SOCIAL INTERACTIVE

ERNESTO WHITSITT | MASTERS OF ARCHITECTURE | UNIVERSITY OF DETROIT MERCY | SCHOOL OF ARCHITECTURE | PROF. JOHN MUELLER | 2012-2013

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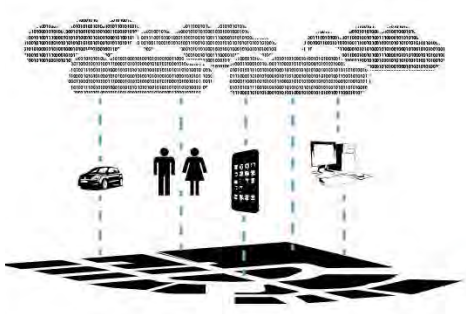
ABSTRACT

Technology is at an all time high in the ways that it is a part of our lives. Our cellular phones, computers, laptops, cars, and television have all now become a necessity rather than just a commodity. It is hard for the present day person to go a day without needing to use one of these modern day technological tools. There seems to be a lack of this technology integrated into the built architectural environment. Computers and other digital tools, have already replaced the trace paper and pencils and drafting boards in terms of how buildings are designed and construction documents are prepared. Technology makes life easier, more convenient, and if used properly, more interesting. The world we live in right now experiences places and spaces through this technology. We communicate and exchange thoughts with the architecture that we see and explore on the screens of our televisions, phones, and computers. This is how we as people have learned to research, to explore, and to experience things we have never seen

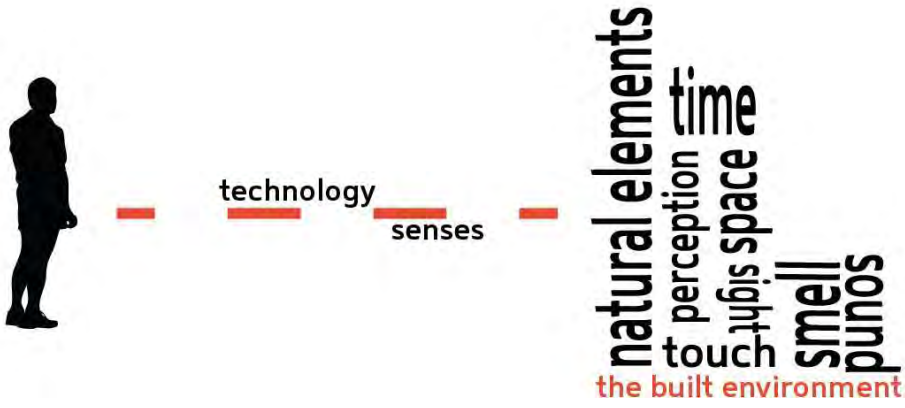
without having to be there. This is how technology has allowed us to communicate with the architecture. But how can architecture communicate with us in a way that it could actually tell you something? To be useful rather than merely an aesthetic and interesting part of the building. An architecture that can sense and respond is what this thesis is about. It is about the design of an architecture that integrates these new technologies into the built spaces of the architecture and creates a stronger communication with itself and with the users through processing real time data



and relaying it in an informational or responsive manner. It is not about having fancy toys to make the building luxuriously high tech or give it a futuristic atmosphere. It is about having elements that change with the amount of people that are using the spaces, the ability to manipulate the way a space is arranged, the ability for the building to respond to touch, to have the idea that the building is aware of your actions and in return you become aware of your's and other's.

Communication between people is also part of the study of this thesis. How can these integrated technologies influence the way people communicate? How can we communicate differently? Installations are many that have brought people together and have sparked many conversations. There is something about a work of art that makes you want to talk to someone that's right next to you about it. Further more, when that piece of art is an interactive piece, people are communicating at a deeper extent. A person is interacting with a piece and others are watching and the excitement of seeing something happen due to our actions is even more inspiring to have people socialize easily. There is a visual interaction as well as an unspoken emotional connection between the user and spectator. DelectriCity was an event that took place in October in Midtown Detroit and included many digital artists to come and present their work of temporary digital artwork. These projects ranged from projected animations on entire building facades, to simple animations on displayed on windows of empty buildings, to light installations that responded to your movement, to static light posts dug into the ground. The crowds of people that partook in this event was overwhelming and all came just to come see these temporary works of art. It is easy to say that the most socially inclined and provoking work was a project called “I See You” by Apetechnology, that was just a responsive snowman looking robot that had a camera where the head would be and as people walked around it or near it, it would respond to your body language. Kids would be chased by this robot, attractive women would be swooned by its robotic dancing skills, and everyone would be talking on the outskirts of all this happening and exchanging looks and smiles of “how neat is that?” But its much more than just having people be attracted to something that is new to us, it is

a whole psychological aspect to how the brain is affected by the intangible objects we once knew, to accepting that they can do much more and become more and how we become more apt to socialize when such a thing is occurring. Incorporating responsive materials and elements into a building that is used by various amounts of people throughout the day could in return allows us to control comfortability, security, awareness of our actions and other's around us, adaptability/versatility, public and private areas, and allow for a study on social growth to be taken into permanent construction. Works of responsive architectures have been done by many different architects, artists, engineers, etc. Some using many technologies from sensors to shape memory alloys. All of these works come together to become interactive and responsive to people's actions but they are all temporary. Most are built and taken down and presented merely as art and the future of what architecture could be. But why can't it become something that people can use? Maybe it's the fact that the technologies that are incorporated into a building will be come outdated and renders itself as a building that is out of date? Maybe it's the cost of having such technologies that outweigh the benefits? Or maybe it's merely the point of people thinking the technologies are old and want something new and exciting? But what if the technologies were actually doing something for the users? What if every time a user used the space, he/she would be coming into a different experience and see the evolution of the space and be a part of it as well. What this thesis is proposing again is not to have fancy equipment/'toys' that do something 'fun' when a user does something. It is to propose designs that explore and allow social events to become engaging by impairing the senses, creating the ability to see a space change, and creating social nodes where interactions of spaces in other part of the city can be witnessed



without a physical presence in those other areas. This starts to distinguish different types of interactions and conversations within the city and with people engaging in these technologically enhanced spaces. These technologies can one day actually tell us what is happening in a less direct way and allow its users to acknowledge what is around us, to experience the change, and to be inclined to socialize.

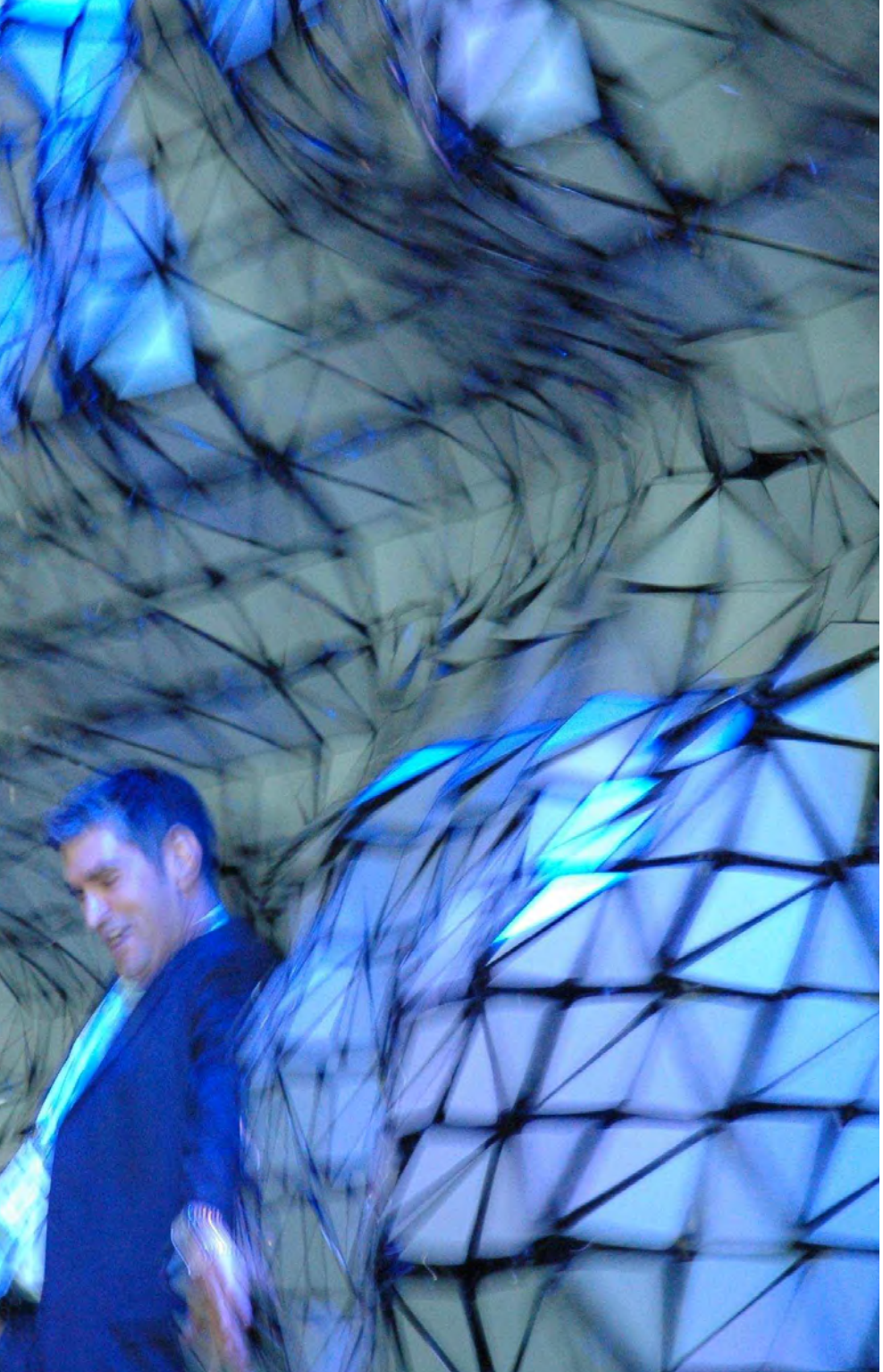
To continue with this thesis, 'responsive' and 'interactive' should be defined. They have been taken to mean the same things when it comes to this thesis as far as what the architecture does and what it is. There are three different types of responsive actions that are part of this thesis. One being the ability for the architecture to establish the presence of a user or users through motion sensors, sound sensors, etc. The second being the ability for the building to have certain elements that are sensitive to touch and may act on different gestures or the ability to calculate data based on these touched surfaces. And the last is simply the application of

interactive materials that allow visual interactions with others and allows the space to become interconnected regardless of whether these spaces are separated . To have all these different types of responses is something this thesis believes will attract people to the space and with the proper execution of these technologies is what this thesis is striving to accomplish in order to bring people together and help the growth of an area where this has been established. These technologies are not the architecture, but rather an enhancement of it, which without, would not be the same. Technology does become outdated rather quickly, so the concept of installations and temporary are embraced in this thesis. The idea of temporary and limited time availability seems to attract masses of people to a certain item or space in larger waves. This allows areas to become populated rapidly and periodically giving an area life and and activity. Architecture represents the spaces around them and reflect the city. Skyscrapers in a downtown reflect the city's working class, parks reflect the leisure of the area, and installations reflect the creativity and social embracing and engagement of its

location.

Architecture also brings awareness to social problems and social interaction through installation projects that temporarily provide an answer/idea about how it can be solved or illustrated architecturally. The speed that technology is changing and growing is something we hear about but can never experience these technologies, especially not in built environments. We have heard of Google's glasses but we have not actually experienced them. This thesis is proposing spaces that allow for interactions with these technologies. That in itself can influence the social life of the building; the implementation of a technology that no one has experienced like touch sensitive walls and appliances. But then we can take these technologies to respond to our presence, touch, or allow them to distort and impair our judgment or allow us to experience something that can't be seen. These spaces designed as a network can encompass the city in areas where certain demographics may be targeted or existing social liveliness is celebrated and become connected as social nodes in the city that are constantly alive and changing.

PRECEDENTS



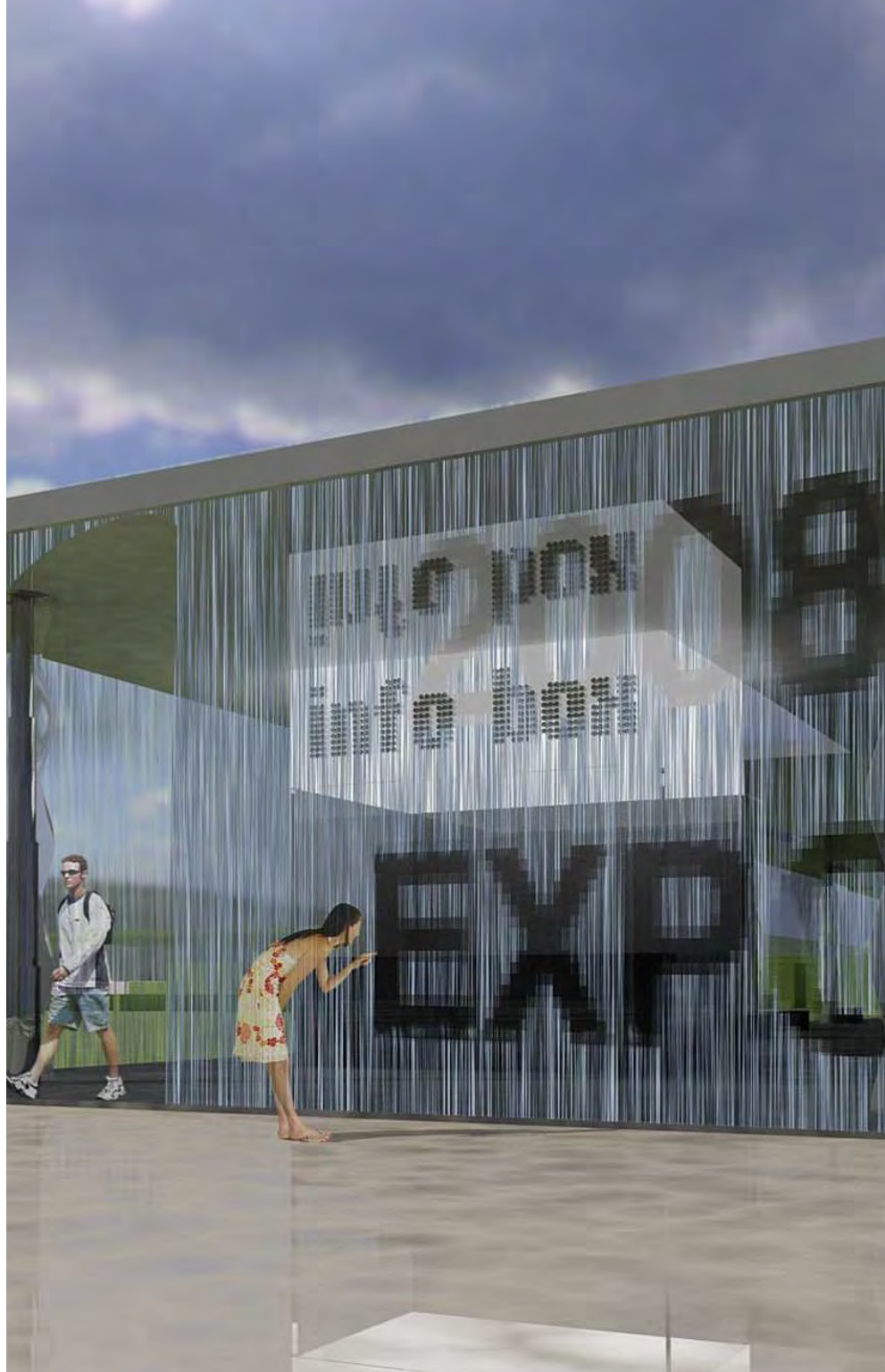
Hypo Surface

DECOI

This installation is a system consisting of motion sensors, movement actuators, pliable surfaces, and sound sensors. The surface senses as an individual approaches the surface or makes a certain sounds that triggers a certain response. The patented info-form and triangular plates allow the surface to be programmable to react to sounds, movements, and even internet feed. These different responses allow users to interact with the installation in numerous ways to provoke different reactions.

Digital Water Pavilion
MIT SENSEable Lab

This work was a temporary piece at Zaragoza' s 2008 Expo. This was a pavilion where the exterior facades on all sides were created from cascading water that were programmed to stop and continue in different areas to create images in the voids where water was not dropped temporarily. It also housed sensors in certain areas where the users where able to enter the building and the water would stop falling as the users approached these areas. This work was purely an interactive piece that did not relay any information that was useful in telling the users anything about how the space was being used. It was merely a study on how such an interactive piece can engage social interaction between the building and between people.



