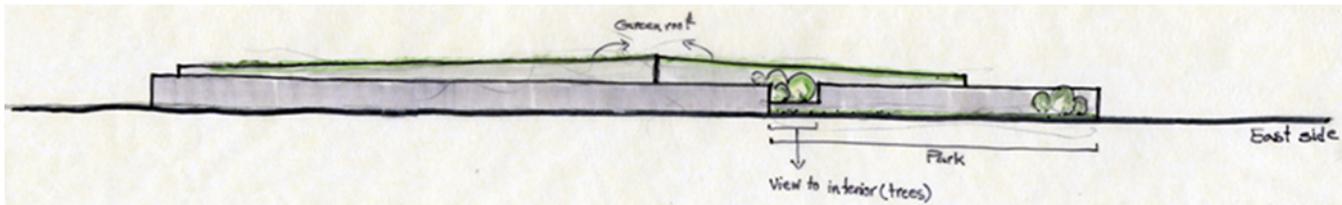
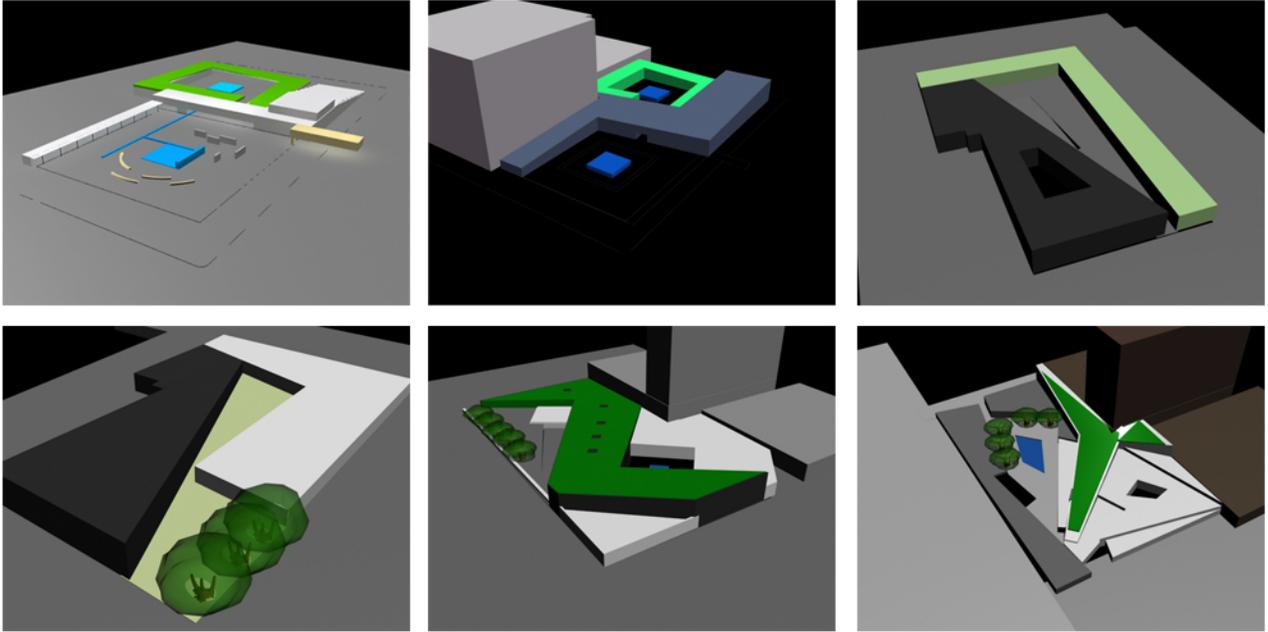


Library's court yard



Ideas for fountain include having sand on ground and a smooth transformation of water from pond to the sand. The pond provides a place for people to remember beach and they will be able to walk and step in sand and water. There will be some seating area around.

Process



Some of the main concepts applied in elevations are:

- 1- Integrating element representing nature, such as green roof, small park attached to one side of the building, and tree in the courtyard.
- 2- Giving some hints from inside of the building to outsiders to invite them to explore the inside.
- 3- Having low walls in the sidewalk parts to provide human scale for pedestrian and visually offer them to see the rest of building in background in higher level. This helped to create a more dynamic elevation.

MUSEUM Galleries



- Primary Experiences- Introduton to Senses
- Multisensory Experiences
- Participitory Experiences

