# [work]place[inter]actions
## THE DYNAMICS OF SPACE
## + INTERPERSONAL RELATIONSHIPS

Dima Daimi

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To Dad, Mom, Zina + Wasan

For always believing in me even when I couldn't, teaching me to persevere, and that with God everything is possible.

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# how do YOU define work ?

## Thesis

Abstract

[work]place [inter]actions

# Abstract

Everything about work has changed, but very little about the workplace has.  The current work environment is not working for humans.  The defining ethic in the modern workplace is more demanding, bigger, and faster.  More information than ever is available and the speed of every transaction has increased exponentially, prompting a sense of permanent urgency and endless distraction.  Humans are not programmed like computers.  Nor do they run in a linear manner like a machine.   Life is moving faster than ever and unintentionally isolating people from one another. People are spending more time at work than they are with their loved ones and maintaining their personal lives.

"Relationships are one of the main sources of happiness, but when they go wrong they produce very great distress and are one of the roots of mental disorder" (Argyle). Humans were created to interact, with one another, and with their environments. Human Energy comes from four sources: physical, emotional, mental and spiritual.   Humans achieve great performance when a source or work environment can activate and respond to all four spectrums.   This is when humans can achieve great performance.

In order to better understand human behavior, understand work, understand how humans measure performance  there needs to be more investment on the part of people who design, plan, provide and manage workplaces so they can use those measures to justify changes in the workplace.  Furthermore , several corporation case studies regarding organizational culture will be explored.  The precedents foreground how design can keep workers happy, engaged and productive while enhancing work performance and satisfaction.

# How do you define work?
We work everywhere. Ideas can happen anywhere. The idea of a workspace varies from person to person, from task to task. For some it's a city, for others a phone, a field, a corridor, an airport. But from a business perspective, there is always a workplace that is provided for the express purpose of doing work. According to the labor census bureau, we spend one third of our day sleeping, one third working and the remaining pertaining to the rest of our lives such as maintaining personal relationships, caring for others and for ourselves. [1] Due to the amount of time we spend at work, it is currently where most of our interactions take place. Human to human interactions are a vital component to people's mental health. By analyzing the significance of interactions through ethnomethodolgy—the study of the underlying rules of behavior that guide group interaction - we can draw upon these concepts when designing the physical environment. Furthermore, in order to understand how a group can work efficiently together, it is necessary to understand how an individual can work efficiently and with higher levels of personal satisfaction. By enhancing workplace interactions through analyzing the dynamics of interpersonal relationships and how they can be strengthened by space, architects and designers can create environments that foster effective collaboration as well as enhanced personal growth.

## Knowledge Workers

It is important to note that this thesis is intentionally limited to knowledge based workers. This term does not address manufacturing or other manual skill based work. Knowledge workers are managers, scientists, architects, salesmen, and lawyers—people who depend heavily on interactions with others and the sharing of knowledge for their effectiveness. [2] In these settings, interactions with others such as clients and customers, staff and suppliers, vendors and competitors provide individuals with the knowledge they need to complete their work. [3] When at work, statistics indicate that knowledge workers are currently spending half of their work days simply looking for the information they need to do their job. [4] Why is this happening? It is because the current workplaces are not designed to increase interactions that can easily allow these knowledge workers to get the information they need to do their job faster and more efficiently.

## Human to Human Interactions

Moreover, according to Michael Argyle, a psychologist that specializes in understanding human interactions, "Relationships are one of the main sources of happiness, but when they go wrong they produce very great distress and are one of the roots of mental disorder." [5] Humans were created to interact--with one another and with their environments. Interaction is also often thought of as being transactional – meaning there is a give and take between interested parties. Non verbal cues are an essential type of interaction. Non verbal cues occur through people's speech, dress, facial cues and orientation. Specifically these non verbal signals come in combinations. "Non verbal cues occur in sequences of interaction between two or more people. Most social behavior consists of verbal as well as non-verbal signals." [6] For example, a smile is commonly combined with a gaze and a friendly tone of voice. Non verbal communication functions in four different ways, communicating interpersonal attitudes and emotions, self presentation, ritual and supporting verbal communication. [7] These subtle signals that occur through non verbal interactions allow people to place themselves in society, when neglected personal and organizational growth cannot be achieved. By observing spatial behavior, people of different cultures have varying comfort levels regarding physical proximity. However, when people feel comfortable with one another they share their personal space. Due to this, physical proximity is one of the cues for intimacy, both sexual and between friends of the same sex. "The significance of physical proximity varies with the physical surroundings—proximity to the point of bodily contact in a lift has no affiliative significance, and it is noteworthy that eye-contact and conversation are avoided here." [8] The amount of non verbal and verbal exchange that occurs between co-workers can be controlled by the built environment.

## Human to Nature Interactions

In order to have meaningful interactions, workplaces need to respond to the five senses—sound, smell, touch, sight and taste. These subtle cues allow for significant interactions and physical proximity. If a space can activate one sense, it provides an interaction. If there are stimulations of more than one of the five senses then the brain has more than one interaction associated with the space. Several interactions create reinforcements to memory and understanding. The more a workspace can active all the senses the stronger the reinforcement occurs in the brain. [9] Humans use vision, hearing, smell and touch to gather information about their surroundings. Each sense detects individual features of what we perceive. These interactions affect our subconscious conditioning. In turn non verbal cues act as catalysts for using our senses in understanding one another. Spaces that can respond to the user's interactions through the senses can yield healthy and nurturing environments.

## Meaningful Work Place Interactions

When analyzing the workplace it is easy to understand that the relationships that occur among co-workers are very specific. They may have some similarities, but generally they are very different from relationships that occur with relatives and loved ones because people are brought together simply because of work. The relationships are highly dependent on how well the others work and how that in turn allows you to do your job. There are four different types of work relationships: work relationships only, friendly working relationships, friends at work, and friends outside work. [10] Work relationships only occur where people do not enjoy their company and in turn only see the people because they have to go to work. This type of relationship is detrimental to the mental health of the parties involved because it forces people to spend a third of their day feeling relentless and unhappy. There are only so many defense mechanisms that individuals are equipped with that control their emotions until their social settings affect the way they view their life and themselves. Having too many "work only" relationships should be avoided due to

detrimental conditions that could occur. On the contrary, "friendly working relationships" are healthy and should be the relationship benchmark for all work places. These interactions occur when people see each other often at work and find their social encounters rewarding but they don't see each other outside of normal daily office encounters. [11] It is understood that when many people work together they all will not become great friends, so this is a good benchmark level for the general office culture to reach. More rewarding work relationships are 'friends at work,' these are relationships that include seeing each other regularly for lunch or other breaks in the office but not outside of work. This type of relationship is satisfying and rewarding because it allows for significant interaction throughout the day. The most worthwhile relationship at work is 'friends outside of work.' These relationships develop in the usual sense due to leisurely lunches and events where spouses can attend. When these relationships are developed people are usually more likely to feel more attached to the workplace and in turn more upset to leave. [12]

Examining these interactions reiterates how healthy relationships at work are more significant to the individual than just completing their tasks on time. They are about developing a stronger emotional support system that allows the individual to cope with and celebrate all of life's trials and triumphs.

The types of relationships that occur in the workplace can be heavily influenced by the way the physical space is organized. Certain conditions of physical space increase interactions between people and, as a result, significantly boost organizational performance. How people are oriented signals interpersonal attitudes that are essential in placing one's self in situations. For example, there are several types of seating arrangements that can occur in a work setting that greatly influence the style of personal communications that are likely to occur between workers in various environments. Specifically understanding how people naturally

orient themselves—side by side, in front of each other, or diago-nally—in certain situations allows the designer to achieve the specified objectives they hope to achieve in designing a spe-cific environment.   When two people sit directly next to each other at a table, the situation appears to be cooperative. Neither party feels threatened so they do not pay attention to each other's non verbal cues. "However when someone is told that they are to compete, negotiate, sell something or interview, they end up orienting themselves directly in front of each other." [13]  Orienting one-self in this way is a strategic move that allows for understanding and/or matching body language and watching for vital facial expres-sions that occur through conversation.  When people are having a discussion or conversation they usually orient themselves diagonally to one another.  "This suggests that one can become more sensi-tive to the cues emitted, often unintentionally, by others, and that one can control non-verbal as well as verbal signals." [14]  Coworkers seated diagonally to one another have the ability to subconsciously understand how their coworker responds to certain conditions that occur throughout the day.  When coworkers become more re-sponsive to one another they are able to work better together. In analyzing how people sit in relation to one another in different situ-ations we can understand how specific staging of individual work-places can derive certain conditions that can foster collaborations.

Furthermore, collaborations are symbiotic relationships. In order for workers to achieve self expression within a group they need to feel as if they are not answering to someone but instead they are being respected and mutual relationships are occurring.  The psychical setting dictates of spatial behavior and is critical in un-derstanding how people work with each other. "Dominance is sig-naled neither by proximity nor orientation, but by symbolic use of space—sitting in the largest chair, or at the high table, for example." [15]  Dominance also plays a large role in territory.  Hierarchical seat-ing arrangements can be minimized by manipulating the physical setting itself. Architects have a lot of control over spatial behavior.

## Creative Process

The creative process has five steps, first insight --> saturation --> incubation --> illumination --> verification. [16] The first insight stage is about understanding the task at hand; it's the formula-tion of the problem.  The second Saturation stage is the gath-ering of information. Meanwhile the Incubation stage occurs the second the individual has temporarily given up.  It is crucial in understanding the importance of work environments that can provide spaces that can distract the individual so they are able to mentally refresh. After we've stopped trying to solve a problem logically and sequentially, the fourth stage of creativ-ity, Illumination occurs.  "This is the moment of breakthrough when the solution comes to us unbidden, a gift that seems to arrive spontaneously." [17] Lastly, the final stage is verification, this is the when rigorous scientific method is applied; even the greatest ideas mean nothing if everyone cannot understand them. Therefore the significance of the creative process and its relation to our environment makes it crucial for designers to ac-commodate natural retreat destinations within the workplace.

# Quadrants

One way of making the sociological and psychological concepts that are at play in the workplace tangible is by using the quadrant model for mapping workplace psychology that is borrowed from Tony Schwartz, the author of The way We Are Working Isn't Working. 18  The quadrant model demonstrates how organizational psychology research can lay the groundwork for the design process. This model is a successful tool in understanding the individual and how their environment affects their performance in the workplace. It is accompanied by a questionnaire that assess the individual and in turn the organization on their energy levels.  The quadrant model examines the four sources of human energy: renewal, emotional, focus and spiritual.  These quadrants as a whole are an effective tool in analyzing the current issues and strengths that occur in specific workspaces.  (After identifying the strengths and weaknesses) the designer can recognize which of the four sources the workplace is not meeting, diminish these threats and establish spaces that can reinforce lifestyle demands and needs for a specific organization.

The renewal quadrant  attempts to chart an individual's ability to regularly renew and take care of  themselves in the workplace, so they are healthy, fit and resilient. Renewal is a crucial component of performance.   Energy has waves of up and down, and with this realization, people must accept that the greater the demand, the greater the need for regular renewal. [19] Integrating renewal into daily habits and rituals consists of removing oneself from the demands of everyday life to have 15 minutes to collect their thoughts.  This can be done in the form of naps, meditative breathing, incorporating healthy snack choices, brisk walks and other exercises that can elevate the heart rate. Due to these lifestyle changes, carefully considering the renewal quadrant can significantly affect building program.  It adds spatial and program components that address needs such as showers + locker rooms for working out during lunch breaks, daycare, break rooms and other components that support an individual's lifestyle needs.

Next, the emotional quadrant tracks an individual's level of personal security, feeling appreciated, cared for, valued for who you are and what you do. "Our core need at the emotional level is for security, the sense of well-being that depends, in significant part, on the experience of being accepted and valued." [20] How we feel influences how we perform.   The more our environments can emotionally renew us, the more resilient we are in facing the life's challenges and stresses. People learn about themselves when they are submerged in situations where in order to find the solution they must work together.   This allows individuals to understand and observe their feelings so they can better respond to them.  Renewal within the emotional quadrant comes from constant reassurance and feeling valued by peers and superiors.  Therefore understanding this quadrant has the most impact on space, because it deals specifically with how people interact with one another and how these interactions can reinforce their emotional well being. Responding to this quadrant might result in considering an isolated space like an individual desk and how it could be changed to positively reinforce the individual when grouped to become a shared or common space.

Additionally, the focus quadrant looks at self expression and the mind, the freedom to develop and express your unique skills and talents.[21] The focus quadrant has a fairly significant impact on space and program that allows for the individual to be able to remove and distract themselves from the task at hand to have the critical 'ah ha' moments essential to the creative process. Overall the focus quadrant analyzes the individual's task time usage in relation to the task's relevance to the scope throughout the day.

The most important quadrant to the individual is the spiritual quadrant.  This quadrant is about significance.  "The need for significance at work is a manifestation of our inborn hunger for meaning in our lives.  We call this spiritual energy,

and it is fueled by deeply held values and a clear sense of purpose that transcend our self-interest and which we embody in our everyday behaviors. [22] Purpose is the external expression of what we stand for and believe in and what gives us (as individuals) a sense of meaning. In turn, this quadrant is the least affected by space and program but is significantly affected by company culture because it has the ability to provide a mission that relates to the individuals values and goals.

## Urban Context Interactions

A fresh perspective is to use the typology of interactions from an urban context as an alternative way to analyze what occurs inside the office. The referenced enthnomethodic workplace interactions are fundamentally the same kinds of interactions we are accustomed to experiencing in an urban environment. These subtle interactions that occur through being surrounded by people also help individuals place themselves in society and can serve as another kind of model for inter-office interactions.

Imagine driving to work in the morning for twenty minutes, all alone, listening to talk radio as a substitute for a companion, and compare that to walking, taking a metro, bus or taxi to work. While walking you pass your neighbor as he is picking up the morning paper and exchange a smile and brief greeting. As you continue on your path you smell fresh bread baking and stop in to buy bagels for the office. While waiting at the bus stop it starts to rain and you huddling with a stranger under their umbrella at a stop light. Later on the bus you give up your seat for an older lady, she smiles at you and says thank you.

Due to city congestion people are forced to interact. Any form of public transportation occurring submerges the individual in an environment with others increasing their opportunities for interaction. Although the act of a morning commute is an individual task, in an urban context it becomes a tool in reinforcing concepts from the emotional quadrant. For instance, subtle exchanges like a friendly smile or glance, create perceptions amid the individual's psyche reinstating their role within society and making them feel appreciated.

Simultaneously these transportation interactions inform the varying interactions occurring inside a workplace as knowledge workers are searching for information. This concept gives designers a critical understanding of how to increase interactions by analyzing the way the individuals move through the workplace and the types of programming one might pass while searching for information. Designers must envision these places as the root of workplace interactions, instead of referring to transition spaces as simply stairs or corridors. No longer will these zones simply connect spaces but they will become spaces that connect people. In the extraction of the qualities of the transitional interactions from a city and the implementation into a work environment--these spaces must be carefully designed moments that foster impromptu exchanges.

Often times in a city, when moving through place to place people encounter everyday occurrences that are not so ordinary, street performers impersonating Elvis, singers strumming their guitars, or break dancers busting moves. Public performances are moments where we stop, stare, celebrate, and welcome the occurrence. These same moments can occur in public workspaces.

It is important to note that within city life, there is a strong need for solitude, change of environment, and areas to mentally rest. This too is necessary in the workplace.

Also another interesting aspect in city life, is that people are willing to forgo large amounts of individual space in turn for all these other amenities that reinforce concepts from the renewal quadrant.

# Conclusion

In conclusion, In the course of analyzing the dynamics of interpersonal relationships, work spaces must be designed to foster interactions and cultivate and improve an individual worker's well being and sense of identity. Given the fact that such a large percentage of our waking hours are spent in the workplace,[23] it is crucial to consider the role this environment has on our emotional well being. Furthermore, recent increases in our dependence on electronic forms of communication in the workplace are numbing individuals, increasing depression rates, and reducing crucial face-to-face interactions that foster and build relationships. Neglecting meaningful coworker interactions diminish the individual's opportunity to experience the healing powers of personal communication. Designers must actively understand the natural conditioning that occurs between humans and how to enhance relationships by creating seamless interactions. In order for individual's to maintain their sense of identity and be nurtured by their environments, spaces that provide maximized room for interaction are essential. By researching concepts in ethnomethodology we are able to understand that verbal and non verbal interactions reveal the inner workings of the individual's relationship to society. The information is valuable in reinforcing the impact certain conditions of physical space can have on one's identity and how they can be shaped by one's environment.

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# how do OUR environments shape US?

## Precedents

### Spatial
Individual Space
Shared Space
Common Space
Public Space
Lifestyle Space
Transition Space

### Application
Pallotta
DNA Headquarters
Macquarie Bank

### Furniture
Turnstone Campfire
Tecno Beta System

### Cultural
Menlo Software Innovations
Googleplex

The workspace is defined by several zones. Each of these zones reveal a crucial component that is important in the harmony and balance of the individual user at the workplace. The case studies examined looking at: individual, shared, common, public, lifestyle, and transition spaces.

Currently there are three models found in workplace design. The first model is a completely isolates design from the workplace and does not create a harmonious integration of space.

The second architectural model designs the client spaces such as the lobby and conference rooms to reflect the organizations mission but does not take into consideration the individual spaces where the employees work.

The third and most successful model looks at a full integration of design oriented around employee satisfaction. This method tends to celebrate the employee work stations as a reflection of the corporate culture.

# Spatial Precedent

Spatial Precedent

## What is Individual Work Space?

Individual work spaces are places where one person completes work assignments, organizes and places themselves.





**Project: Enjoy**
Location: Paris, France

## What is Public Work Space?

Public work spaces are places within an organization that are meant for client interaction. in most cases, it is the the clients first impression of the organization.





**Project: TBWA / CHIAT / DAY**
Location: San Francisco, California

Spatial Precedent

## What is Shared Work Space?

The yellow or Shared work spaces are places where two or three people can come together to collaborate, change environment and converse privately.

## What is Lifestyle Space?

Lifestyle spaces are support spaces. Places where the employee can take a break and take care of other parts of their lives, outside of work. Theses places include but are not limited to: break rooms, renewal rooms, nursing rooms, restaurants, eating areas, and fitness centers.





Project: Mother
Location: London, England



Project: Amadeus
Location: Sydney, Australia

## What is Common Work Space?

Common work spaces are meant for small groups to meet and collaborate. These spaces are not specifically designed for the client, but are more geared for the comfort of the employees.
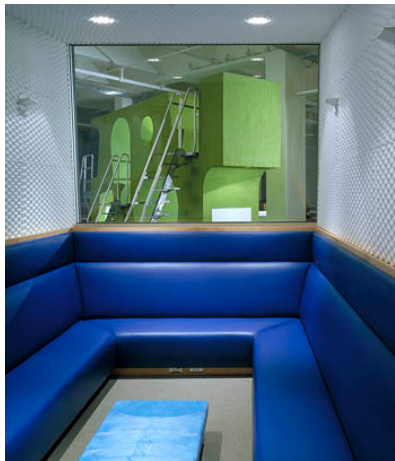




Project: KBP West Offices
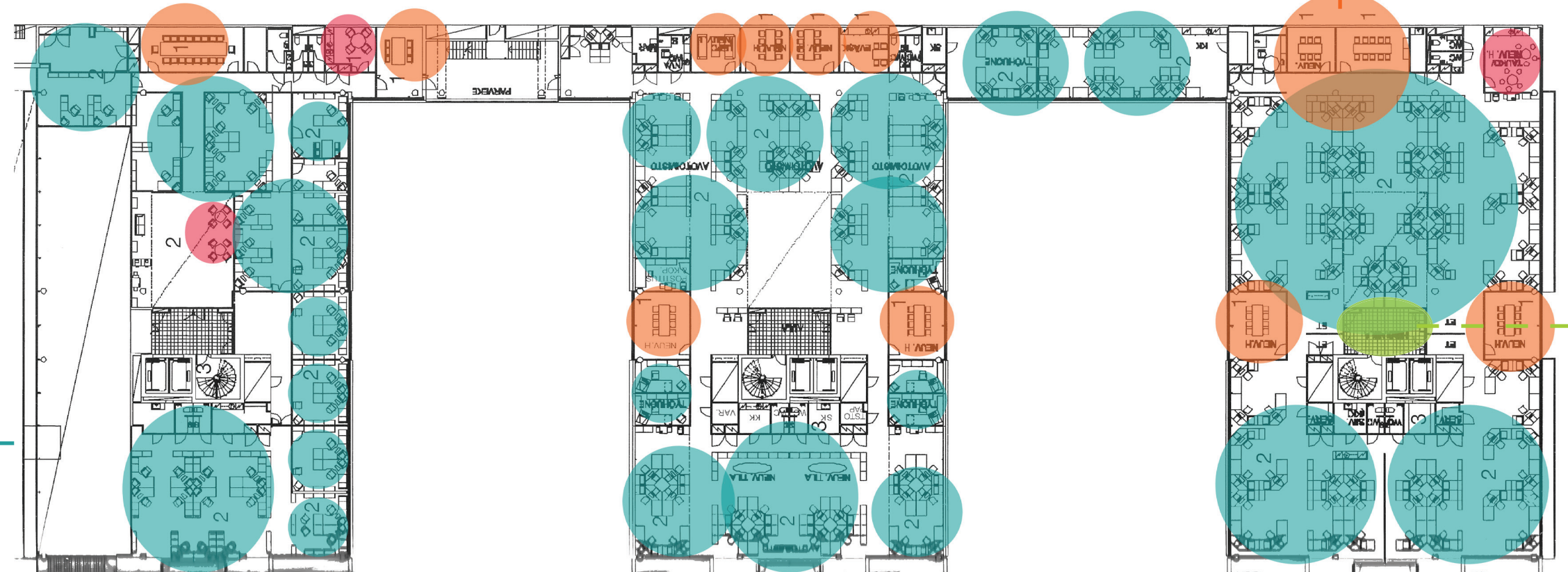Location: San Francisco, California

## What is Transition Space?

Transition spaces are open spaces such as hallways and lobbies. These spaces can be maximized for interaction.





Project: KBP West Offices
Location: San Francisco, California

# DNA HEADQUARTERS
Stefan Lindfors
Helsinki, Finland

## "ARTISTICALLY HIGHER QUALITY ENTERTAINMENT FOR MOBILE PHONES"

DNA Headquarters is a Finish Mobile Phone Operator Company. DNA Headquarters wanted a space that would be 'different for the sake of being different.' The building was designed to house the company's new headquarters. Pictured above is only a small fragment of the floor plan that looks specifically at the office plan. "Owing to budgetary restrictions, Lindfors and DNA focused on the design of a few 'gems': those spaces most often encoun-

tered by visitors and thus the ones most likely to make lasting impressions." [2] This project is a perfect example of the current approach to office space design— a notion that ignores the individuals that use the space on a daily basis. Due to this, the building does not inspire workers or enlight creativity because the areas where the employees spend most of their days are neglected and are not integrated with the 'gem' spaces.

The conference room is perfect example of one of Lindfors 'gem' spaces. The seductive light fixture and natural looking wallpaper successfully transforms the client to believe that DNA Headquarters is a profitable and sustainable company worth investing in. [3]
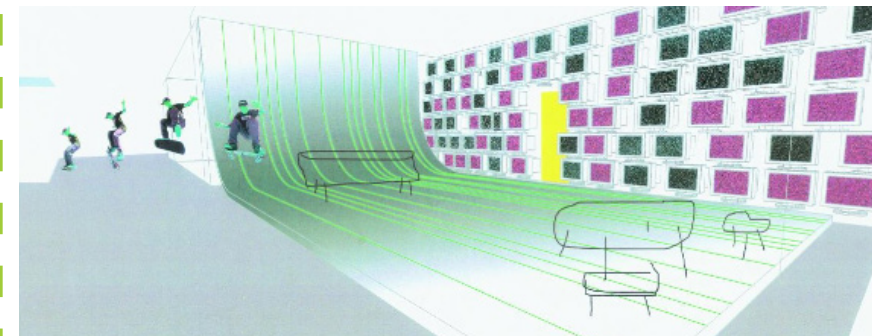








The lobby tries to capture a liveliness and progressiveness in the renderings produced by Lindfors but in actuality the materiality choices become too 'corporate' in turn portraying a sterile untouchable look that does not encourage interactions.

Spatial Precedent [DNA Headquarters]

With extensive research on the building there are no publications that highlight the individual workspaces. This only reiterates how Lindfors neglected to design the work environment for the employees.





The two pictured spaces are more of Lindfors' 'gems' however these two are sucessful because their scale and screening detail allow the spaces to be more than just for the client.  Using sheer fabric to  define the space allows for intimacy and privacy but at the same time invites individuals to freely use the space.





The rendering above captures a theatrical liveliness within these transition points throughout the building.  The design intention is not captured in the actual outcome which is the pictured image to the left. The programmatic execution failed because this space is not integrated into where the employees work.  If this did occur the actual place would be used like the original design intent indicates. [4]

## "LIFE IS A JOURNEY"

## Pallotta
### Clive Wilkinson Architects
Los Angeles, California

Pallotta is a charity fund raising company. The programming of the Pallotta office is quite complex, consisting of a reception area, lobby space, performing stage, cafeteria and work spaces. However the most challenging components of the design were the cost--$15 per square foot and finding a solution to the hot southern California heat.[6] Although the project was one of Clive Wilkinson Architects least expensive projects, they were charmed by the Pallotta staff. "The people were amazing...energized...like they were on

a mission from God," Explains Wilkinson.[7] The design solution was to incorporate a canopy over the air conditioned workspace and add water features throughout that cool the space. "Pallotta has small custom-designed wooden 'porches' woven into the workspace to allow and even encourage less formal gathering and discussion."[8]  Pallotta's usage of shipping con-

tainers makes it a good case study for creatively reusing material. Pallotta demonstrates exceptional integration of individual and collaboration spaces. However due to the budget constraint; the building does not successfully integrate the worker's individual spaces with each other, missing crucial design opportunities that could enhance performance.

5

Spatial Precedent [Pallotta]



Stacking the group collaboration areas is a nice aesthetic detail and great for organization. However this third story relaxed meeting area is not easily accessible to the people working below therefore it does not encourage quick team breakouts that are necessary in the workplace.



Although the shipping container module does create a nicely sized private office, it does not work best in every situation. It does not integrate the employees with one another. This method of isolation makes it more difficult for the employees to quickly and efficiently communicate with one another.
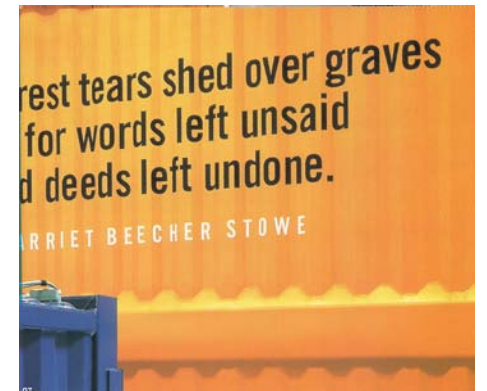


By stacking the meeting room crates in the lobby Wilkinson forces visitor's to draw their eyes upward showing off the volume of the warehouse. The uses of the shipping containers were a cost effective way to carve out discrete chunks of space within the vast open structure

Spatial Precedent [Pallotta]



Public areas such as the serverice and pantry being well integrated into the workspaces reiterate the need for individuals to nurture and properly care for their bodies.

Inspirational quotes that reiterate Pallotta's mission are printed on the shipping containers. This method celebrates transition spaces like hallways by using text to remind the employees why they are working so hard.

Cutouts in the individual offices allow for intimate shared spaces for employees to work together. The puncture in the module allows for a more dynamic work space blurring the line between private and public spaces.

"INVESTING NOW MEANT SAVINGS IN THE FUTURE AND MACQUARIE IS PROVIDING AN UNMATCHED QUALITY OF LIFE FOR ITS EMPLOYEES—BENEFITING CLIENTS, INVESTORS, SHAREHOLDERS AND THE ENVIRONMENT"

## Macquarie Bank
### Clive Wilkinson Architects
Sydney, Australia
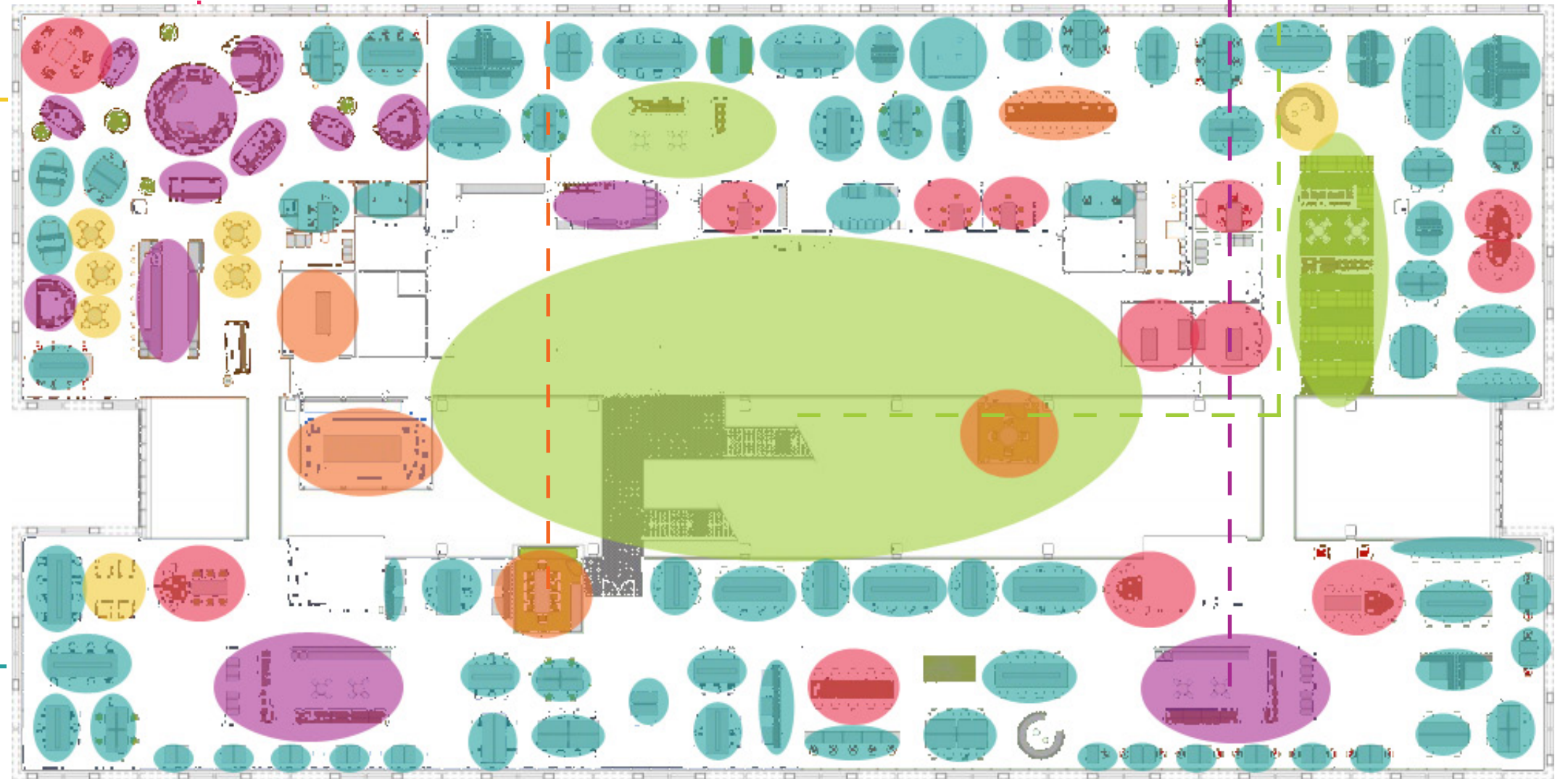
When Clive Wilkson architects first started working on Macquaire Bank their first idea was to open up and animate the ten-story atrium with 26 'meeting pods,' as a kind of celebration of collaboration, allowing clear lines of sight through the financial business.[11] They lined numerous work zones surrounding the atrium, which are designed to house 100 employees each in adaptable neighborhoods. The interior staircase links the zones forming a 'Meeting Tree,' connecting the various neighborhoods and has reduced the use of the elevators by 50%.[12] This methodology has added health benefits because it encourages employees to get a little more exercise in between their daily tasks. The office floors were modeled after collaboration typologies—the Dining Room, Garden, Tree House, Playroom and Coffee House, were cross pollination among business groups are encouraged through spontaneous encounters. Nearly 55% of employees change their workspaces each day allowing for them to have more ownership and freedom over how and where they get their work done.[13]

Spatial Precedent [Macquarie Bank]



The individual workspaces are ideal in this situation. Six individuals share workspace that is integrated with areas for quick breakout sessions. The colored square benches allow for an easy change of workspace throughout the day.