Feelings Are Fact

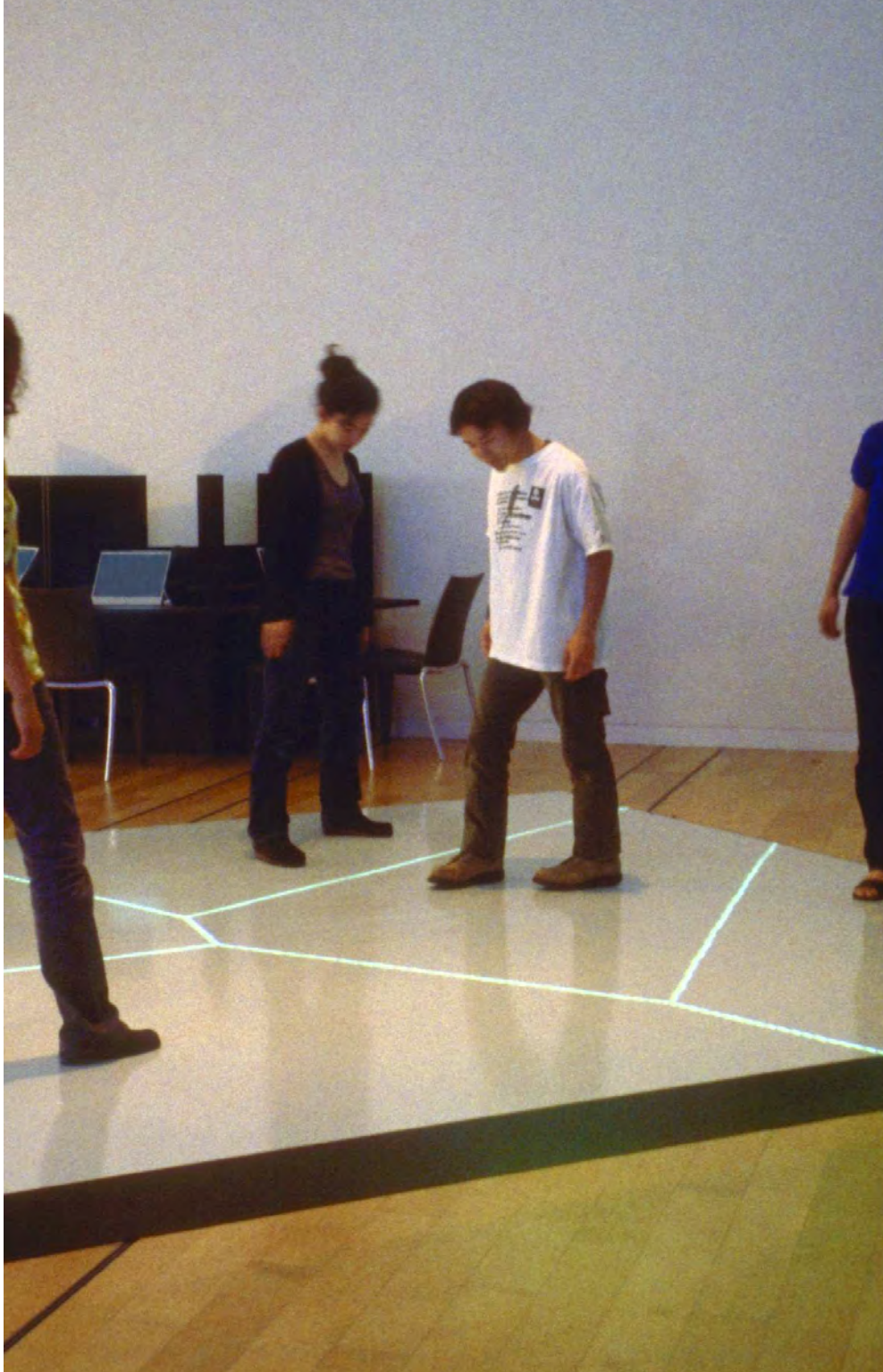
Olafur Eliasson + Ma Yansong

This installation was a study on people's perception and movement through space with impaired visibility. Located in the UCCA in Beijing, Eliasson and Yansong filled the space with condensed banks of fog, lit with arrays of different colored lights. The heights of the ceilings were altered to continue to disorient the users and further provoke visual and silhouetted interactions. As the primary sense in experiencing a space is impaired, the user starts to take closer notice of the environment around them and focus on the blurred users around them invoking a simple visual conversation with the space and how it is being occupied. It creates a different way for the users to observe and experience and engage with the space and other users.

Boundary Functions

scott snibbe

Boundary functions is an installation that works and depends on the number of people in the space. It consists of a digital projection a surface that senses the users. As soon as two people are on the surface, the interaction comes to life. The projection then projects an individually personal boundary. As people move closer and around the space, the personal spaces move with them. This creates an awareness to other people and the awareness of how many people are utilizing the space. This is an example of how technology can be implemented into a design to respond differently based on the amount of people and start to socialize with others around them from the engagement.



Touched Echo

University of the Arts Berlin

Using bone conduction technology, which was originally developed for hearing devices, this installation provided a little bit of history for users. By applying custom made conductors on the bottom of the metal railings, all the users had to do was rest their elbows on the rail and put their hands on their head. Vibrations traveled through their bones and allowed the users to have a conversation with history as bombings and airplanes were heard as memory of a part of a tragic event in Germany's history. This installation shows the ability to engage a user by introducing them to a technology they have not experienced before and start to create a hidden conversation and personal attachment with the recordings.

Blur Building

diller + scofidio

This temporary structure, part of the 2002 Swiss National Expo, is comprised of high pressure spraying jets that are programmed and linked to a computer system that can vary the projection and density of the mist that is produced to engage the user and distort the user's senses various times as they experience the structure and space. Computers and sensors have the ability to analyze wind patterns, temperatures, humidity and direction to control the mist that becomes the structure. The integration of technology to manipulate natural items and and create a technologically enhanced architecture is what this project displays.

Dee and Charles Wyly Theater
REX

REX has developed a very systematic and complex program for its theater in Texas that also is known as the ATT&T Performance Arts Center. The main floor of this building has what seems an open plan for parties, exhibition events, dances, etc. and is available to the public. The idea of responsive and adaptable exists in the floors ability to mechanically be shifted and open up to seating underneath that can be pushed up and switched with the bare floors to create different types of formations; proscenium, thrust, arena, traverse, studio, and flat floor configurations. This allows this space to be responsive with manual and physical action shape and host the different types of activities that occur in that area. The space becomes responsive to the certain types of activities that occur in the space and can vary on the amount of people while creating different experience opportunities. This is the closest to a permanent integration of a responsive architecture that has been successful in its adaptiveness and social interaction.

Open Columns

omar khan

This project is another example of a work that is responsive to the amount of people in a certain space. With the help of carbon dioxide sensors and shape memory alloys applied to a rubber structure of column resemblance. The columns are able to sense the amount of people in the room and start to elevate and fold into itself to allow more people into the space. It works as a way to organize people and become an aesthetic element and also functional. This project is one as well that relays information about the activities in the spaces and presents users with the ability to note what is creating these architectural reactions. The space can be constantly changing and enhances the space that it occupies allowing the users to engage around and with the structures.

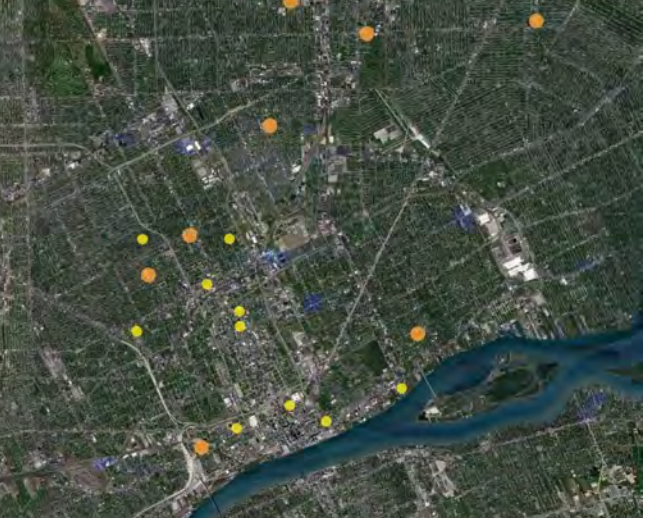
INITIAL DIRECTION

To exhibit the social and architectural aspects of the thesis, a site that needs social stimulus has come to question and what better site than Detroit which is in limbo when it comes to growing as a respectable city. Recreation centers have been closing down due to lack of city funds to maintain and operate the facilities. These centers not only have the potential to enhance and help a community but can also work to keep children off the streets and be part of a social culture and function as a social hub of sorts. A recreation center has fluctuation in the density of people in the building at different times and also allows different spaces to change in density as well, allowing instances where each space and be responsive to the numbers, to the activity, and in general to people. The Wigle Recreation Center, located by the intersection of M-10 the Lodge and Martin Luther King Blvd. has been closed due to funds and not to a lower number of users. There are three schools in the area that are easily able

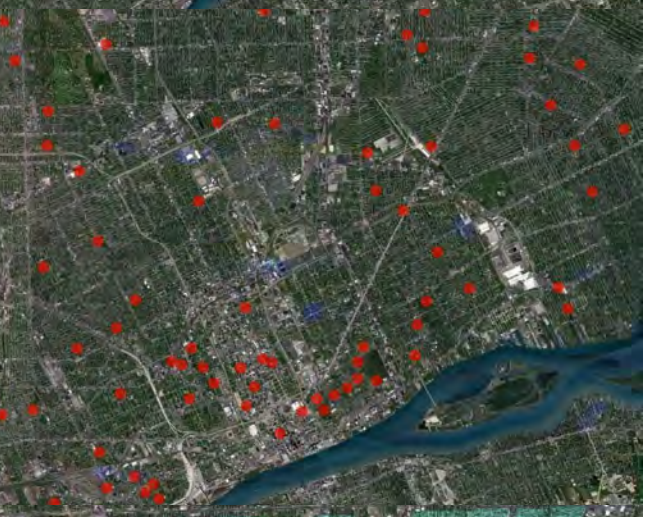
to use the space and a great number of residents in the area with new housing developments being established just south of this closed recreation center. This site has potential for this thesis and recreation center to take place due to its context and numbers of people that are nearby. The site was located by identifying current schools in the Detroit area, mapping current operating recreation centers and fitness facilities, and implementing the latest population census to derive a location that not only was close to the school but was located in a populous space and distant from other recreation facilities. The building is in poor condition and this thesis is proposing a completely new facility with the possibility of preserving existing baseball fields, and tennis and basketball courts. A team of children have taken into their own hands to renovated and renew one of the baseball fields on this site and have been successful in engaging the community and reaching out to children in the area to enhance their summers and social awareness.

Several systems have been proposed to be housed in this facility that can incorporate responsive elements, ranging from digital walls that merely are interactive and relay little information as how the space is being used, to the use of thermochromic paint that changes with change in temperature that is applied onto walls and equipment to note the usage and convey information to the users about how they are affecting the space and what is being used and how. Digital floors that are sensitive to touch are able to calculate the amount of people in the space and allow for the data to be available to users as they enter the facility and can note the empty and dense locations. Materials like translucent concrete can me implemented as partitions to allow limited visibility into spaces and allow for a visual exchange in between spaces and allow participants to socialize visually. Partitions of interlocking and moveable pieces can be manipulated

physically to change the visibility in between spaces and sculpt the way the space is used and viewed. These technologies can merge together to enhance a space as a whole and not to merely give people things to play with. The work in creating a space the changes with use, relays information to the users, and creates an environment that becomes a social consideration and enhances the way people communicate with an architecture and with each other. It enables the architecture to detail space with its adaptable nature and sculpt the spaces. If successful in practice, it can be an argument that none of these technologies are new, but what is new is the practice this thesis is trying to establish these in. The practice of a permanent building that may fall out of date but can function to exhibit information about itself to people using and creating a new conversation between people and architecture.



Locations of Recreation Centers and Gyms in Detroit

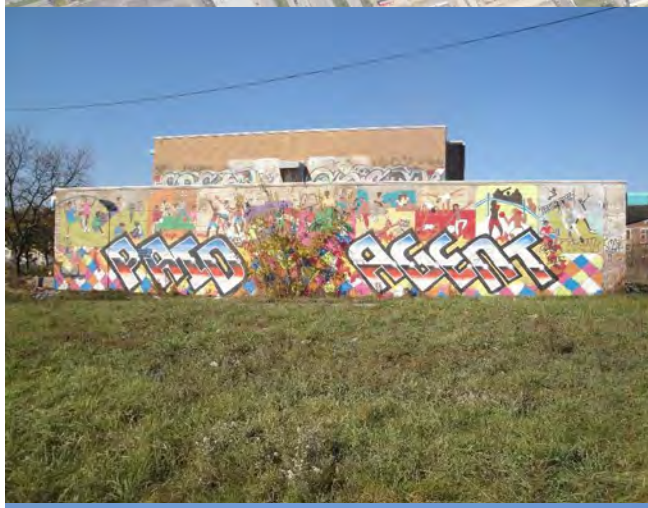


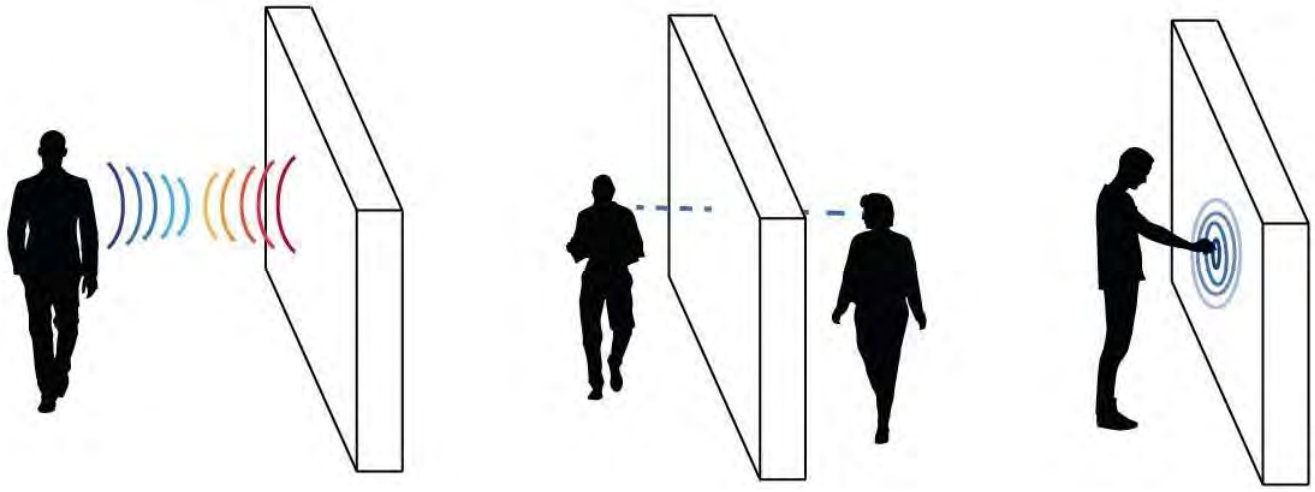
Locations of all Schools in Detroit

Population Density of Detroit - dark blue as most dense, light blue as moderately dense, orange as Hamtramck

Wigle Recreation Center, Detroit

Wigle Recreation Center was the site proposed to develop a responsive architecture. Based on the analysis of the the location of schools, population density and location other fitness centers, this site was chosen. Chosen for the fact that although this area is low in population, the site is not very close in proximity to other centers, yet bordered by two schools; a high school and music school. Wigle Recreation Center was closed in 2004 for insufficient funds for maintenance and upkeep. Within the last year, there have been attempts for community engagement and revival as a group of students from the area took it into their own hands to re-establish and fix up the baseball diamond on the northeast part of the site. There are new community development communities that have been erected and established that could use the recreation center.

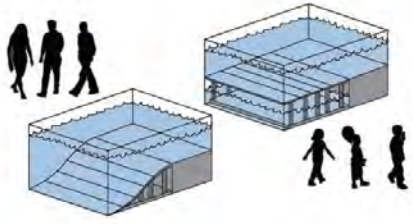


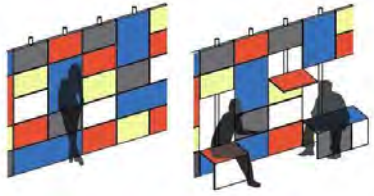


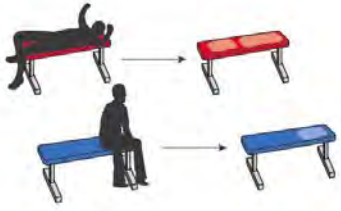
Responsive/Interactive

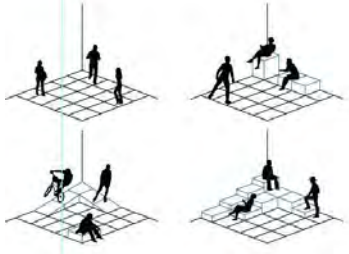
There have been four different types of responsive actions that are part of this thesis. One being the ability for the building to establish the presence of a user or users through motion sensors, sound sensors, etc. The second being the ability for the building to have certain elements that are sensitive to touch and may act on different gestures or the ability to calculate data based on these touched surfaces. And the last is simply the application of interactive materials that allow visual interactions with others and allows the space to become interconnected regardless of whether these spaces are separated by partitions. To have all these different types of responses is something this thesis believes will attract people to the space and with the proper execution of these technologies is what this thesis is striving to accomplish in order to bring people together and help the growth of the area where this has been established.