Presentation

TOUCH

PRECEDENT



FINAL DESIGN



AUDIO

PRECEDENT



FINAL DESIGN



SMELL

PRECEDENT



FINAL DESIGN

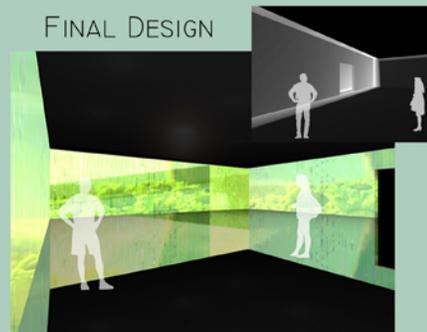


VISION

PRECEDENT



FINAL DESIGN



Presentation

MULTISENSORY EXPERIENCES

PEACEFULL

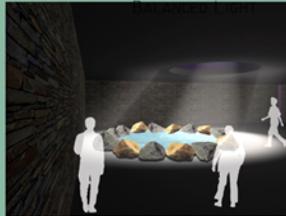
PRECEDENT
ART& ARCH. LIBRARY

ENGAGED SENSES

ARCH. ELEMENTS
MUSIC/ MATERIAL/ COLOR/
APPROPRIATE TEMPERATURE/



AUDIO/
VISION/
TOUCH



CURIOSITY

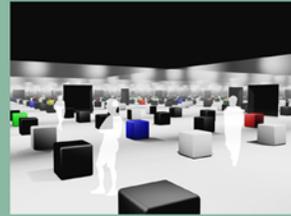
PRECEDENT
ART& ARCH. LIBRARY

ENGAGED SENSES

ARCH. ELEMENTS
NEW MATERIAL USED IN
ORNAMENTATION



VISION/
TOUCH



EMBRACING

PRECEDENT
BOSTON PUBLIC LIBRARY

ENGAGED SENSES

ARCH. ELEMENTS
SOUND QUALITY/ TRANSITION
FROM SHADOW TO LIGHT



VISION/
TOUCH/
AUDIO



SURPRISING

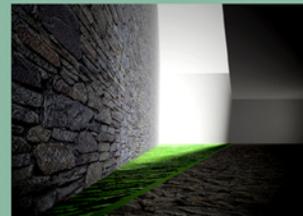
PRECEDENT

ENGAGED SENSES

ARCH. ELEMENTS
PLAYING WITH LIGHT/
CONTRAST BETWEEN SPACES



VISION



COMMUNITY

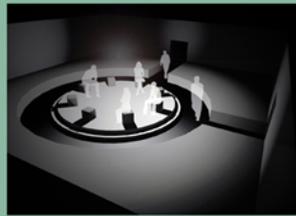
PRECEDENT

ENGAGED SENSES

ARCH. ELEMENTS
ROUND SHAPE/ GATHERING SPACE



VISION/
AUDIO



Free

PRECEDENT

ENGAGED SENSES

EXPLORATION
ARCH. ELEMENTS
SCALE DIFFERENCE



VISION



FILM

PRECEDENT

ENGAGED SENSES

VISION/
AUDIO



OPEN

PRECEDENT

ENGAGED SENSES

ARCH. ELEMENTS
SCALE DIFFERENCE



VISION/
AUDIO



MULTISENSORY EXPERIENCES

Presentation

INTERACTIVE ART

PRECEDENT

ENGAGED SENSES

VISION/
TOUCH



[HTTP://WWW.STUDIOOSEGAARD.NET/PROJECT/FLOW/](http://www.studiooosegaard.net/project/flow/)

SHADOW BAG

PRECEDENT

ENGAGED SENSES

VISION



[HTTP://WWW.SNIBE.COM/PROJECTS/INTERACTIVE/SHADOWBAG/](http://www.snibe.com/projects/interactive/shadowbag/)