These common workplaces provide two different type of interaction areas for the groups. Both areas are stimulating and entice creativity and provide the employees the option of privacy.



The lobby is designed to celebrate the client spaces and radiate an eccentric vibe throughout the offices. This creates an unforgettable experience for the client when they walk in see these pods and then experience the spaces.

Spatial Precedent [Macquarie Bank]



This lounge area is ideal for taking breaks throughout the day or having an alternative area for work that isn't a conventional desk.
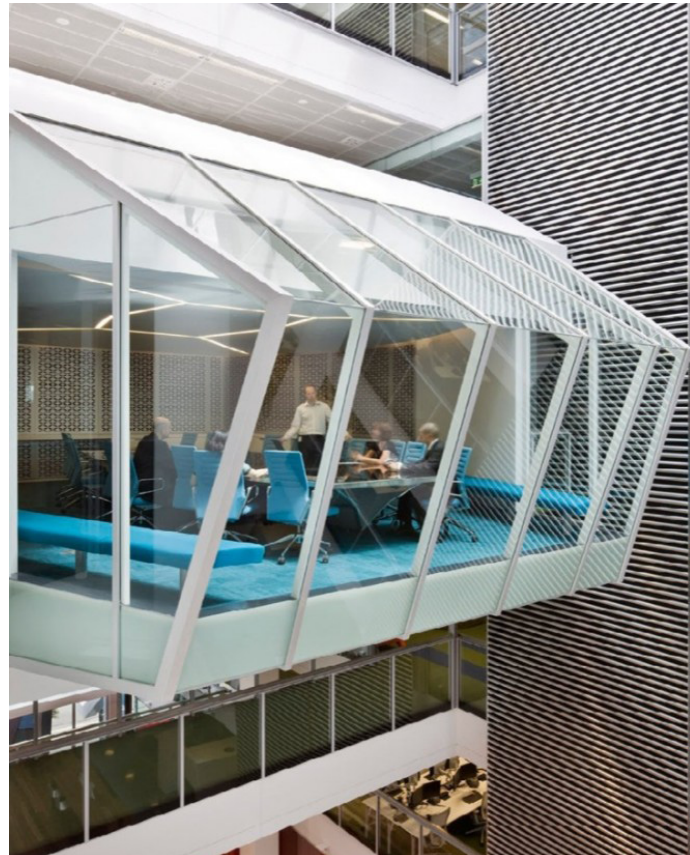


This shared space is perfect for quick meetings. It is open to the office space making it accessible while the material choices on the interior of the cube insulate the space.



The extruded floating conference space make the client feel important and special while also reinforcing the organizations progressive mentality.

# how do WE shape OUR environment?

## Furniture Precedent

Many Leading Furniture manufactures have analyzed and tackled the notion of work and how to create furniture lines that promote and foster collaborations.

Two examples are Campfire by Turnstone and Beta Systems by Techno. Both systems prioritize group interaction and are designed to be plugged into any type of space.
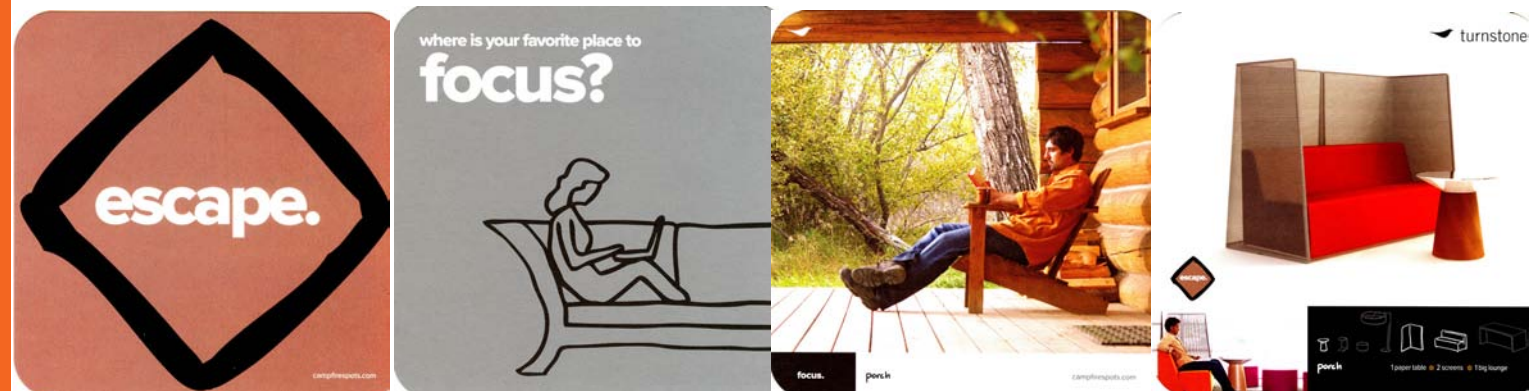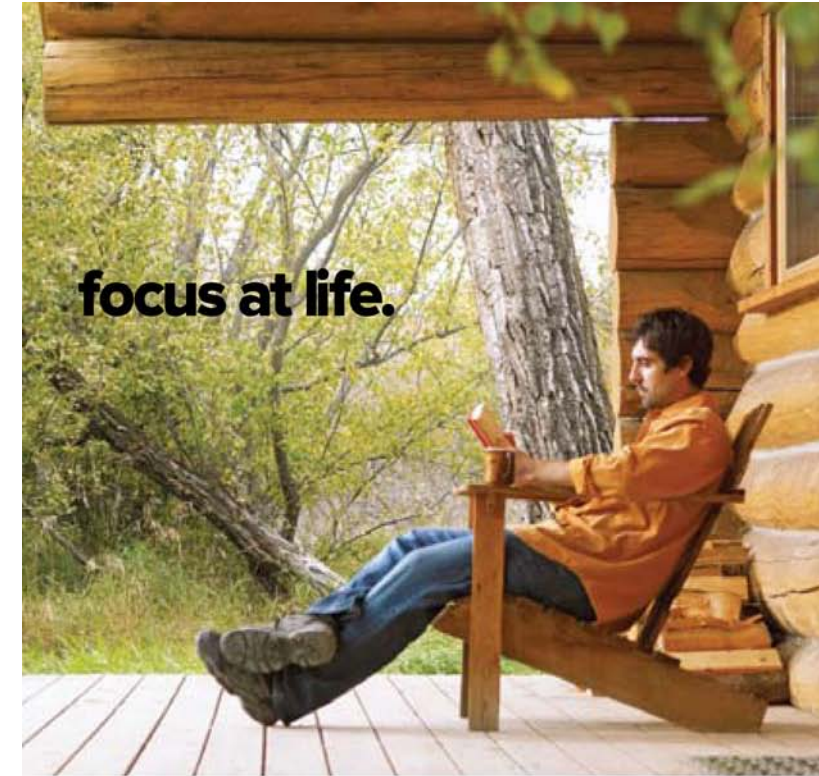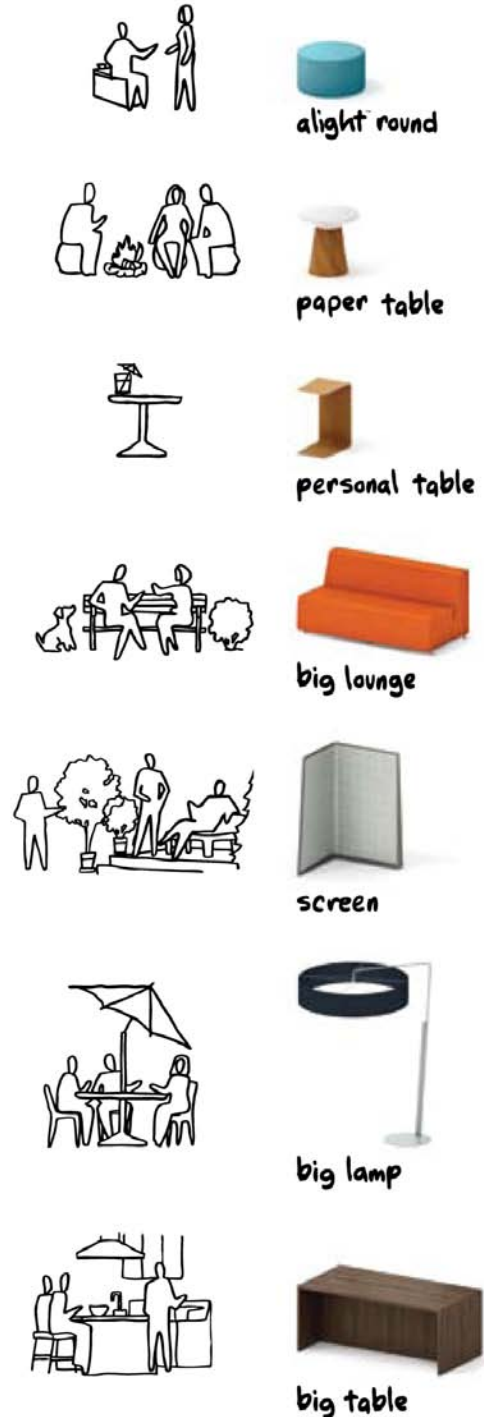
# "TAKE YOUR FAVORITE PLACE TO WORK." [29]

Turnstone
**Campfire**

Campfire is a furniture line that has a unique design process that really captures how people live their lives. The design team posed questions that analyzed typical norms found in the analysis of human behavior. They also identified three vital moments that occur throughout a day--meet, mingle and escape [30]. The examples of the process pictured to the left are a slim representation of the plethora of research the team did to understand how people work together. The strength in this furniture line lies in the rigorous attention to the how people naturally live. They understood many aspects of human life from seamless interactions to the vital need for retreat.

For example the first series of images poses the question, "where is your favorite place to celebrate?" [31] The design process identified a fire pit with friends on a summer night. People at a fire pit instinctively position themselves in a circle formation facing one. This arrangement significantly increases interactions due to people's increased ability to visually read non verbal cues. The "marshmallow" seat design removes allows people to lean in when speaking to one another. [32] This intimate act allows for people to be more engaged and have informal dialogue that is ideal for a creative work environment.

# "FAVORITE PRODUCTS INSPIRED BY YOUR EVERYDAY LIFE." [33]

Through studying how people interact the design team was able to understand that sometimes the best practices people use to complete work are not in a formalized manner. Moreover, the marketing method for the product reveals a strategic component derived from the sociological based design process: The simplicity and intuitive nature of Campfire's concepts emphasize the psychological correlations between the origin source and the new space. The primary objective as communicated by design director Kirt Martin was "to create a familiar place where people can gather and collaborate informally with tools that are not high tech." [34]  Each of the 'low tech' simple designs were inspired by simple everyday objects such as a park bench, a café umbrella or a bonfire.  This practice allows for the preconditioned associations from places where people habitually celebrate, focus, brainstorm, and connect to redefine how people view the workplace. [35]  Using the associations from the simple familiar spaces allows for subconscious lifestyle reinforcements to occur. Campfire's design process is an ideal model of integrating sociological research into designing interactive spaces for people.

alight round

paper table

personal table

big lounge

screen

big lamp

big table

focus at life.

focus at work.

connect.

celebrate.

share stories.

# C O N C E P T :
## SPACE, TIME +
## MANKIND[36]

Tecno by Pierandrei Associati
### The Beta Workplace System
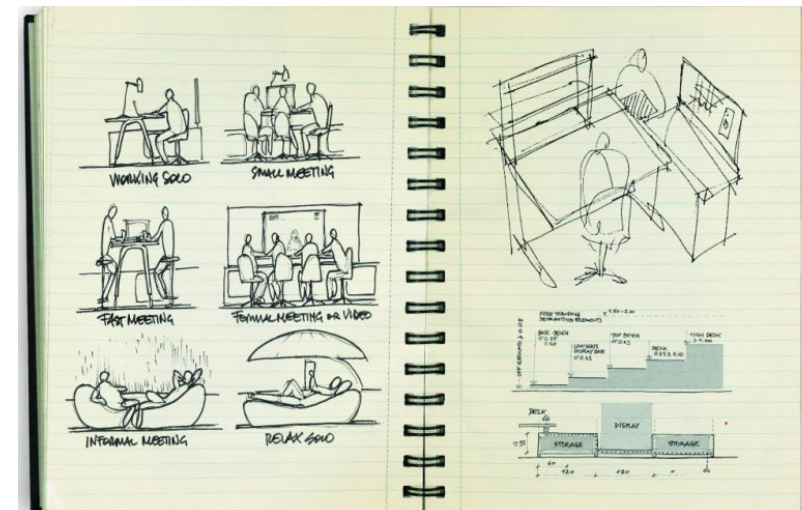


Beta is a furniture system that was designed by Pierandrei Associati, an Italian architecture firm that prides themselves on being behavioral designer that "reshape spaces, time, people, identity and interaction, disregarding all divisions between the disciplines." [37] Due to their firm philosophy they designed the beta System with a heavy concentration of ethnographic research in the work environment. This ethnomethodic approach enabled them to explore the power design holds in evolving people's habits. [38] In turn, the design exemplifies what a modern office space must have such as areas for individuals and groups to work, areas to present work at formal and informal meetings and areas to relax not only during designated breaks. [39]

# F U N C T I O N :
## CONTAIN, DISPLAY + SUPPORT [40]



Unlike most cubicle systems Beta creates a non linear environment that generates spaces without simply filling them. [41] Through weaving in and out of spaces beta creates opportunities for dynamic interactions that are the essentials of a healthy lifestyle based work environment. The flexibility of the system's components allow for individual work spaces that are sensitive to noise and privacy issues while simultaneously maintaining and maximizing human to human interactions. [42] The beta system is leading the furniture industry by creating a system that transforms the way people interact with one another at work. The value of Pierandrei Associati investigations and research are now at the hands of any architect to specify or be inspired by. The mass availability of the product educates the industry on the value of environmental design and its positive effects on an individual's mental health and in turn work productivity. [43] However due to its modern aesthetic and limited color and material palette selection the system cannot easily be retrofitted into any work environment.
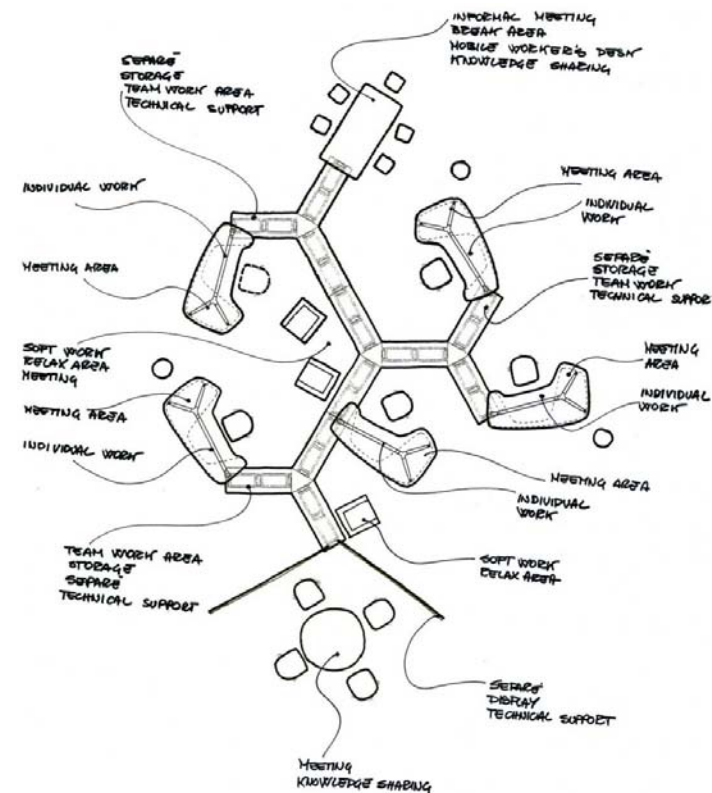
# how do OUR minds work?

## Cultural Precedent

Corporate culture is an extremely important component to the workplace and how individuals perform. Many organizations have corporate cultures that promote ideologies and values that are contradictory to what actually happens in the workplace on a daily basis.

Menlo Software Innovations and Google are two companies who have progressive corporate culture and understand that their environments play an important role in how productive, motivated and focused their employees are. Both Menlo and Google demonstrate how good culture is centered around valuing employees as people not machines.

# "TO END HUMAN SUFFERING IN THE WORLD AS IT RELATES TO T E C H N O L O G Y" -THE MENLO MISSION

This pairing eliminates office 'power towers' that have all the knowledge and promotes collaboration on ideas, peer accountability, and cross-pollination of project knowledge The power of two, allows for mistakes to be made and in turn found quicker resulting in more efficient software development. [16] Due to Menlo's constantly changing work environment, no employee has their own desk. Every employee has a locker for personal items and has a new desk and working partner every week. This type of culture is highly conducive in an open space plan and easy reconfiguration of desks.

## Menlo Software Innovations
Ann Arbor, Michigan

"Culture is fragile and must be protected." [15] Richard Sheridan CEO of Menlo Software Innovations understands that the most conducive and rewarding culture is something that takes cultivating, harnessing and protection. At Menlo it is a rule that no piece of software can be written at Menlo unless there are two Software Engineers working on it. Therefore at the start of the week software engineers are paired in groups.

Mr. Sheridan understands that in order to innovate, Menlo employees must be able to constantly exchange information. The best way to do this is to constantly increase communication between members and create a team. In order to maintain office morale, Menlo project managers are trained to smile when software designers come to them with scheduling problems. [17] This methodology of culture provides a positive culture that is centered on understanding that the best team comes from the happiest team members.

Cultural Precedent [Menlo Software Innovations]

# The Menlo Method

## Storycards

All tasks and project requirements are hand-written on index cards. Each storycard is independent from all others. Each card includes a description of the work to be completed, focusing on business value. The collection of all storycards describes the potential scope of a project. [18]

## Estimation

Before storycards are prioritized by a client or assigned to a pair, they are estimated. Every pair on the team selects the amount of time they believe a particular task will take them to complete. This estimation of effort allows the project manager to identify the associated cost (budget) and the impact each feature would have on the timeline (deadline). [19]

## Work Authorization Board

Picture a large bulletin board, on which are posted the different pairs on a project. The storycards assigned to each pair are posted under their names, in priority order. Pairs indicate their progress on each card. Boards are reconstructed on a weekly basis. Boards provide transparency and more effective team communication. [20]

🟡 I'm Working On It　🔴 I'm Stuck　🔵 I Think I'm Done　🟢 Project Complete

# "TO ORGANIZE THE WORLD'S INFORMA-TION AND MAKE IT UNIVERSALLY ACCES-SIBLE AND USEFUL."

## Google Ideology

Google asks, "What does the world want?" They find out every day as hundreds of millions of people use Google as their search engine. According to John Battelle, expert Google analyst and author of The Search, "the world wants Google: a company that responds to what they want-- in all its shades of meaning and can unlock the most intractable riddles of business and arguably of human culture itself."[22] Google is the world's gateway to instant knowledge. Battelle points out that as people search more, we become more connected, more digital and more depend on information services. This is the root of Goggles success.[23] Google's founders understand true success stems from enhancing the human condition. This comes from understanding and responding to daily human interactions and inner workings of the human mind.

Google's business plan is grounded in continuously investigating people at a micro and macro scale by constantly asking who, what, where, why, when? Similar to studies performed by psychologists and sociologists, Google seeks to answer the 'why' of user search behavior because this is essential to satisfying the user's information need.[24] By using individual and society based methodologies to guide innovation; Google has set the standard for company culture and business practice.

# Googleplex
SWA Group
Mountain View, California
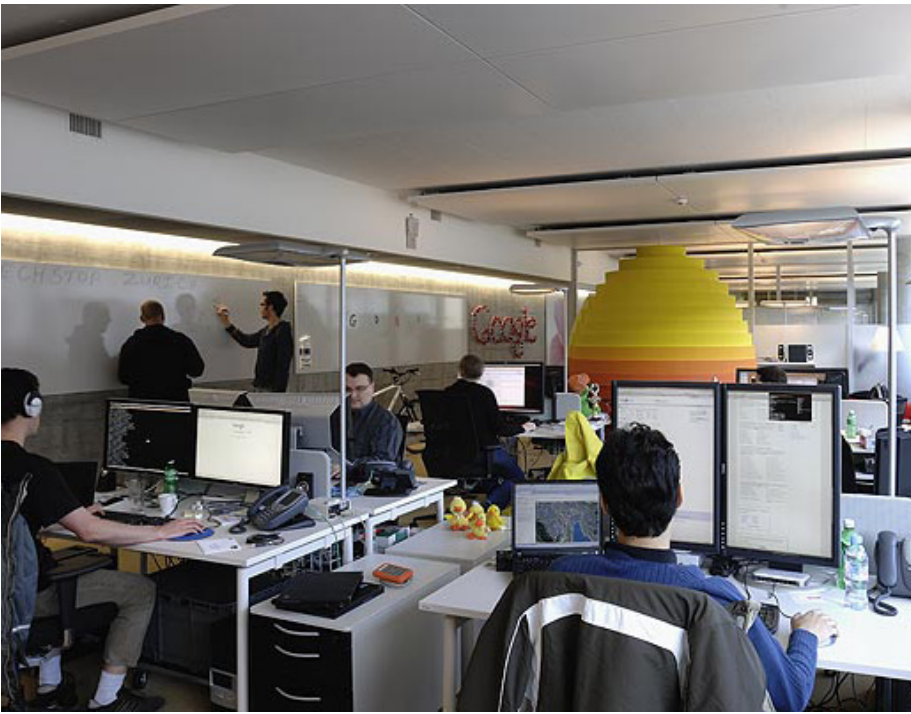
THE SPACES WITHIN GOOGLEPLEX STEM FROM THEIR PEOPLE CENTERED PHILOSOPHY AND IN TURN REVEAL LIVELY CONTAGIOUS SPIRIT THAT RESONATES THROUGH THE COMPANY AND PAST THE COMPLEX WALLS.

Googleplex is the corporate headquarters complex of Google, Inc. The interior of the headquarters is furnished with items like shade lamps, giant rubber balls and playful gestures like a slides or fireman poles replace stairs and elevators.[25] With these endless amenities Googleplex is infamous for being the most envied trend setting work place.

However Googleplex isn't just a 'fun' workplace, it has amenities that respond to lifestyle need. The facilities include a gym, free laundry rooms, two small swimming pools (pictured top right), multiple sand volleyball courts, and eighteen cafeterias of diverse selection.[26] By providing healthy food choices and opportunities to exercise, Googleplex fulfills Goggles philosophy of responding to what people want. The programming of Googleplex directly reflects the mission and desired culture that Google strives for.

Moreover, essential to productivity is rest; within Googleplex there are areas for renewal such as Aquarium Rooms (pictured bottom left) where their employees can get massages and while being immersed in a different atmosphere allowing them to slow down and recharge.[27] Similarly scattered throughout the offices are Stress Capsules (pictured bottom right) which completely block out sound and light providing the ideal environment for a mid day nap. Googleplex also provides employees with Privacy Cabins (pictured top left) which recognizes the need for people to pertain to family and personal matters.[28]

# how productive are WE at work?

# Time Use Of An Average Work Day

For employed persons ages 25-54 with children



OTHER
[1.7 HOURS]

SLEEPING
[7.6 HOURS]

CARING FOR OTHERS
[1.3 HOURS]

EATING + DRINKING
[1.0 HOURS]

HOUSEHOLD ACTIVITIES
[1.0 HOURS]

LEISURE + SPORTS
[2.6 HOURS]

WORKING + RELATED
ACTIVITES
[8.8 HOURS]

Total
24.0 Hours
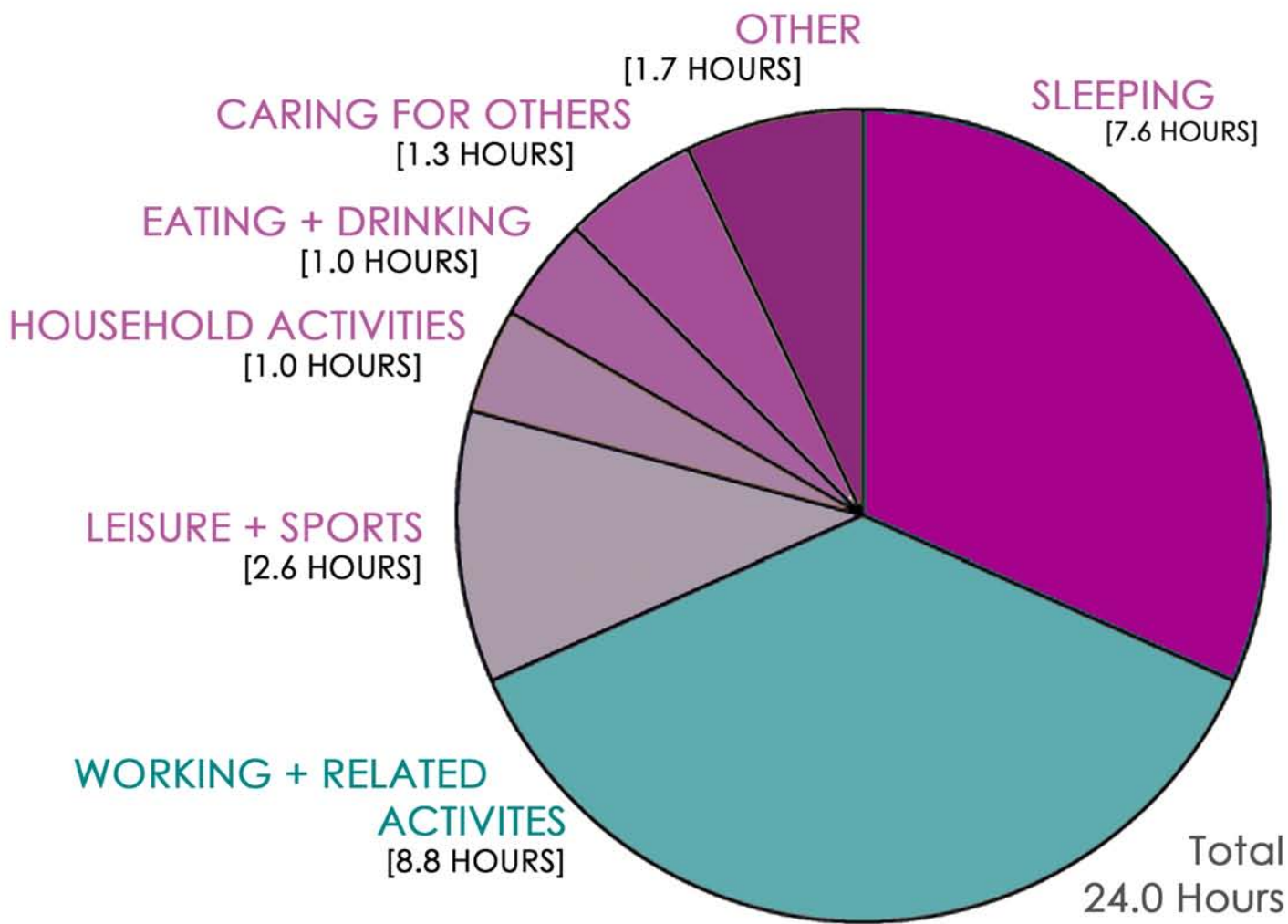
According to the labor census bureau, we spend one third our day sleeping, one third working and the remaining pertaining to the rest of our lives such as maintaining personal relationships, caring for others and for ourselves!