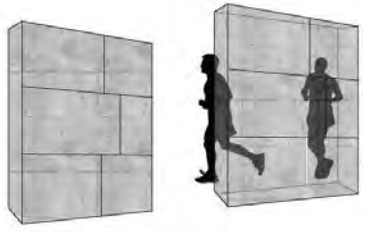
Proposed, are different technologies that can be incorporated into the structure of the recreational facility to engage users more than visually and create awareness of the environment around them as well as create a space that changes and reacts to the numbers of people in the room as well as opportunities for certain areas to be manipulated for different age groups.









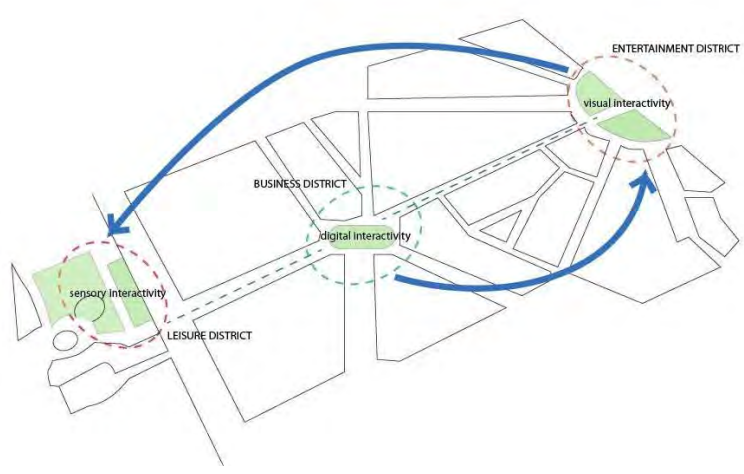


POST DIRECTION

Taking into consideration the speed that technology becomes out of date and is updated, the idea of a permanent structure that housed these technological advances, became inefficient and illogical to proceed with. The proposal for a recreation center came from an analysis of what environments can vary in population density throughout a day and also bring awareness to the recent recreation centers that continued to be closed down and left in the past due to funds.

The precedents that were studied were mostly temporary and after analyzing the future of a permanent structure, it made sense to create permanent structures.

Three different sites were picked in the city of Detroit to highlight and introduce one different technology to each site. Three major parks were selected to bring awareness of the recent parks that were ordered to cease to be maintained by the city and demonstrate what this spaces could become and provide for the city. Each technology in the sites reflects the type of interaction that is reflected by the context of the site. A timeline was developed to install each installation at different times in the year to create interest in the new developments and give a sense of program and social sense to the city.

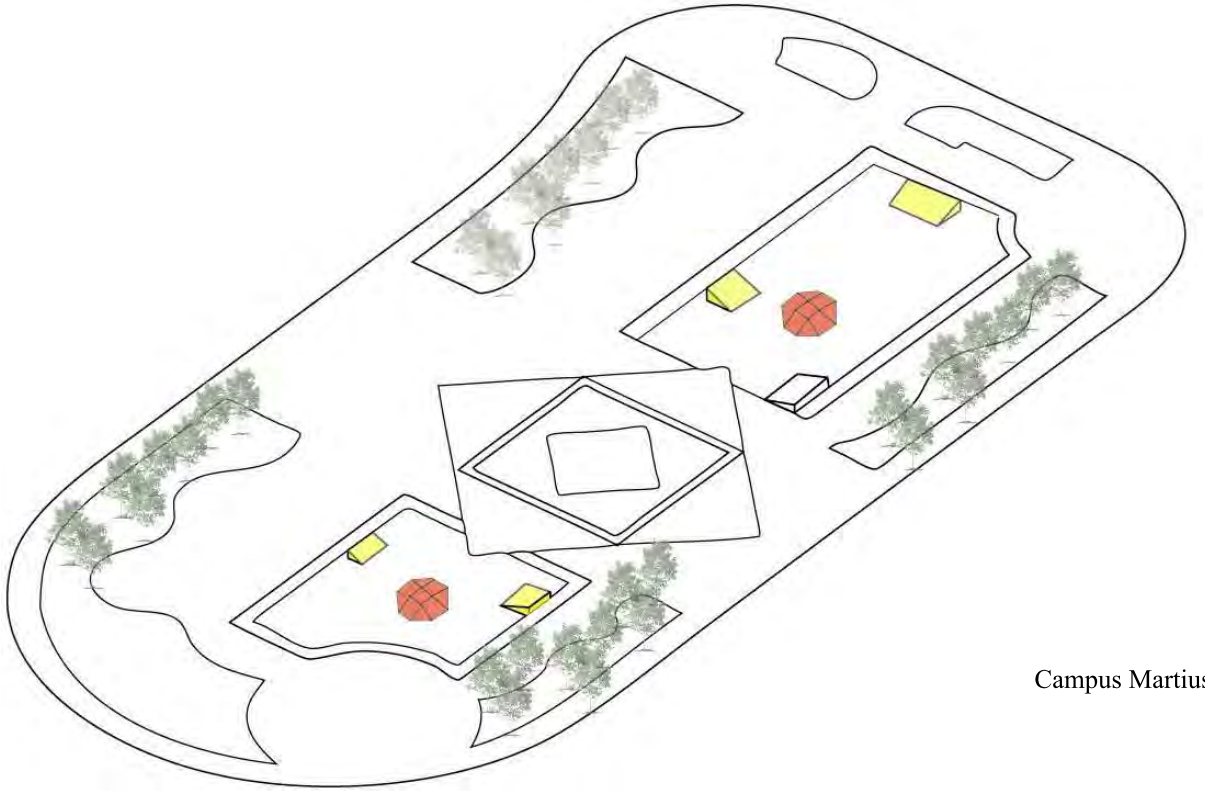


DESIGN PROPOSALS

PROPOSAL ONE
CAMPUS MARTIUS

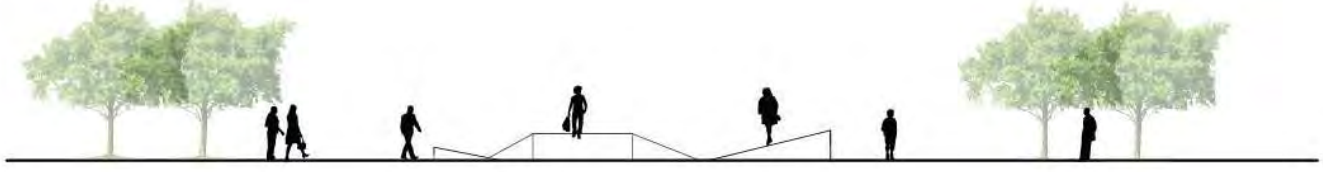
BONE CONDUCTION

Campus Martius was chosen to represent the idea of hidden conversations with the introduction of "bone conduction technology." This site would be set up during the months of March through June due to the activities nearby and the timing of the ice rink removal and installation. Campus Martius is located in what is located in the business district for this thesis. This site is prime lunch-taking space for the people that work in the city and becomes lively during the day which gives this space reason to become more social with this proposal. The installation for this site is comprised of pods that house sound conductors that vary in the way that sound can conduct to the inner ear. Recordable abilities allow users to leave a message and engage in a hidden conversation with other people that interact with the devices as well.



Campus Martius Site Plan

N-S Section



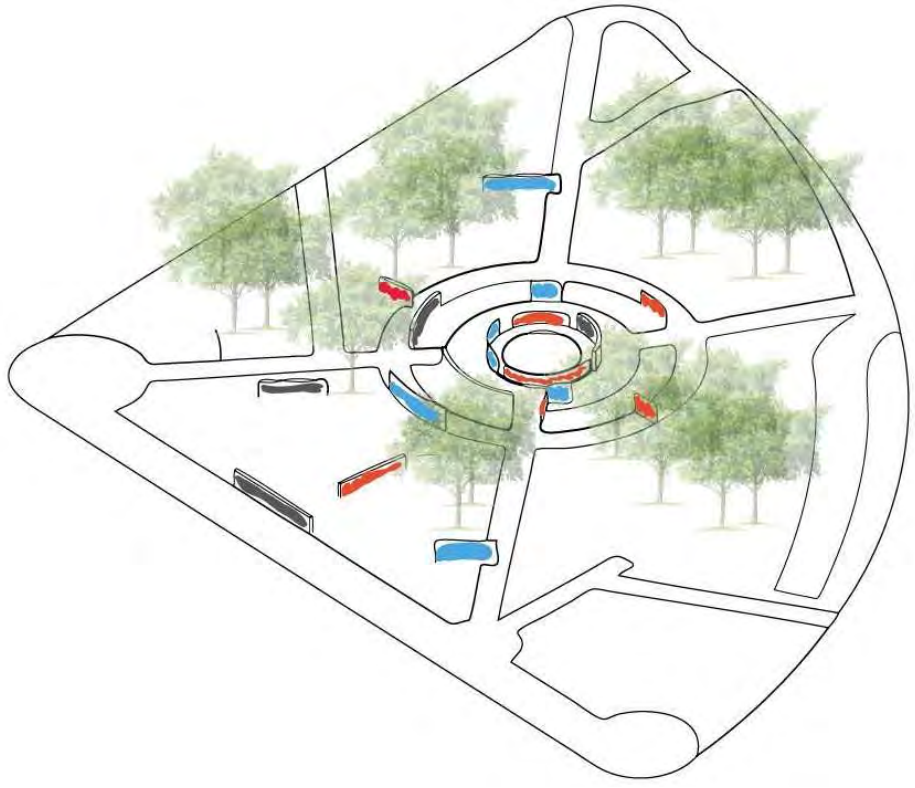
E-W Section


CAMPUS
MARTIUS
PARK

PROPOSAL ONE
GRAND CIRCUS

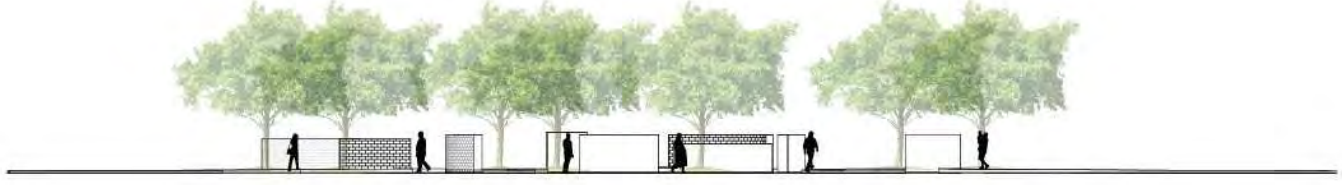
BLURRED ENVIRONMENT

Grand Circus was chosen to house the concept of impaired interaction and engagement. This installation would be installed in the months of July through October with the baseball season and football seasons in play that attract many people to the site. With the introduction of translucent concrete that consists of fiber optics in a light aggregate, the space can become a space for this technology to be displayed. This area, identified as the entertainment district in this thesis, is surrounded by spectator events. Comerica Park, Detroit Opera House, Fox Theater, and Ford Field all are spaces that engage the visual sense. With this in mind, the proposal for this site consisted of translucent concrete, transparent glass, and frosted/translucent glass. This creates a visual impairment and distorted displays of activities as people navigate through the maze-like arrangement of these materials and witness distorted and blur-varying silhouettes and lights that illuminate the optic fibers and glass at night. The concrete is translucent enough to see silhouettes and even color through the material and ultimately engage and create the most interest in the installation while promoting the visual interaction of the varied transparency of the design.