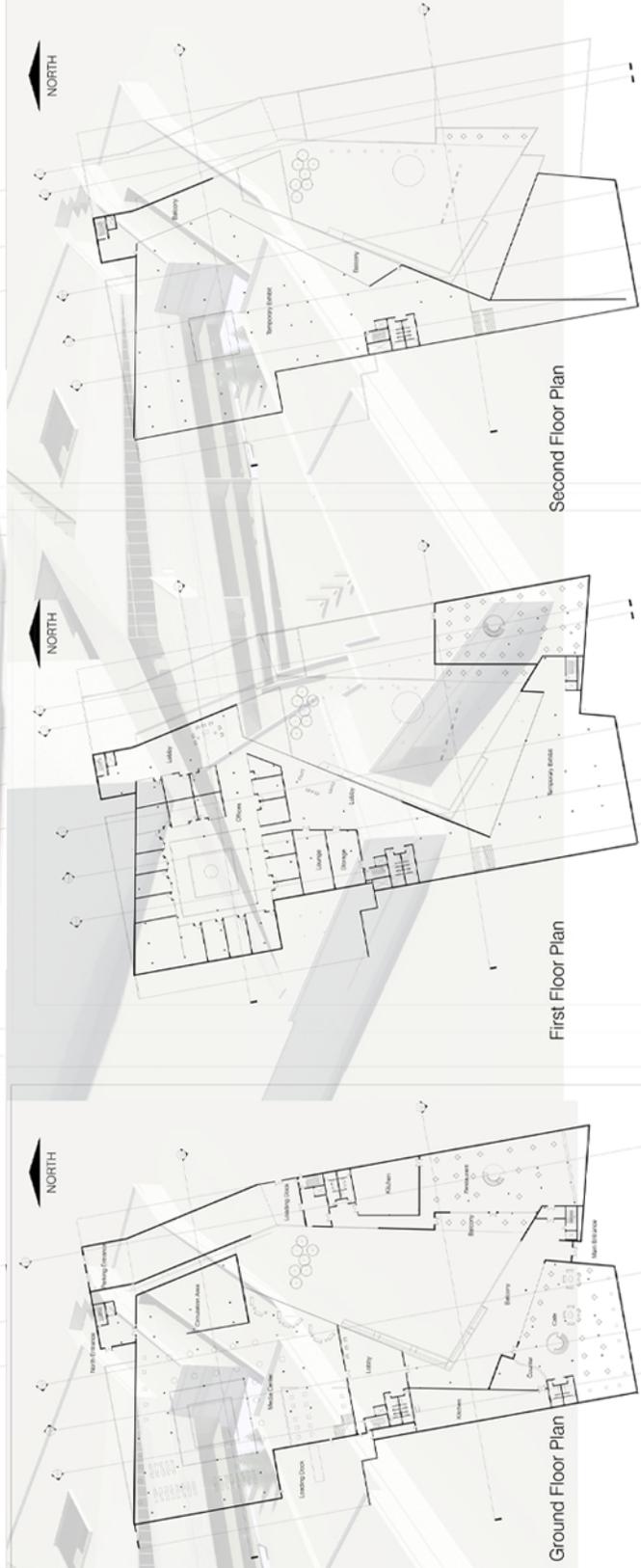
DRAWING

ENGAGED SENSES

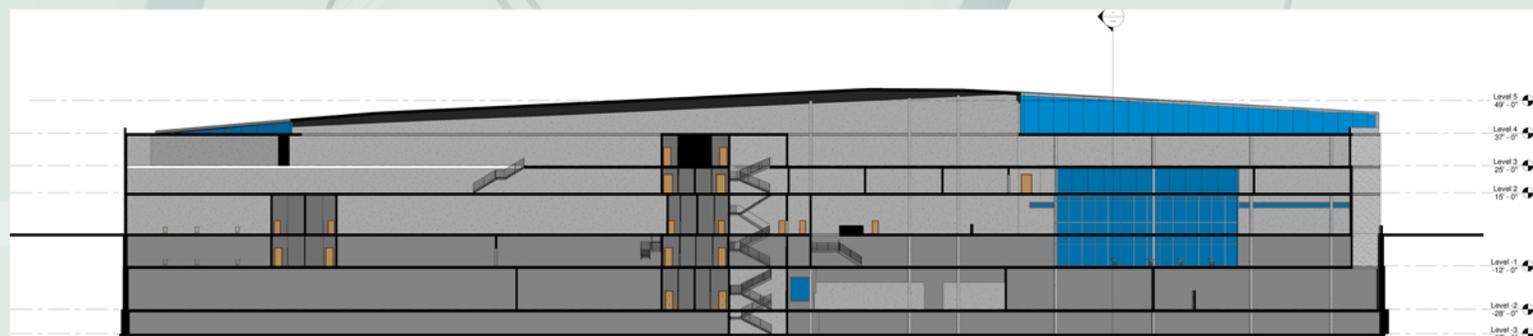
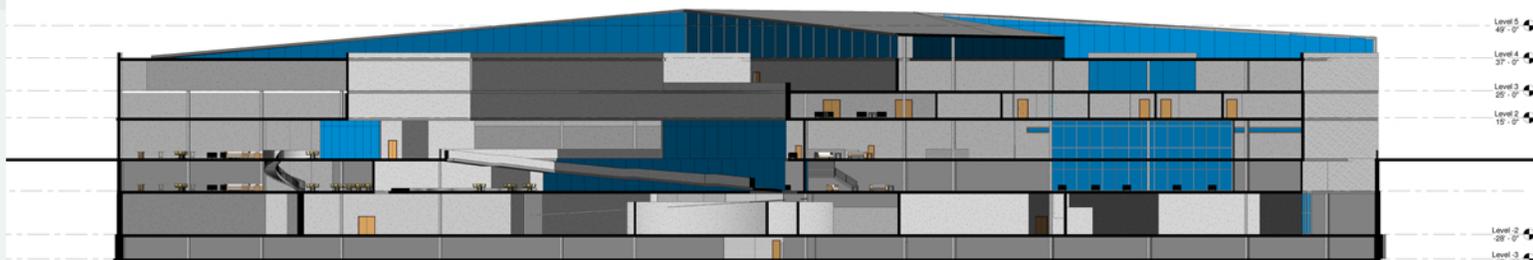
VISION/
AUDIO/
TOUCH