# Knowledge Workers Time Spent
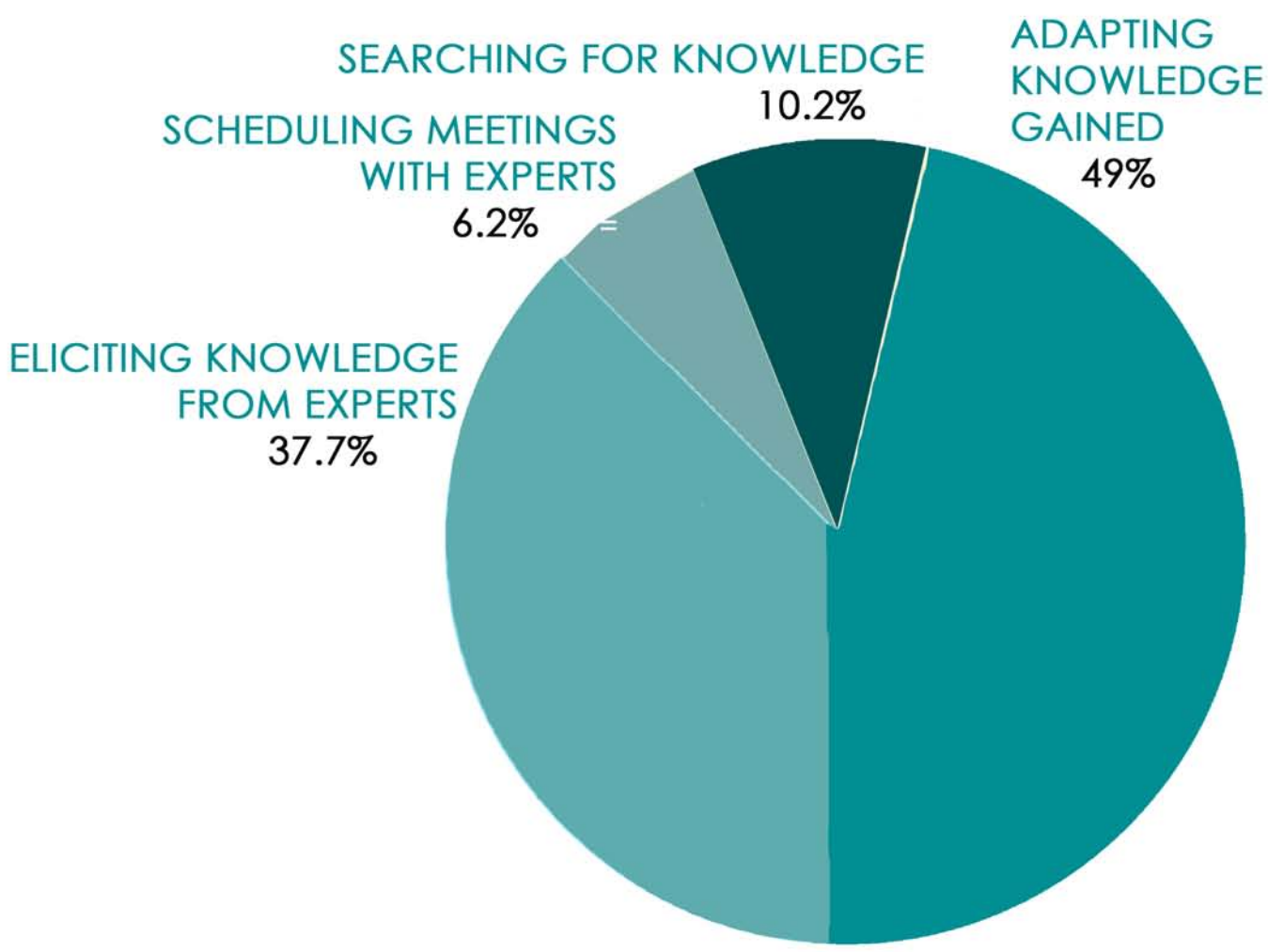
SEARCHING FOR KNOWLEDGE
10.2%

ADAPTING
KNOWLEDGE
GAINED
49%

SCHEDULING MEETINGS
WITH EXPERTS
6.2%

ELICITING KNOWLEDGE
FROM EXPERTS
37.7%

Knowledge workers are managers, scientists, architects, salesmen, and lawyers—people who depend on interactions for their effectiveness. When at work knowledge workers are currently spending half of their work days simply looking for the information they need to do their job

# THE WAY WE ARE WORKING ISN'T WORKING

## Quadrant Research
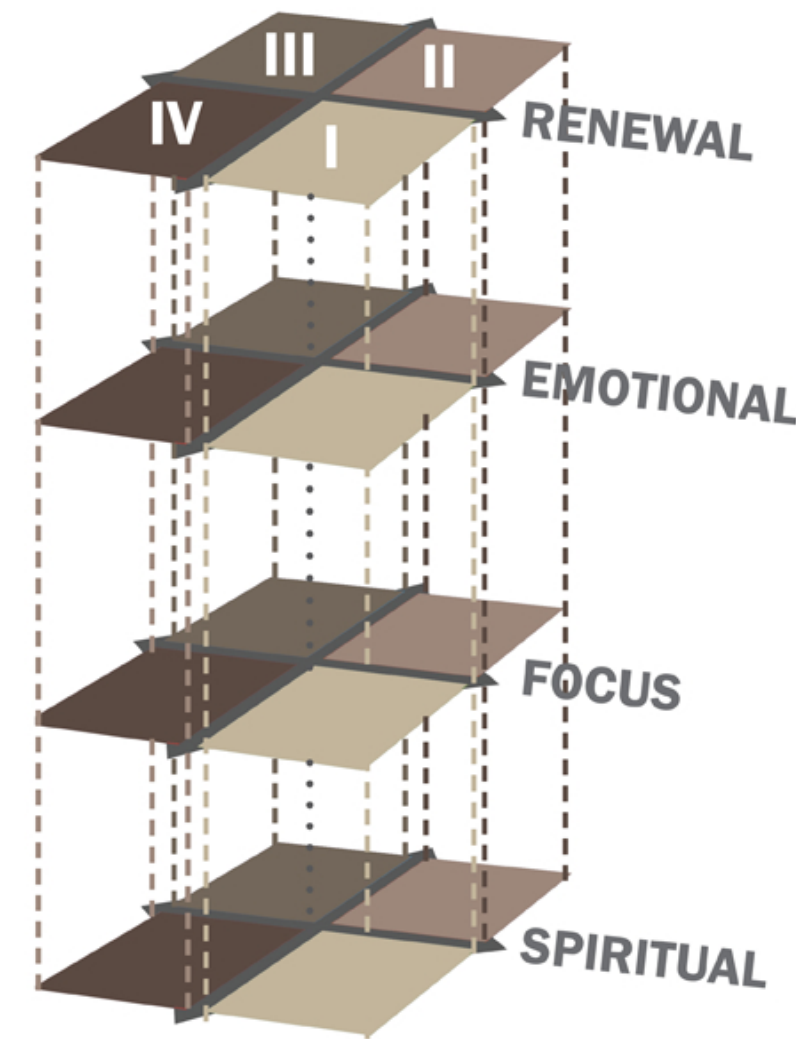


A way of making the sociological and psychological concepts tangible is the quadrant model that is borrowed from Tony Schwartz, the author of The way We Are Working Isn't Working. The quadrant model demonstrates how the organizational psychology research can lay the groundwork for the design process. This model is a successful tool in understanding the individual and how their environment affects their performance in the workplace. It is accompanied by a questionnaire that access the individual and in turn the organization on their energy levels. The quadrant model examines the four sources of human energy, renewal, emotional, focus and spiritual. These quadrants as a whole are an effective tool in analyzing the current issues and strengths that occur in specific workspaces. After identified the designer can understand which of the four sources the workplace is not meeting and work to provide spaces that can reinforce lifestyle demands and needs.

## Assessment Survey Given to Clients
# Energy Audit

Accompanying the Quadrants is an Energy Audit. This is a 20 question true or false survey that is used as tool in identifying the current state of the individual through the quadrant lens. The Energy Audit is a useful design tool in quickly assessing the employee's state of mind and can be compared to the company's mission and vision. This allows the designer to provide identify strengths and weaknesses faster. The survey pictured to the right is what the employees receive and it does not identify which questions correspond to the quadrants. The yellow boxes reveal which quadrants correspond to the questions.

Below is a key explaining how to access the information obtained. The key looks to see how many of the questions in the survey were answered true. The more statements that are true in the survery the less likely the individual is living a balanced life.

| | |
|---|---|
| 0-5 | Fully Energized |
| 5 - 8 | Moderate Energy Deficit |
| 9 - 12 | Significant energy deficit |
| 13 - 16 | Imminent energy crisis |
| 17 - 20 | Full out energy crisis |

# THE ENERGY AUDIT

Name (optional):_____
Position:_____
Age: (Please Circle One)   20-25 26-30 31-35 36-40 41-45 46-50 51-55 56-60 61-65 66+

**Please answer the 20 questions below indicating if the statement is True [ T ] or False [ F ]**

**RENEWAL**
_____I don't regularly get at least 7-8 hours of sleep and/ or I often wake up feeling tired.
_____I frequently skip breakfast, or I settle for something that isn't particularly healthy.
_____I don't do cardiovascular training at least three times a week, and strength training at least twice a week.
_____I don't take regular breaks during the day to renew and recharge.
_____I often eat lunch at my desk, if I eat lunch at all.

**EMOTIONAL**
_____I frequently find myself feeling irritable, impatient or anxious at work, especially when demand is high.
_____I don't have enough time with my family and loved ones, and when I'm with them, I'm not always really with them.
_____I take too little time for activities that I most deeply enjoy.
_____I rarely stop to express my appreciation to others or to savor and celebrate my accomplishments and blessings.
_____I often feel that my life is just a relentless set of demands I'm expected to meet and tasks I have to complete.

**FOCUS**
_____I have difficulty focusing on one thing at a time and I am easily distracted during the day, especially by email.
_____I spend much of my time reacting to immediate demands rather than focusing on activities with longer-term value.
_____I don't take enough time for reflection, strategizing and thinking creatively.
_____I rarely have any time when my mind is quiet and free of thoughts.
_____I often work on evenings and weekends and / or I rarely take an email-free vacation.

**SPIRITUAL**
_____I don't feel passionately committed to what I do.
_____I spend too little time at work doing what I do best and enjoy most.
_____There are significant gaps between what I say is important in my life and how I actually live.
_____My decisions at work are often more influenced by external demands than by a strong, clear sense of my own purpose.
_____I don't invest enough time and energy in making a positive difference to others and/ or in the world.

# Renewal Quadrant

## REFUEL

**LOW OCTANE quadrant:**
- Encourage Marathon, Not Sprint
- Provide Poor Food Choices
- Build Coffee and Sweets Culture
- Discourage/ Prohibit Daytime Exercise
- Eat at Desk and Keep Working

**HIGH OCTANE quadrant:**
+ Stress Intermittently
+ Provide and Reward Use of Fitness Facilities
+ Offer Healthful Food at Discounted Prices / Free
+ Encourage Movement Throughout Day
+ Educate About Managing Energy

## LOW OCTANE / HIGH OCTANE

## REST

**LOW OCTANE quadrant:**
- Expect Work on Evenings / Weekends
- Encourage Short 'Working' Vacations
- Prohibit Flexible Hours
- Minimize Time for Eating
- Reward Maximum Face Time Over Output

**HIGH OCTANE quadrant:**
+ Institutional Renewal Breaks / Rooms
+ Create Renewal Rooms
+ Maximize Flexible Hours
+ Encourage Napping
+ Limit Length and Frequency of Meetings
+ Mandate Vactions
+ Offer Sabbaticals

## individual
## Renewal Quadrant

The renewal quadrant looks at being able to regularly renew and take care of one-self, so we are healthy, fit and resilient. Renewal is a crucial component of performance.   Energy has waves of up and down, with this realization, people must accept that the greater the demand, the greater the need for regular renewal. Integrating renewal into daily habits and rituals consists of removing oneself from the demands of everyday life to have fifteen minutes to collect their thoughts.

This can be done in the form of naps, meditative breathing, incorporating healthy snack choices, brisk walks and other exercises that can elevate the heart rate. Due to these lifestyle changes, the renewal quadrant significantly affects building program.  It adds components that address needs such as showers and locker rooms for working out during lunch breaks, day care, break rooms and other components that support an individual's lifestyle needs.

Impact on Program

# Renewal Quadrant

**Individual**  +  **Nourishment**

Individuals need to make time for taking a lunch break and eating with people instead of their computer screen.

**Individual**  +  **Exercise**

Exercise produces endorphins which make people feel better. Incorporating space and time for exercise is essential.
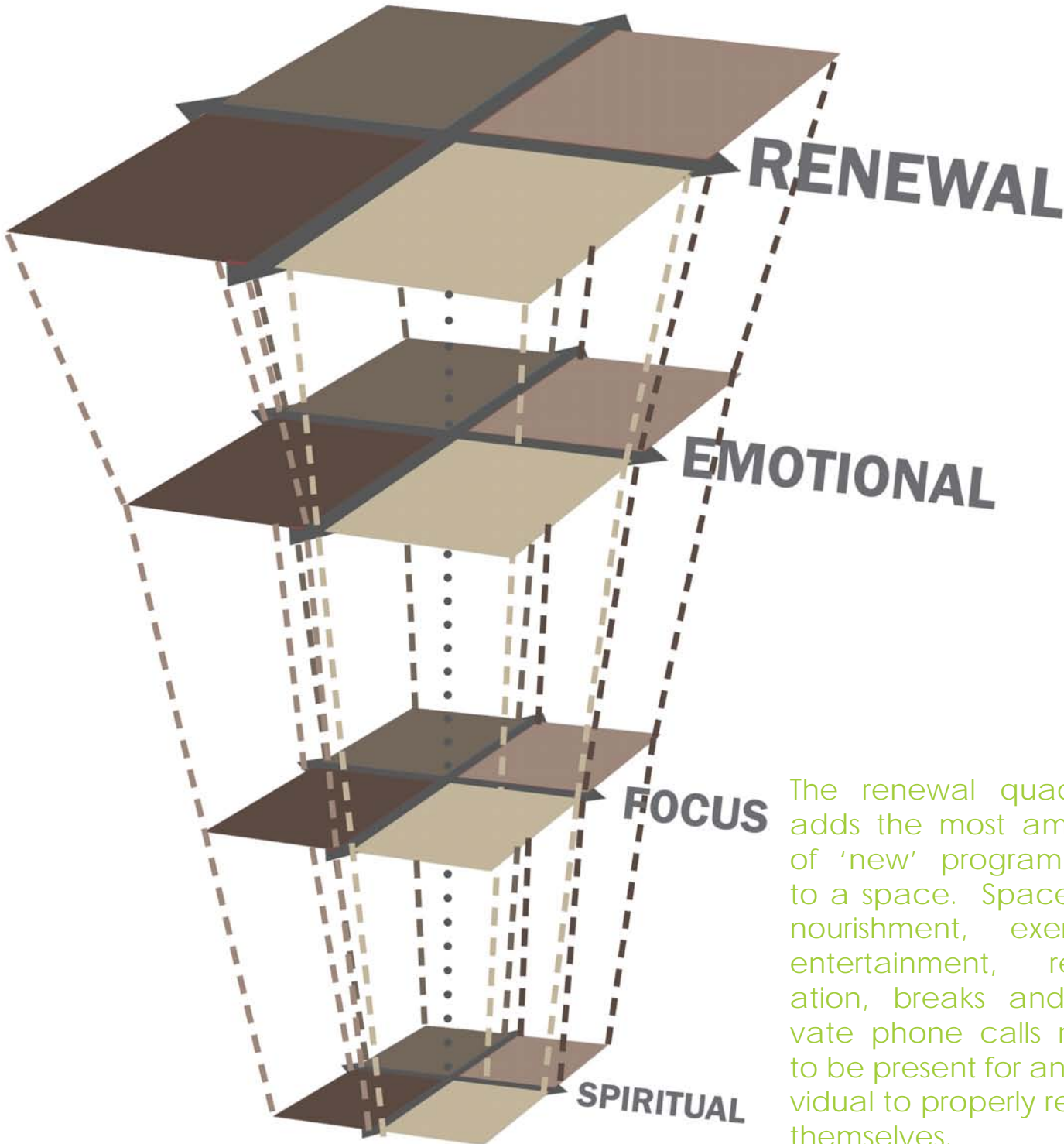
**Individual**  +  **Entertainment**

Often times music is a release for many people. Music aids in meditation processes and can transform moods.

**Individual**  +  **Recreation**

Workspaces that incorporate recreational activates like ping pong provide the healthy amount of distraction.

**Individual**  +  **Coffee Break**

When people take coffee breaks they leave their seat and their chances of interaction with others increases.
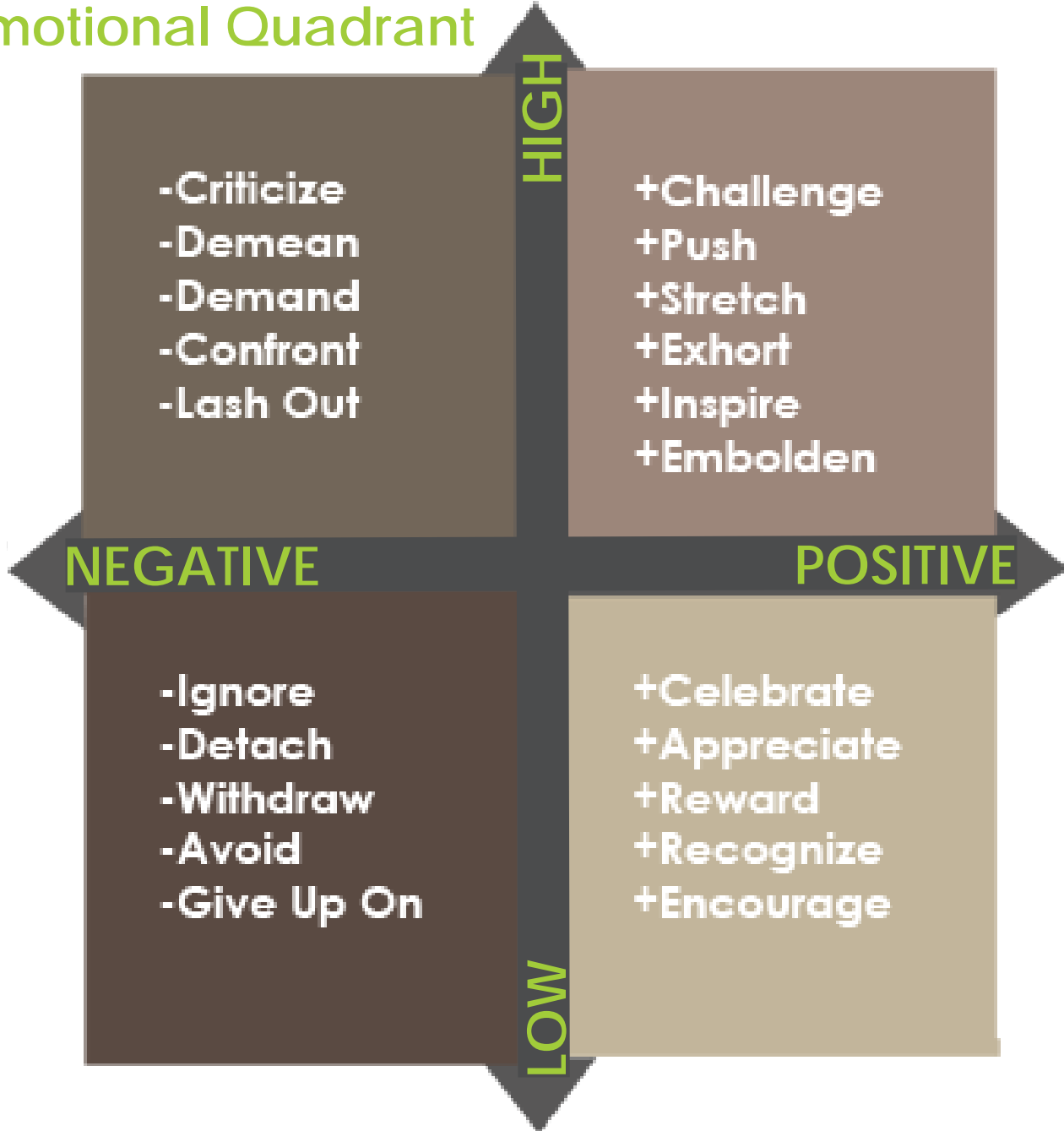
**Individual**  +  **Conversation**

Areas for private phone calls with family members and other matters reinstate the individual's control of their time + life.

RENEWAL

EMOTIONAL

FOCUS

SPIRITUAL

The renewal quadrant adds the most amount of 'new' programming to a space. Spaces for nourishment, exercise, entertainment, recreation, breaks and private phone calls need to be present for an individual to properly renew themselves.

# Emotional Quadrant

**HIGH**

**-Criticize**
**-Demean**
**-Demand**
**-Confront**
**-Lash Out**

**+Challenge**
**+Push**
**+Stretch**
**+Exhort**
**+Inspire**
**+Embolden**

**NEGATIVE**    **POSITIVE**

**-Ignore**
**-Detach**
**-Withdraw**
**-Avoid**
**-Give Up On**

**+Celebrate**
**+Appreciate**
**+Reward**
**+Recognize**
**+Encourage**

**LOW**

i n d i v i d u a l
# Renewal Quadrant

the emotional quadrant looks at security, feeling appreciated, cared for, valued for who you are and what you do! "Our core need at the emotional level is for security, the sense of well-being that depends, in significant part, to the experience of being accepted and valued" (Schwartz 13). How we feel influences how we perform. The more our environments can emotionally renew us, the more resilient we are in facing the life's challenges and stresses. People learn about themselves when they are submerged in situations where in order to find the solution they must work together. This allows individuals to understand and observe their feelings so they can better respond to them.

Renewal within the emotional quadrant comes from constant reassurance and feeling valued by peers and superiors.
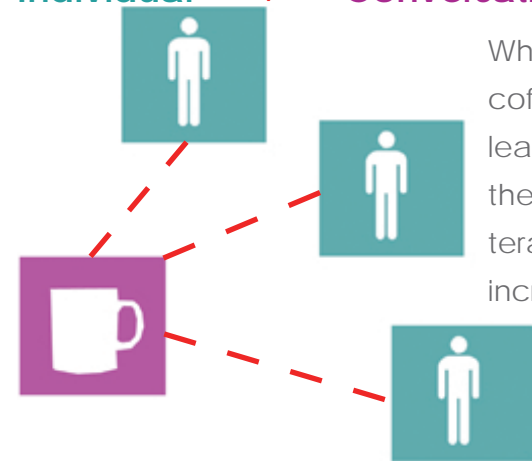
# Impact on Space
## Emotional Quadrant

**Common** + **Individual** + **Shared**

The emotional quadrant looks specifically at the frequency and value of human to human interactions. Work stations need to be planned with group or shared workspaces within prosimiity. This method is likely to increase collaborati and knowledge sharing among cowrkersons

**Individual** + **Conversation**

When people take coffee breaks they leave their seat and their chances of interaction with others increases.

**Common** + **Individual**      **Individual** + **Shared**
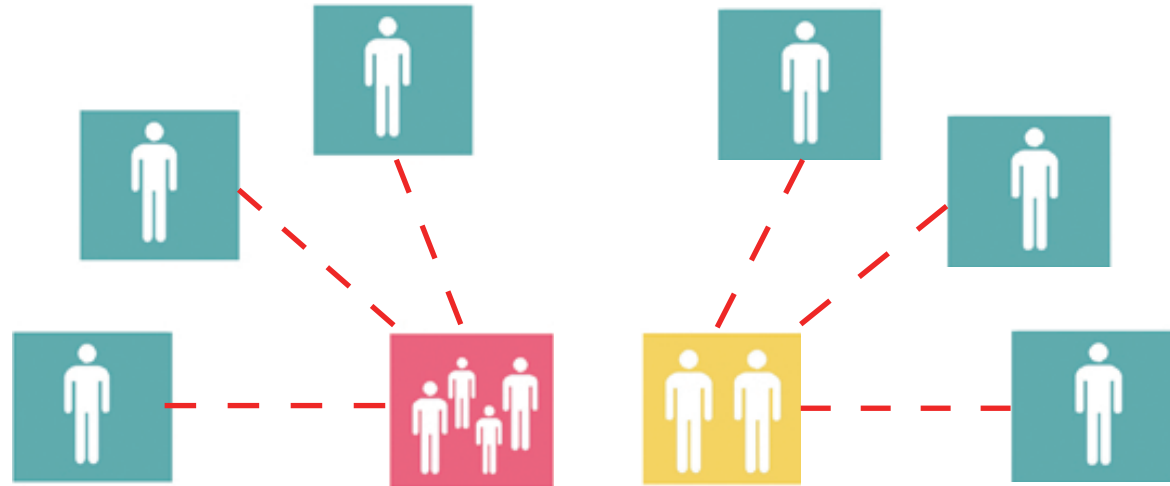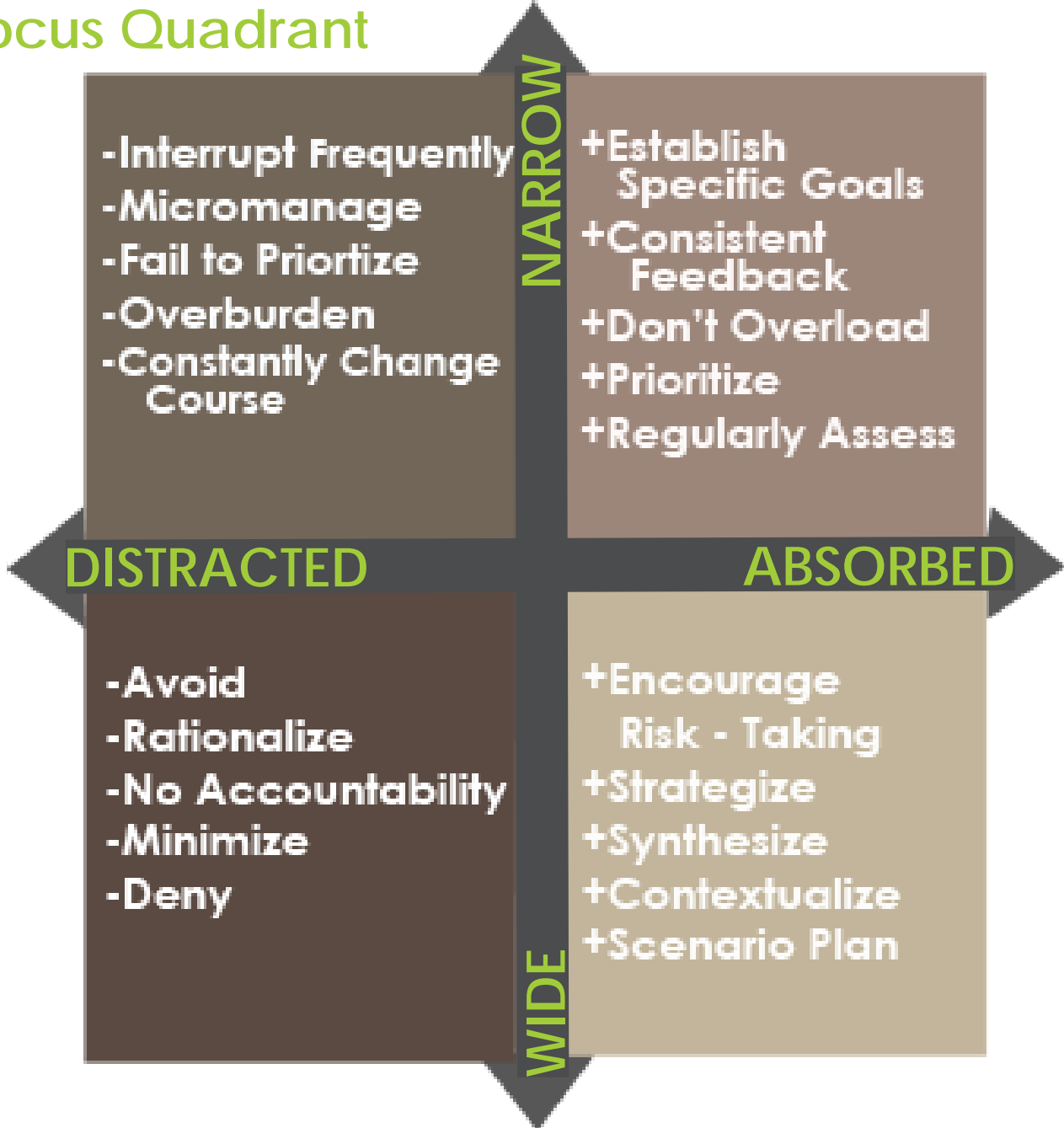
If desks are arranged in groupings of three or six, it removes the isolation a cubicle provides. Small groupings allow for positive reinforcements and redefine an individual space to a shared or common workspace. Small gestures like this change the pre conceived notions in the psyche.
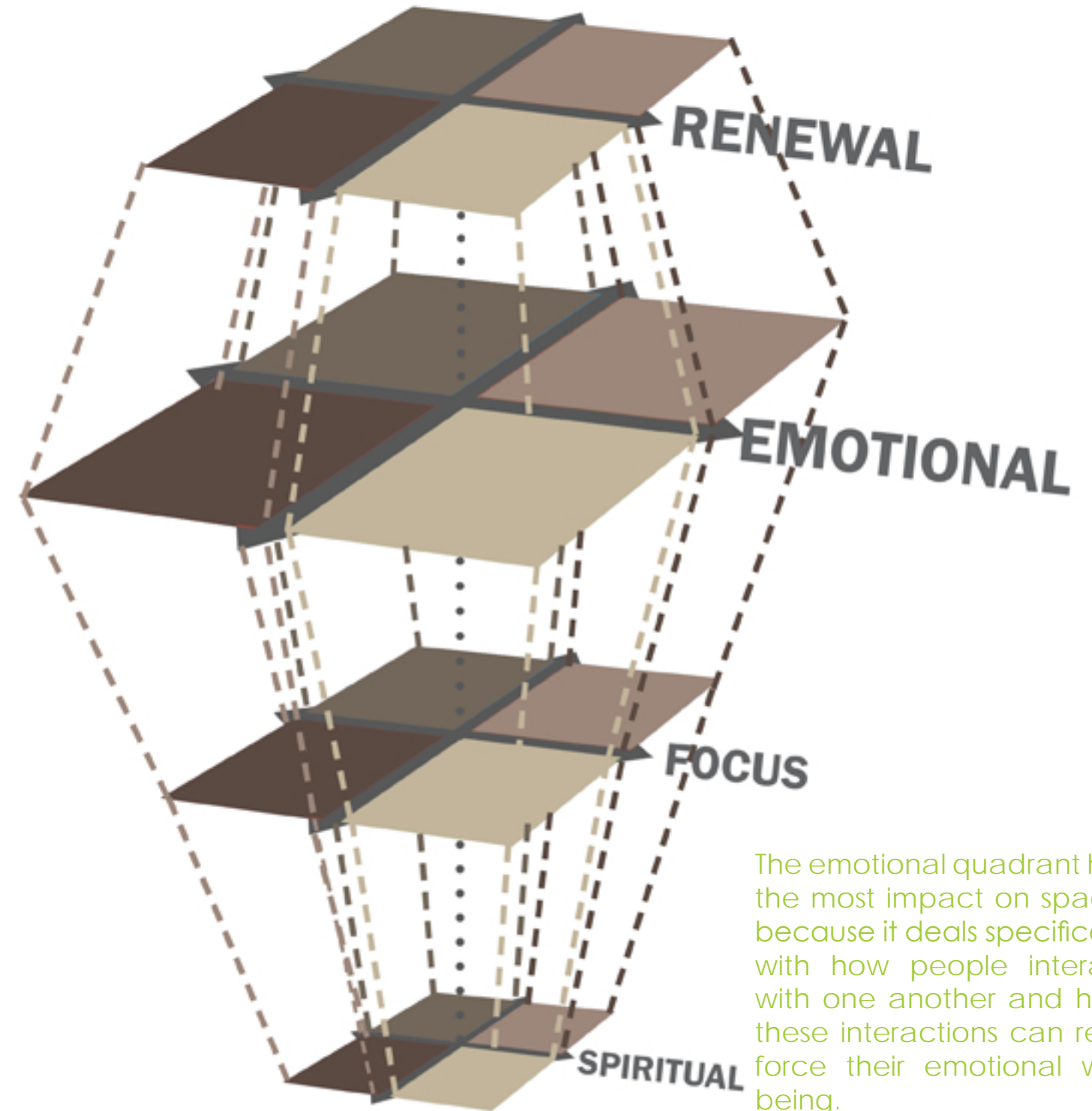
The emotional quadrant has the most impact on space, because it deals specifically with how people interact with one another and how these interactions can reinforce their emotional well being.