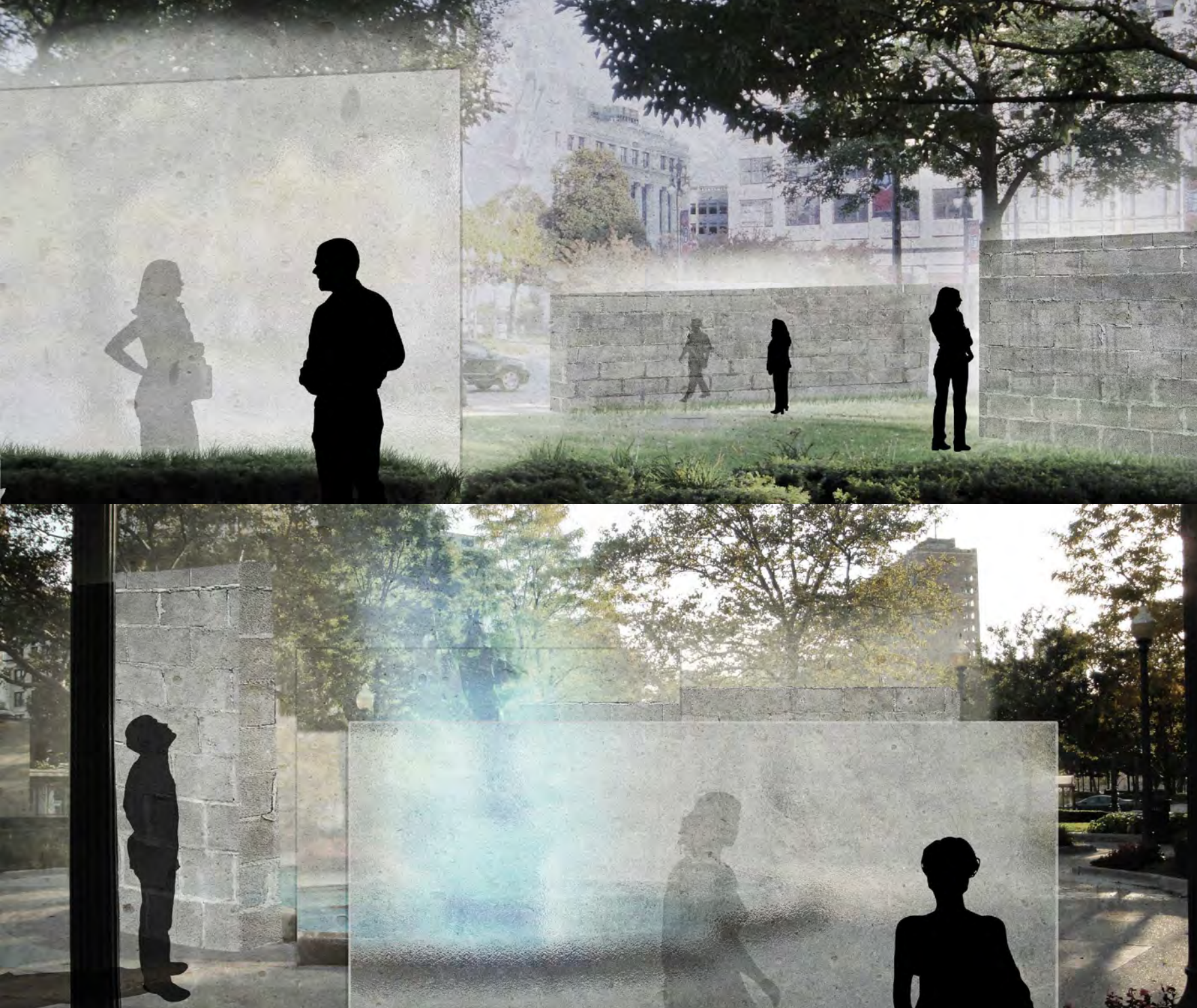


Grand Circus Site Plan

NE-SW Section



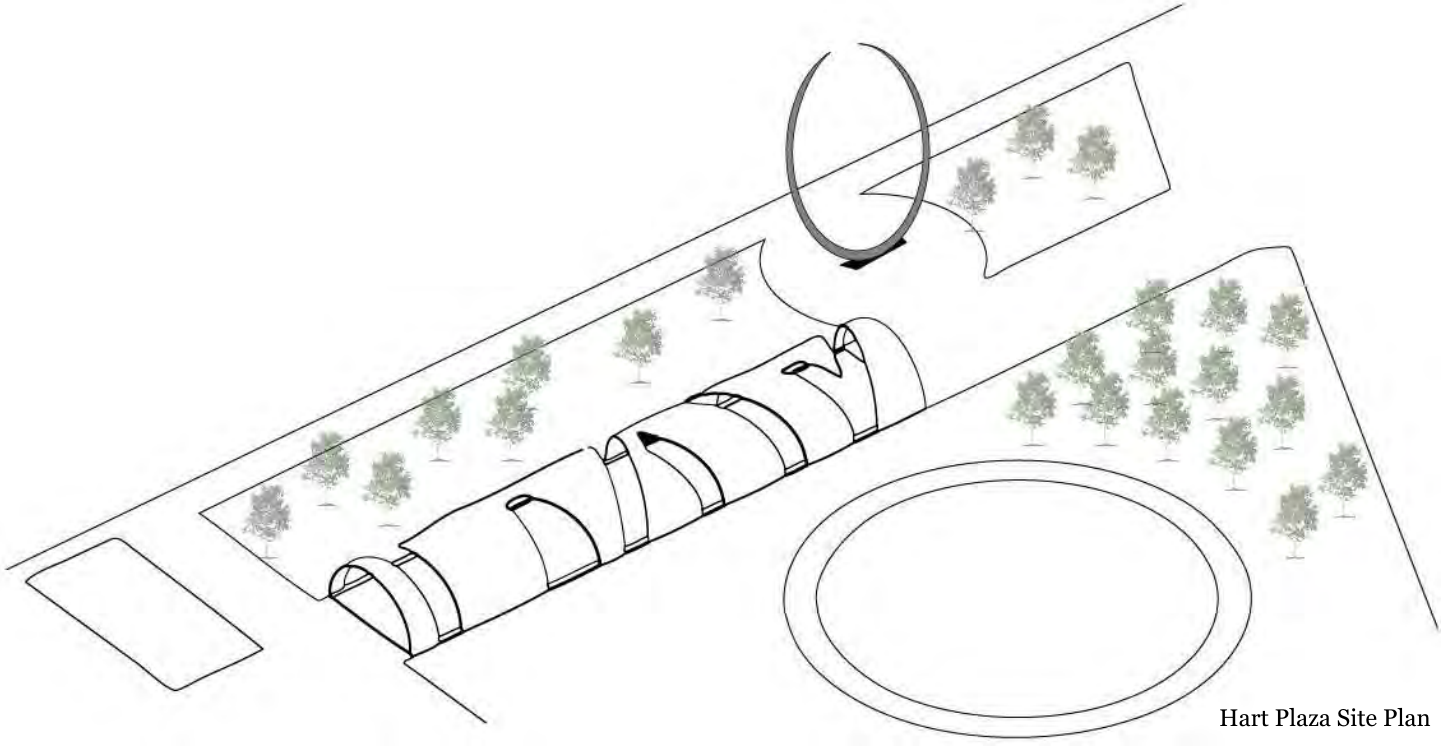
NW-SE Section



PROPOSAL ONE
HART PLAZA

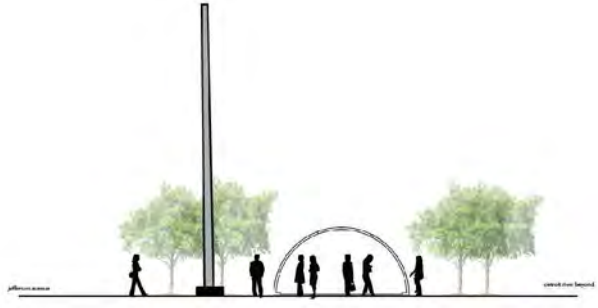
VISIBLE SOCIAL CHANGE

The installation that is proposed for Hart Plaza, in what is identified as the leisure district, will be home to the introduction of thermochromic paint. This special paint contains a temperature sensitive pigment that allows the paint to change as temperature fluctuates. This installation is to be installed during the months of November through February during the hockey season and winter blast and ice skating events that are nearby. This structure would act as a tunnel that consists of motion sensors on the floor that activate a warm air jet that applies heat to the interior walls of the structure where thermochromic paint has been applied. The amount of heat and time heated depends on the amount of time stood in front of the sensor and the amount of people or density in front of it as well. As the paint starts to change/disappear, prompts are displayed on the wall, that suggest various socializing activities to directly promote socializing with others. Prompts like "find something in common with a stranger" or "play a game of thumb war," etc. The space would be more active and responsive as more and more people engage and enter the installation. The exterior would start to reflect the activity within as the warmth of the air conducts and travels through the walls and also allows people outside to physically heat the structure and engage in the technology. This installation's purpose is to create an awareness of how a space can change with different levels of activity and allow the space to fluctuate and act differently with each different visit.

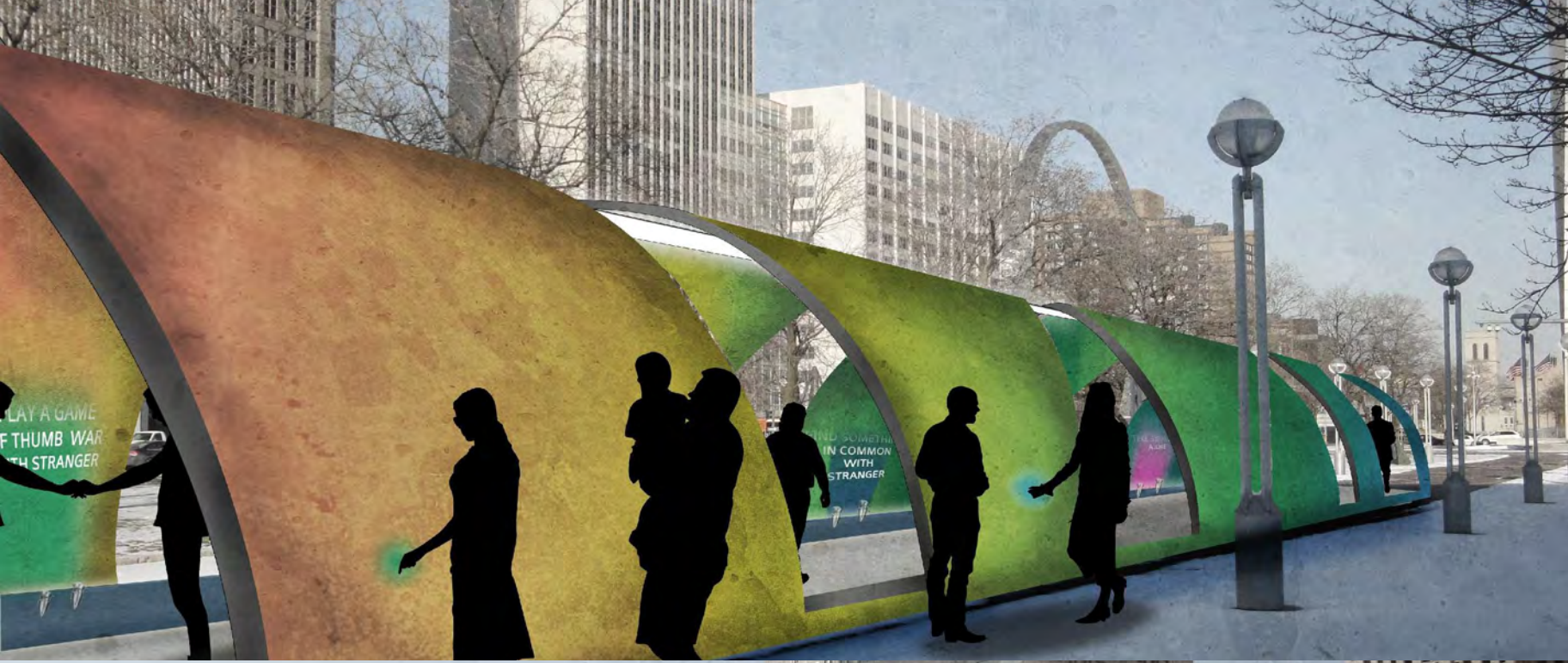


Hart Plaza Site Plan

NE-SW Section



NW-SE Section


LAY A GAME
F THUMB WAR
TH STRANGER
IN COMMON
WITH
STRANGER


RAYMOND JAMES
E PERSON
TO YOU
JOKE
THANK YOU

FINAL DIRECTION

After analyzing the three installations, the promotion of socializing didn't seem to work if these installations were being implemented in only three locations in some of the most popular areas. Four sites were then chosen for each type of installation that was already proposed and the area covered in Detroit was enlarged. Through analyses of the types of buildings (residential, institutional, and commercial) around certain areas, specific sites were identified to target different population densities demographics. Sites varied from abandoned areas to mostly residential to mostly commercial and so on. Each site was given a certain installation to engage the site and display the technology based on context and demographics of the area.

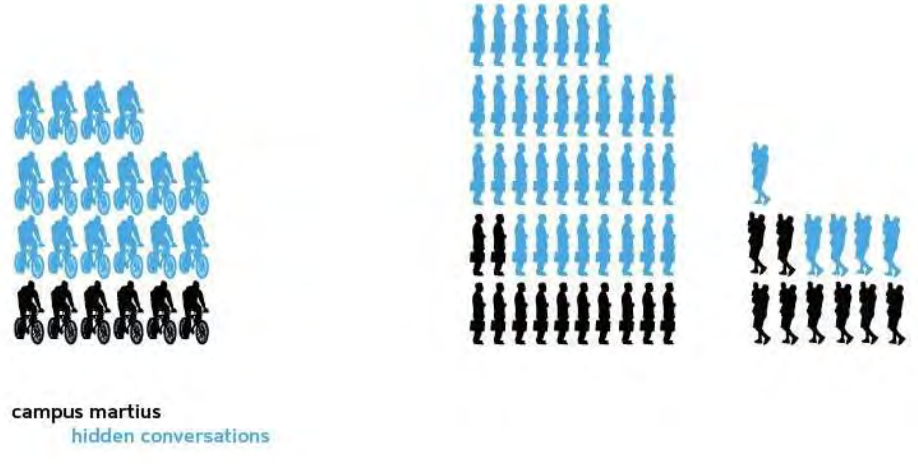
These locations were bound in the area of Detroit that is bound by I-94 on the north, M-10 on the West, I-75 on the East and the Detroit River on the South. Taken into consideration was also the proximity of each of the same site to each other and the network and mapping that it created in the city. More focus was stressed on creating a network of social nodes that create connections of social areas throughout the city.

FINAL DESIGN PROPOSALS

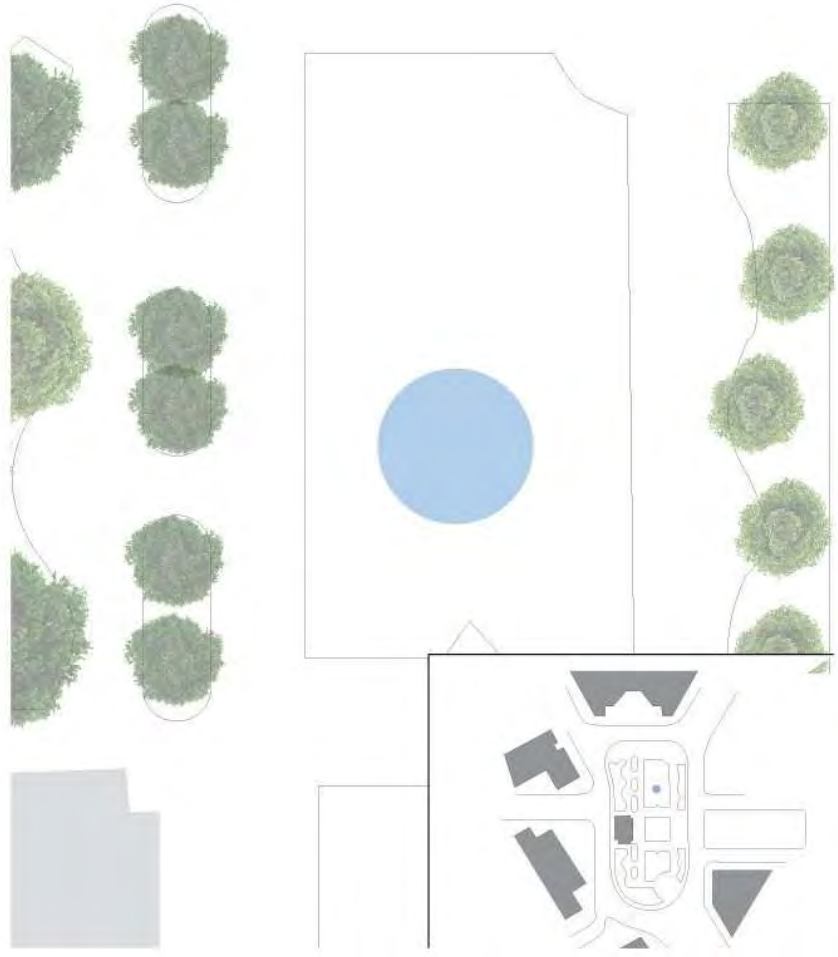
FINAL PROPOSAL
CAMPUS MARTIUS

HIDDEN CONVERSATIONS

Campus Martius Site Analysis



Campus Martius Site Usage



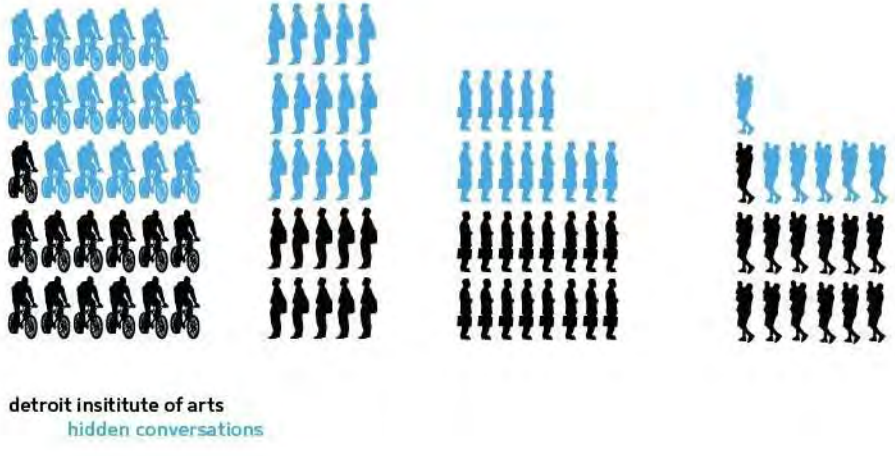
Campus Martius Site Plan

Like already stated earlier, Campus Martius was chosen for the display of bone conduction technology. The design of these spaces are more representing the manner of how these structures will be used. Being freeform structures, they are engaging visual and with bone conduction within, the space become further more engaging. An example of the concept of this design is a free from structure that simulates areas that look like lounge chairs to imply that people should lay on them. As people lay on these members and their heads lay on the structure, sound conductors send sound to the inner ear. These sounds are sounds of the activities in the other installations that have microphones to pick up and feed the sound to these bone conduction sites. This site was chosen because of reasons prior of being a very lively location during that day and this type of installation can further increase the social conversations of the space. These structures will also have recordable devices where conversations can roam through the city to other installations and create an invisible conversation. The usage diagram on the prior page illustrates the expectations of numbers and what demographic is to visit and engage more after 6 months to a year. The figure on the bike are visitors, man with backpack are residents, man with suitcase is worker, and last figure are residents. The blue represents the expected increase and scaled in thousands based on research on how many people live/work/visit Detroit. The business class is the target demographic in this installation.

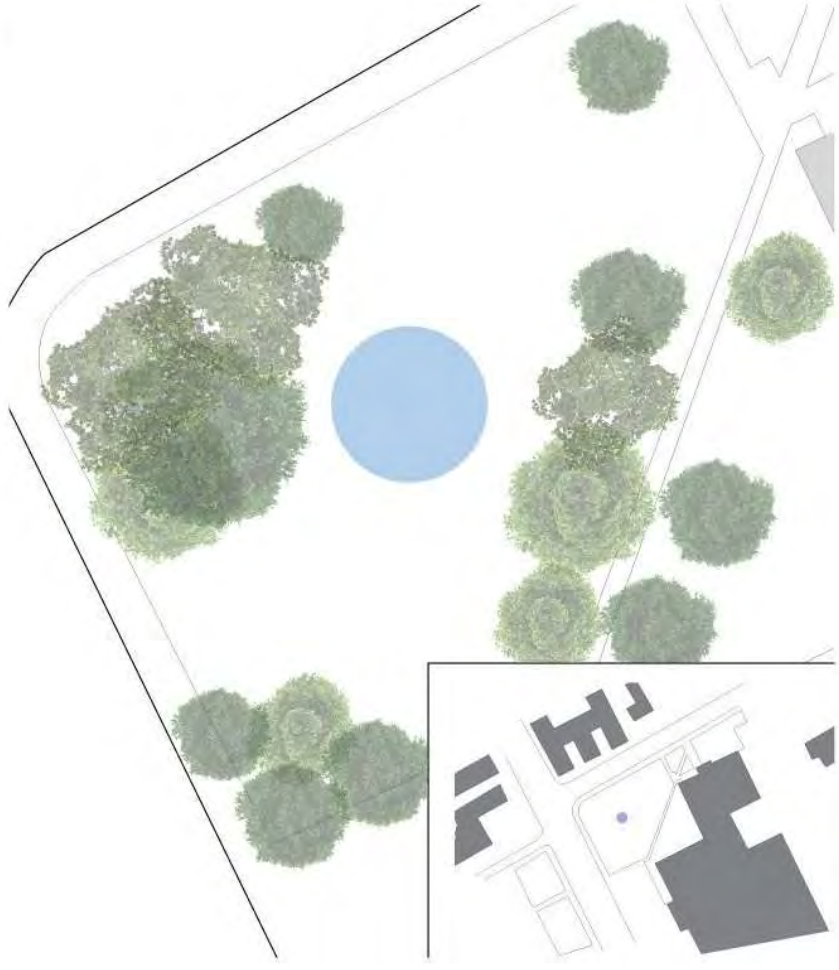
FINAL PROPOSAL
D.I.A

HIDDEN CONVERSATIONS

D.I.A. Site Analysis



D.I.A. Site Usage



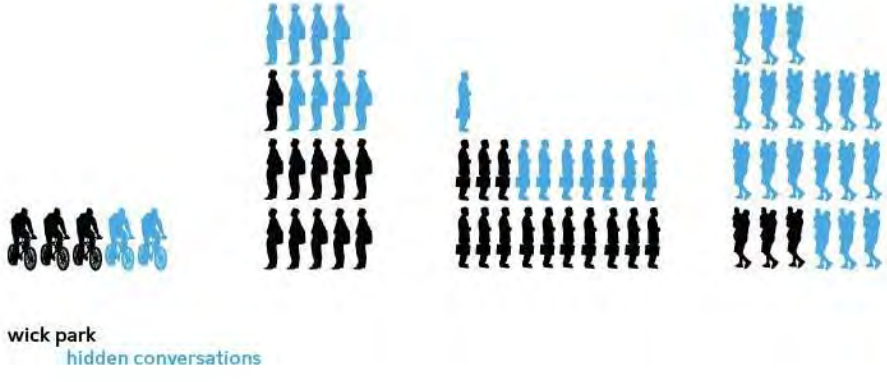
D.I.A. Site Plan

The D.I.A is a site where people go to experience art and social visually with the assistance of sometimes used hearing devices that speak and tell you history of the art. This is a play and emphasis on this experience of the museum. As people leave or enter or walk around the museum, a free form structure will engage the user and allow the space to display information of the history of the site or project activities of the other installations and can listen to the interactions occurring there. The usage diagram on the prior page illustrates the expectations of numbers and what demographic is to visit and engage more after 6 months to a year. The figure on the bike are visitors, man with backpack are residents, man with suitcase is worker, and last figure are residents. The blue represents the expected increase and scaled in thousands based on research on how many people live/work, go to school within the five minute walking radius analysis above it, and visit the D.I.A. The main demographic targeted here is obviously the visitor and tourist population.