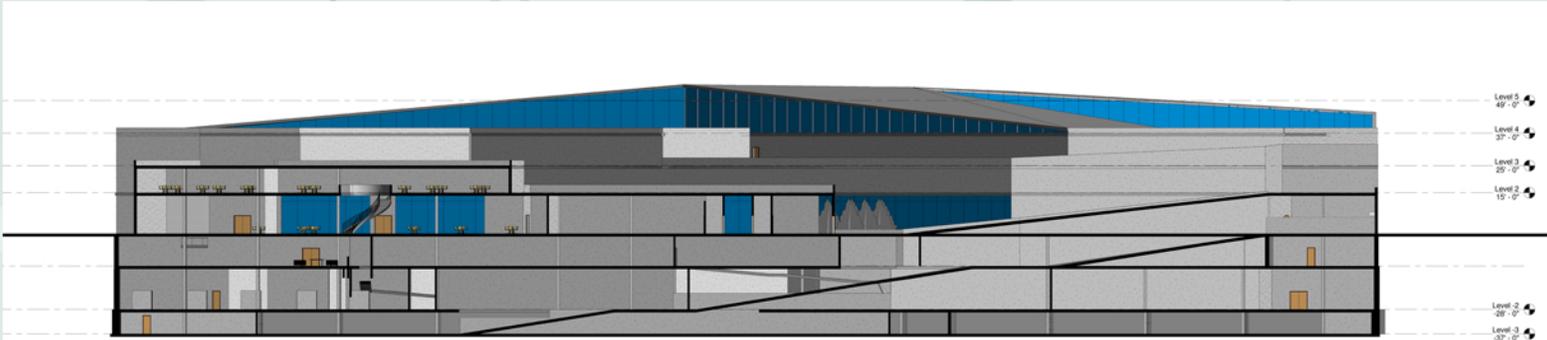
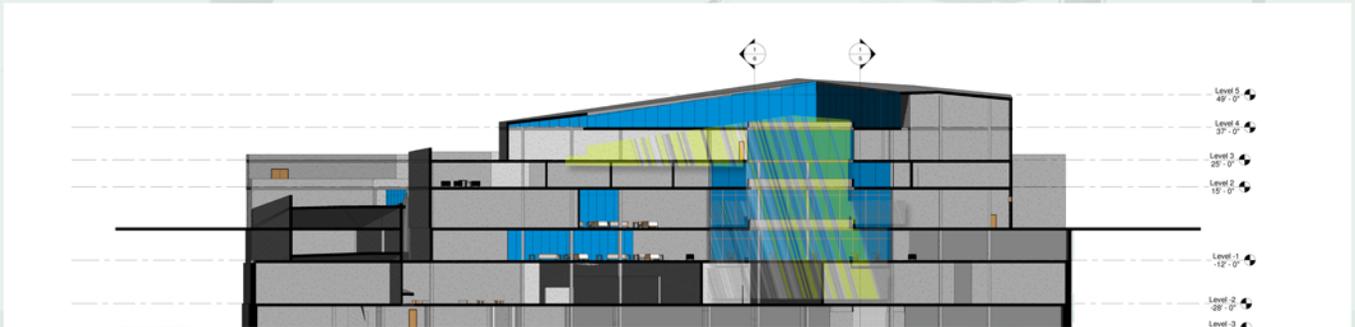
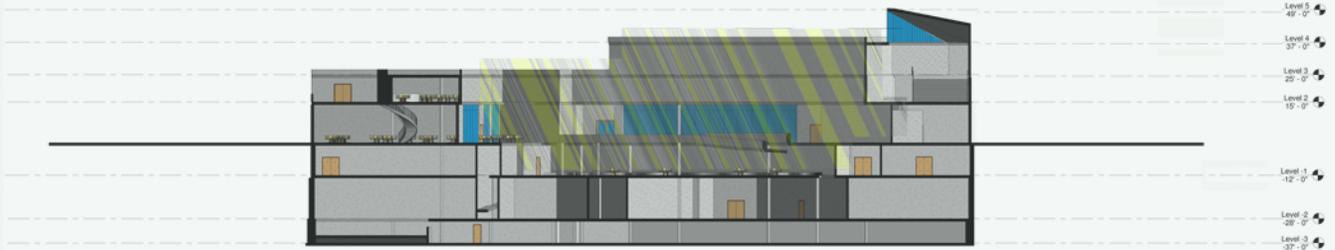
Floor Plans