# Focus Quadrant

**NARROW**

| -Interrupt Frequently | +Establish |
| -Micromanage | Specific Goals |
| -Fail to Priortize | +Consistent |
| -Overburden | Feedback |
| -Constantly Change | +Don't Overload |
| Course | +Prioritize |
| | +Regularly Assess |

**DISTRACTED** ———————— **ABSORBED**

| -Avoid | +Encourage |
| -Rationalize | Risk - Taking |
| -No Accountability | +Strategize |
| -Minimize | +Synthesize |
| -Deny | +Contextualize |
| | +Scenario Plan |

**WIDE**

i n d i v i d u a l

## Focus Quadrant

the focus quadrant looks at self expression and the mind, the freedom to develop and express your unique skills and talents. Therefore the significance of the creative process and its relation to our environment makes it crucial for designers to accommodate natural retreat destinations within the workplace.

The focus quadrant has a fairly significant impact on space and program that allows for the individual to be able to remove themselves from the task at hand to have the critical 'ah ha' moments in the creative process. Or get to the creative process which entails of distracting ourselves so our mind can reveal the 'ah ha' moments. The creative process has five steps, first insight □ saturation □ incubation □ illumination □ verification. The first insight stage is about understanding the task at hand; it's the formulation of the problem. The second Saturation stage is the gathering of information. Meanwhile the Incubation stage occurs the second the individual has temporarily given up. It is crucial in understanding the importance of work environments that can provide spaces that can distract the individual so they are able to mentally refresh. After we've stopped trying to solve a problem logically and sequentially, the fourth stage of creativity, Illumination occurs. "This is the moment of breakthrough when the solution comes to us unbidden, a gift that seems to arrive spontaneously" (Schwartz 218). Lastly, the final stage is verification, this is the when rigorous scientific method is applied; even the greatest ideas mean nothing if everyone cannot understand them.

Impact on Program + Space

# Focus Quadrant

**Individual**   +   **Incubation**
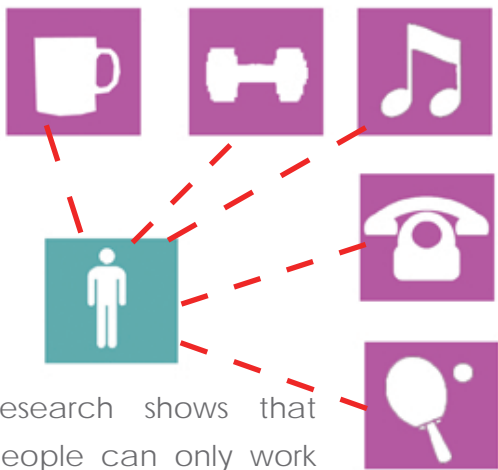


Research shows that people can only work productively in 90 minute shifts. In order to develop an inspiring space, there needs to be a variety of activites.

**Individual**   +   **Privacy**



In open space plans, designers must accomdate for privacy issues, providing aras for workers to pertain to personal matters.

**Individual**   +   **Nature**



The significance of the creative process and its relation to our environment makes it crucial for designers to accommodate natural retreat destinations within the workplace.

**Individual+RemovalofTechnology**



Kknowledge workers spend so much time looking for the information they need Due to this coworkers end up emailing each other, abundant use of emails can be avoided if people who work together sit within closer proximity to one another

## IMPACT ON PROGRAM
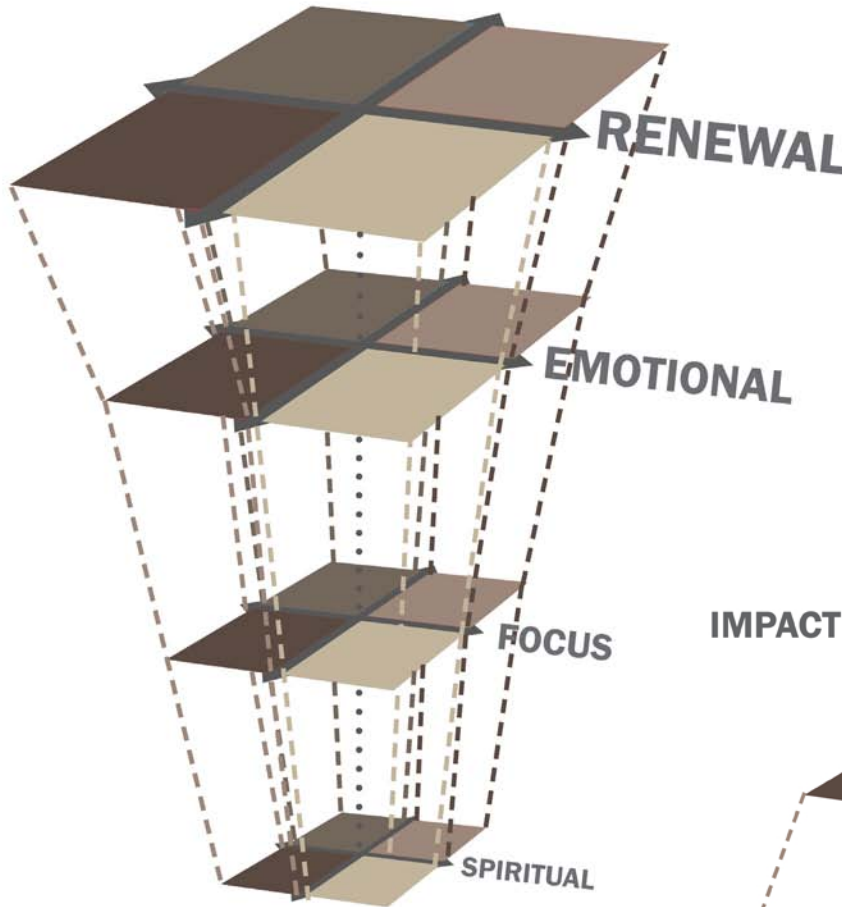


The renewal quadrant adds the most amount of 'new' programming to a space. Spaces for nourishment, exercise, entertainment, recreation, breaks and private phone calls need to be present for an individual to properly renew themselves.

## IMPACT ON SPACE
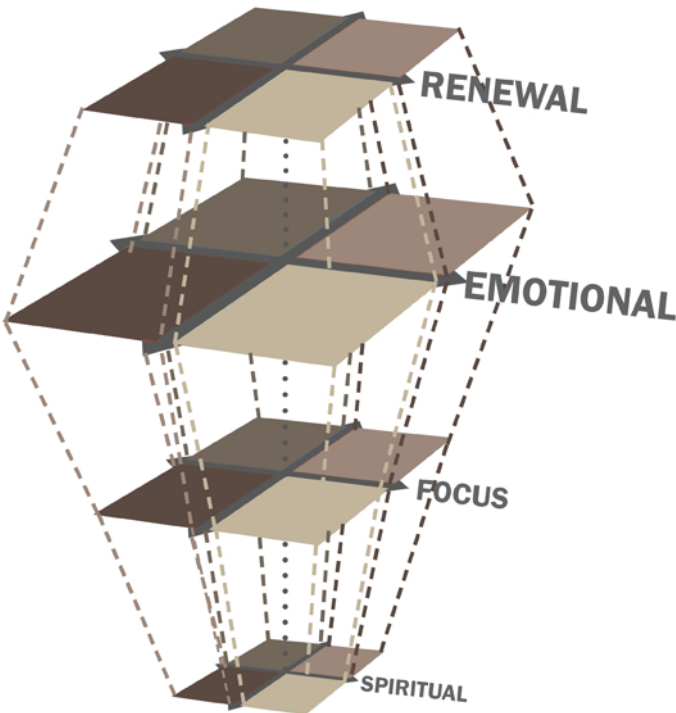


The renewal quadrant adds the most amount of 'new' programming to a space. Spaces for nourishment, exercise, entertainment, recreation, breaks and private phone calls need to be present for an individual to properly renew themselves.

# Spiritual Quadrant

## BEHAVIOR

-Bottom Line is Everything

-Quantity over Quality

-Overworks

-Undervalues Employees

-Ignores Community

+Prosocial Products

+Quality First

+Actively Develops Employees

+Invests In Community

## WORST

## BEST

-Lack of Vision

-Ends Justify Means

-Employees Interchangeable

-Short-term Perspective

+Compelling Vision / Purpose

+Do The Right Thing

+Committed To Employees

+Long-term Perspective

## VALUES

i n d i v i d u a l

## Spiritual Quadrant

This quadrant is about significance. "The need for significant at work is a manifestation of our inborn hunger for meaning in our lives. We call this spiritual energy, and it is fueled by deeply held values and a clear sense of purpose that transcend our self-interest and which we embody in our everyday behaviors (Schwartz 18).

The most important quadrant to the individual is the spiritual quadrant. Purpose is the external expression of what we stand for and believe in and what gives us (as individuals) a sense of meaning. In turn, this quadrant is the least affected by space and program but is significantly affected by company culture because it has the ability to provide a mission that relates to the individuals values and goals.
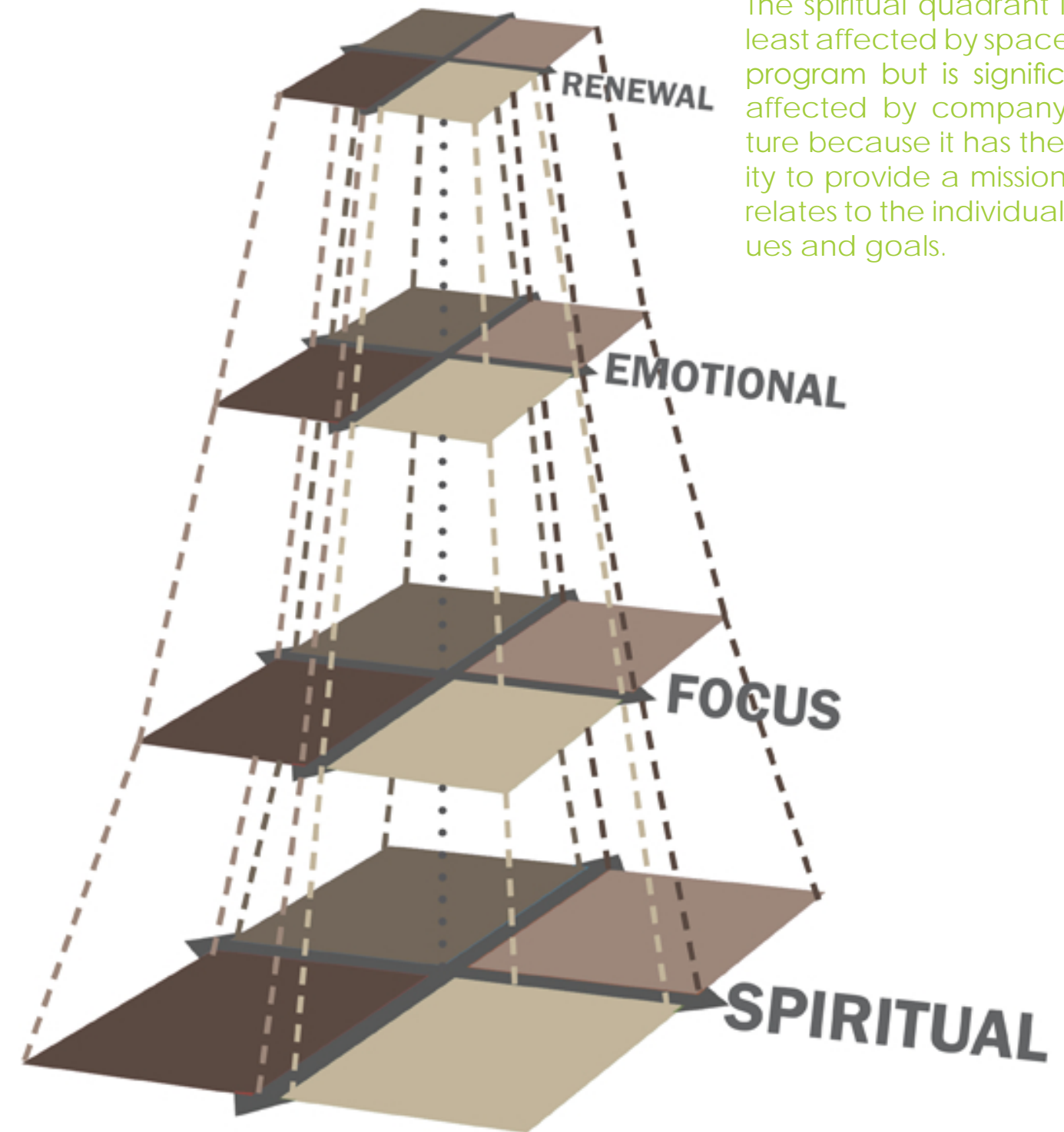
# Spiritual Quadrant

The spiritual quadrant is the least affected by space and program but is significantly affected by company culture because it has the ability to provide a mission that relates to the individuals values and goals.

**Individual**



Spirituality has varying definitions from person to person. An individual needs to strive to find a company that shares the same ideals.



RENEWAL

EMOTIONAL

FOCUS

SPIRITUAL

Human to Human Interactions
## City Life

A fresh perspective is to use the typology of interactions from an urban context as an alternative way to analyze what occurs inside the office. The referenced enthnomethodic workplace interactions are fundamentally the same kinds of interactions we are accustomed to experiencing in an urban environment. These subtle interactions that occur through being surrounded by people also help individuals place themselves in society and can serve as another kind of model for inter-office interactions.

# City Life

Due to city congestion people are forced to interact. Any form of public transportation occurring submerges the individual in an environment with others increasing their opportunities for interaction. Although the act of a morning commute is an individual task, in an urban context it becomes a tool in reinforcing concepts from the emotional quadrant. For instance, subtle exchanges like a friendly smile or glance, create perceptions amid the individual's psyche reinstating their role within society and making them feel appreciated. Simultaneously these transportation interactions inform the varying interactions occurring inside a workplace as knowledge workers are searching for information.

Often times in a city, when moving through place to place people encounter everyday occurrences that are not so ordinary, street performers impersonating Elvis, singers strumming their guitars, or break dancers busting moves. Public performances are moments where we stop, stare, celebrate, and welcome the occurrence. These same moments can occur in public workspaces.

It is important to note that within city life, there is a strong need for solitude, change of environment, and areas to mentally rest. This too is necessary in the workplace.

Also another interesting aspect in city life, is that people are willing to forgo large amounts of individual space in turn for all these other amenities that reinforce concepts from the renewal quadrant.

SIGHT
SMELL
SOUND
TASTE
TOUCH

EARTH
FIRE
WIND
WATER

# Human to Nature Interactions

In order to have meaningful interactions, workplaces need to respond to the five senses—sound, smell, touch, sight and taste. These subtle cues allow for significant interactions and physical proximity. If a space can activate one sense, it provides an interaction. If there are stimulations of more than one of the five senses then the brain has more than one interaction associated with the space. Several interactions create reinforcements to memory and understanding. The more a workspace can active all the senses the stronger the reinforcement occurs in the brain. [10] Humans use vision, hearing, smell and touch to gather information about their surroundings. Each sense detects individual features of what we perceive. These interactions affect our subconscious conditioning. In turn non verbal cues act as catalysts for using our senses in understanding one another. Spaces that can respond to the user's interactions through the senses can yield healthy and nurturing environments

Human to Nature Interactions are manifested though sensory experiences.
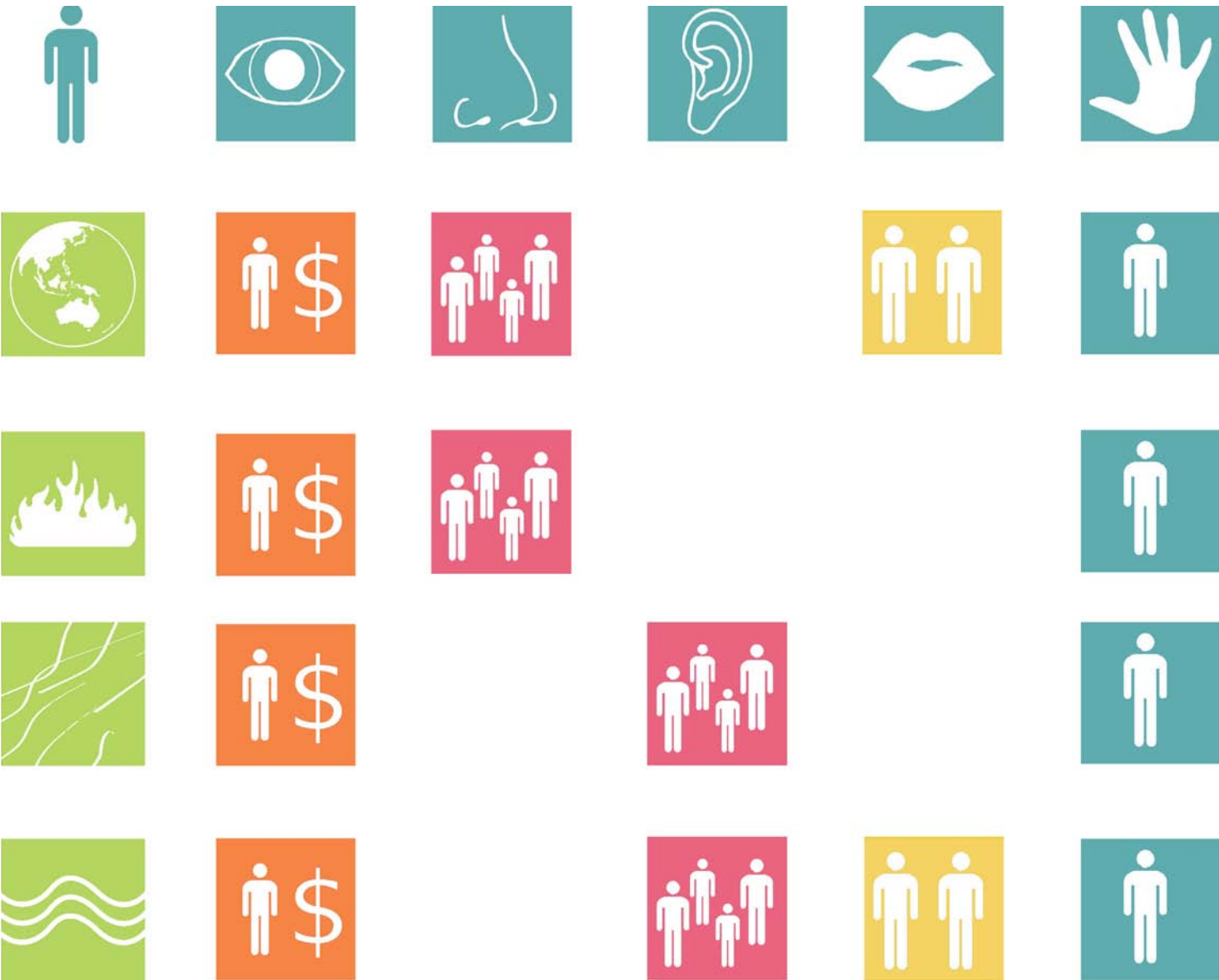
Human to Nature Interaction

# Senses Activated by Nature

The diagram to the right explores which sense are directly activated by an individuals environment. This visual is a tool in challenging architectural interventions to increase sensory stimulation.

For example, according to Dr. Sternberg author of Healing Spaces, our sense of smell develops early and is linked to memory. [11] Repeated associated of a scent with a mood can firmly link the two. People have utilized aromatherapy for years. Daily interactions with smells create healing memories for many. These interactions allow the individual to remove themselves from their current state of mind and recollect a different feeling. How can designers strategically utilize healing scents from plants to reduce stress levels and increase positive stimulations in the mind?

Humans use vision, hearing, smell and touch to gather information about their surroundings. Each sense detects individual features of what we perceive. [12] These interactions affect our sub conscious conditioning. in order to develop meaningful human to nature interactions in the built environment, It is essential for designers to create an architectural response that simultaneously arouses multiple senses and heightens the sensory experience.
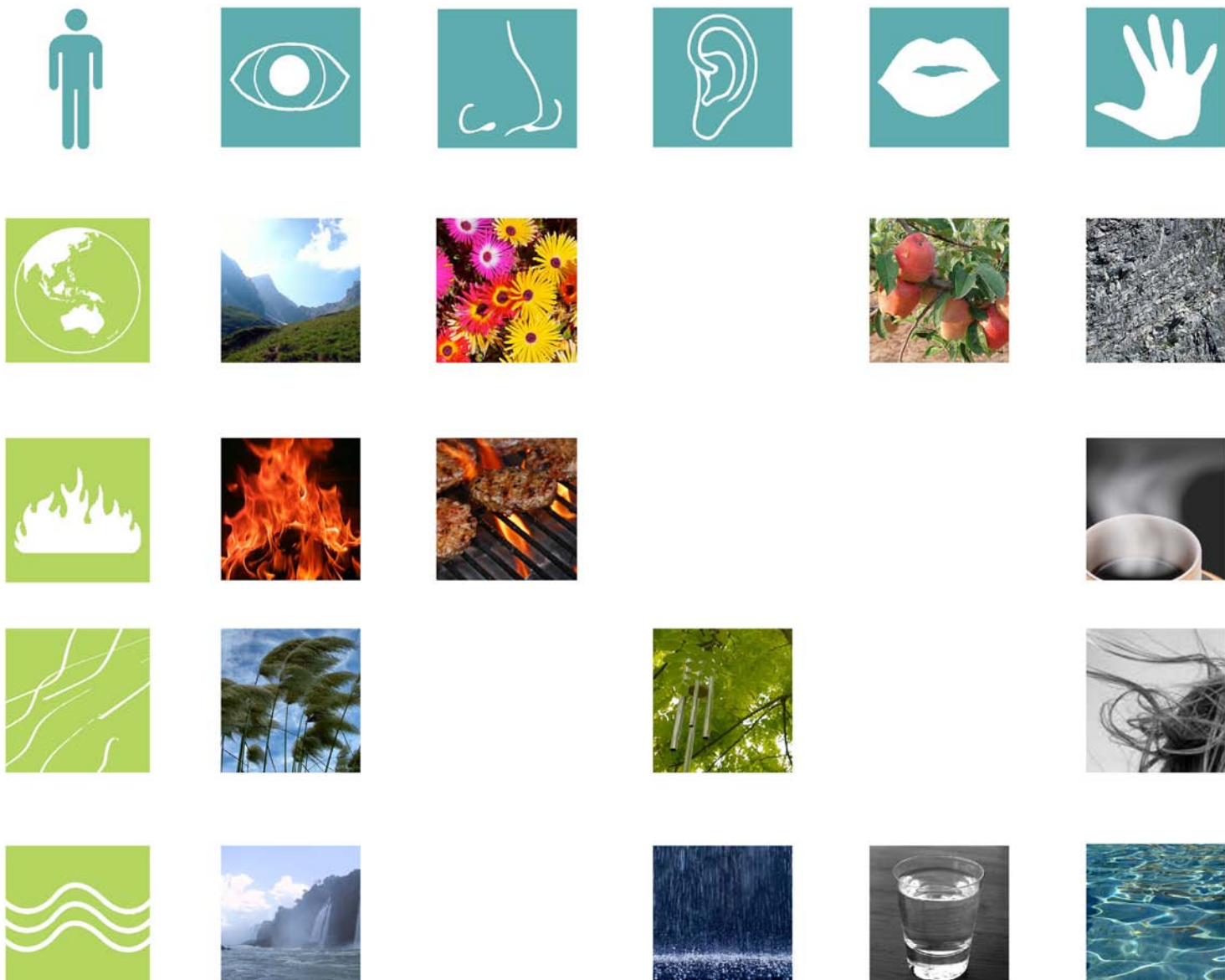
Human to Nature Interactions
## Perception of Sensory Experience

The way humans obtain information about their surroundings is through our senses has a direct relation to proximity and distance.

For example, Touch reveals a great deal about an individuals surrounding context, in a much more fine-grained way than other senses. In the diagram to the left touch is identified as an individual experience because it is very dependent on an intimate proximity to an object creating a unique experience. An individual needs to be close to an object in order to touch it, to feel its texture, moisture and temperature. According to Dr. Sternberg sense of touch is also highly connected to an individual's sense of sight. When seeing an object the brain registers how it might feel based on the object's light reflecting characteristics. [13] Humans primary see contrast in edges. When drawing it is the definition of edges that inform our perceptions. Due to this contrast equally important to touch is sight. However due to the great distance people can view objects at the sight sensory experience becomes an identifiable experience among many. The parahippocampal is how the mind registers beautiful scenes and episodic memory. [14] The most alluring beauty to the human eye is symmetry.

# how can OUR environment enhance the way WE think?

## Client Analysis

Client Criteria

# Client Criteria

The purpose of the client in this thesis is to implement the research concepts into a workplace scenario. The client needs to be medium sized and have an existing work space that does not work well and a client that has the potential for needing a larger space.

For the purpose of this project, the clients are Warm Training Center and The Greening of Detroit. Both organizations incorporate, preach and education the community on sustainable methods and practices, and are both growing at an exponential rate.

In order to create a space for both clients, it is necessary to have an in depth analysis on how they work individually and then how they could work together.

TO GUIDE AND INSPIRE OTHERS TO CREATE A 'GREENER' DETROIT THROUGH PLANTING AND EDUCATIONAL PROGRAMS, ENVIRONMENTAL LEADERSHIP, ADVOCACY, AND BY BUILDING COMMUNITY CAPACITY.

**Client Profile**
## Greening of Detroit

Greening of Detroit has about 70 employees and over 160 volunteers. They currently have 40 people working in a space that was designed for 6. Greening of Detroit is famously known for working with the community to plant trees all around Detroit. However what they really work to do is to educate people on building viable sustainable communities. They teach people how to grown vegetables and create their own community gardens.