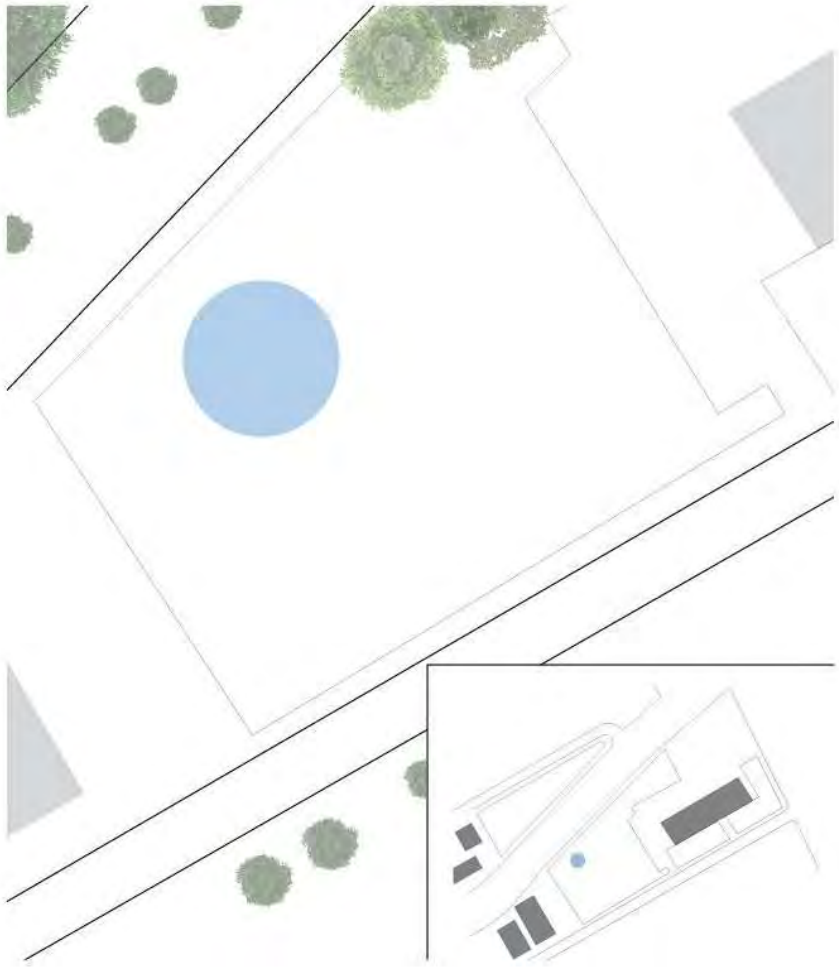
FINAL PROPOSAL
WICK PARK

HIDDEN CONVERSATIONS

Wick Park Site Analysis



Wick Park Site Usage



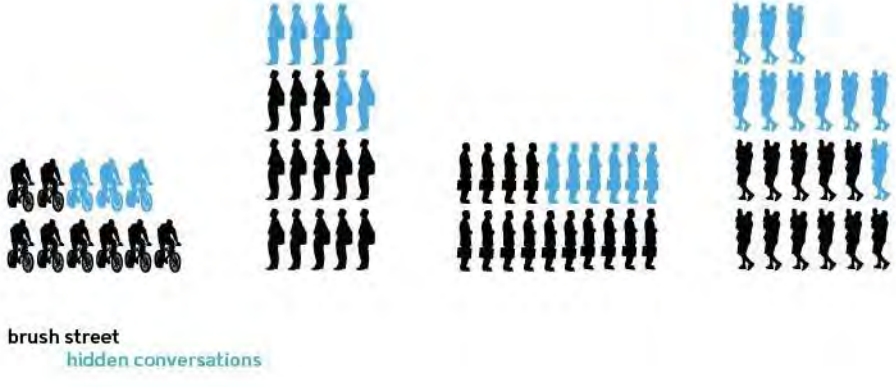
Wick Park Site Plan

Wick Park is an area that is balanced quite evenly in terms of the types of buildings and population of the area. The balance of this site give the group of installations variety. This space will allow for residents to simply take a small walk and engage in a conversation and activities of the other installations in the network of social nodes. The site is also a park that has been proposed to be unkept and unmaintained due to its small size. The installation can bring awareness and start conversations on the site about the social problem that is occurring there and reach out to the city through hidden conversation system embedded into the installation. The usage diagram on the prior page illustrates the expectations of numbers and what demographic is to visit and engage more after 6 months to a year. The figure on the bike are visitors, man with backpack are residents, man with suitcase is worker, and last figure are residents. The blue represents the expected increase and scaled in as 300 per figure based on research displayed by the five minute walking radius analysis on how many people live/work/visit and go to school in the area. With slightly more housing in the area, the targeted demographic were the residents.

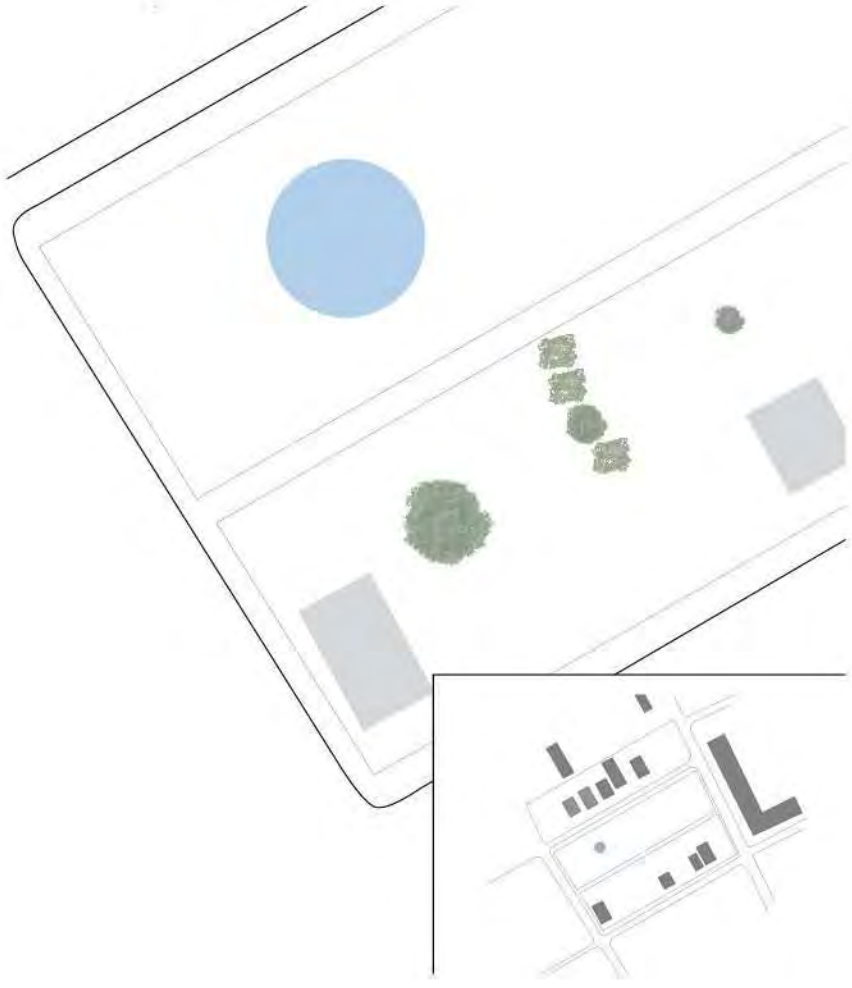
FINAL PROPOSAL
BRUSH STREET

HIDDEN CONVERSATIONS

Brush Street Lot Site Analysis



Brush Street Site Usage

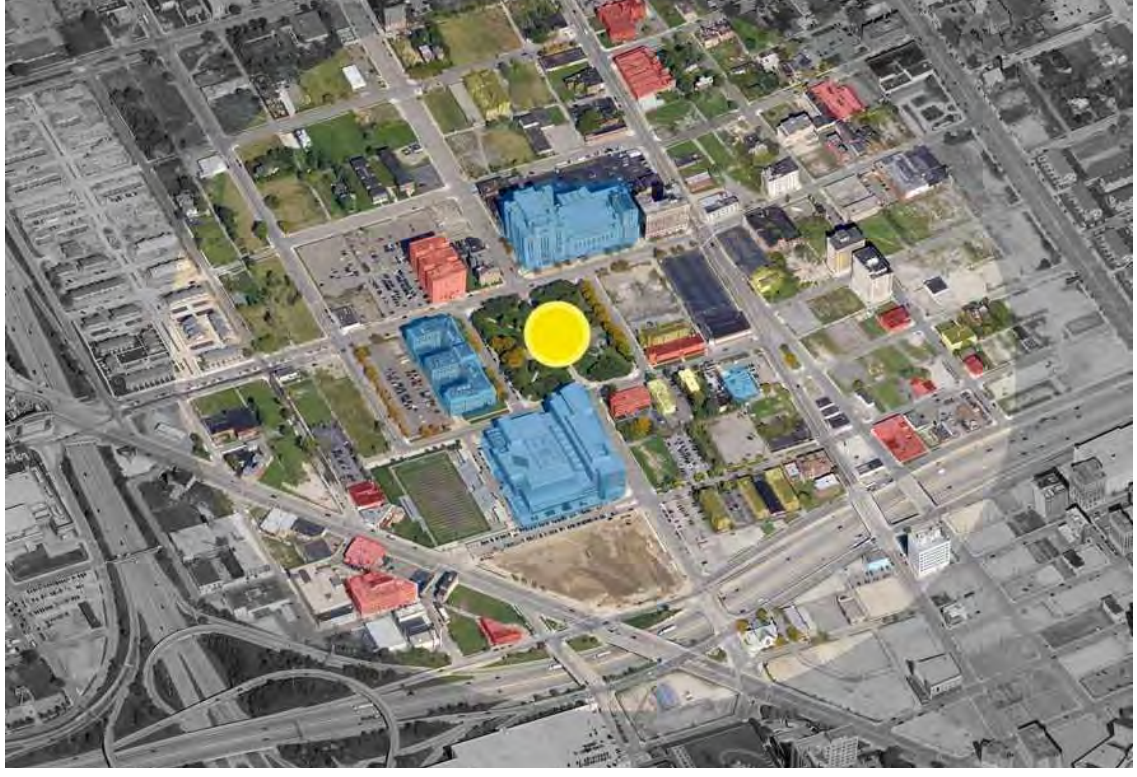


Brush Street Lot Site Plan

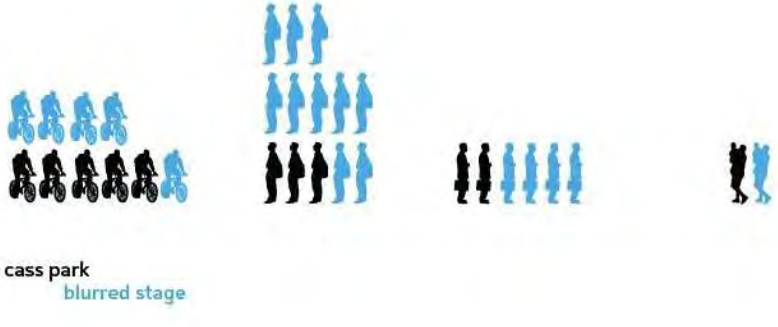
This empty lot located in Brush Park will as well house the bone conduction technology to invoke conversation about the slowly developing neighborhood and construction of new development communities. In such an almost desolate area though, some sort of activity can start to provoke the liveliness of the voice of the community there and those that are trying to improve the conditions in this area. The usage diagram on the prior page illustrates the expectations of numbers and what demographic is to visit and engage more after 6 months to a year. The figure on the bike are visitors, man with backpack are residents, man with suitcase is worker, and last figure are residents. The blue represents the expected increase and scaled in as 300 per figure based on research on how many people live/work/visit and go to school in the area. With slightly more housing in the area, the targeted demographic were the residents and working class.

FINAL PROPOSAL
CASS PARK

BLURRED STAGES

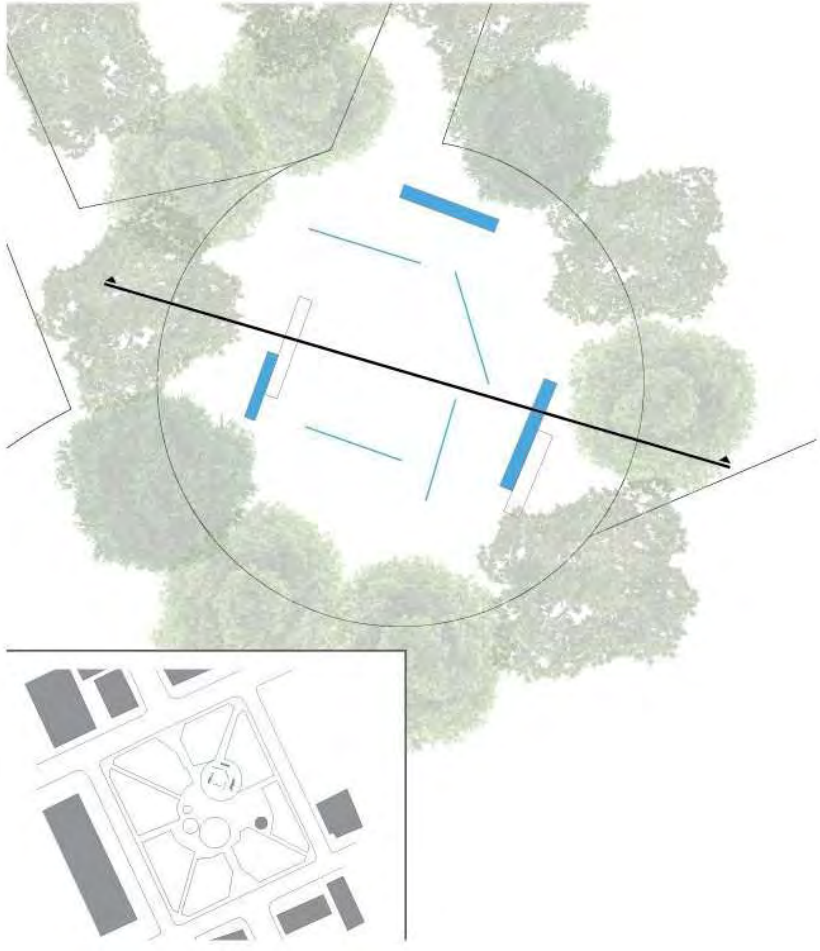


Cass Park Site Analysis

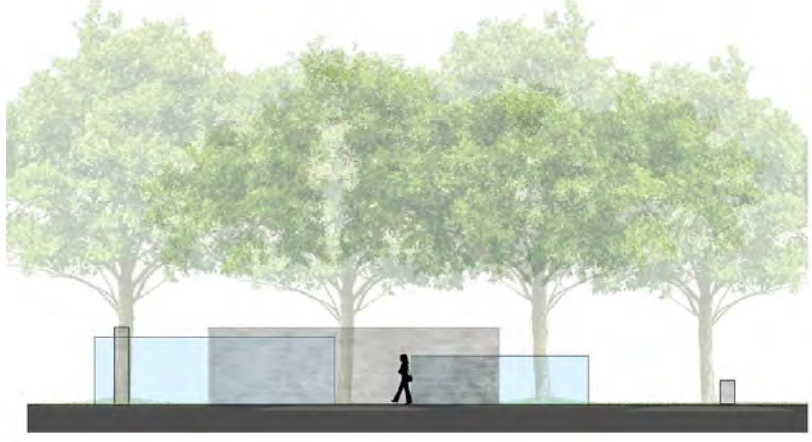


Cass Park Site Usage

Cass Park is a site chosen for the visual interaction and response of material with the introduction of translucent concrete. This space was chosen for visual interaction due to the presence of the Masonic Temple and the presence of students that can use the space to interact and socialize. The first proposal for this design was a maze-like arrangement of translucent glass, transparent glass and translucent concrete. In the design, a stage is the focus point. This way an individual or a group can inhabit the focus point as people observe around the perimeter and experience different ways to visualize the activities happening within. Enough space is allowed for instruments and other props to be maneuvered into the space for a performance and other activities. The arrangements also allow opportunities for these materials to create 'layered' visualizations of the distorted silhouettes. The impairment of the visual sense that is major in experiencing a space, engages the users to decipher the silhouettes as they may seem them. The usage diagram on the prior page illustrates the expectations of numbers and what demographic is to visit and engage more after 6 months to a year. The figure on the bike are visitors, man with backpack are residents, man with suitcase is worker, and last figure are residents. The blue represents the expected increase and scaled in as 300 per figure based on research on how many people live/work/visit and go to school in the area displayed by the five minute walking radius analysis. With Cass Tech and the Masonic Temple there, visitors and students are the targeted demographic.