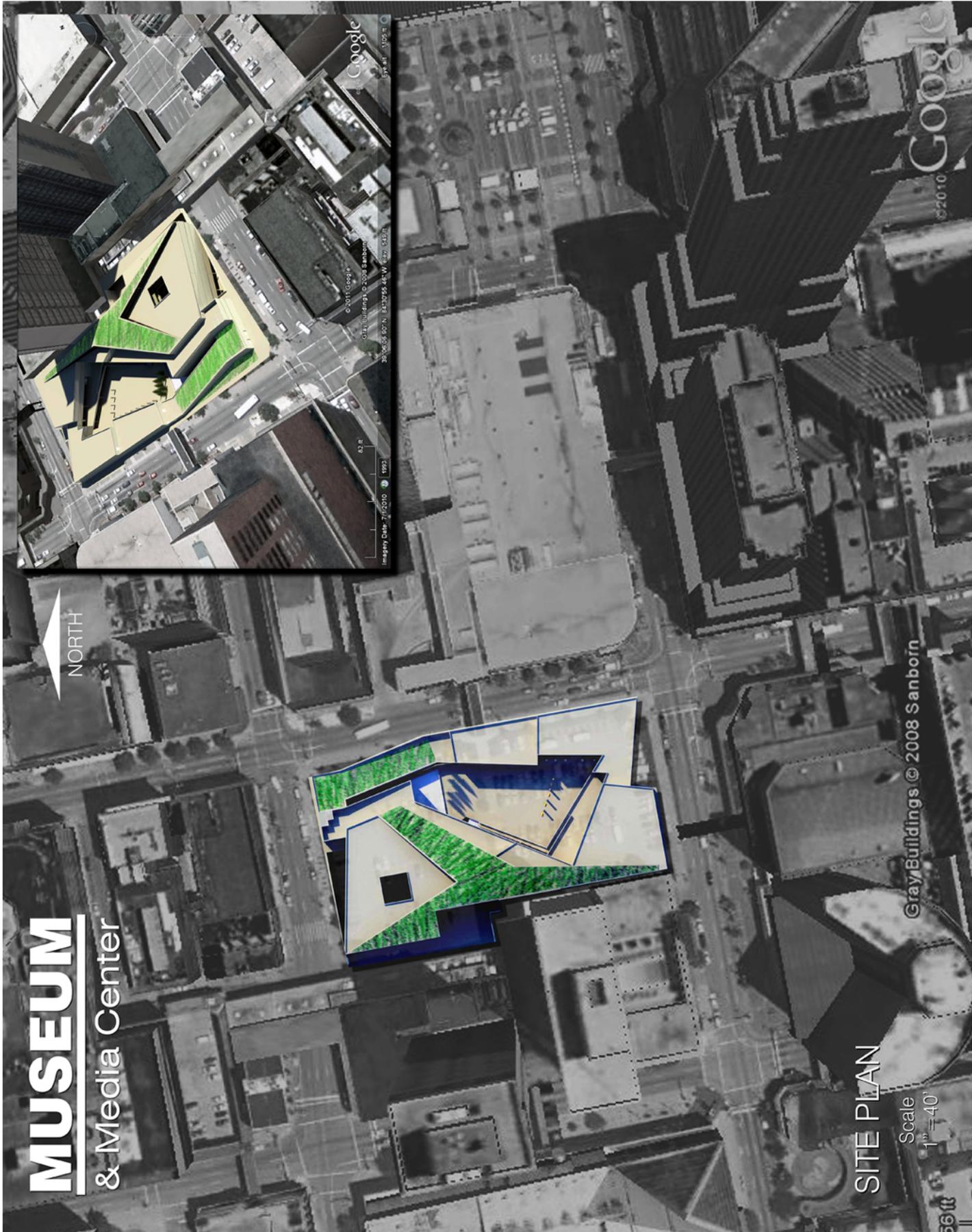


Sections

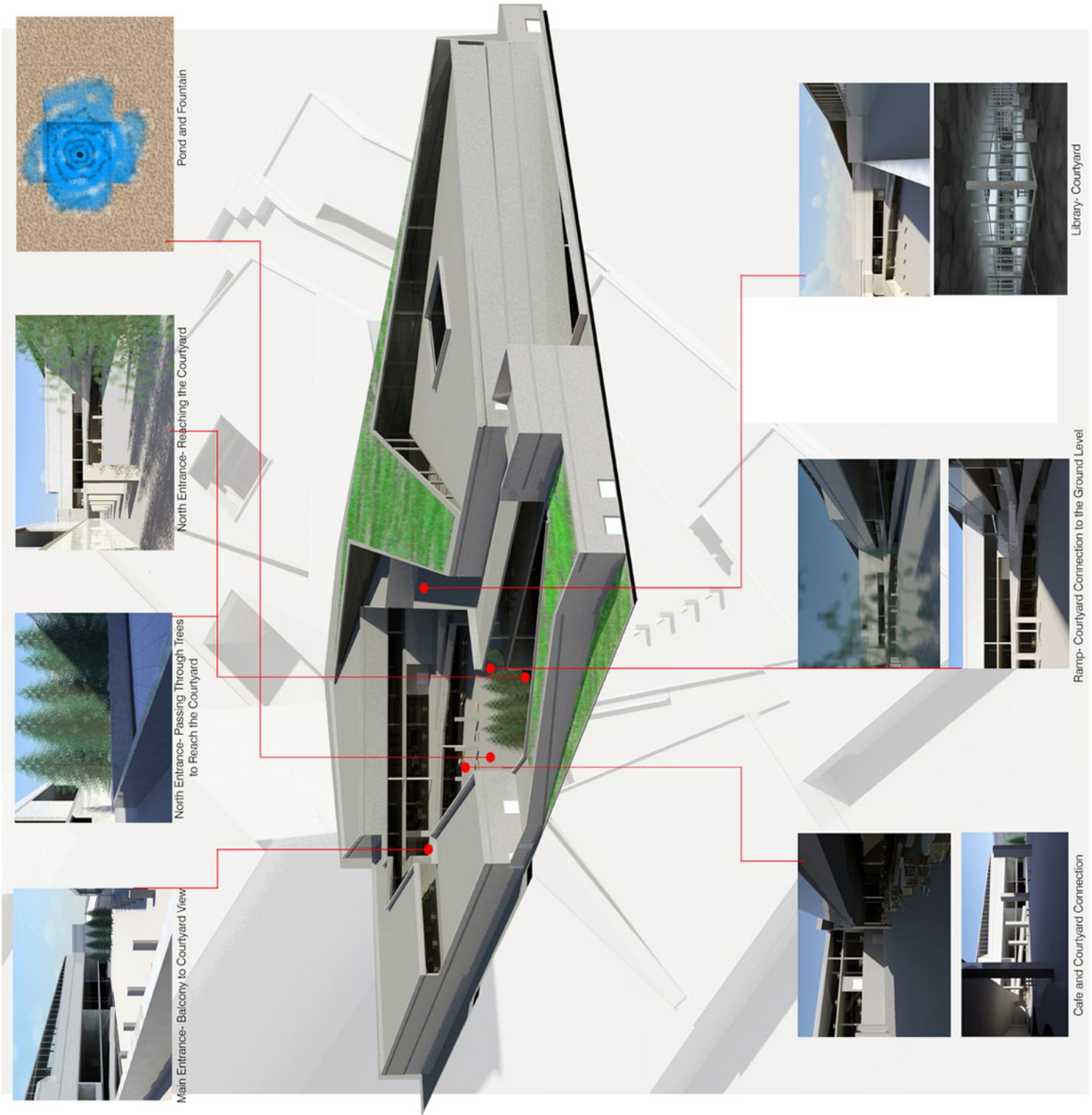


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