## Organization Chart
# Greening of Detroit

**the greening of Detroit™**

### Page 114 — Org Chart 2010-2013

Board of Commissioners

President - rebecca salminen witt

| Administration | Development | PR/Marketing | O/E Education | Forestry | Urban Agriculture | Project Development | Workforce Development |
|---|---|---|---|---|---|---|---|

**Administration**
- CFO — karen ward
- OFFICE MGR — tbd
- HR MGR — tbd
- IT MGR — tbd

**Development**
- DIRECTOR — heidi coates
- WRITER — cathy sullivan
- GOV'T/IND GIVING MGR — eric candela
- MEMBERSHIP — andrea mahone
- GRANTS COMPLIANCE MGR — tbd
- WRITER (.5) — tbd

**PR/Marketing**
- DIRECTOR — monica tabares
- WEB 2.0 — americorps
- WRITER (.5) — tbd

**O/E Education**
- DIRECTOR — sarah halson
- EDUCATOR — tbd — americorps (2)
- CAMP MANAGER — tbd

**Forestry**
- DIRECTOR — paul bairley
- NURSERY MGR — jill dohner
- COMMUNITY FORESTER — sal hansen
- APPRENTICE — donald mcmillan
- NEW GROWTH FORESTER/LA — dean hay
- NG APPRENTICE — tbd
- ARBORIST — tbd

**Urban Agriculture**
- DIRECTOR — ashley atkinson
- URBAN GARDEN PROGRAM MGR — lindsay turpin
- URBAN FARMS MGR — devin foote
- FARMER (2) — kido pielack, tbd
- PRODUCE MKTG & SALES COORDINATOR — tbd
- HORTICLTURALIST — tbd
- YOUTH UA EDUCATOR — eitan sussman
- FEAST PROGRAM COORDINATOR — shannyn lee
- URBAN GARDEN PROGRAM Asst — tepfirah rushdan
- EVALUATION ASST — tbd
- UA EDUCATION MGR — tbd
- ADULT UA EDUCATOR — Tbd
- SOCIAL WORK INTERN — martha valadez, tara hutchins
- INTERNS & APPRENTICES (16)

**Project Development**
- DIRECTOR — tbd
- PROJECT MANAGER (3) — naomi ruth, sarah hayosh, tbd (greenways)
- COMMUNITY PLANTING LIAISON — americorps
- URBAN PLANNER/GIS — tbd

**Workforce Development**
- DIRECTOR — lionel bradford
- YOUTH EMP'T COORDINATOR — linsey gillery
- INSTRUCTOR — tbd
- CREW LEADERS — mike callahan, mike crigler, kenneth middlebrook, tbd (3.5)
- FOREMAN/FLEET MGR — ron freeman
- VOLUNTEER COORDINATOR — tbd
- SEASONAL YOUTH (160) — Greencorps,clc
- SEASONAL ADULTS (40) — planting, greenways (2), openspace (2), swat, offsite
- TRAINEES (30/season)

Legend:
- 2010
- 2011
- 2012-2013

**the greening of Detroit™ — 20TH ANNIVERSARY**

Org Chart 2010-2013

### Page 115

Board of Commissioners

President — Rebecca Salminen Witt

- CFO — Karen Ward
- Office Manager — tbd
- IT Manager — tbd
- HR Manager — tbd

**DEVELOPMENT DIRECTOR — Heidi Coates**
- WRITER — Cathy Sullivan
- GOV'T/IND GIVING MGR — Eric Candela
- MEMBERSHIP — Andrea Mahone
- GRANTS COMPLIANCE MGR — tbd
- WRITER — tbd

**PR/ MARKETTING DIRECTOR — Monica Tabares**
- WEB 2.0 — Americorps
- WRITER — tbd

**URBAN AGRICULTURE DIRECTOR — Ashley Atkinson**
- URBAN GARDEN PROGRAM MGR — Lindsay Turpin
- URBAN FARMS MGR — Devin Foote
- FARMER — Kido Pielack
- FARMER — tbd
- PRODUCE MKTG & SALES COORDINATOR — tbd
- YOUTH EDUCATOR — Eitan Sussman
- FEAST PROGRAM COORDINATOR — Shannyn lee
- URBAN GARDEN PROGRAM ASST — Tepfirah Rushdan
- EVALUATION ASST — tbd
- UA EDUCATION MGR — tbd
- ADULT UA EDUCATOR — tbd

**FORESTRY DIRECTOR — Paul Bairley**
- NURSERY MGR — Lindsay Turpin
- COMMUNITY FORESTER — Sal Hanson
- APPRENTICE — Donald McMillan
- NEW GROWTH FORESTER/LA — Dean Hay
- NG APPRENTICE — tbd
- ARBORIST — tbd

**WORKFORCE DEVELOPMENT DIRECTOR — Lionel Bradford**
- YOUTH EMP'T COODINATOR — Lindsey Gillery
- INSTRUCTOR — tbd
- FOREMAN / FLEET MGR — Ron Freeman
- VOLUNTEER COORDINATOR — tbd
- SEASONAL YOUTH — Greencorps, clc

**PROJECT DEVELOPMENT DIRECTOR — tbd**
- PROJECT MANAGER — Naomi Ruth
- PROJECT MANAGER — Saarah Hayosh
- PROJECT MANAGER — tbd
- COMMUNITY PLANNING LIASON — Americorps
- URBAN PLANNER/GIS — tbd
- HORTICULTURALIST — tbd

**O/E EDUCATION DIRECTOR — Sarah Halson**
- EDUCATOR — tbd
- EDUCATOR — Americorps
- EDUCATOR — Americorps
- CAMP MANGER — tbd

SOCIAL WORK INTERN — Martha Valadez
SOCIAL WORK INTERN — Tara Hutchins

- CREW LEADERS — Mike Callahan
- CREW LEADERS — Kenneth Middlebrook
- CREW LEADERS — Mike Crigler
- CREW LEADERS — tbd
- CREW LEADERS — Mike Callahan
- CREW LEADERS — Mike Crigler
- CREW LEADERS — Kenneth Middlebrook
- CREW LEADERS — tbd

TRAINEE (multiple)

INTERN (multiple)

# Greening of Detroit
## Existing Conditions
Detroit, Michigan

They currently have 40 people working in a space that was designed for 6. Upon an initial visit and first glance Greening of Detroit has a nice office space. However due to its over congestion, there is no place for the workers to breath and have the right balance of interaction. Greening's open space plan is not working because there are not enough group and shared workspace to retreat to. Another issues with the current space is they have no place to eat together or to take a break which are essential factors in the emotional quadrant.
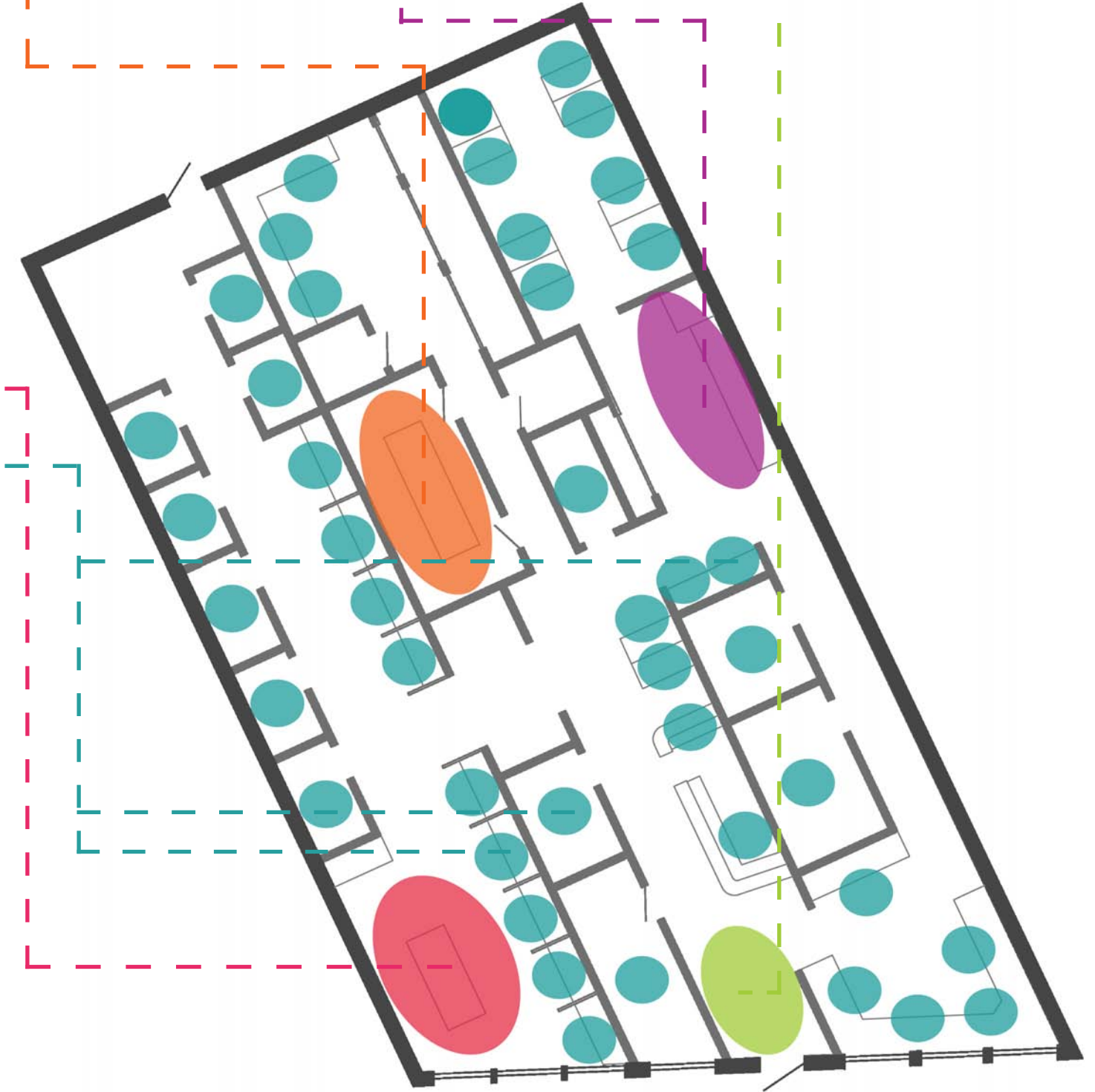
The President of Greening has her own private office. This is necessary for the types of private conversations that she has with employees.
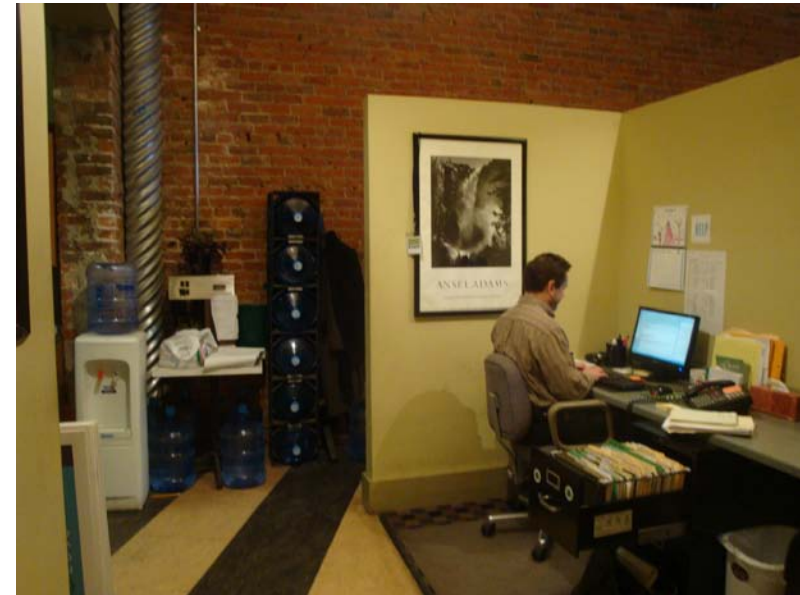
Will has no privacy at his desk due to the fact that it backs up into the kitchen. People often interrupt his phone calls and correct him on what he should have said.

Because Greening is low on space they have small closet cubbies as desks for people. This is not adequate and blocks out light and confines the individual.

The President of Greening has her own private office. This is necessary for the types of private conversations that she has with employees.

This is the only group space at Greening and is heavily used. It allows people to retreat from their closet cubbies and collaborate or spread out their work.

A small kitchenetTE is the only type of lifestyle support space at Greening. This does not allow for people to take a break or provide an area for employees to socialize and retreat from work.
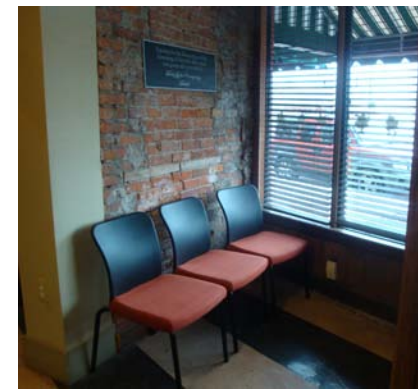
Greening has a specified entryway, with a reception desk and chairs for waiting. The entrance is nicely defined but does not properly reflect Greening's mission, energy or spirit.

Greening of Detroit [Existing Conditions]

Greening of Detroit
# Energy Audit

On the first visit, Greening of Detroit employees received an energy audit. Twelve out of the thirty employees that were present participated in the survey. The analysis of this survey identifies the strengths and weakness that occur within the organization. The numbers in the survey indicate how many employees responded true to the corresponding statement. This is useful the things that the organization can improve.

0-5 Fully Energized
5 - 8 Moderate Energy Deficit
9 - 12 Significant energy deficit
13 - 16 Imminent energy crisis
17 - 20 Full out energy crisis

## THE ENERGY AUDIT

Name (optional):_____
Position:_____
Age: (Please Circle One)   20-25 26-30 31-35 36-40 41-45 46-50 51-55 56-60 61-65 66+

**Please answer the 20 questions below indicating if the statement is True [ T ] or False [ F ]**

**RENEWAL**
4_ I don't regularly get at least 7-8 hours of sleep and/ or I often wake up feeling tired.
4_ I frequently skip breakfast, or I settle for something that isn't particularly healthy.
7_ I don't do cardiovascular training at least three times a week, and strength training at least twice a week.
6_ I don't take regular breaks during the day to renew and recharge.
9_ I often eat lunch at my desk, if I eat lunch at all.

**EMOTIONAL**
4_ I frequently find myself feeling irritable, impatient or anxious at work, especially when demand is high.
5_ I don't have enough time with my family and loved ones, and when I'm with them, I'm not always really with them.
6_ I take too little time for activities that I most deeply enjoy.
3_ I rarely stop to express my appreciation to others or to savor and celebrate my accomplishments and blessings.
5_ I often feel that my life is just a relentless set of demands I'm expected to meet and tasks I have to complete.

**FOCUS**
6_ I have difficulty focusing on one thing at a time and I am easily distracted during the day, especially by email.
7_ I spend much of my time reacting to immediate demands rather than focusing on activities with longer-term value.
5_ I don't take enough time for reflection, strategizing and thinking creatively.
7_ I rarely have any time when my mind is quiet and free of thoughts.
7_ I often work on evenings and weekends and / or I rarely take an email-free vacation.

**SPIRITUAL**
3_ I don't feel passionately committed to what I do.
3_ I spend too little time at work doing what I do best and enjoy most.
4_ There are significant gaps between what I say is important in my life and how I actually live.
5_ My decisions at work are often more influenced by external demands than by a strong, clear sense of my own purpose.
2_ I don't invest enough time and energy in making a positive difference to others and/ or in the world.

# Energy Audit Analysis

## Renewal Quadrant



Survival Zone

Performance Zone

Burnout Zone
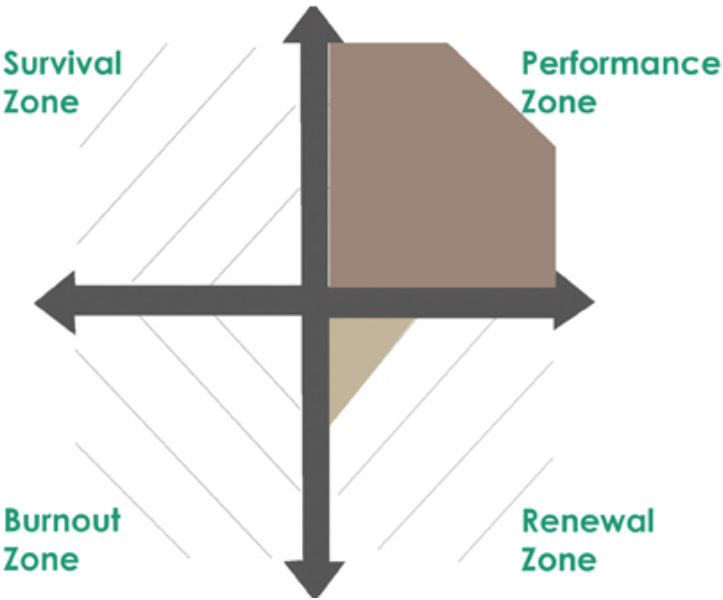
Renewal Zone

### Performance Zone-Renewal Zone

The problems occur in the renewal quadrants this is primarily due to the fact the spaces are they are in are so congested that they do not allow for workers to renew themselves. In the study greening is overwhelming exhausted in all aspects specifically as a result of their heavily congested working environment.

## Emotional Quadrant



Spike

Energize

Numb

Chill
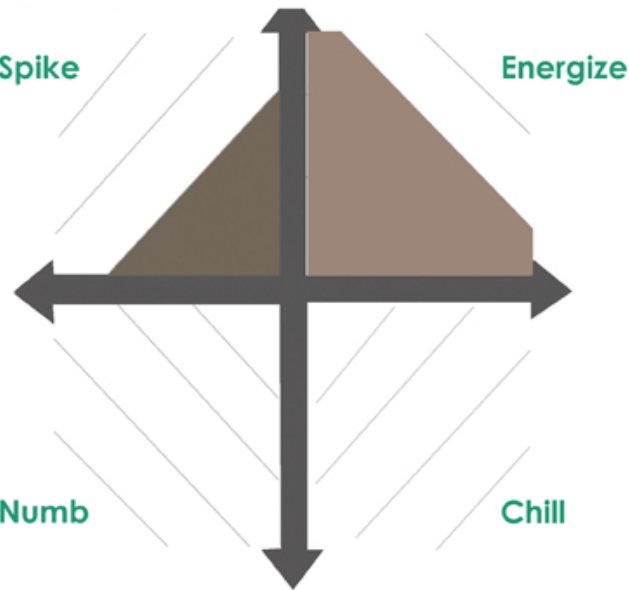
### Spike--Energize

The employees are slightly overwhelmed in the emotional quadrant because there is no place for them to eat gather and eat lunch. Employees generally are eating lunch at their desks which reduces the amount of interaction they have with one another resulting in slightly unhealthy results.

## Focus Quadrant



Reactive Zone

Tactical Zone

Scattered Zone

Big-Picture Zone
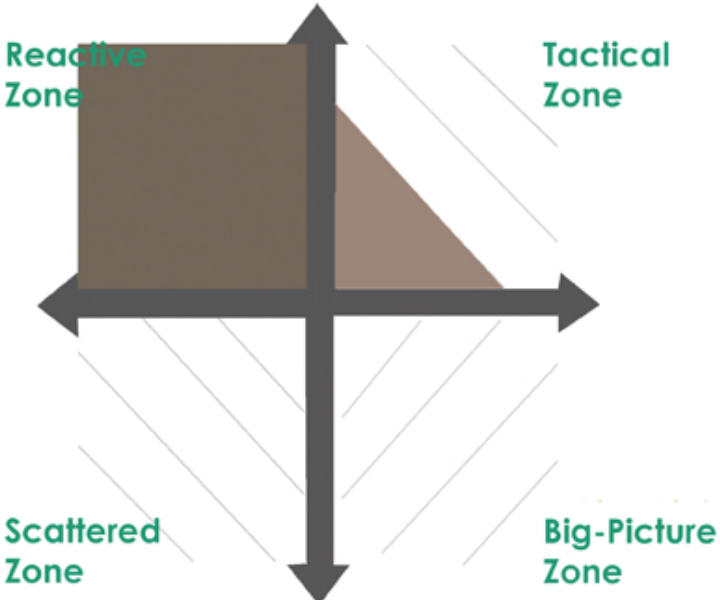
### Reactive Zone -Tactical Zone

The Focus quadrant is significantly unbalance due to the lack of space the employees currently have. This is something that can be addressed by the building size.

## Spiritual Quadrant
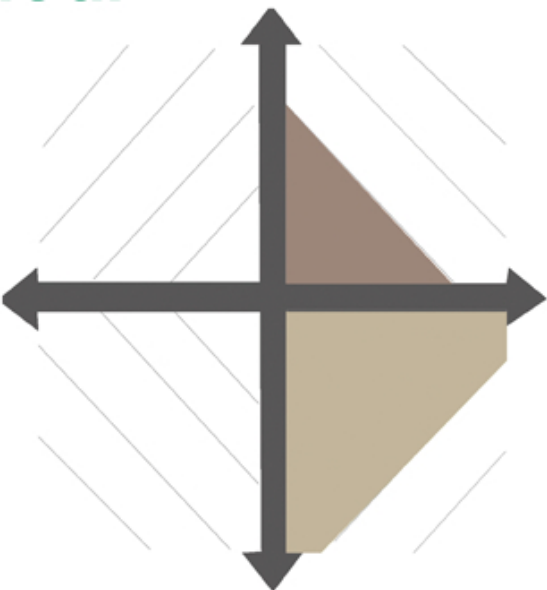


### Best - Values

The Spiritual quadrant is as expected because for most employees Greening's mission feeds their soul. They truly believe in the making Detroit a better place and proud to contribute to this through their work.

TO PROMOTE THE DEVELOP-MENT OF RESOURCE EFFICIENT, AF-FORDABLE, HEALTHY HOMES AND COMMUNITIES THROUGH EDUCATION, TRAINING AND TECHNICAL ASSISTANCE

**Client Profile**
## Warm Training Center

Warm Training Training Center is a medium sized non-profit organization that has about 30 employees. Their current space is inadequate at the moment, which develops a good working scenario for a sketch problem. Warm training center is all about empowering the people, through education, providing resources and working with the community. They do this on many levels, such as providing workshops, running a green jobs program that educates, trains and markets people for a new job opportunities and also doing energy assessments for companies and individuals.

## Warm Training Center
# Organization Chart

empoWerment | educAtion | resouRces | comMunity

**Board of Directors**

**EXECUTIVE DIRECTOR**
**Robert Chapman**

OFFICE MANAGER
Peter Klein

ASST OFFICE
MANAGER
Emily Jacoby

**Jacob Corvidae**
**GREEN PROGRAMS**
**MANAGER**

GREEN JOBS

**Alicia Miller**
**RESIDENTIAL ENERGY**
**PROGRAMS**
**COORDINATOR**

MARKETING +
DEVELOPMENT
DIRECTOR

YOUTH ENERGY
PROGRAM

LEAD
ENERGY ANALYST
DEBRA JENSEN

ENERGY
INSTRUCTOR
Chris Rutherford

SPECIAL
PROGRAMS
COORDINATOR
Jeff Williams

ENERGY ANALYST
Enixa Shelby

WEATHERIZATION
INSTRUCTOR
Daniel Pratt

ENERGY ANALYST
Erinn Fahey

WEATHERIZATION
INSTRUCTOR
Brian Lengjel

ENERGY
EDUCATORS

OFFICE SUPPORT

HOME REPAIR
INSTRUCTOR

ENERGY ANALYST
Joel Howrani
Heeres

GREEN HOUSING
SPECIALIST
Steve Christensen

ENERGY
EDUCATOR/
CASE MANAGER
Andrea Fleming

PROGRAM
ASSISTANT
Sonya
McCutchen

HOME REPAIR
INSTRUCTOR
Walter Roby

ENERGY ANALYST
Carrie Da Via

ENERGY
EDUCATOR
George
Highgate

PROGRAM
ASSISTANT
Rayvin Butler

ENERGY
EDUCATOR
Jeff Herron

PROGRAM
ASSISTANT
Maria de la
Motte

After this basic analysis of the organization, I was able to create n employee interaction diagram which shows how the 5 branches at warm work together. This diagramed shows how whom the individuals interact with on a daily basis in order to complete their jobs.

ENERGY
EDUCATOR
Larry Wilson

ENERGY
EDUCATOR
Opelton
Parker
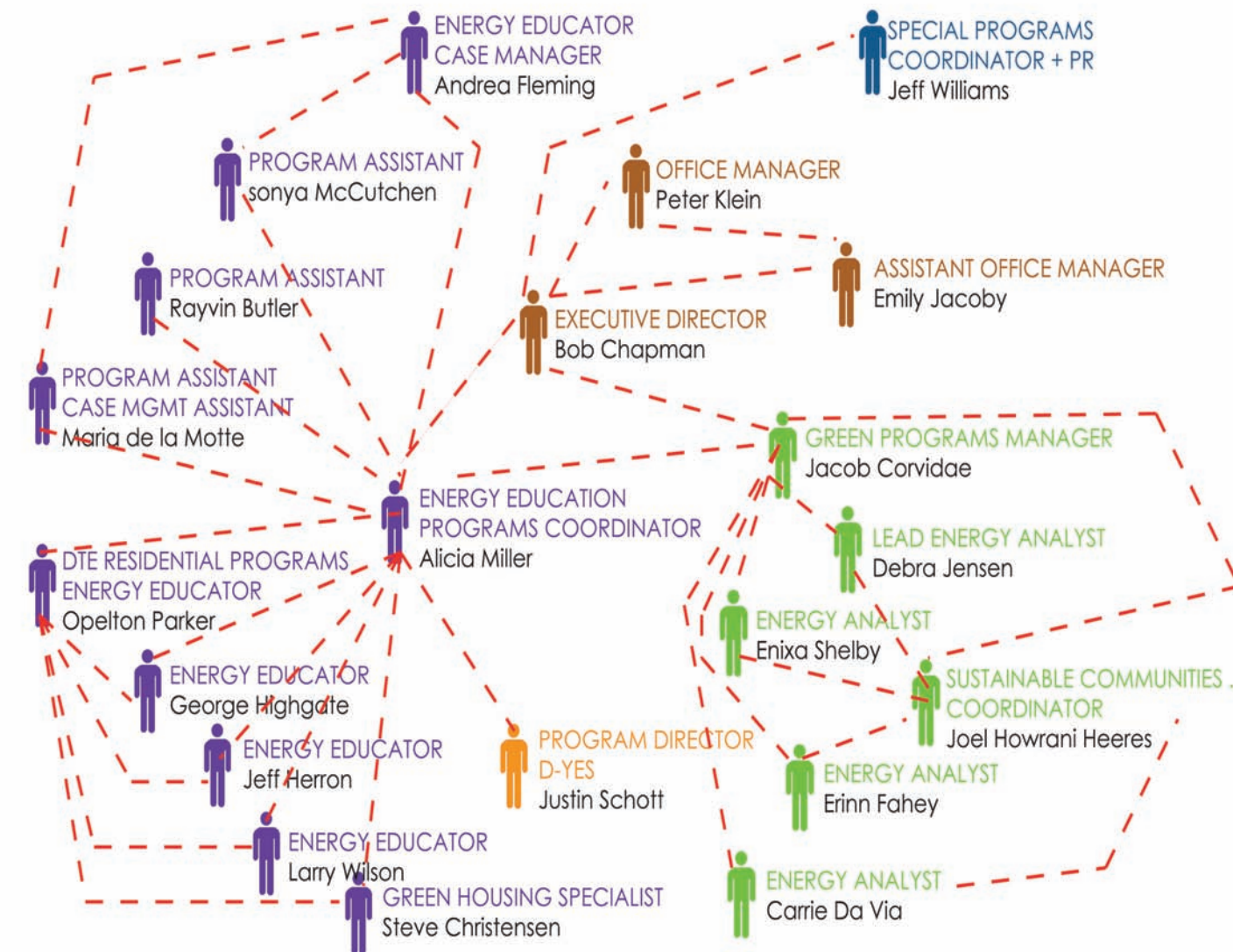
# Interaction Chart

## Existing Conditions
### Warm Training Center
Detroit, Michigan

When analyzing warms existing space, there is a strong sense of confusion because the primary entrance off of Michigan Ave is only used 10% of the time while the back entrance from the parking lot is using 90% of the time. The current layout forces the individual to be confused upon entering because you are entering in their kitchen and conference space. Warm does not have a need for a reception but for first time visitors it can be overwhelming to walk in on an important meeting.

The current workspace are extremely congested and are primarily isolated with strange set ups involving two or three people in one office.





The kitchen is located near the back entrance however this entrance is used as the primary entrance 90% of the time. It is not proper representation of the company and leaves visitors confused and not welcomed because they feel like they are in an area they should not be. The entrance also walks into the conference room and often times people walk in and out during important private meetings.

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135





Warm Training Center [Existing Conditions]

However something they had an existing pathway that seemed to be the only designed aspect of their space. They used the hallway to highlight posters of the programs and events they hold.

Warm Training Center
# Energy Audit

On the first visit, Warm Training Center employees received an energy audit. Ten out of the twenty employees that were present participated in the survey. The analysis of this survey identifies the strengths and weakness that occur within the organization. The numbers in the survey indicate how many people answered true to the corresponding statement.

0-5 Fully Energized
5 - 8 Moderate Energy Deficit
9 - 12 Significant energy deficit
13 - 16 Imminent energy crisis
17 - 20 Full out energy crisis

## THE ENERGY AUDIT

Name (optional):_____
Position:_____
Age: (Please Circle One)   20-25 26-30 31-35 36-40 41-45 46-50 51-55 56-60 61-65 66+

**Please answer the 20 questions below indicating if the statement is True [ T ] or False [ F ]**

### RENEWAL

__5__ I don't regularly get at least 7-8 hours of sleep and/ or I often wake up feeling tired.

__3__ I frequently skip breakfast, or I settle for something that isn't particularly healthy.

__6__ I don't do cardiovascular training at least three times a week, and strength training at least twice a week.

__2__ I don't take regular breaks during the day to renew and recharge.

__4__ I often eat lunch at my desk, if I eat lunch at all.

### EMOTIONAL

__2__ I frequently find myself feeling irritable, impatient or anxious at work, especially when demand is high.

__1__ I don't have enough time with my family and loved ones, and when I'm with them, I'm not always really with them.

__4__ I take too little time for activities that I most deeply enjoy.

__1__ I rarely stop to express my appreciation to others or to savor and celebrate my accomplishments and blessings.

__2__ I often feel that my life is just a relentless set of demands I'm expected to meet and tasks I have to complete.

### FOCUS

__5__ I have difficulty focusing on one thing at a time and I am easily distracted during the day, especially by email.

__5__ I spend much of my time reacting to immediate demands rather than focusing on activities with longer-term value.

__2__ I don't take enough time for reflection, strategizing and thinking creatively.

__5__ I rarely have any time when my mind is quiet and free of thoughts.

__0__ I often work on evenings and weekends and / or I rarely take an email-free vacation.

### SPIRITUAL

__0__ I don't feel passionately committed to what I do.

__1__ I spend too little time at work doing what I do best and enjoy most.

__2__ There are significant gaps between what I say is important in my life and how I actually live.

__6__ My decisions at work are often more influenced by external demands than by a strong, clear sense of my own purpose.

__1__ I don't invest enough time and energy in making a positive difference to others and/ or in the world.

# Energy Audit Analysis

## Renewal Quadrant

**Spike** **Energize**

**Numb** **Chill**
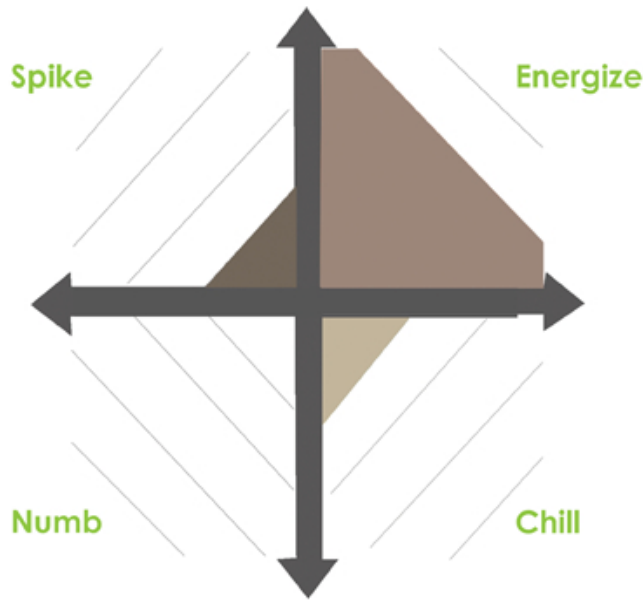
### Spike - Energize - Chill

Remember that the renewal quadrant has the most impact on program. This is due to the fact that their current workspace does not have lifestyle support areas, such as day cares, work out facilities, break rooms, established lunch areas.

## Emotional Quadrant

**Survival Zone** **Performance Zone**

**Burnout Zone** **Renewal Zone**
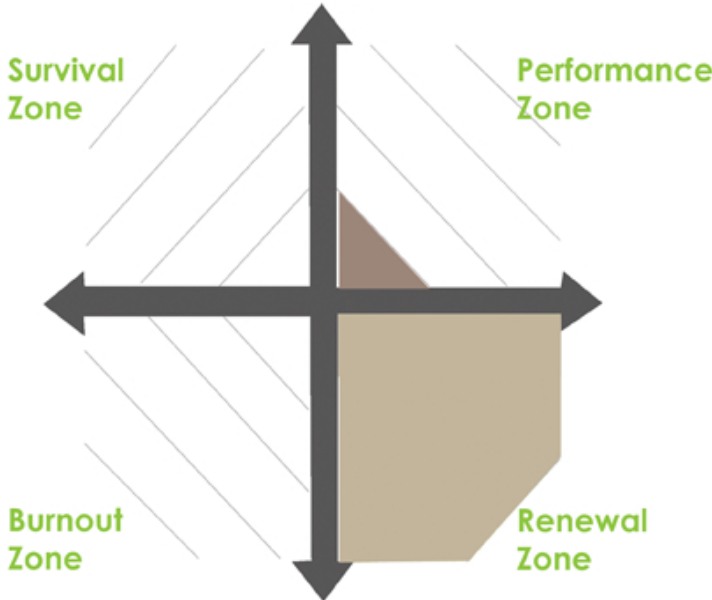
### Performance - Renewal Zone

Their emotional performance is high due to their spiritual performance and company culture.