Cass Park Site Plan

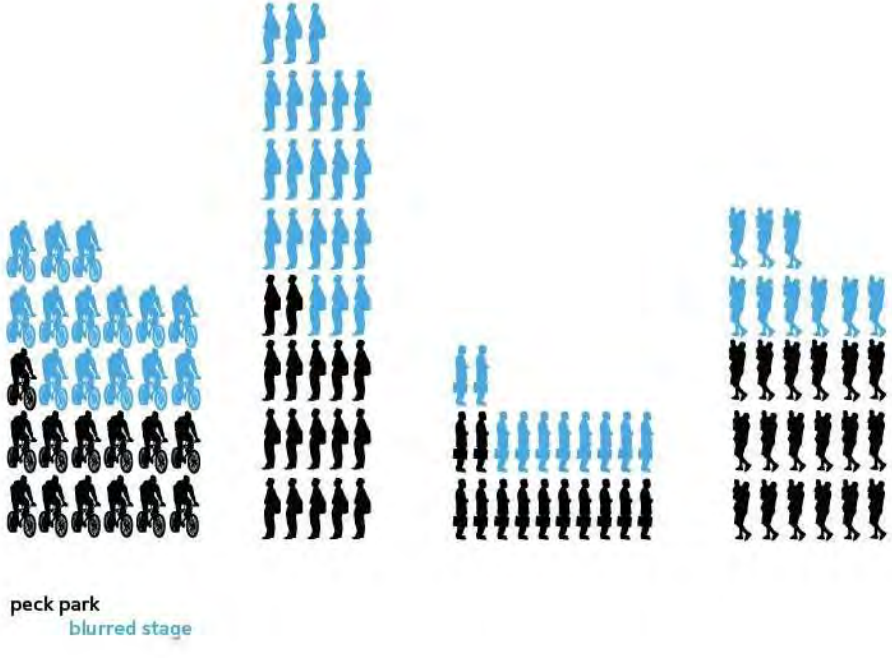


Section A

FINAL PROPOSAL
PECK PARK

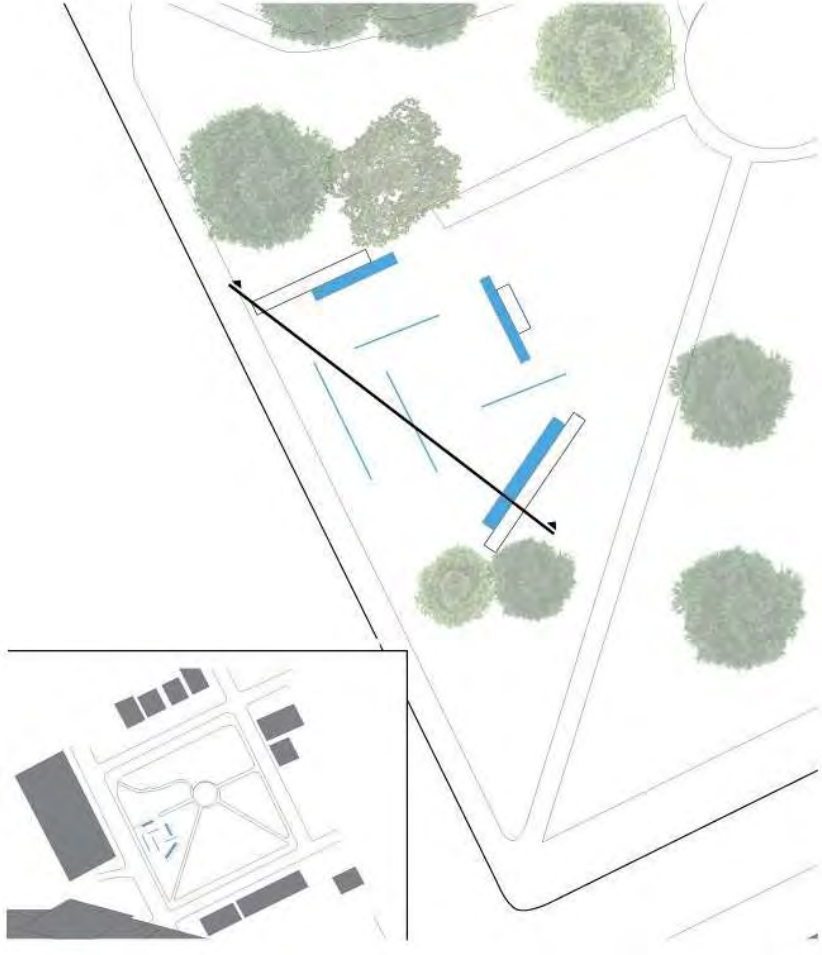
BLURRED STAGES

Peck Park Site Analysis

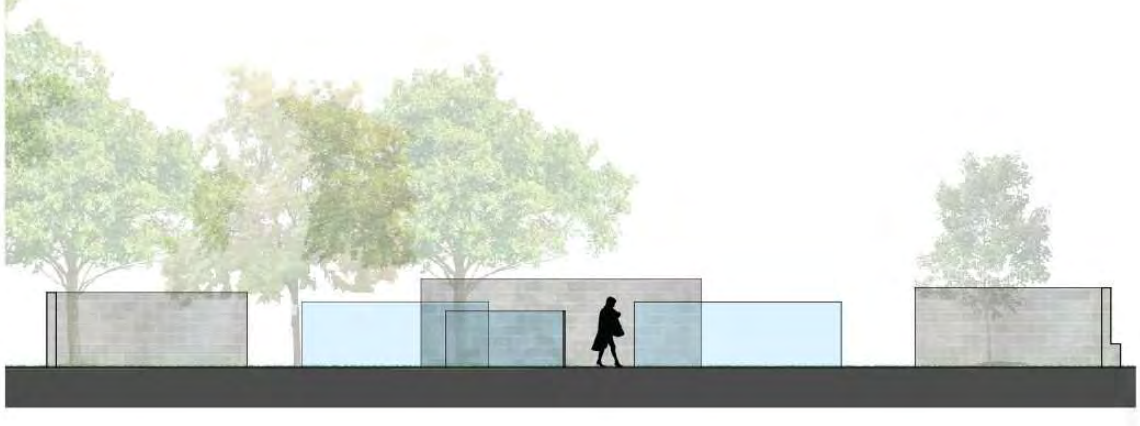


Peck Park Site Usage

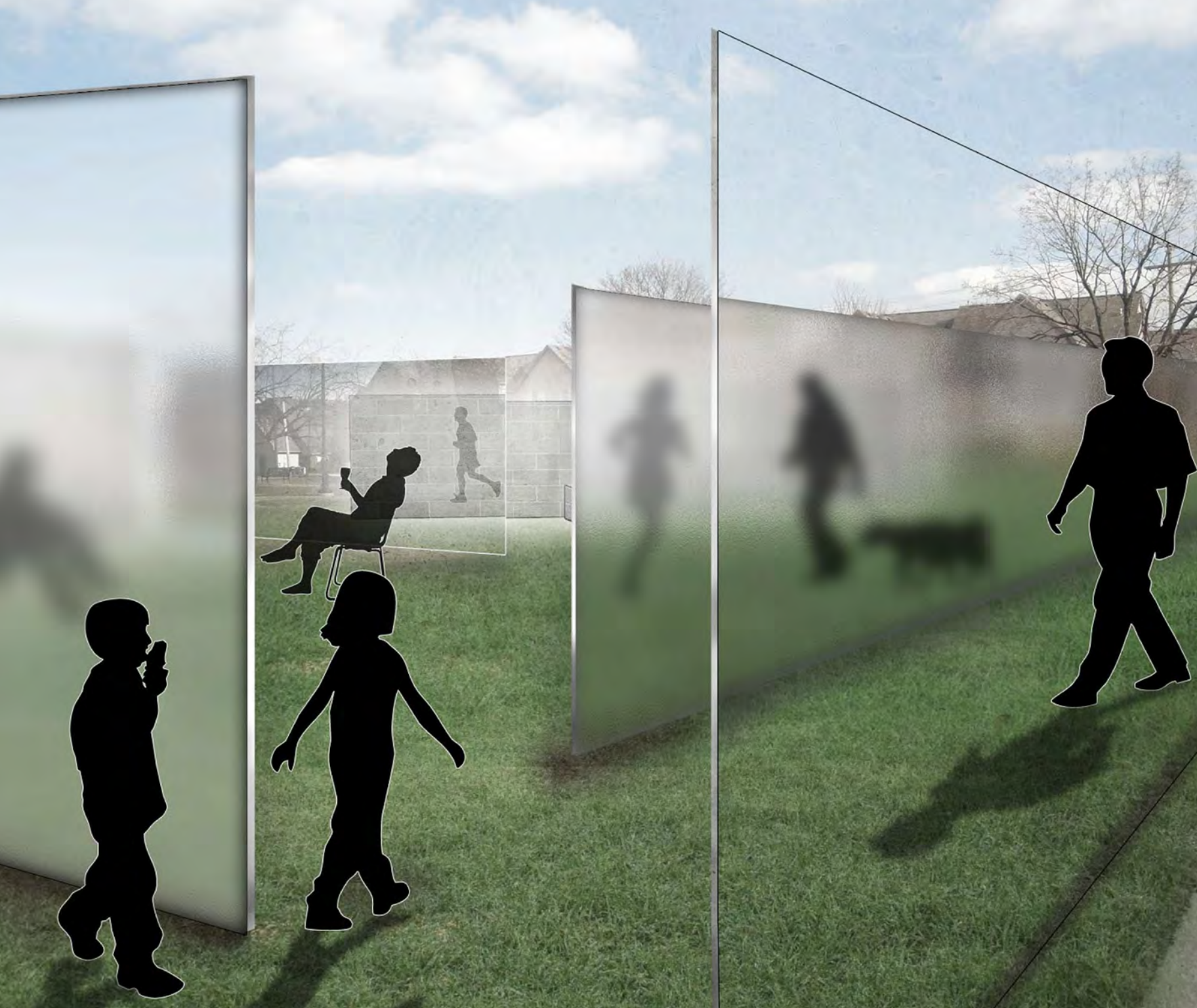
Peck park is a small park that serves a majority of residents as a leisure place to be. It is also close in proximity to CCS and Wayne State. Like all the designs for this type of installation in this part of the thesis, there is a central gathering area for people to occupy and perform and mingle. Translucent concrete being the main attraction for the space is prominent as CCS and Wayne State students can come and explore the advance of materials and the new structural technology. The space can also serve as presentation space for special events. The usage diagram on the prior page illustrates the expectations of numbers and what demographic is to visit and engage more after 6 months to a year. The figure on the bike are visitors, man with backpack are residents, man with suitcase is worker, and last figure are residents. The blue represents the expected increase and scaled in as 300 per figure based on research on how many people live/work and go to school in the area displayed by the five minute walking radius analysis. With CCS and Wayne State and large of amounts of residents, all three were the targeted demographic.



Peck Park Site Plan



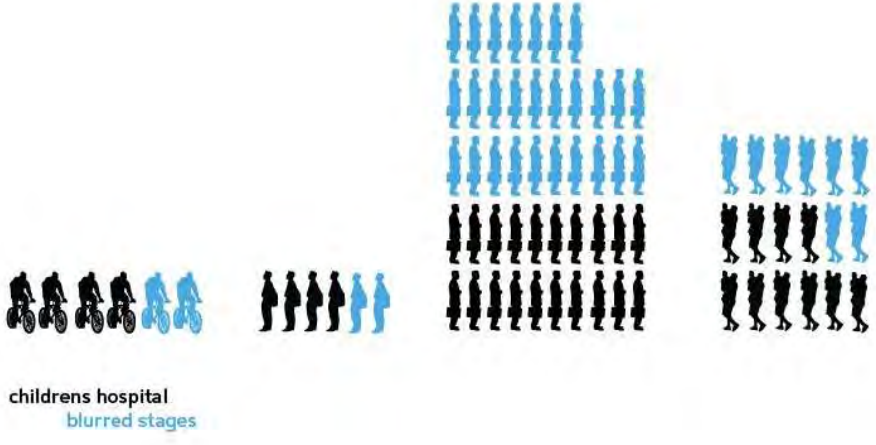
Section A



FINAL PROPOSAL
CHILDREN´S HOSPITAL

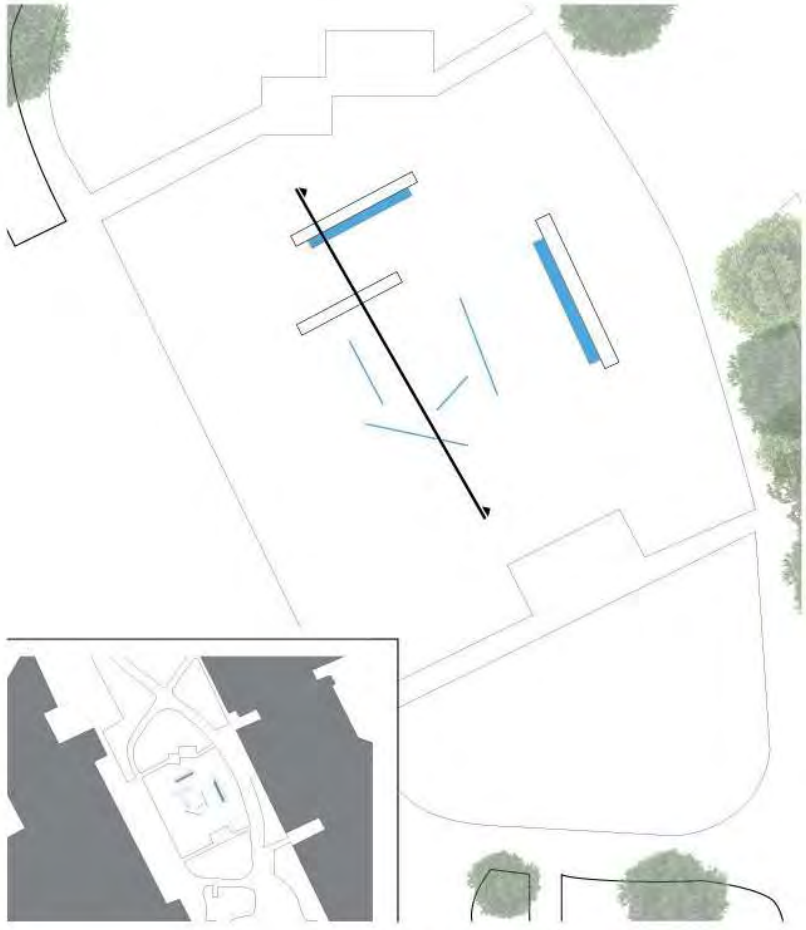
BLURRED STAGES

Children's Hospital Site Analysis

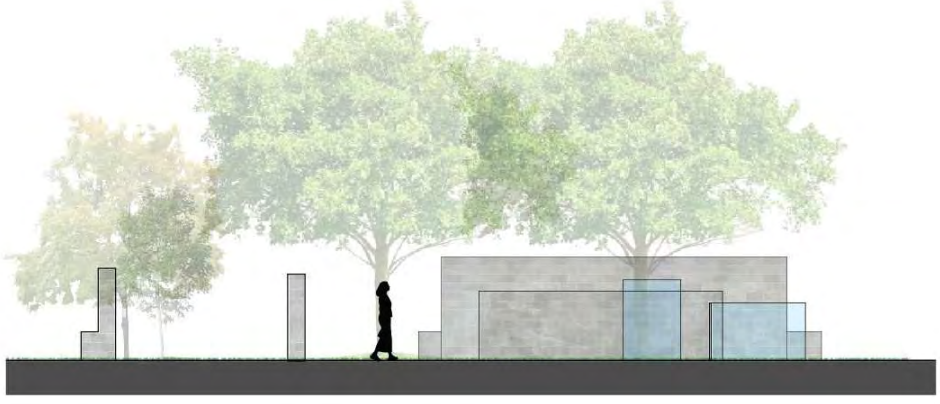


Children's Hospital Site Usage

The Children's Hospital has an outdoor space that is sandwiched by two of the medical buildings and offers space for interaction to occur. This space as well will be consisting of transparent glass, translucent glass, and translucent glass that will intrigue the staff and children and aid children develop their sense of perception. This space is publicly available for use but is not readily seen so not many people access it. This was the intent when picking the site; it allows variation of public and private throughout the networks and the installation type itself. There is a central point in the center but was kept more open for the users, who will mostly be children and families and workers, to engage more closely and have more of enclosed feeling. The layering of different materials to create visual combinations of scenery is also considered in the design. they may seem them. The usage diagram on the prior page illustrates the expectations of numbers and what demographic is to visit and engage more after 6 months to a year. The figure on the bike are visitors, man with backpack are residents, man with suitcase is worker, and last figure are residents. The blue represents the expected increase and scaled in as 1000 per figure based on research on how many people live/work/visit and go to school in the area displayed by the five minute walking radius analysis. With the majority of the population in the area being medical staff and families that visit the center, they were the targeted demographic.