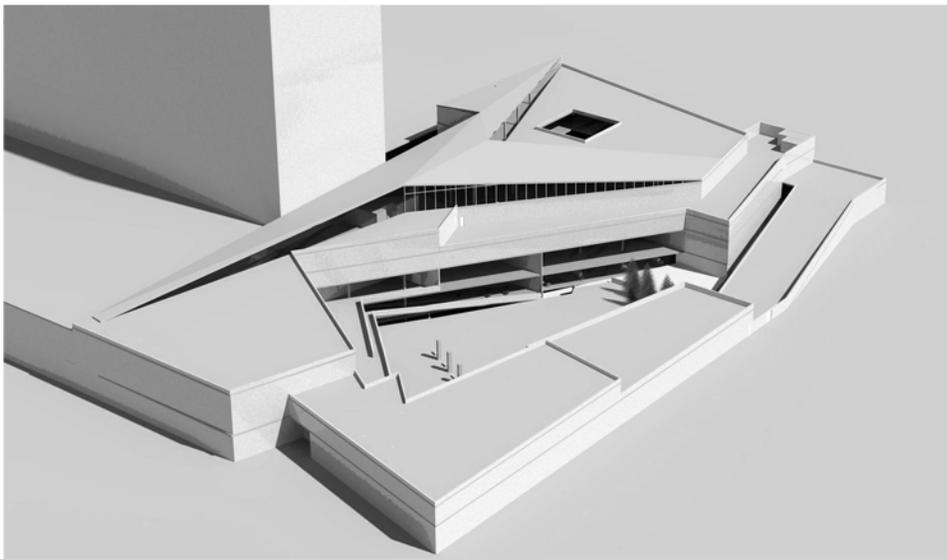
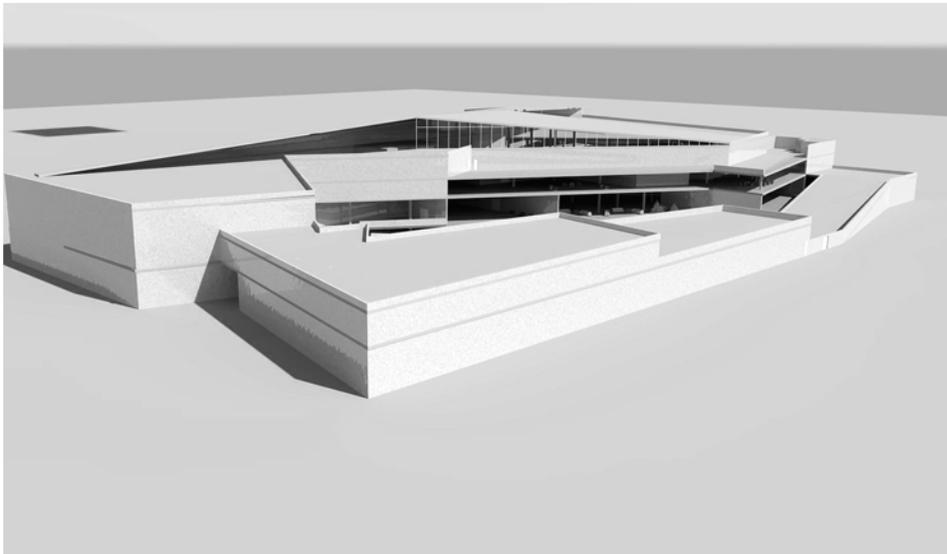
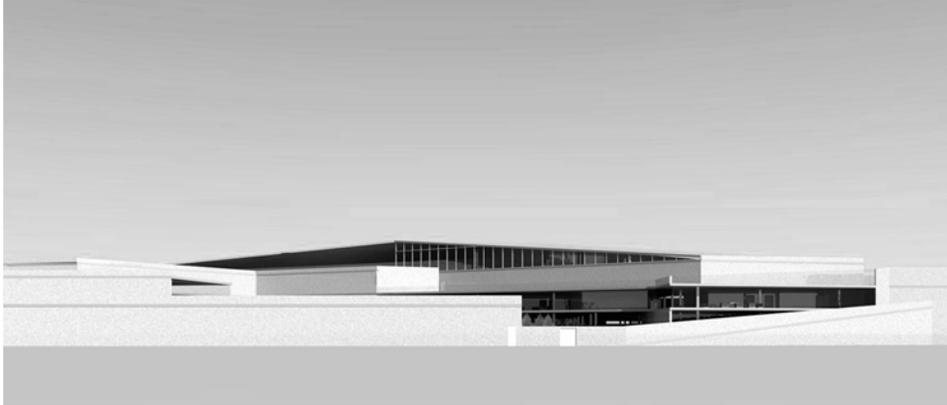