## Focus Quadrant

**Reactive Zone** **Tactical Zone**

**Scattered Zone** **Big-Picture Zone**
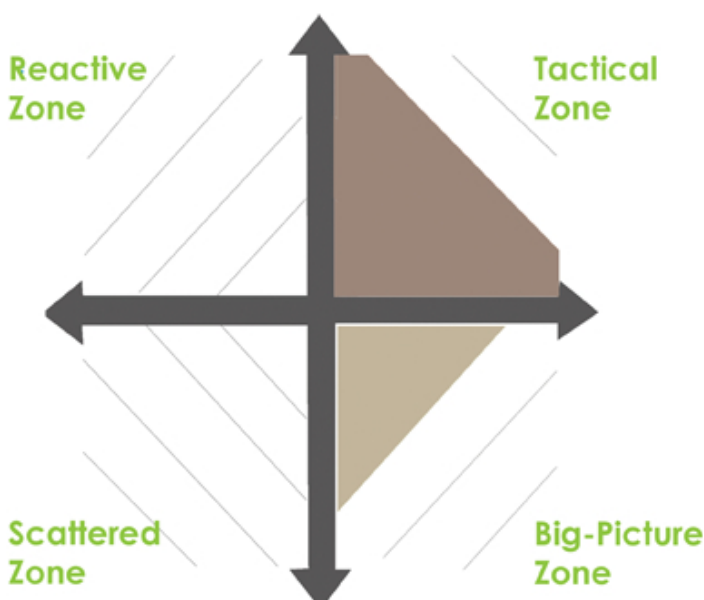
### Tactical Zone - Big Picture Zone

The focus quadrant is highly dependent on a change of environment and being able to step away from immediate tasks to focus on the long term tasks. They do not have any room to leave their confined offices so that made sense to me.

## Spiritual Quadrant
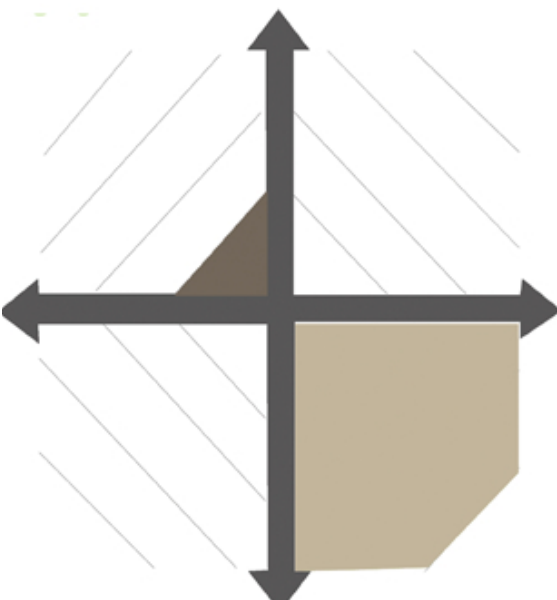
### Best - Values

They performed significantly high in the spiritual quadrant because they all are personally rewarded from the work they do!
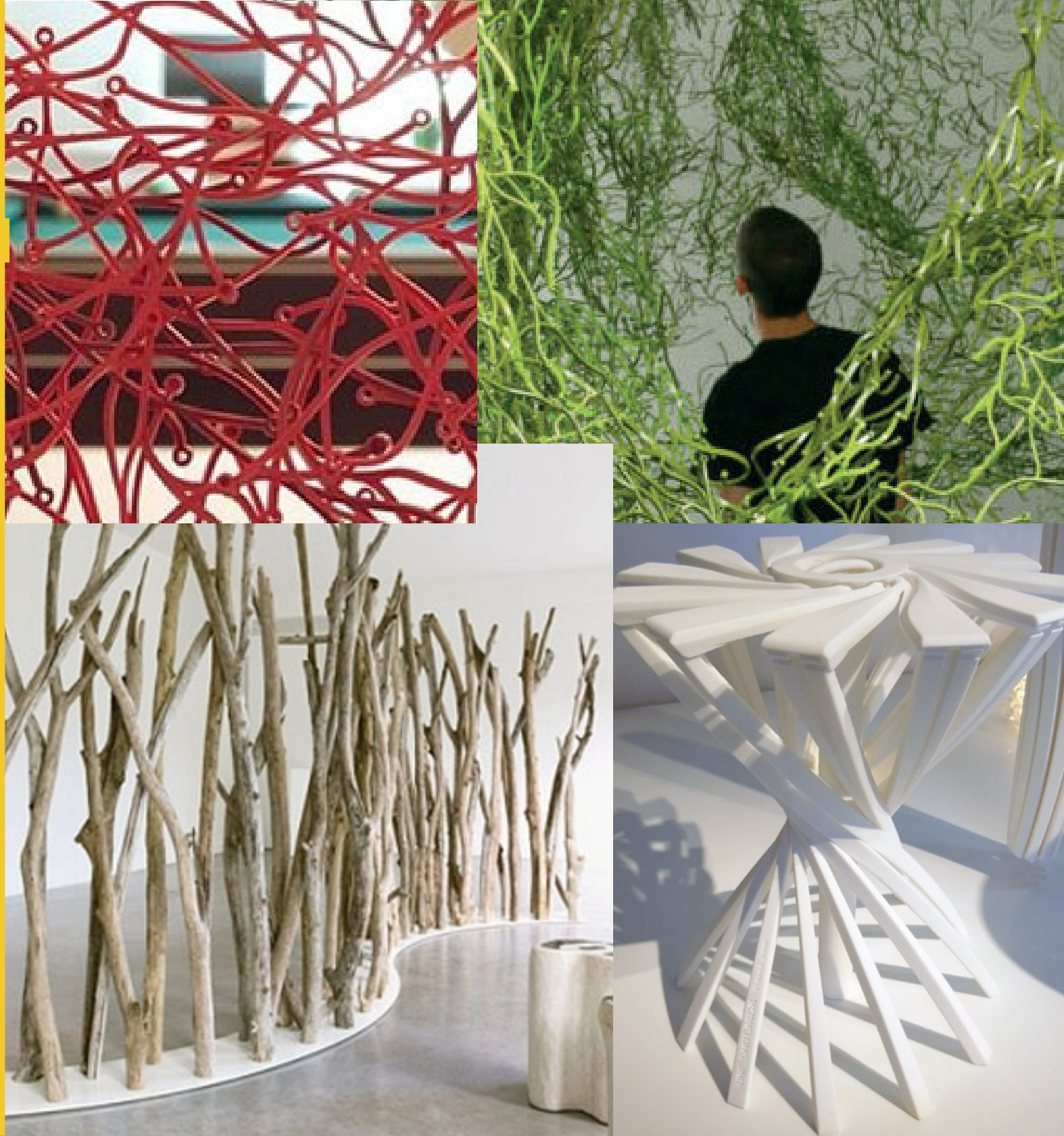
# Sketch Problem
## Warm Training Center

IT was essential to do a sketch problem of the client's existing space. The sketch problem allowed for researching the client and beginning to develop and understand the program, while simultaneously using the sketch problem approach as an early test of the application of the research to some design strategies.

The Warm Training Center sketch problem of their existing space is an early test of some of the underlying principles, and it is very limited by the constraints of the existing space which is not really adequate for the current staff. Ultimately the sketch problem is not a mini-version of the larger project but rather is another form of research.
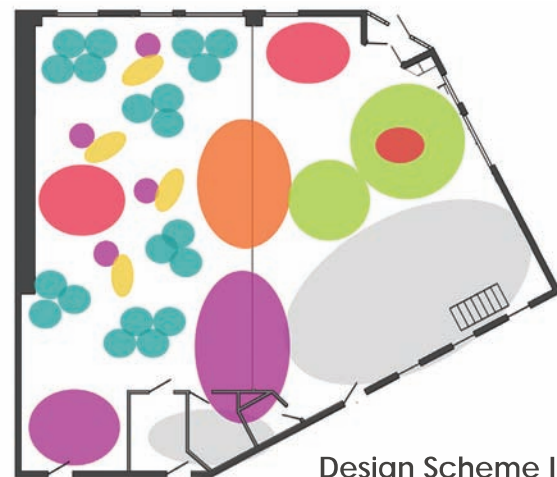
Design Scheme I

## Design Scheme I

After initial programmatic investigations I started looking at different design schemes that would foster strong interactions and respond to the program. The first design scheme had multiple small social breakouts
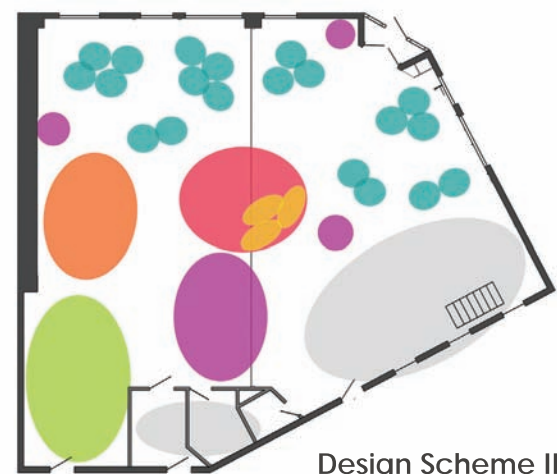


Design Scheme II

## Design Scheme II

The second design scheme was incorporating day lighting and centralized group area.
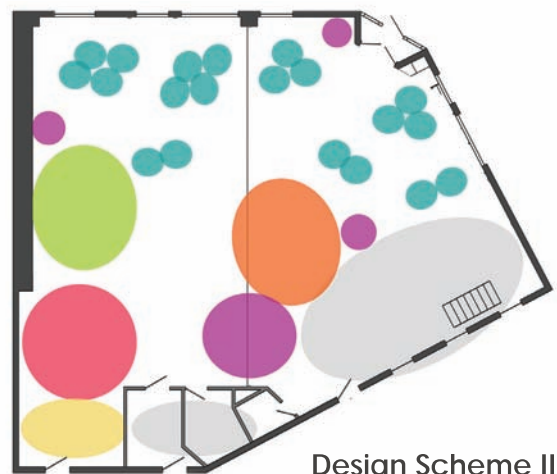


Design Scheme III

## Design Scheme III

The 3rd design scheme looked at using the group and shared areas as a way to define the entrances.
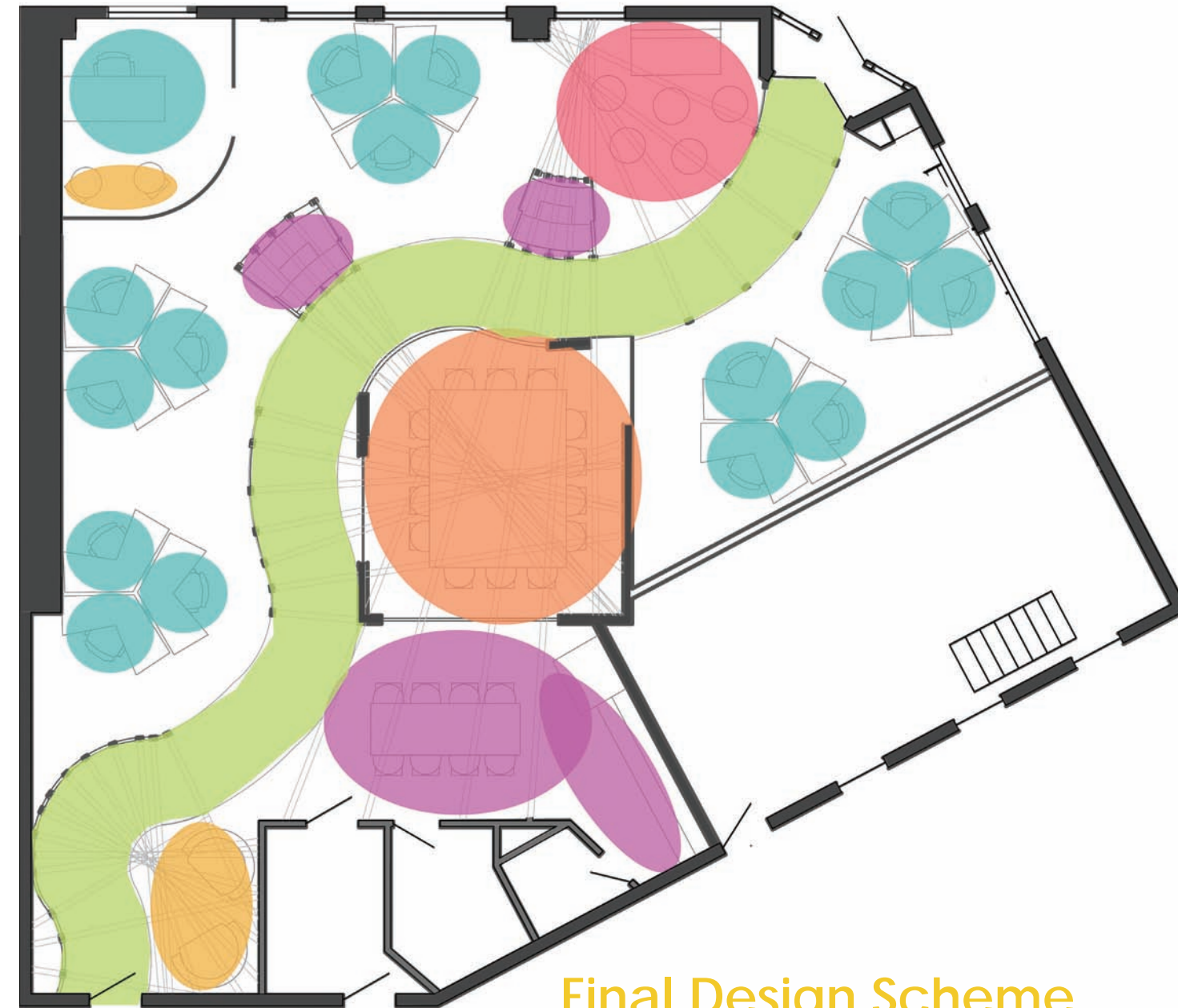
## Final Design Scheme

The Final Design Scheme created a 'spine' that connected the two entrances and became a way to highlight the organization's culture. It also created the right amount of privacy between the workspaces and other programing.

## Proposed Design
### Warm Training Center
Detroit, Michigan

Design Intentions
1. This spine was able to connect and organize all the spaces,

2. The spine also provided privacy inspirational screens for the employees,

3. The Spine served to display product and information.

4. The Spine also created designated entrances that had dual usage.

All the desks with the exception of the president's office are laid out in a grouping of three. This allows for face to face interactions that are vital in reinforcing the emotional aspects of how people obtain their energy. The desks are designed with wrapping shelves that create bubbles of space and eliminate additional sight lines.





Sketch Problem [Proposed Design]

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The kitchen is adjacent to the conference room and has the ability to spill into the conference space. Posters promote Warm initiatives and provide privacy.

**WARM**
**Training Center**
empoWerment
educAtion
resouRces
coMmunity

The new back entrance is now a welcoming space, the slat wall allows for display and educational products. The entrance also now offers a shared space that can either be used for small chats or as a waiting space for visitors

The group space is surrounded by inspirational posters that reinstate past success and reiterate the company mission of education and outreach.

150

151

The spine that moves through the space allows for dynamic casual interactions to occur.

There are two phone booths where employees can go have private calls, these booths display four different types of sustainable insulation types. This method incorporates material functionality and also serves as an informational product display.

# Existing Interaction Floor Plan

# Proposed Interaction Floor Plan

**Administration**

**Marketing + Development**

**Residential Energy Education**

**Commercial Energy Analysts**

**Youth Energy Program**

In order to better understand the working interactions, Warm's Employee interaction diagram has been overlaid onto their existing and proposed plans. In Warm's existing space they are spending half their time walking around, leaving their desk, getting distracted just so to acquire basic information they need to get their job done. Within the proposed plan a critical planning method that is centered around interactions between individuals allows for maximized interaction for the employees to better obtain their information.

# where are WE working?

## Historic Cork Town

Corktown is the oldest neighborhood in Detroit, Michigan, although the city of Detroit is twice as old. It is an extremely vibrant neighborhood with a bold material pallet. To the neighborhoods west the abandoned Michigan Central Station hovers reminding residence of the neighborhoods legacy and to it's east is downtown Detroit. The primary transect that runs through Corktown is Michigan Avenue. It is off this transect that Greening of Detroit and Warm Training Center's existing facilities are located. Both organizations play an integral role in maintaining and revitalizing the Corktown community.

# Michigan Avenue Transect



158    Michigan Avenue    Michigan Avenue    159

**Existing WARM Training Center Office**

Cross Roads:  Michigan Avenue + Lockwood
Square Footage:  3000 sq ft

**Existing Detroit Green Works
WARM Job Training Facility**

Cross Roads: Bagley + Saint Anne Street
Square Footage: 6400 sq ft

**Proposed Site**

**Existing Greening of Detroit Office**
Cross Roads:  Michigan Avenue + Trumbull
Square Footage:  3500 sq ft
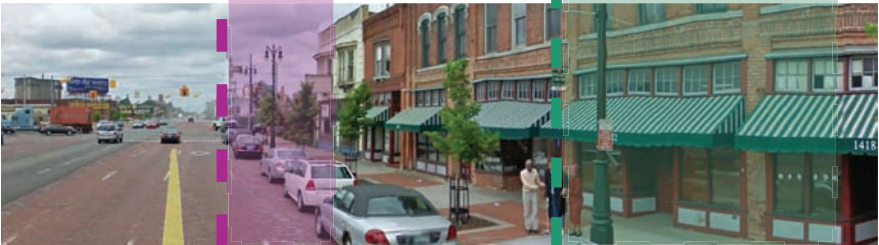
**Tiger Stadium Master Plan**
Hamilton Anderson Associates

# Site Selection

Greening of Detroit and Warm Training Center have already collaborated on planning a new living building that would house both their headquarters. This building is proposed for the historic Tiger stadium site off of Michigan Avenue and Trumbull. The Master plan for the site was developed by Hamilton Anderson and includes keeping the historic ball field intact.

The master plan consists of a 36,000 square foot elementary school to the North , residential lofts to the south west . The South East corner of the site is reserved for Greening of Detroit and Warm Training Center's office building. This will be the area of focus for the project .

Due to Greening of Detroit and Warm Training Center's prominent presence in the Corktown community, this site is extremely fitting for development and is located in the center of the community.

ELEMENTARY SCHOOL (76,500SF)

RESIDENTIAL (30,000SF)
OFFICES (83,000SF)
RETAIL SPACE A (8,900SF)
RESIDENTIAL (41,500SF)
RETAIL SPACE B (2,700SF)
RETAIL SPACE C (2,700SF)

NATIVE PLANTINGS/GREENWAY
BIOSWALE
PARKING GROVE

HISTORIC BALLFIELD

COMMEMORATIVE PLAZA
EDUCATION PLAZA

BLEACHER SEATING
INTERIOR OFFICE PLAZA
RETAIL PLAZA
RESIDENTIAL PLAZA

'LIVING MACHINE' WATER SYSTEM
GEOTHERMAL WELLS
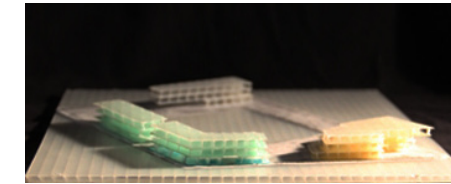
MASSING ONE          MASSING TWO          MASSING THREE
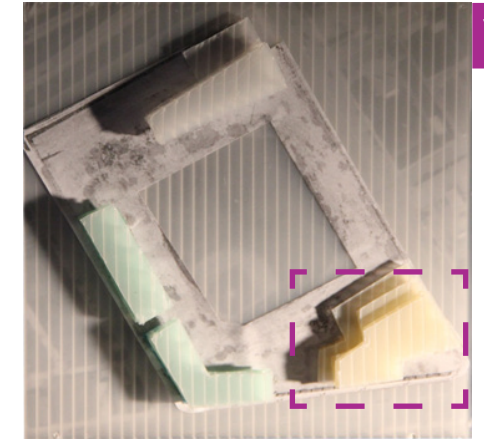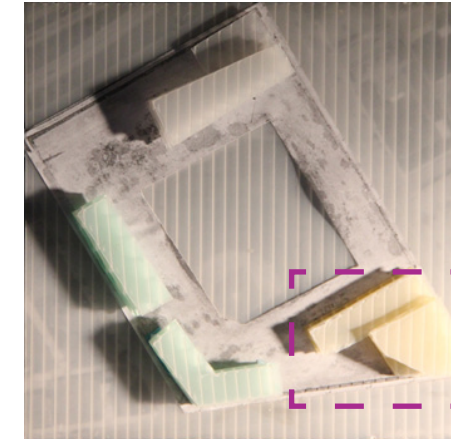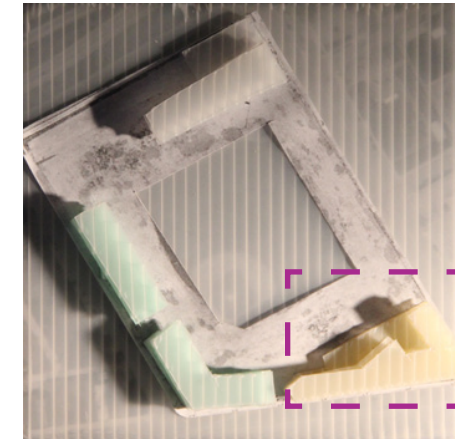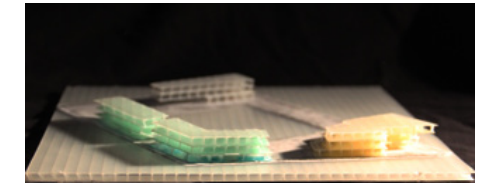


## Critic of Master Plan
# Historic Tiger Stadium Site

Massing I is from the Hamilton Anderson master plan proposal. In the Michigan Avenue view at the top the building mass blocks all site lines of the historic ball field creating a seemingly impenetrable fence that does not invite the community in. Also the limited site visibility hides the ball field's presence from Michigan Avenue, disguising any remains of the site's former glory.

Massing II investigates the possibility of exposing Greening's teaching gardens to the front creating an exterior entrance that celebrates the organizations work. However this massing does not address the street and the creation of an interior courtyard would neglect the buildings relation to the other buildings on the site.

Massing III proposes the building being pushed back at the corner and for teaching gardens that extend that invite people to pass through the space and feel welcome enough to enter the building and learn more about sustainable practices. It also opens the site enough to create a visual entry that celebrates and welcomes people onto the ball field. This concept will carried into design development.

# Existing Conditions
## Tiger Stadium Site



View from Michigan Avenue

View from Trumbull Avenue

View from Historic Ball-field

View from Michigan Avenue and Trumbull Avenue Intersection

Trumbull Avenue

Michigan Avenue
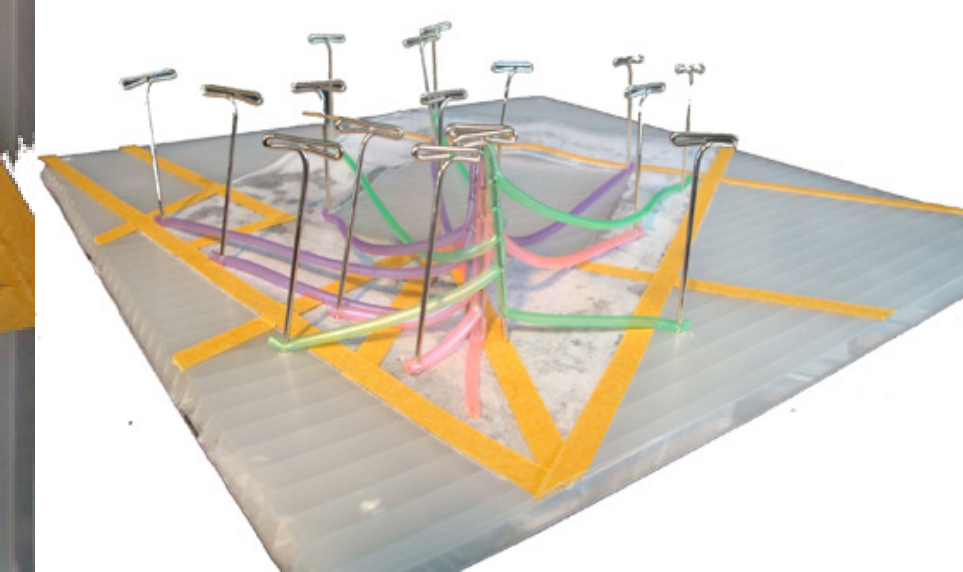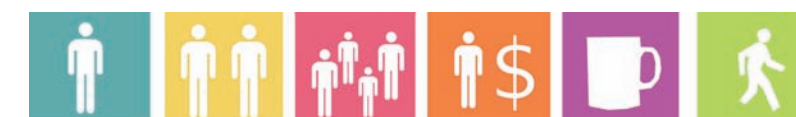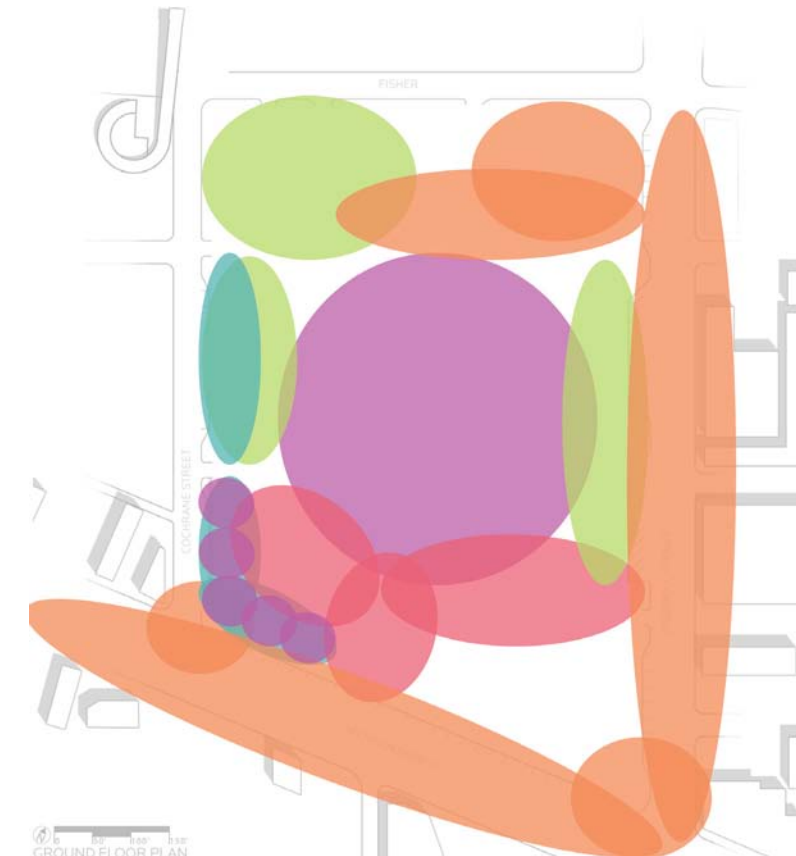
# Site Space Types

The model and diagram to the left analyzes the site through the critical lens of the space types to identify the types of interactions that can occur and exist on the site. The model from the left identifies the types of transitional movement that might occur based on the remaining program on the site. The orange lines represent possible pedestrian pathways. The green lines indicate site parking while the purple shows how people might move through the site to drop their kids off at the elementary school, to the north, or go to the neighboring shops and restaurants on a lunch break.

The site bubble diagram identifies the usage and the types of interactions that can occur based on the proposed programing. This diagram also reveals a public verse private threshold occurring on the site. The ball field is serving as the center hub for all the buildings on the site. The field is a lifestyle based interaction that would be an opportunity for the users of the site to congregate around an a pass time.