Children's Hospital Site Plan

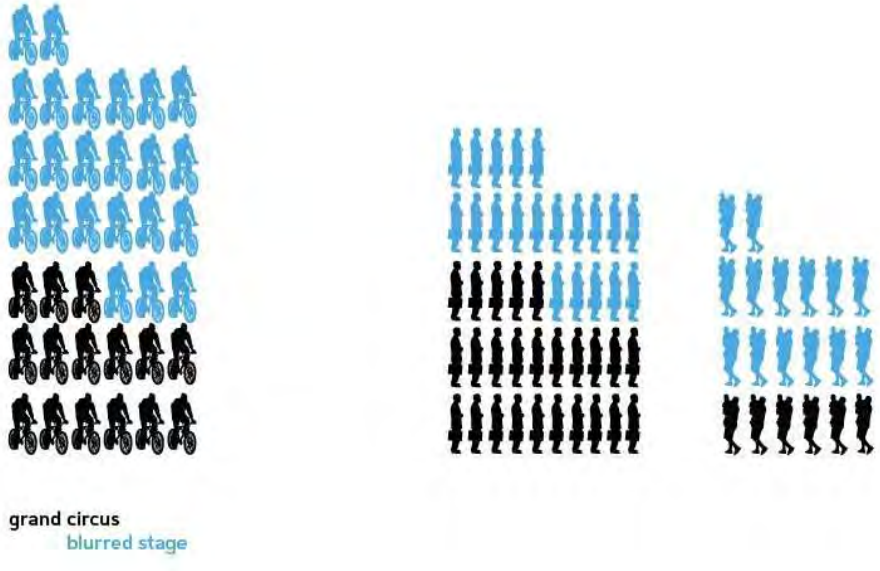


Section A

FINAL PROPOSAL
GRAND CIRCUS

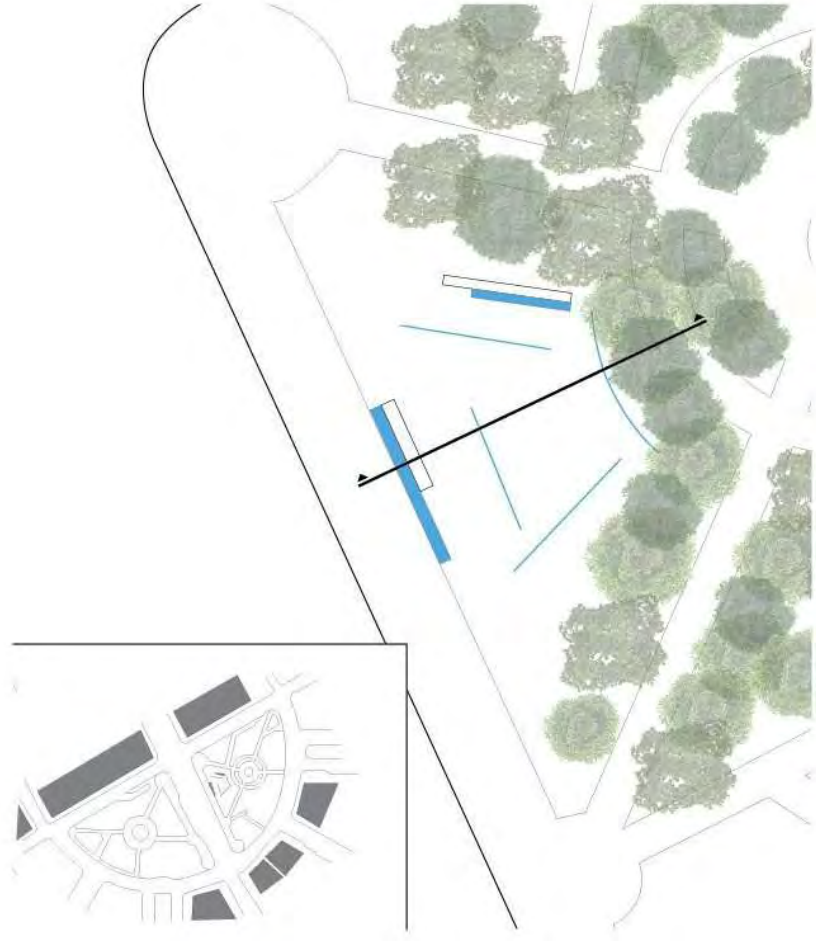
BLURRED STAGES

Grand Circus Site Analysis

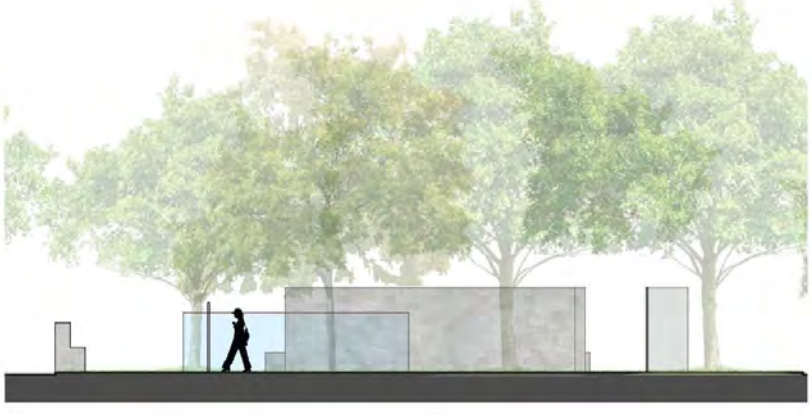


Grand Circus Site Usage

Grand Circus, like mentioned in the first proposal, displays the visual impairment installation of the use of transparent glass, translucent glass, and translucent concrete. It is in the middle of a major entertainment district, with stadiums and art performance venues that are spectator based and visual interactions. The focus is on the outskirts of one of the halves of the park closest to Comerica Park, on the Woodward Avenue side. This allows for traffic and pedestrians to notice the activity and people passing through the materials as they pass by. This allows for exterior perceptions to be involved instead of just people that are engaging in the actual installation. The usage diagram on the prior page illustrates the expectations of numbers and what demographic is to visit and engage more after 6 months to a year. The figure on the bike are visitors, man with backpack are residents, man with suitcase is worker, and last figure are residents. The blue represents the expected increase and scaled in as 1000 per figure based on research on how many people live/work and visit in the area displayed by the five minute walking radius analysis. Visitors and the working class are the targeted demographics for this site.



Grand Circus Site Plan

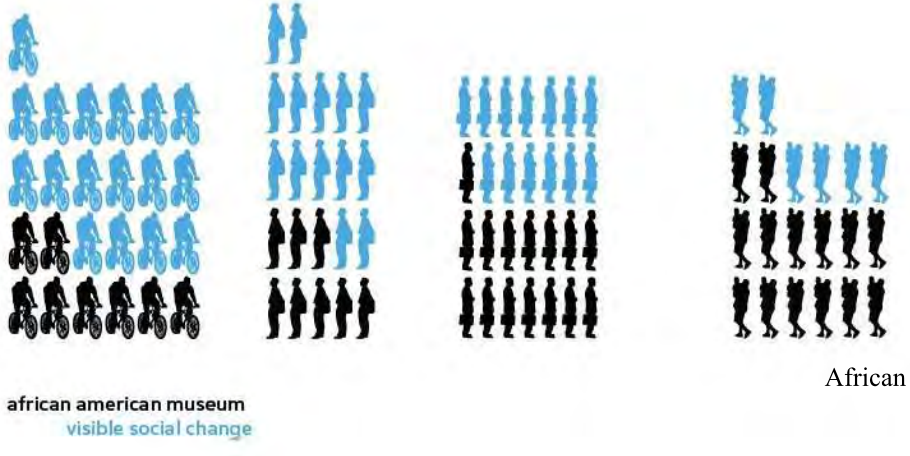


Section A

FINAL PROPOSAL
A.A. MUSEUM

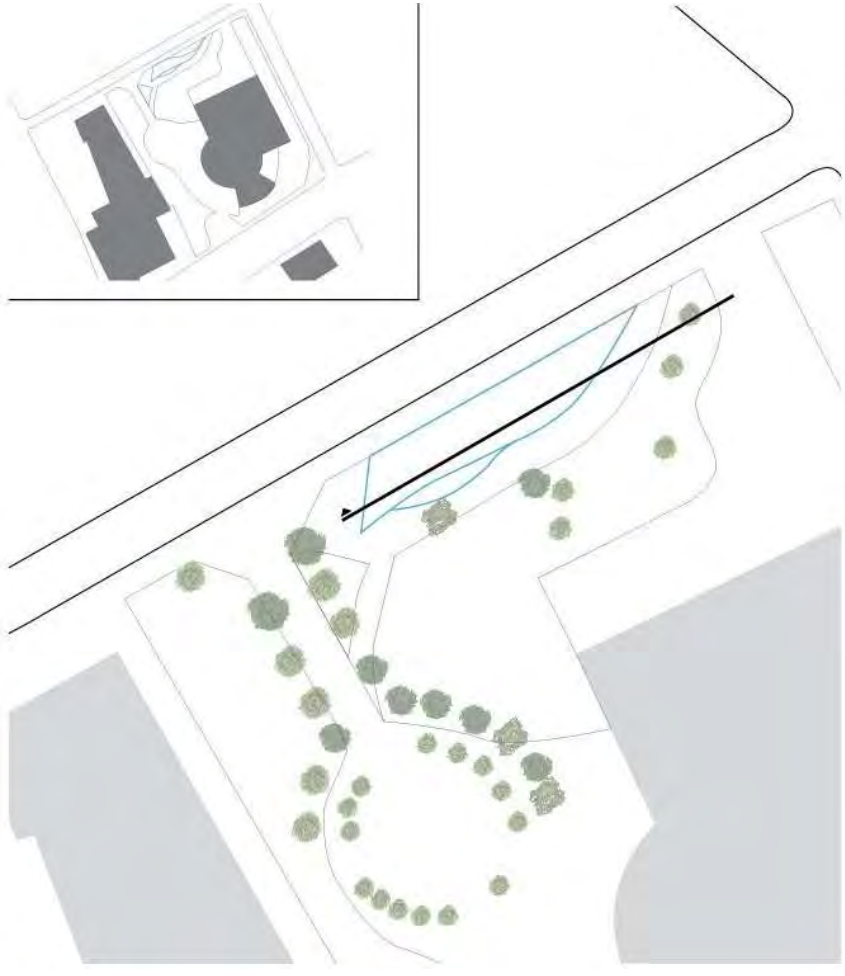
VISIBLE SOCIAL CHANGE

African American Museum Site Analysis



African American Museum Site Usage

The African American Museum is located right behind the D.I.A. and is home to a rich history. With a large amount of people that navigate through the space at different intervals, the visible change installation would be installed here. This installation introduces thermochromic paint that would be applied to the interior and exterior of the structure. Motion sensors will still be present in this location but the prompts will be non-existent and will solely be a study of the interaction of people in time and space. The space will sensor a presence and activate the jets of warm are to be applied to the surface of the interior walls as people walk by or linger in front of the sensor. The designs for these installations have become more open and dynamic and are designed relevant to site conditions allowing seating areas and views and openings through which to navigate through. The usage diagram on the prior page illustrates the expectations of numbers and what demographic is to visit and engage more after 6 months to a year. The figure on the bike are visitors, man with backpack are residents, man with suitcase is worker, and last figure are residents. The blue represents the expected increase and scaled in as 1000 per figure based on research on how many people live/work/visit and go to school in the area displayed by the five minute walking radius analysis. The targeted demographic was balanced for this area due to the medical facilities, residents, and students in the area.



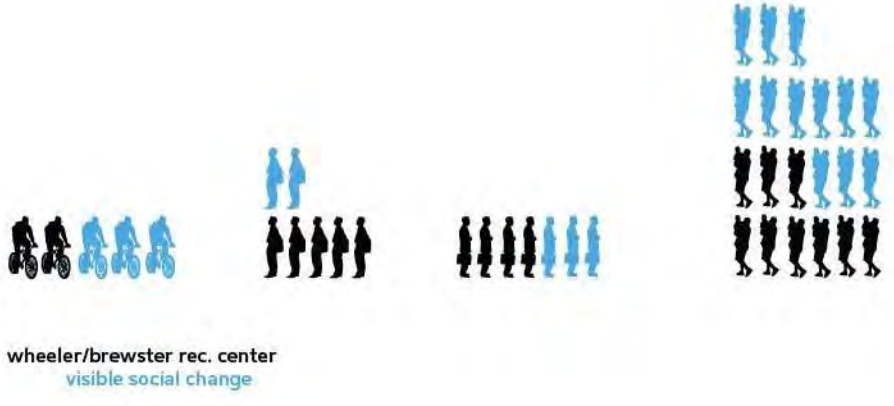
African American Museum Site Plan

Section A

FINAL PROPOSAL
BREWSTER REC.

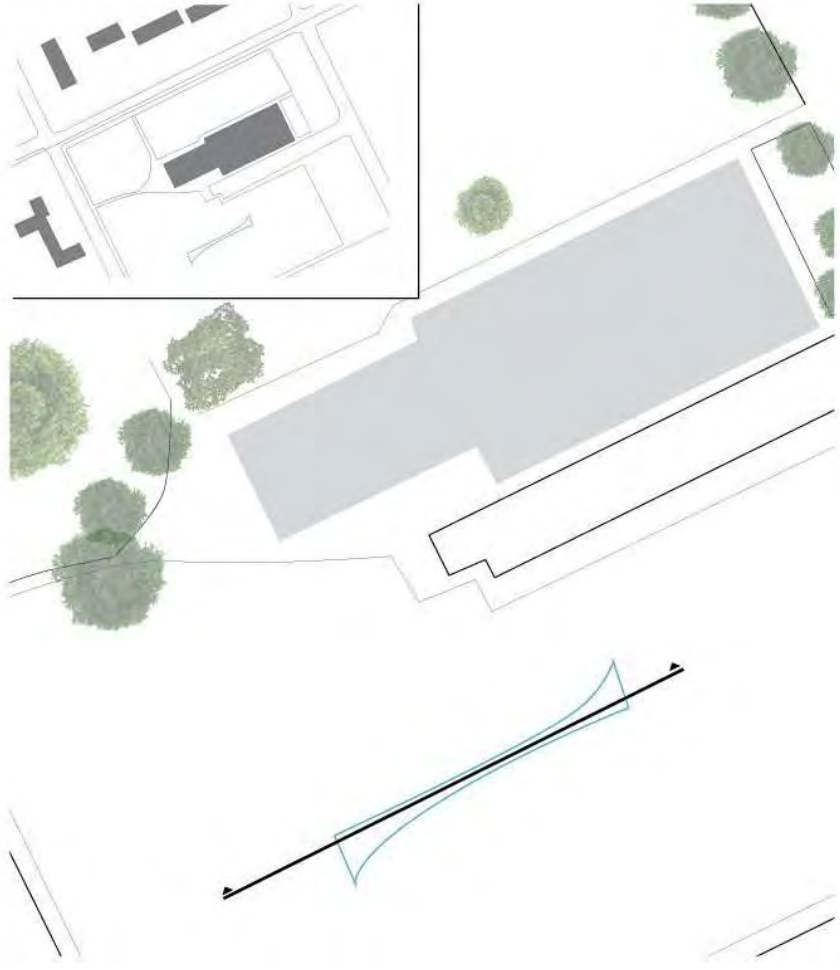
VISIBLE SOCIAL CHANGE

Wheeler/Brewster Site Plan

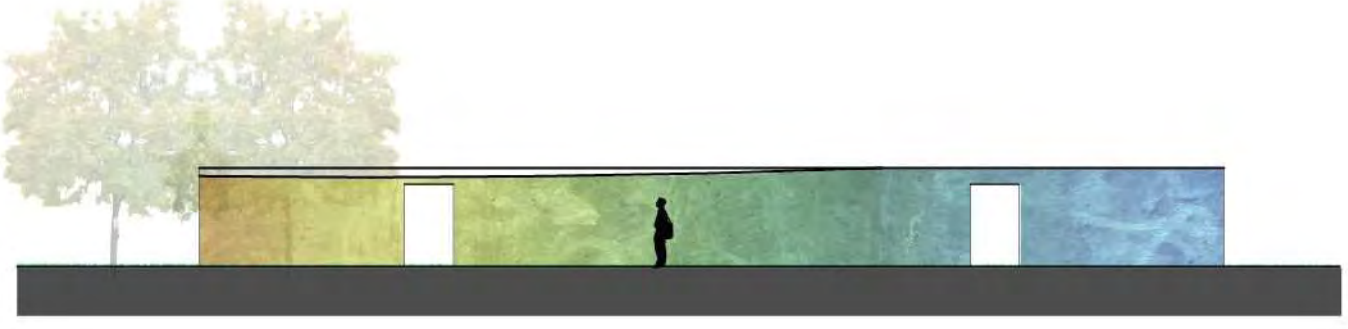


Wheeler/Brewster Site Usage

Wheeler/Brewster Recreation Center is another recreation center that was shut down for lack of funds to properly keep it running. This site is prone to vandalism and is quite desolate. This site is introducing thermochromic paint to the sight and will act naturally instead of mechanically. The rec center is heavily vandalized and tagged with graffiti. This is taken into consideration and into the design. When graffiti artists take property as their canvas and illustrate their message on this installation, the installation is painted over with thermochromic paint and continues to add layer after layer of these arts and becomes a new canvas every so often. As the day gets warmer and the sun heats up the paint, the paint will discolor and reveal the art work underneath. The usage diagram on the prior page illustrates the expectations of numbers and what demographic is to visit and engage more after 6 months to a year. The figure on the bike are visitors, man with backpack are residents, man with suitcase is worker, and last figure are residents. The blue represents the expected increase and scaled in as 300 per figure based on research on how many people live/work/visit and go to school in the area displayed by the five minute walking radius analysis. Residents were obviously the targeted demographic in purpose for them to step away from the communities to engage in the artistic conversation of the area.