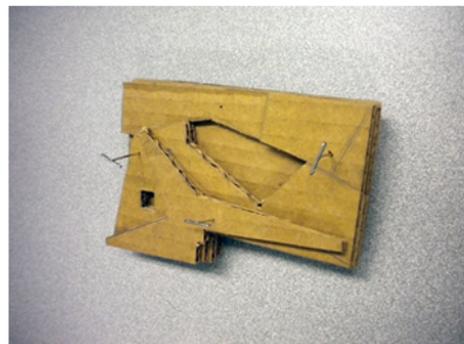
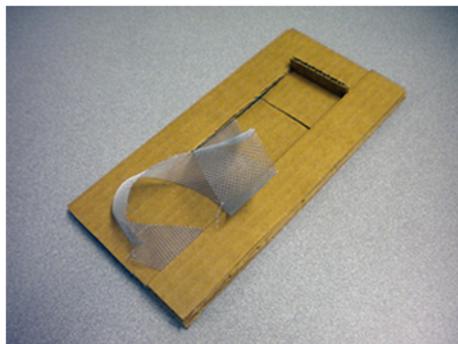
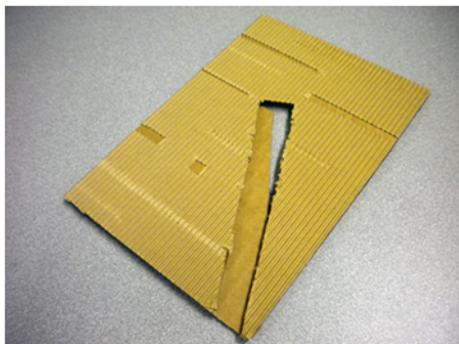
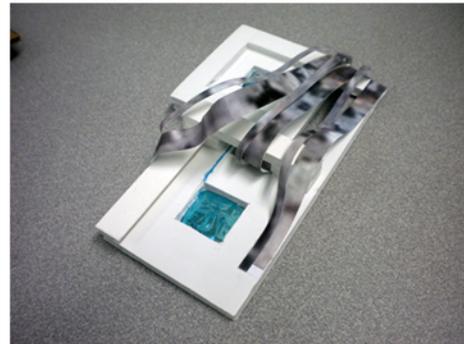
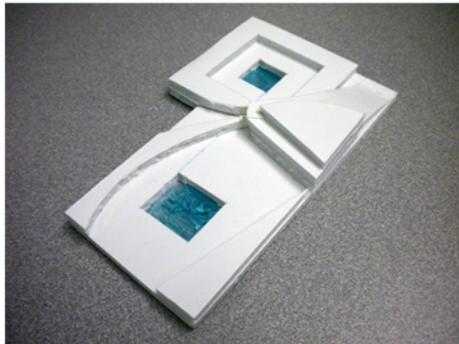
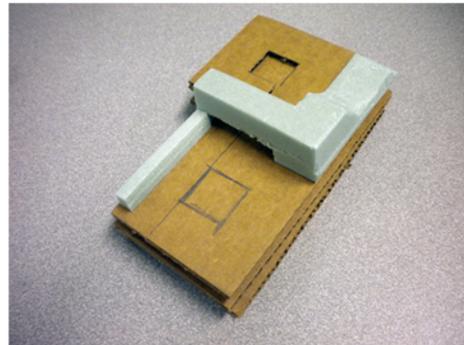
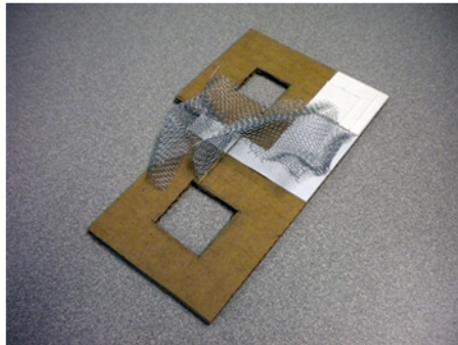
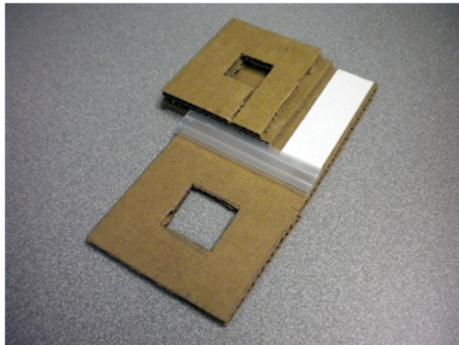
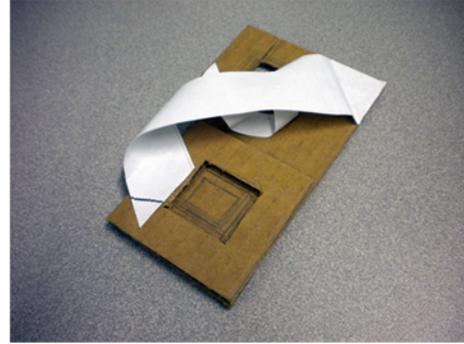
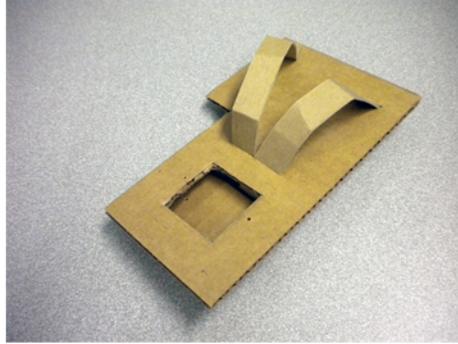
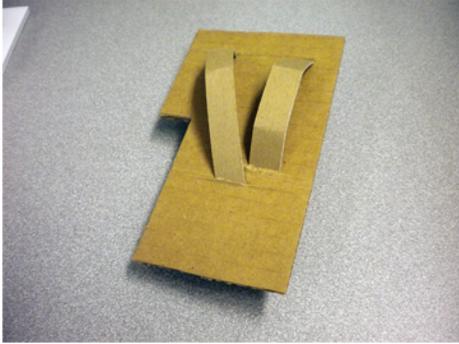
Presentation