Wheeler/Breswter Site Plan

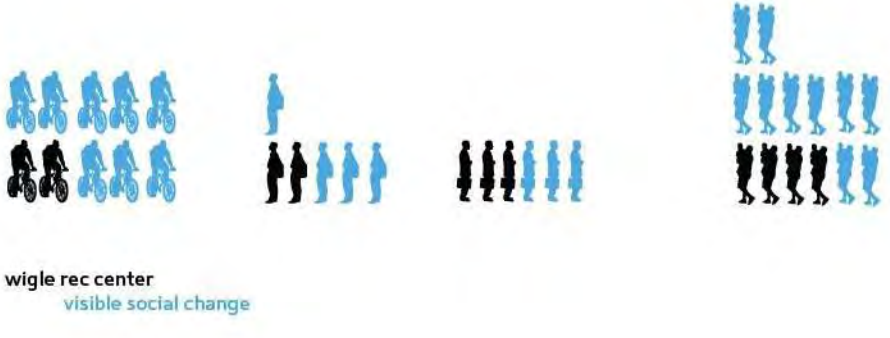


Section A

FINAL PROPOSAL
WIGLE REC.

VISIBLE SOCIAL CHANGE

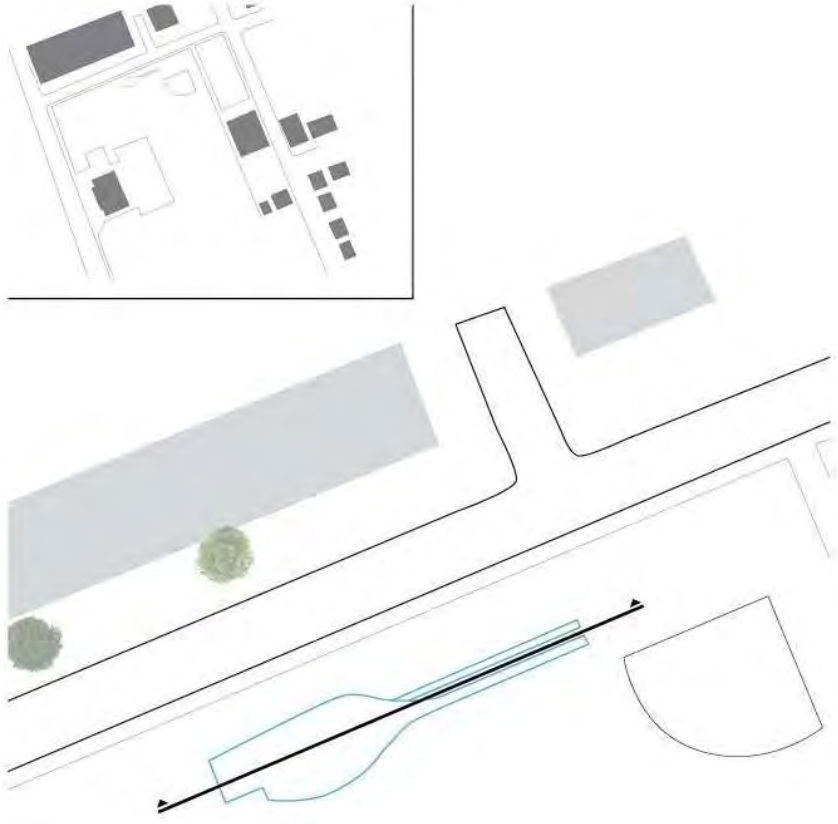
Wigle Recreation Center Site Analysis



Wigle Recreation Site Usage

Wigle Recreation maintained in the network as the sight that introduced the thermochromic paint to allow the space to visibly change due to the amounts of people. At this site however, the rec center has been vandalized, as many areas in Detroit do, and I wanted to embrace that. With this installation, seating for the games that occur on the newly renewed field is part of the installation creating another interaction as people sit and change the color of the bench members. Sensors will not be a part of this site installation but rather depend on the temperature of the sun throughout the day. This allows and celebrates the artists that graffiti the structure. As the structure is left alone for a while and gets tagged, the graffiti will be painted over with the special paint and as the sun and outdoor temperatures warm the surface, the graffiti is revealed. This illustrates interactions of the people of the night and engage with the passerbys of the day and students and families that are part of the community.

The usage diagram on the prior page illustrates the expectations of numbers and what demographic is to visit and engage more after 6 months to a year. The figure on the bike are visitors, man with backpack are residents, man with suitcase is worker, and last figure are residents. The blue represents the expected increase and scaled in as 300 per figure based on research on how many people live/work/visit and go to school in the area displayed by the five minute walking radius analysis. Residents and students of the two schools were the targeted demographic for this site.



Wigle Recreation Center Site Plan

Section A

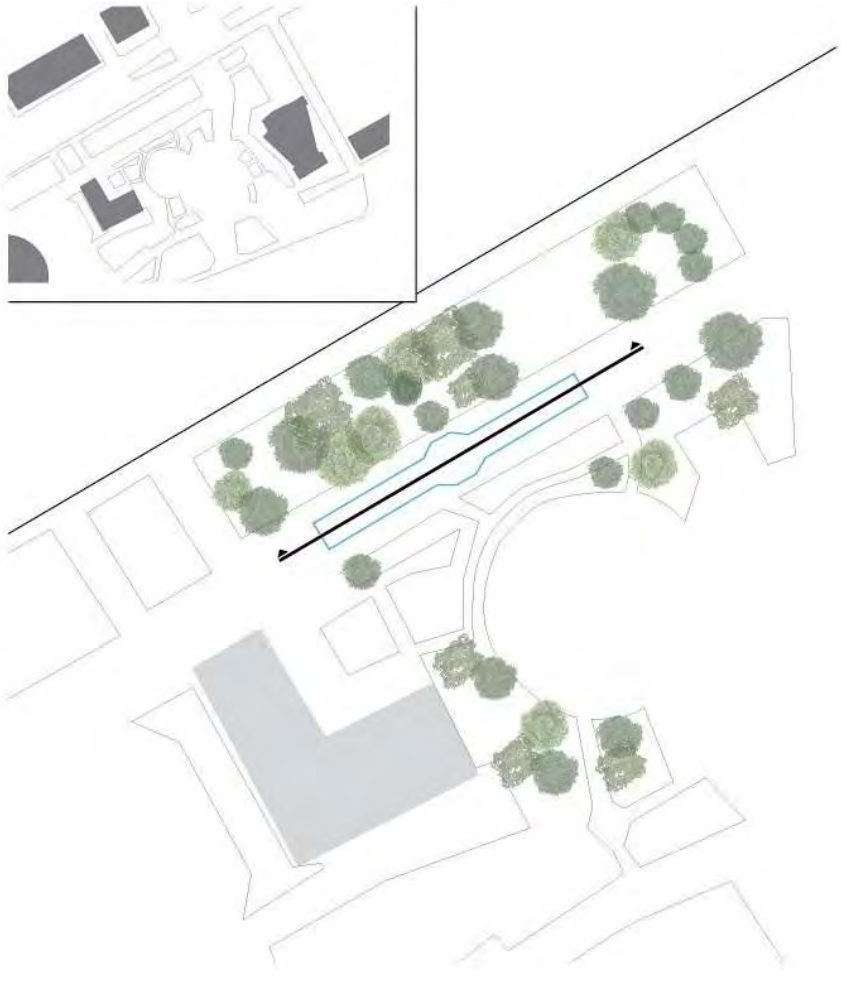
FINAL PROPOSAL
HART PLAZA

VISIBLE SOCIAL CHANGE

Hart Plaza Site Analysis

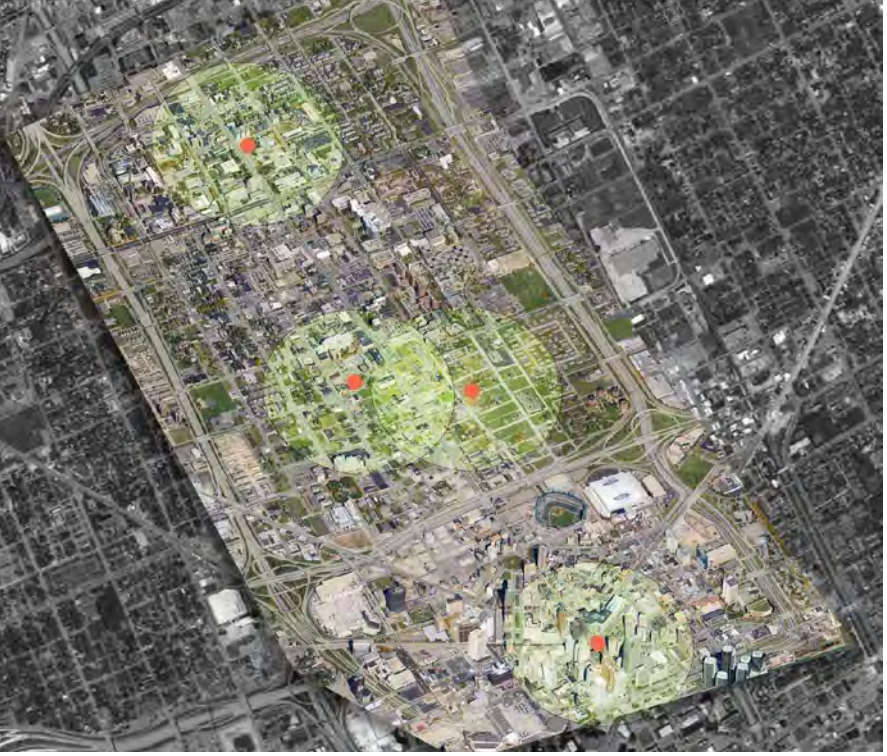
Hart Plaza Site Usage

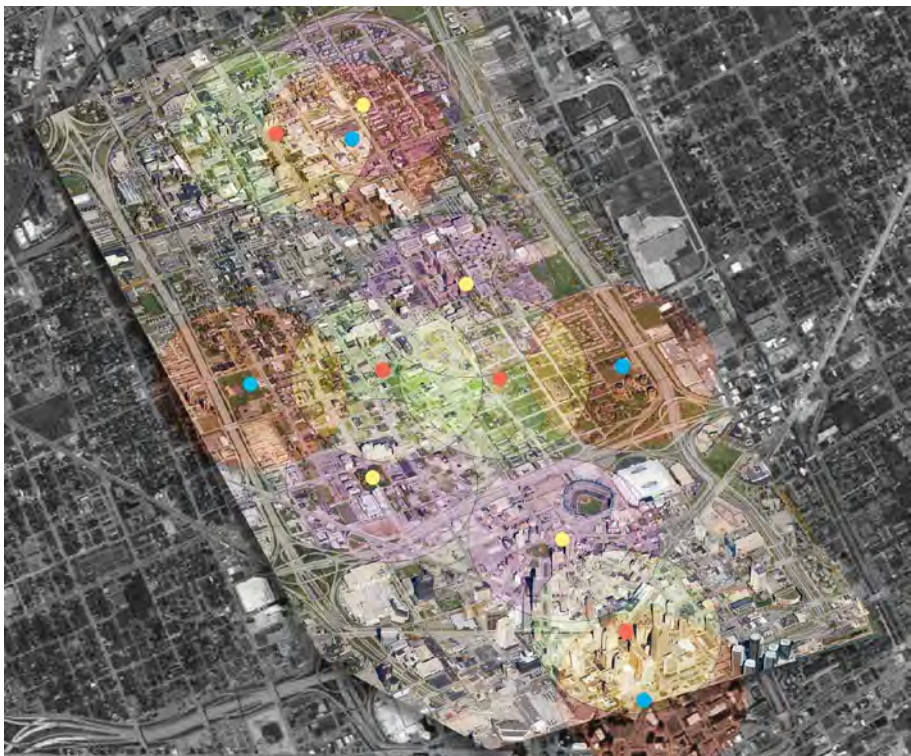
Hart Plaza is the last site to demonstrate and exhibit the thermochromic paint technology. This site, like African American Museum, will be mechanically enhanced with sensors and jets to warm the paint applied on the interior and exterior of the structure. Being very close to the river will attract people to the River Walk and promote the pedestrian friendly characteristic of Detroit. The walls will be conductive so that as activity increases inside, the outside walls begin to reflect was is happening inside and illustrate the changing nature and patterns of social patterns occurring inside. The usage diagram on the prior page illustrates the expectations of numbers and what demographic is to visit and engage more after 6 months to a year. The figure on the bike are visitors, man with backpack are residents, man with suitcase is worker, and last figure are residents. The blue represents the expected increase and scaled in as 1000 per figure based on research on how many people live/work/visit and go to school in the area displayed by the five minute walking radius analysis. The working class and visitors were the targeted demographic for this site.



Hart Plaza Site Plan

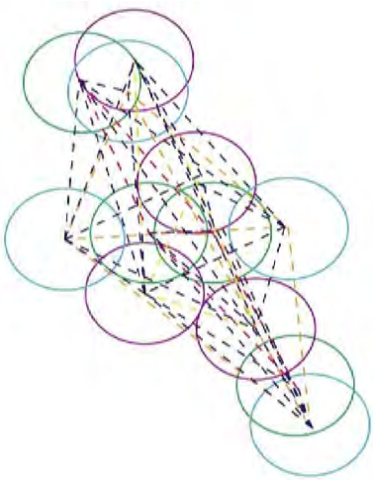
Section A

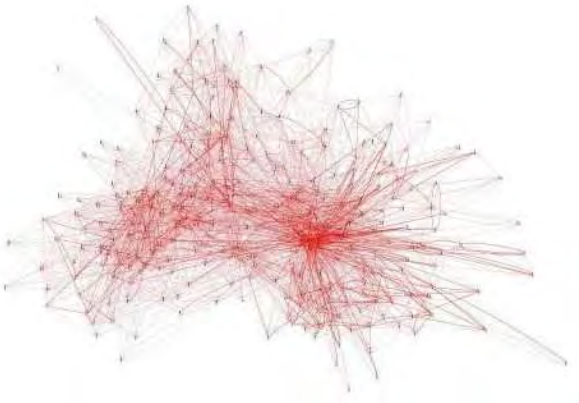


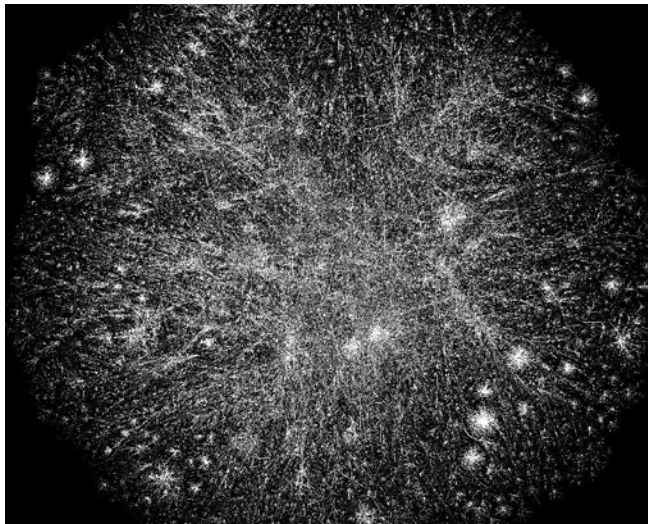


Final Remarks

Technology can enhance and engage users and promote socializing with the integration of a technological advance that works to temporarily expose individuals to social patterns are experiences. The focus for the thesis was to illustrate and propose how a physical manifestation of a communication network that integrates these simple technologies can encompass the city and allow for various dialogues between high and low density areas, residential, business, institutional, and entertainment areas. Integrating user responsive technologies into the built environment can engage the user, enhance the space, improved the experience, and create a venue for a dialogue within the city that can resemble and work like the networks of the internet and brian waves.







Images on left
Top Left - Hidden Conversation Locations
Top Right - Blurred Stage Locations
Bottom Right - Installation Location Compilation
Bottom Left - Visible Social Change Locations

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