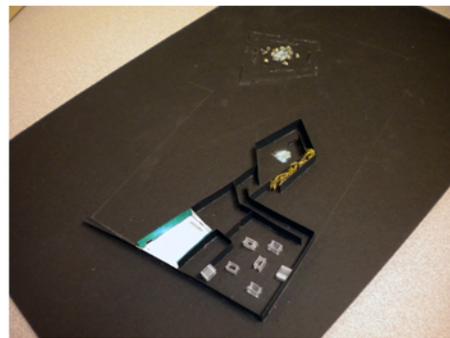
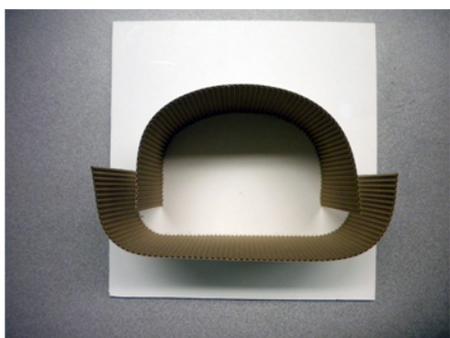
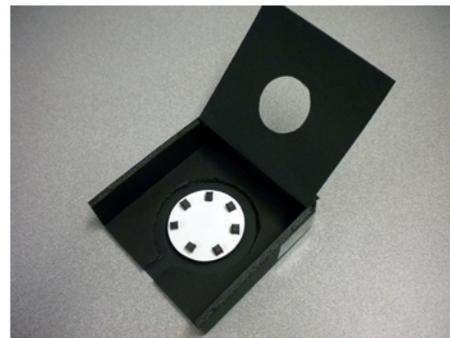
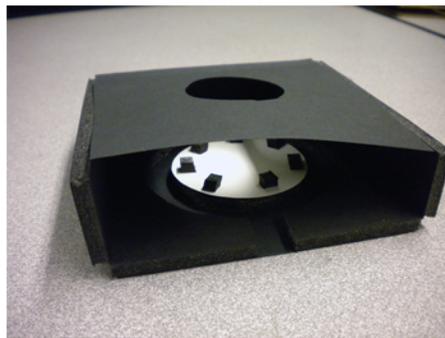
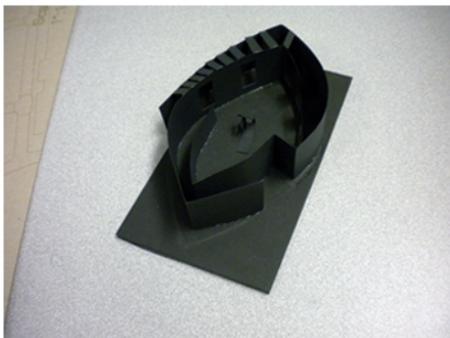
Presentation



Model Studies



Model Studies



Models