INVESTIGATION
# Threshold Exploration I + II

The four following series of investigations were derived from a yearning to understand the relationship between the interior and exterior spaces and how to diminish the barrier that separate humans from element exposure. Threshold exploration I + 2 are the first of the series and the simplest. Both models investigated specifically one planar element and it's response to two varying intensities of penetration of an inserted element. Melted wax was poured over the models to see if an opportunity would be arise through the introduction of a third element. Since these models are the simplest out of the series, it was easier to see the strong wax formations and imagine how the third element could transform the threshold.
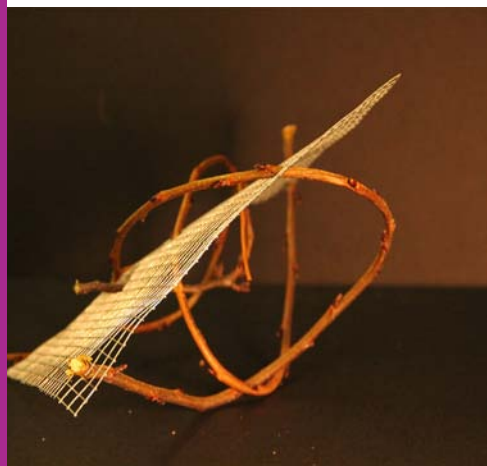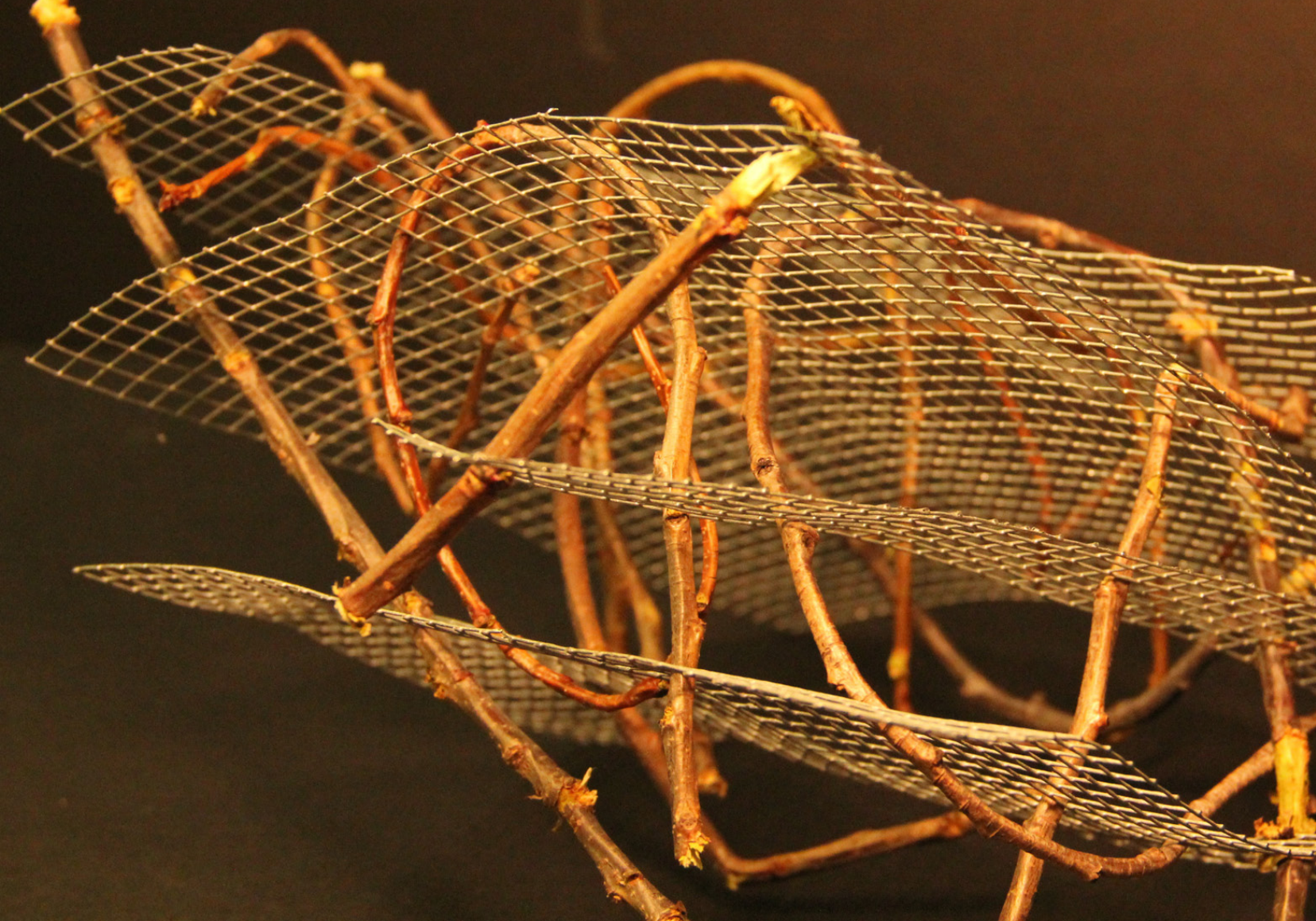
## INVESTIGATION
# Threshold Exploration III

In this third series of the threshold explorations incorporated multiple planes in order to diminish the prominence of the threshold. This study was really successful in revealing a seamless transition that can occur when there are varying instances of thresholds.  This method of multiple thresholds allows for a smooth transition between interior and exterior spaces.  The multiple planes created the needed illusion of complexity that diffused the threshold that was starkly apparent in threshold exploration I + II.
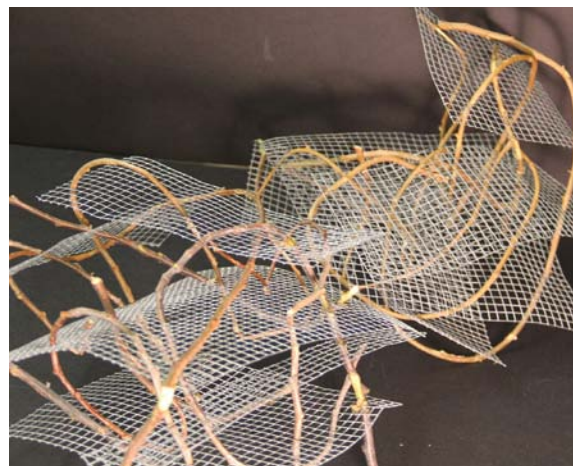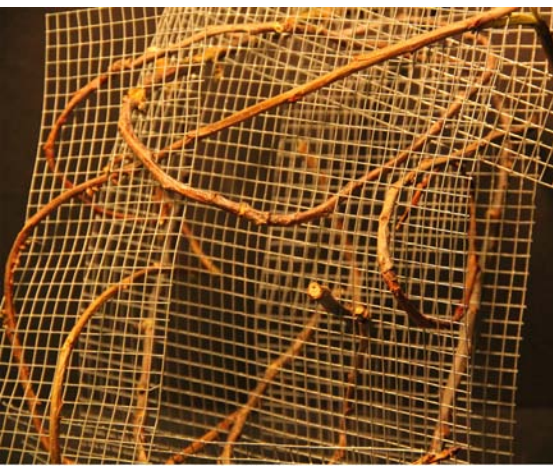
INVESTIGATION
# Threshold Exploration IV







In threshold exploration IV the use of multiple planes were reiterated similar to the previous exploration, this time the plane sizes and layered method differed. Explorations III and IV revealed a strong sectional quality that did not only refer to thresholds between interior and exterior space but referred to thresholds between floors. the staggering affect of the planes created dynamic spaces that allowed for continued interaction that could occur through the entire building. These threshold explorations lead to the a thorough spacial analysis of the building with a rigourous concentration on the sectional experience.
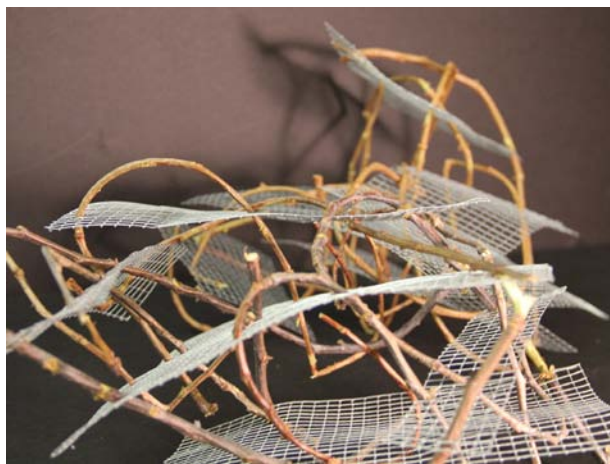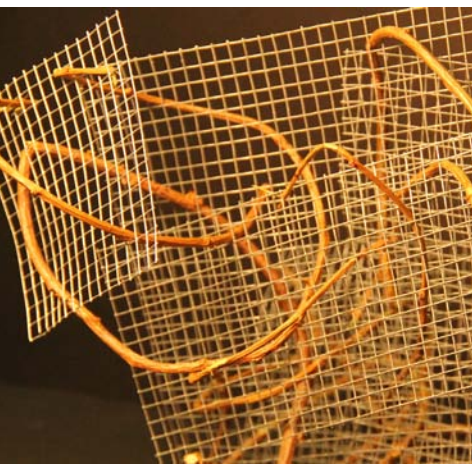
# how do YOU design an environment that works the way WE do?

## Ground Level

| | |
|---|---|
| Entry, Waiting Area | 800 sq ft |
| Exhibit Space | 7500 sq ft |
| Classroom | 800 sq ft |
| Conference Space | 500 sq ft |
| Work Shop | 6000 sq ft |
| Work Room | 220 sq ft |
| Training Room | 3000 sq ft |
| Locker Room | 1500 sq ft |
| Day Care | 600 sq ft |
| Dining | 800 sq ft |
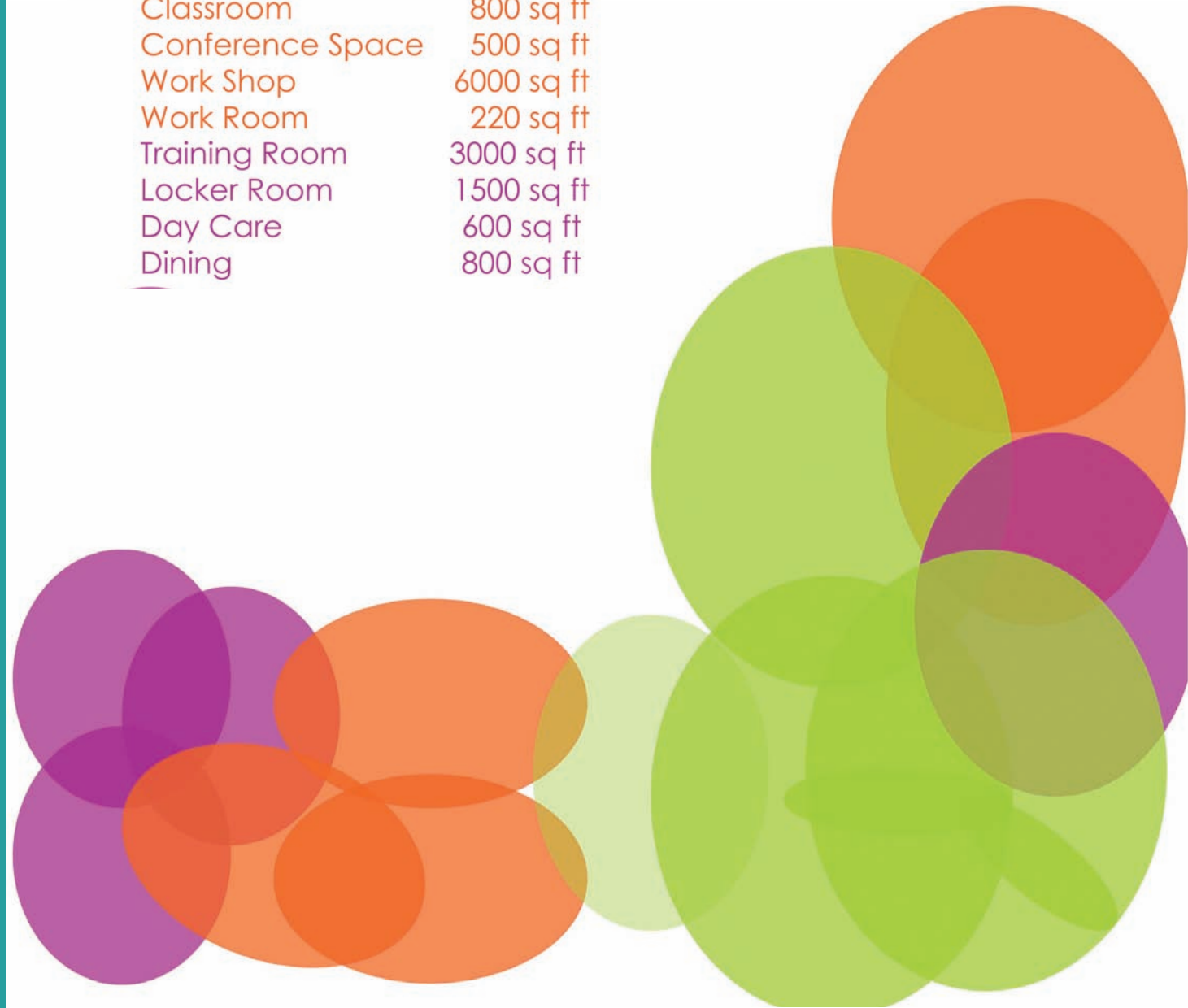
## Level Two*

| | |
|---|---|
| Balcony Space | 2000 sq ft |
| Storage+Mechanical | 800 sq ft |
| Circulation | 450 sq ft |
| Conference Space | 2000 sq ft |
| Recreational Space | 4000 sq ft |
| Staff Kitchen | 450 sq ft |
| Work Space | 5000 sq ft |
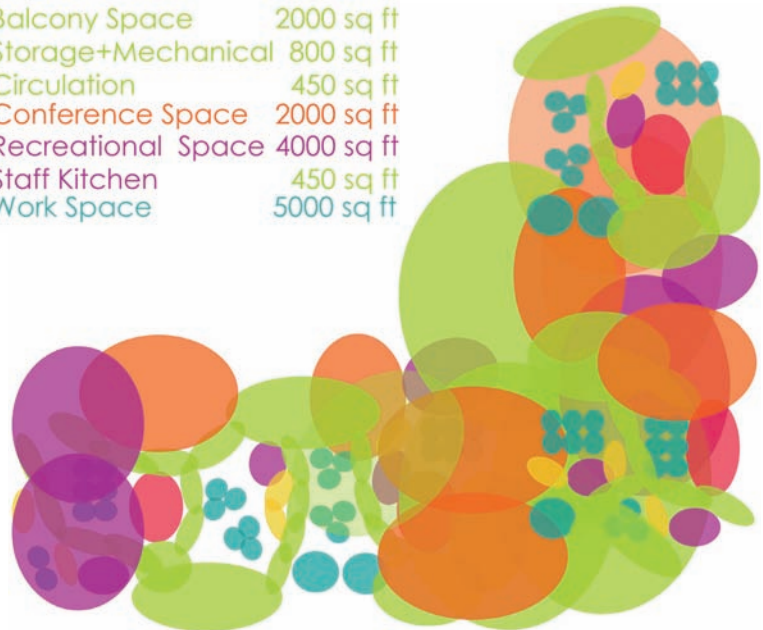
## Level Three*

| | |
|---|---|
| Balcony Space | 2000 sq ft |
| Storage+Mechanical | 800 sq ft |
| Circulation | 600 sq ft |
| Conference Space | 1000 sq ft |
| Recreational Space | 500 sq ft |
| Staff Kitchen | 500 sq ft |
| Work Space | 7500 sq ft |
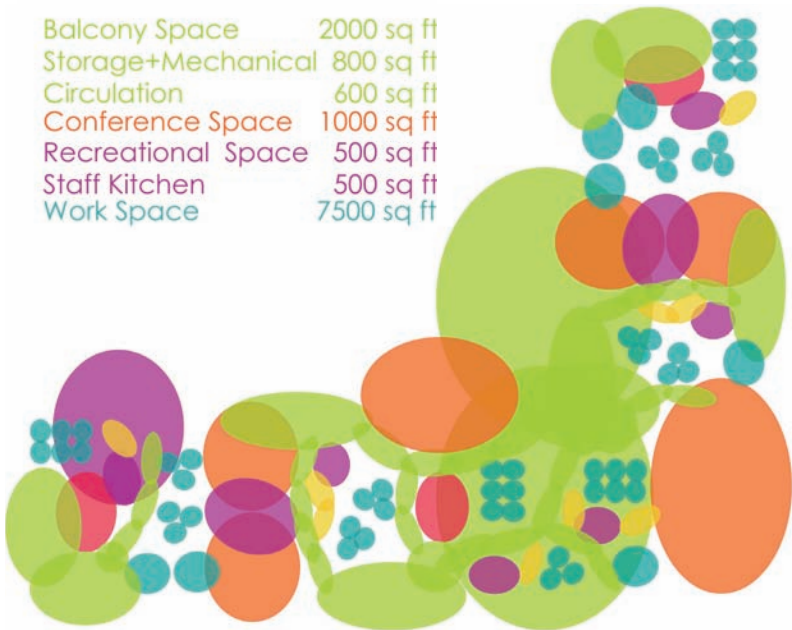
# Space Planning

The bubble diagrams for the building's three levels are crucial components in planning and designing the building.

The programming on the ground level is centered around being a sustainable practices learning facility. The large lobby is intended for exhibit space and easy conversion to an auditorium space. Adjacent to the lobby space are the organizations instructional workshop and classroom spaces. The rest of the first floor programming is centered around amenities that promote healthy lifestyle, such as a work out facility and healthy food choices. In the center of scattered dinning is a day care facility.

The second and third level diagrams illustrate work space conditions that provide multiple ways to work. Workplace arrangement are organized in smaller groupings of work stations in an open space plan. shared and group spaces between the work stations resolve Issues of privacy and noise. In order for knowledge workers to work efficiently they need to be near the their project teams so they can have casual conversations or hear about developments as they come.
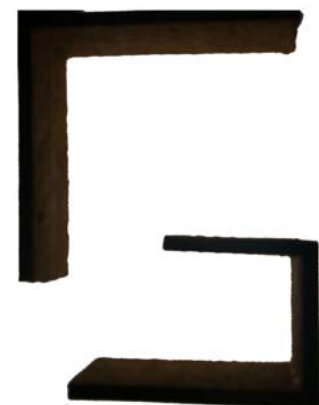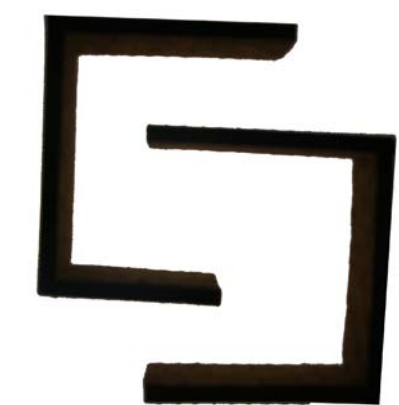
# Fragment Section

The top row of fragmented section models are the foundation to the program summary investigations. The fragments are abstracted representations of the sectional quality created in the threshold explorations. Further analysis of the threshold explorations revealed a building typology that can increase interactions between the varying floor levels. These offsets increase visibility and enhance non verbal cues.

The fragmented sections models in the first row were then extracted to create dynamic sectional experiences that respond to the preliminary organization of program from the space planning diagram. Through the process of layering, rotating, back lighting and manipulating scale a series of 10 macro and micro intricate program based sectional studies were produced.

Program Development [Fragment Section]
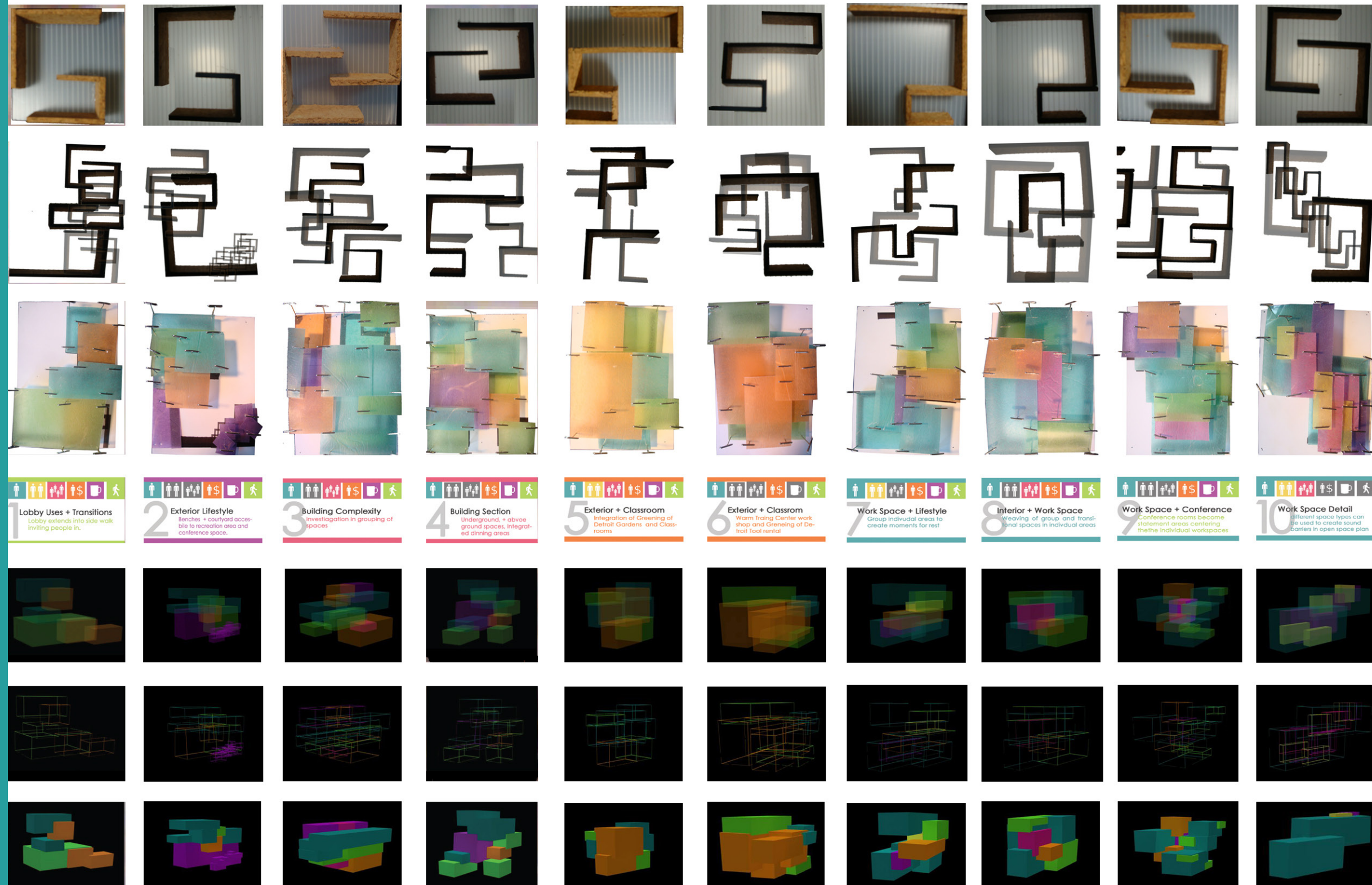
# Program Summary Investigations

All ten program summary investigations explore various conceptual underpinnings derived from the spatial organization and site analyses. each of these rigorous investigations illustrate the building program using a multidimensional process that analyzes each space typology through various mediums moving from line drawings to spatial models to a series of digital renderings that explore spatial impacts of opaque, translucent and transparent material.

Several of the concepts focus on the same type of space in the building, however the multiplicity of solutions for a spacial integration allows for variety and specificity when inserted.

The ten concepts that were explored are; lobby integration, outdoor lifestyle space, program complexity, program integration, educational integration, educational adjacency, individual + public space, individual + transition space, workspace spectacle, workspace detail.

| 1 | Lobby Uses + Transitions | Lobby extends into side walk inviting people in. |
| 2 | Exterior Lifestyle | Benches + courtyard accessible to recreation area and conference space. |
| 3 | Building Complexity | investiagation in grouping of spaces |
| 4 | Building Section | Underground, + abvoe ground spaces, integrated dining areas |
| 5 | Exterior + Classroom | Integration of Greening of Detroit Gardens and Classrooms |
| 6 | Exterior + Classrom | Warm Traing Center work shop and Greneing of Detroit Tool rental |
| 7 | Work Space + Lifestyle | Group individual areas to create moments for rest |
| 8 | Interior + Work Space | Weaving of group and transitonal spaces in individual areas |
| 9 | Work Space + Conference | Conference rooms become statement areas centering thethe individual workspaces |
| 10 | Work Space Detail | different space types can be used to create sound barriers in open space plan |

# Investigation:
## Lobby Integration

Investigation one examines how to maximize the potential for casual human interactions in spaces that receive a lot of traffic such as entrances. The section illustrates the extension of the side walk into the building by pushing the lobby footprint into the building creating an exterior courtyard that familiarizes and invites people from the community to step inside and continue to explore.
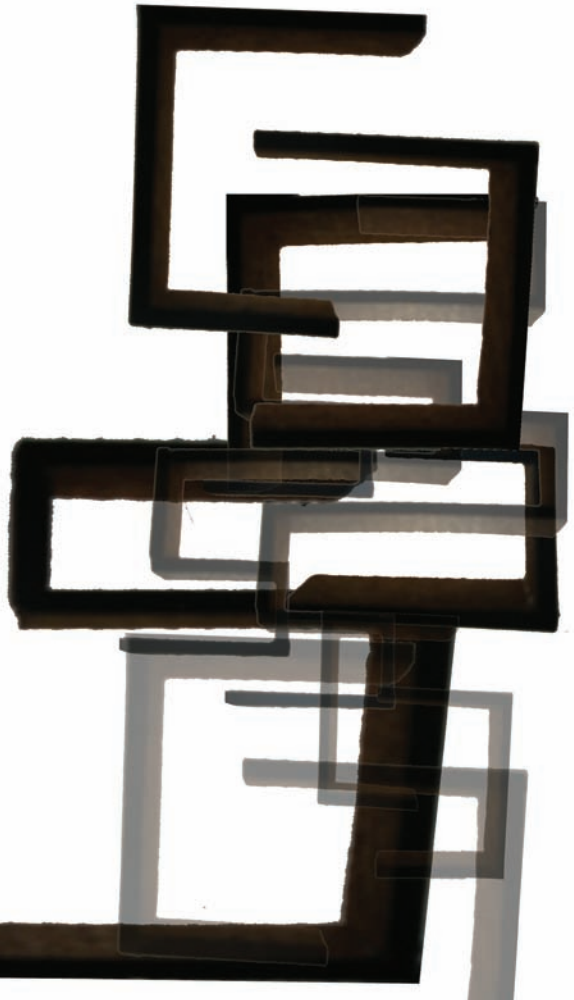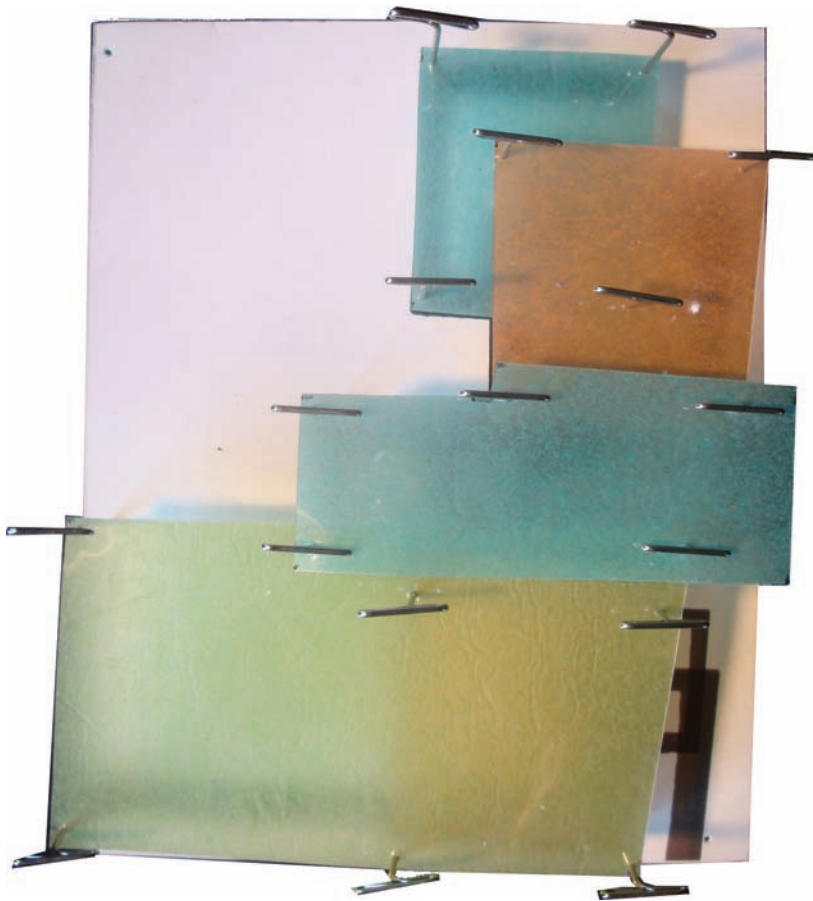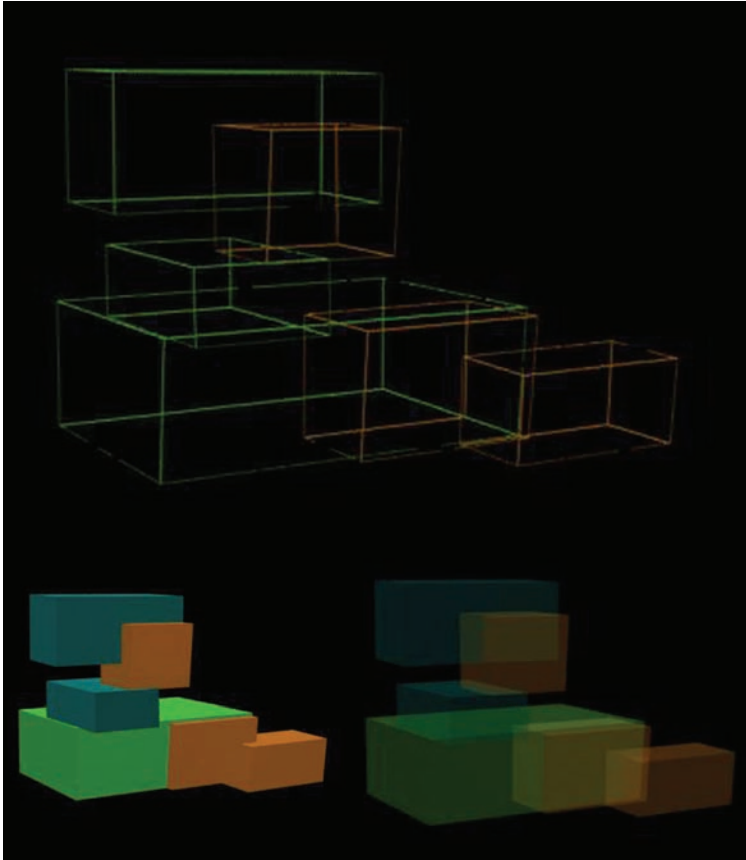
## 2
## Investigation:
## Outdoor Lifestyle

Investigation two looks at how court-yard spaces can be accessible visually or physically to dinning, conference, and day care areas. This investigation of programed space explores how exterior spaces become areas that reinforce lifestyle interactions. For instance in this section the dining area flows into the same courtyard the children from the day care are playing in.
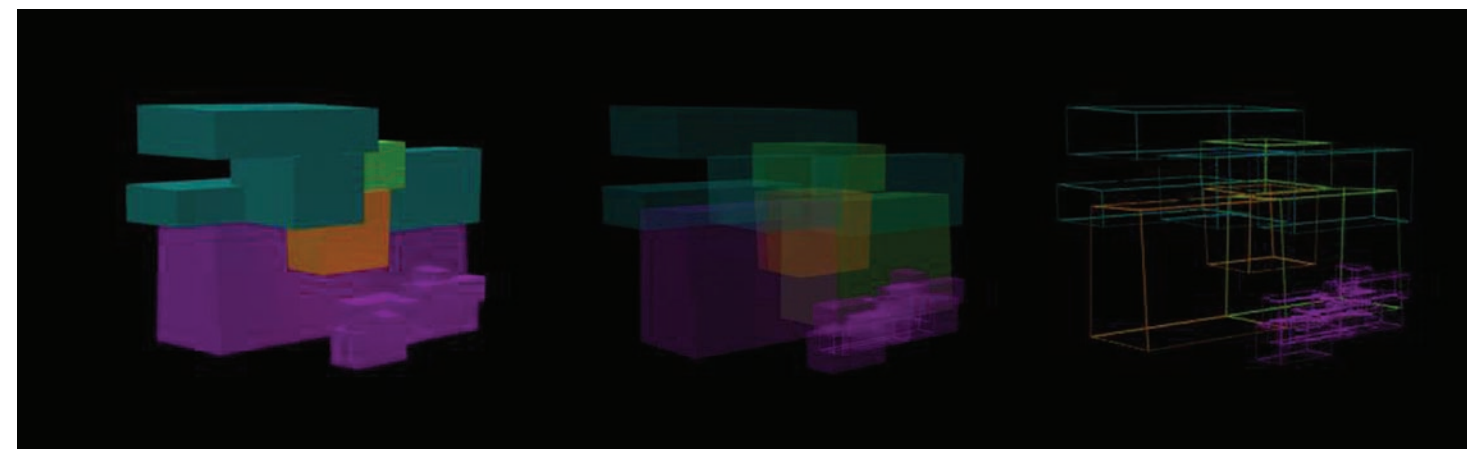
Investigation:

# Program Complexity



Investigation three explores how individual, shared, group, public, lifestyle and transitional spaces interact when in close proximity of one another. This fragment reveals work stations that blend the threshold between interior and exterior and workspace and lifestyle support spaces.
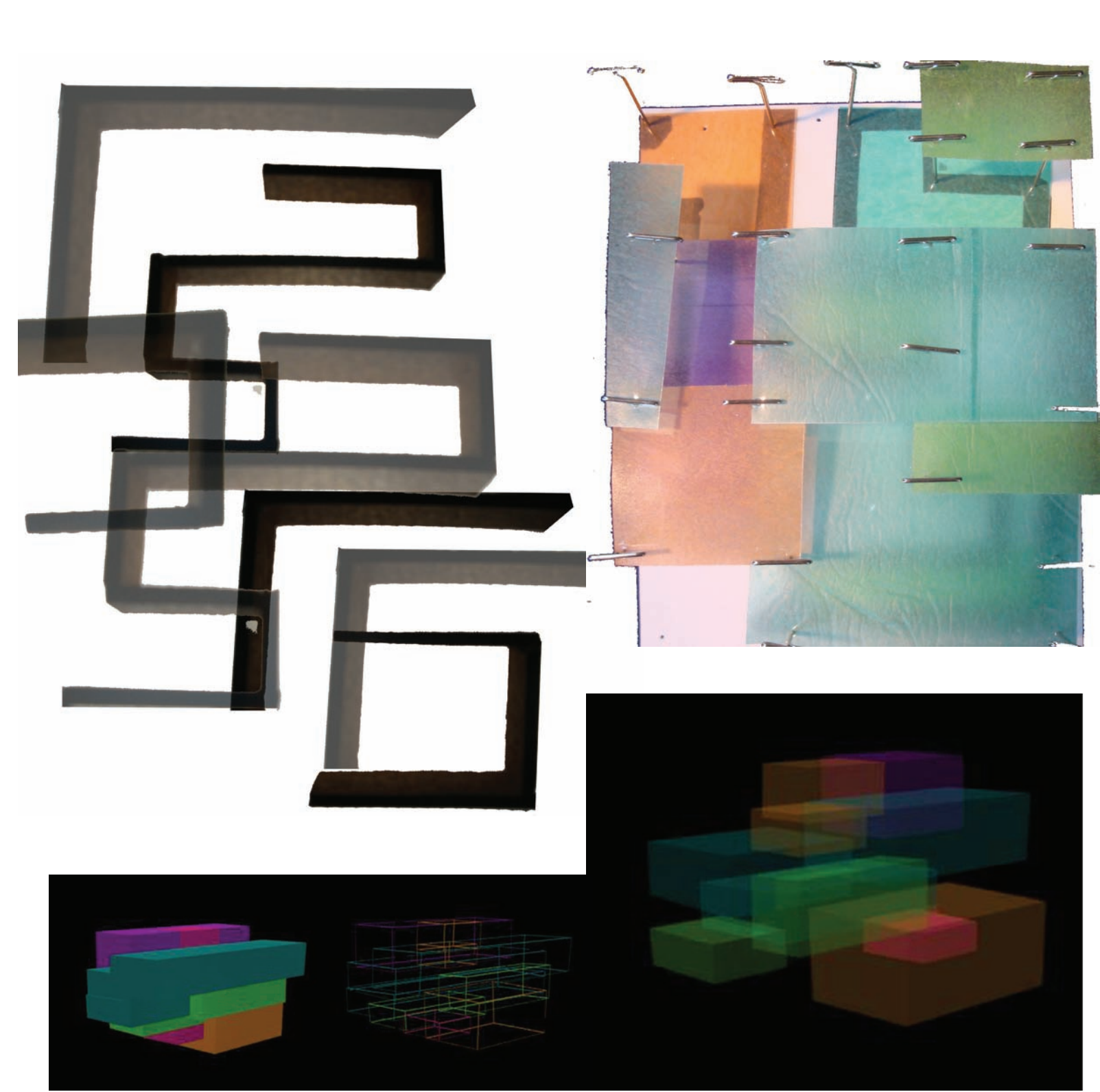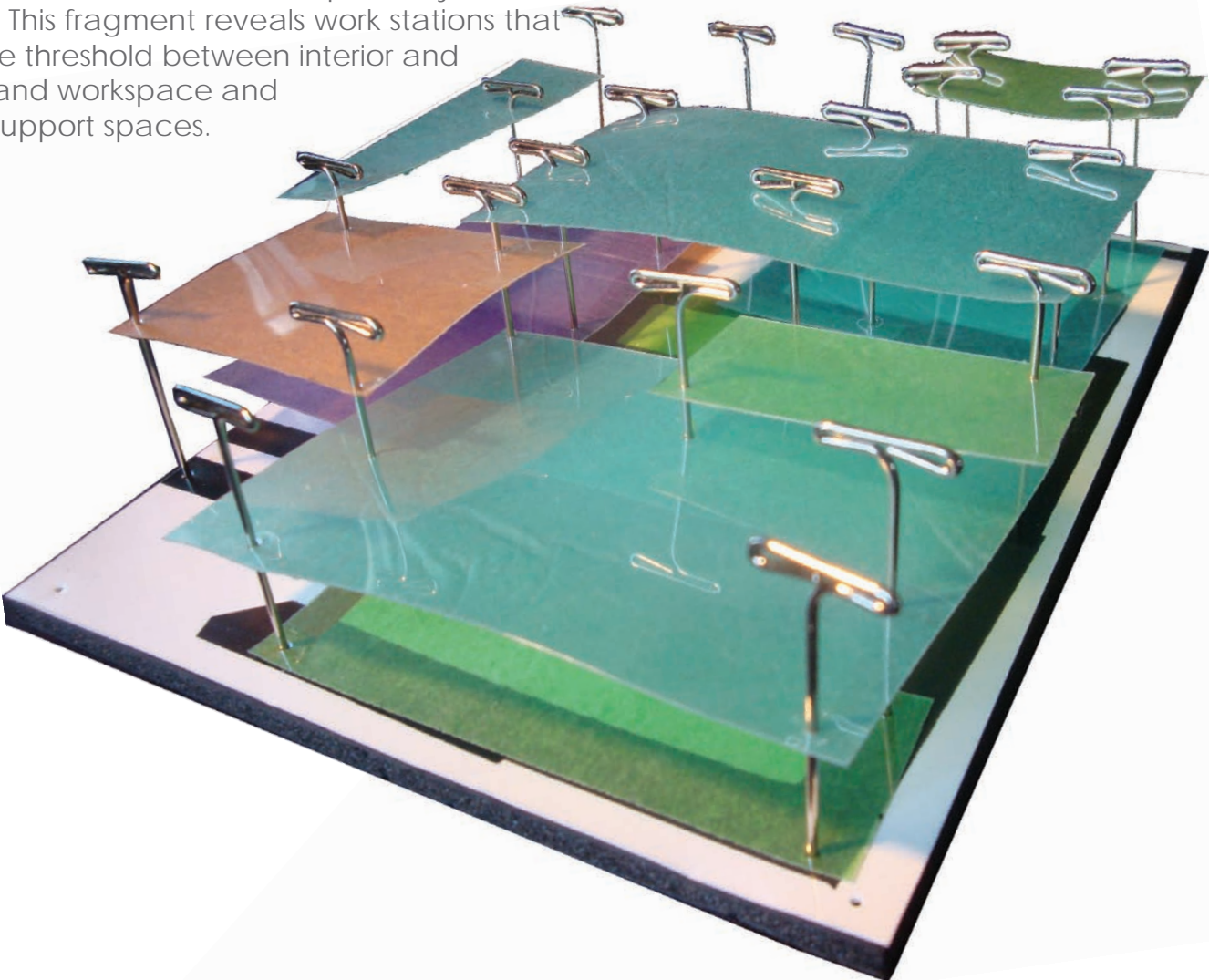
# 4

## Investigation:
## Program Integration

the sectional models reveal cutouts that create breath amongst intricate floor layering. These moments assist in and individuals ability to identify and navigate through the building. The programmatic integration shows work stations centered around dinning spaces. This decreases the probability of people eating lunch alone at their desk and missing out in engaging in healthy human interaction.
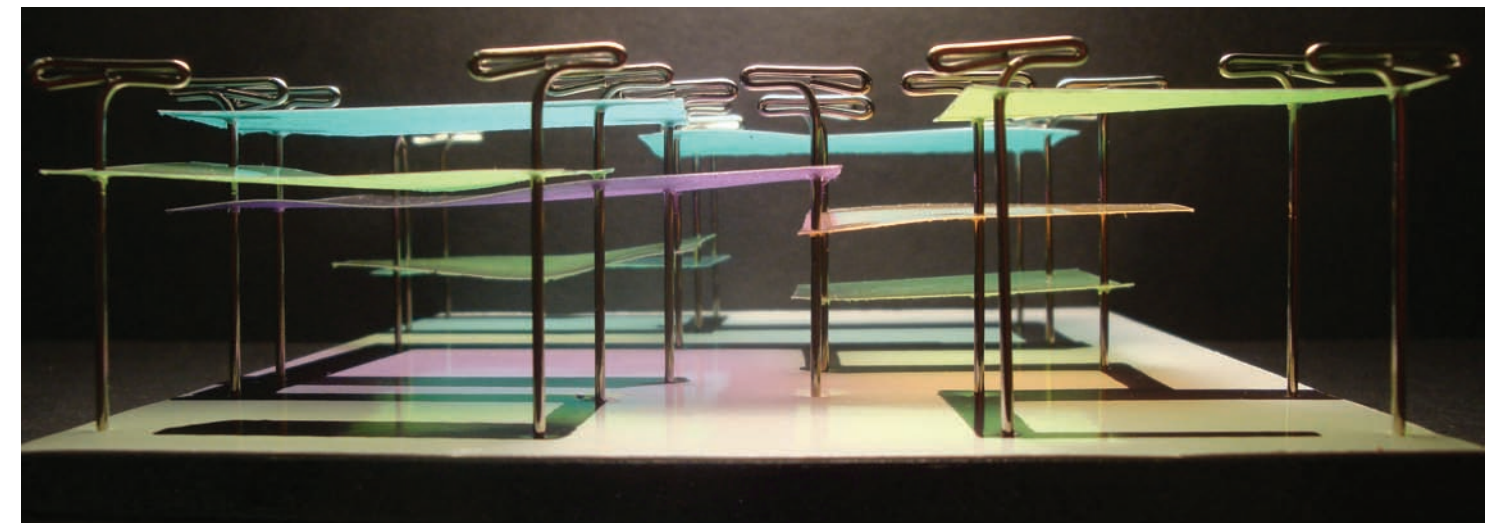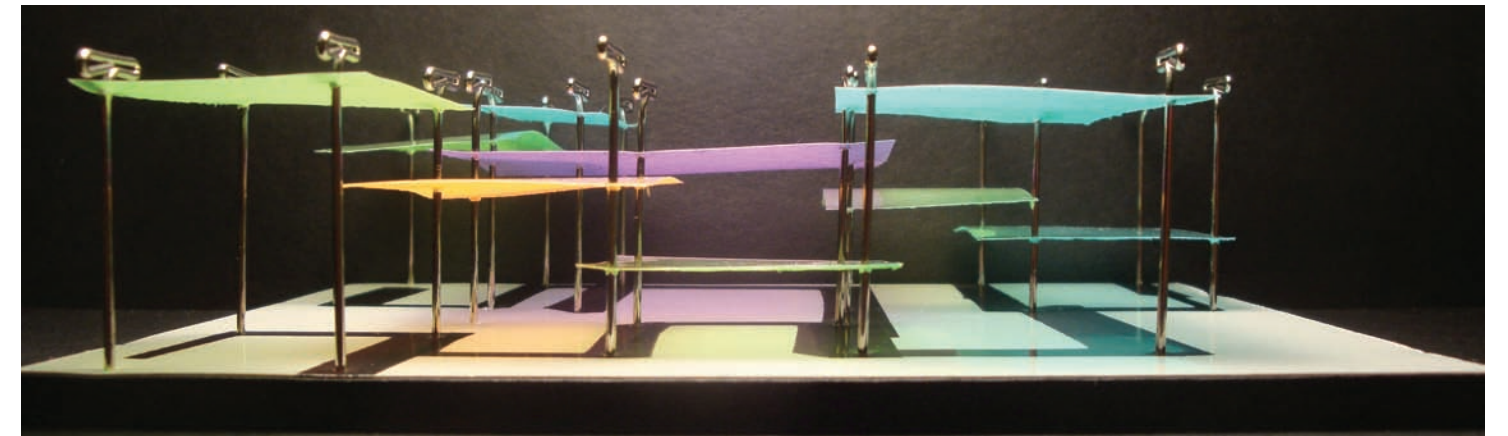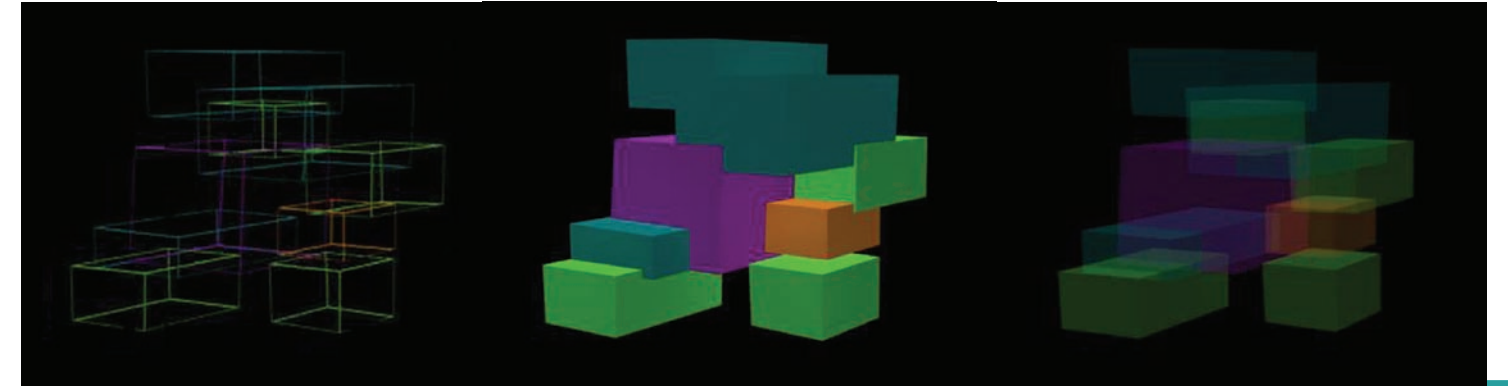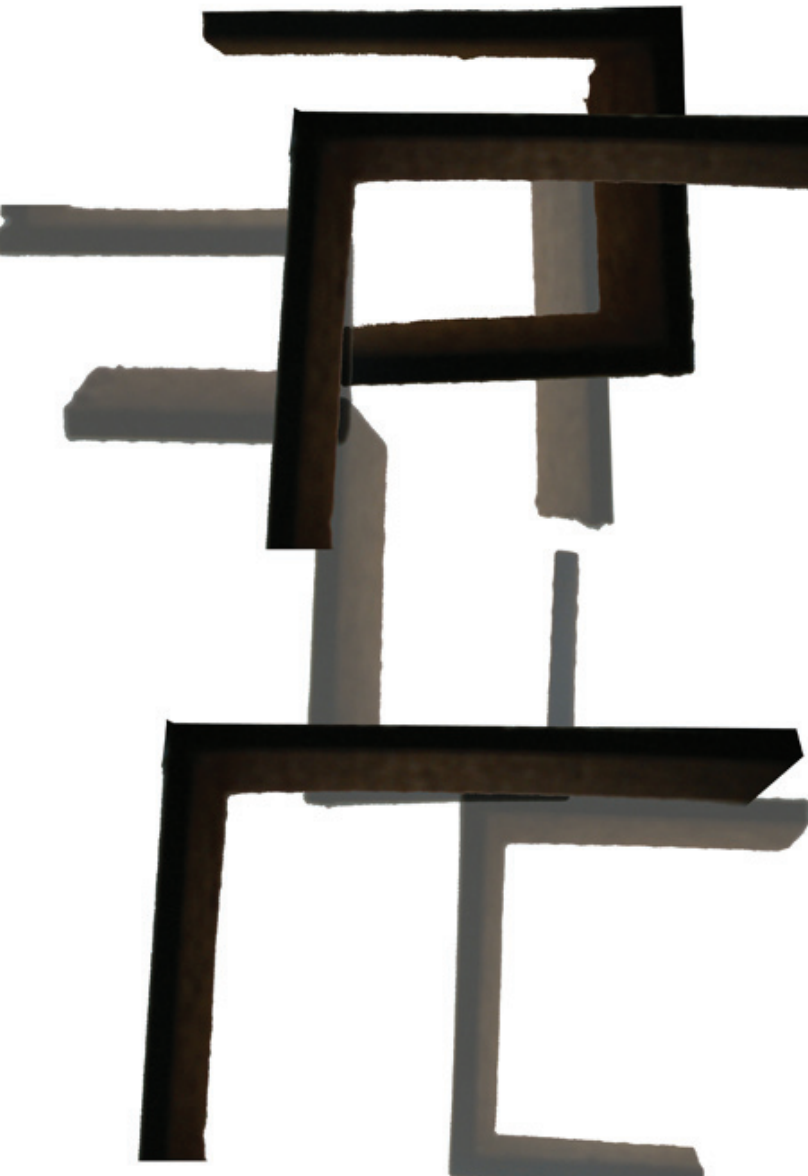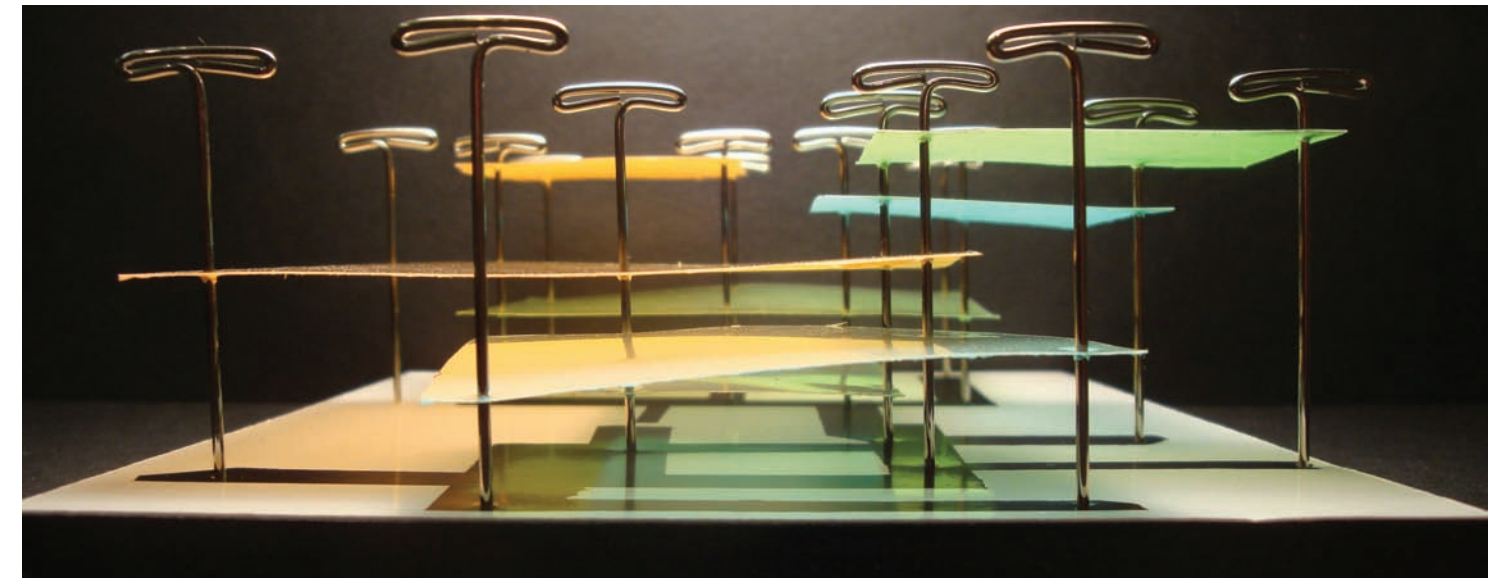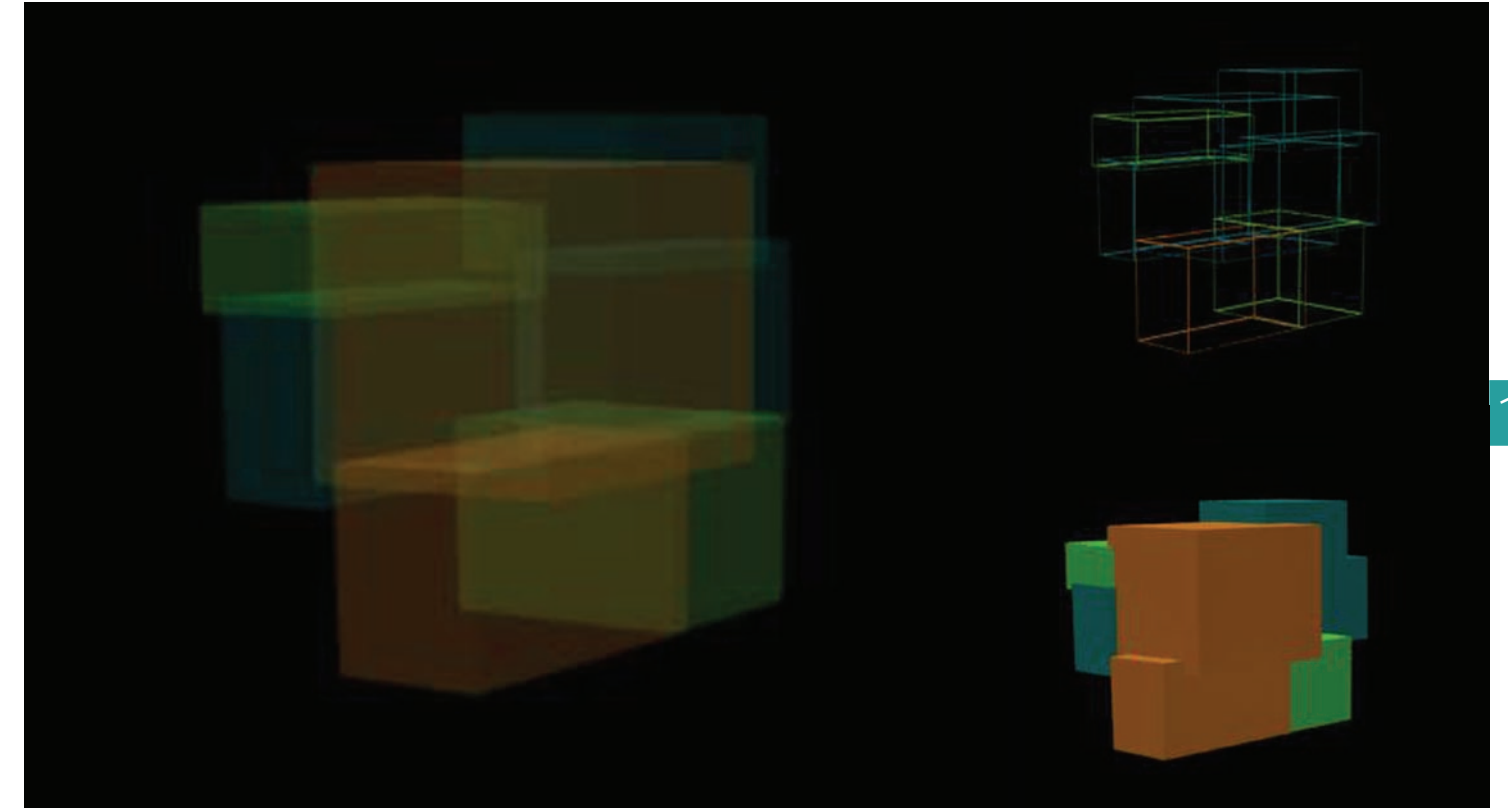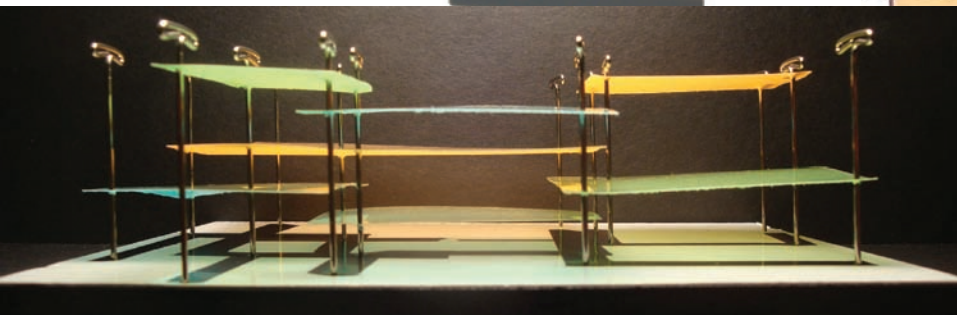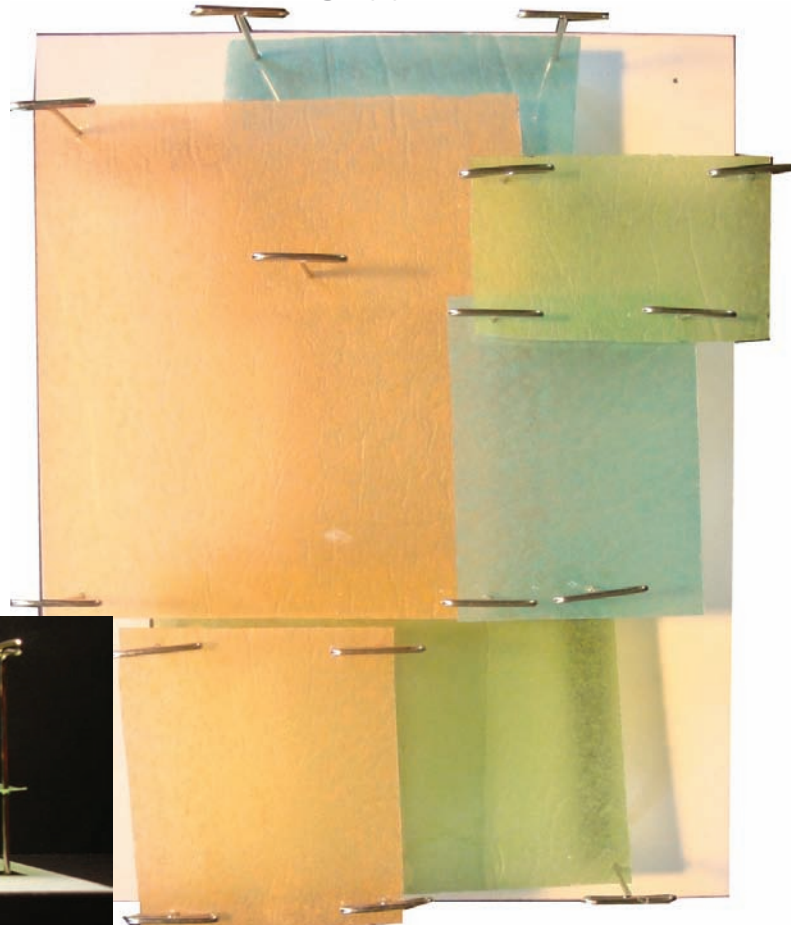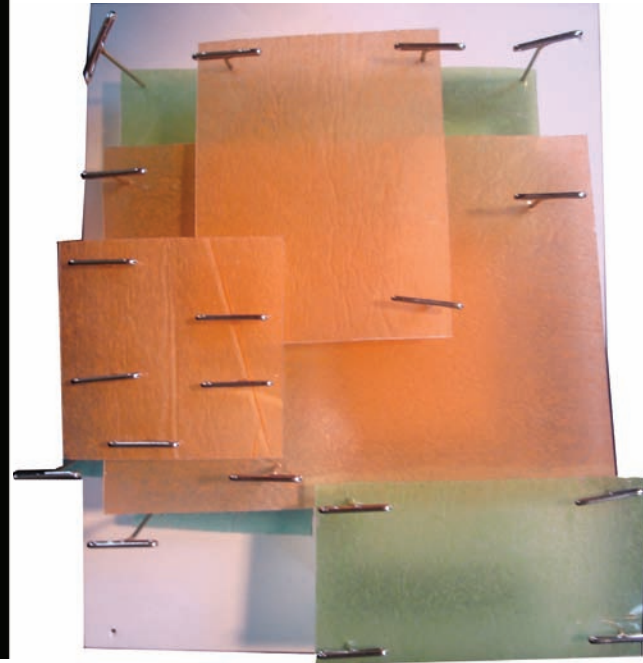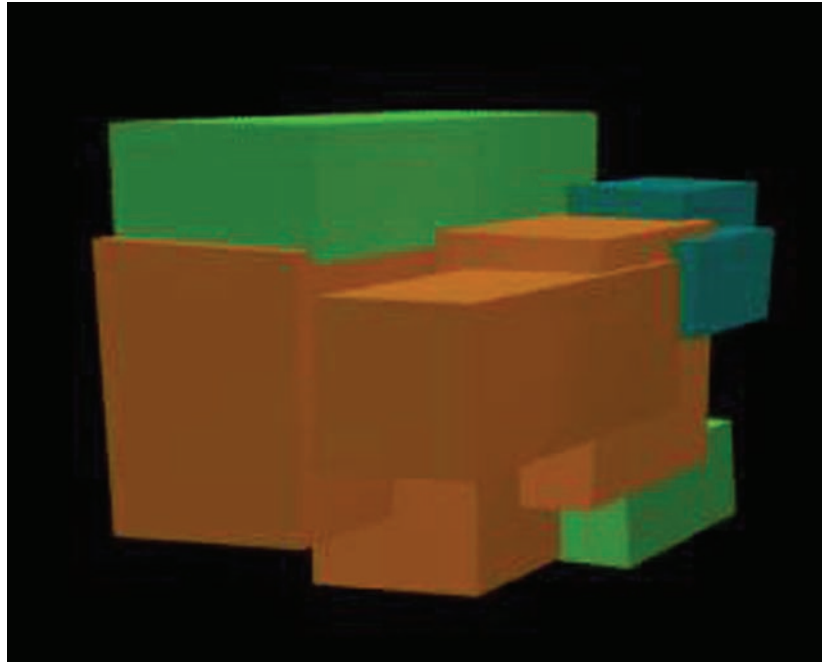
# 5
Investigation:
## Educational Integration



Investigation five extracts the conditions of Greening of Detroit classroom's with Warm Training Center Workshop spaces. The spaces are nestled near outdoor areas to allow for hands on learning opportunites.

**6**

Investigation:
## Educational Adjacency



the areas that are adjacent to the Warm workshop and Greening of Detroit's tool storage are transitional and public spaces that provides opportunities to extend the learning in different environments. The exhibit space lobby is adjacent the Warm Green Jobs Training program showcasing the hands on learning process to the public.
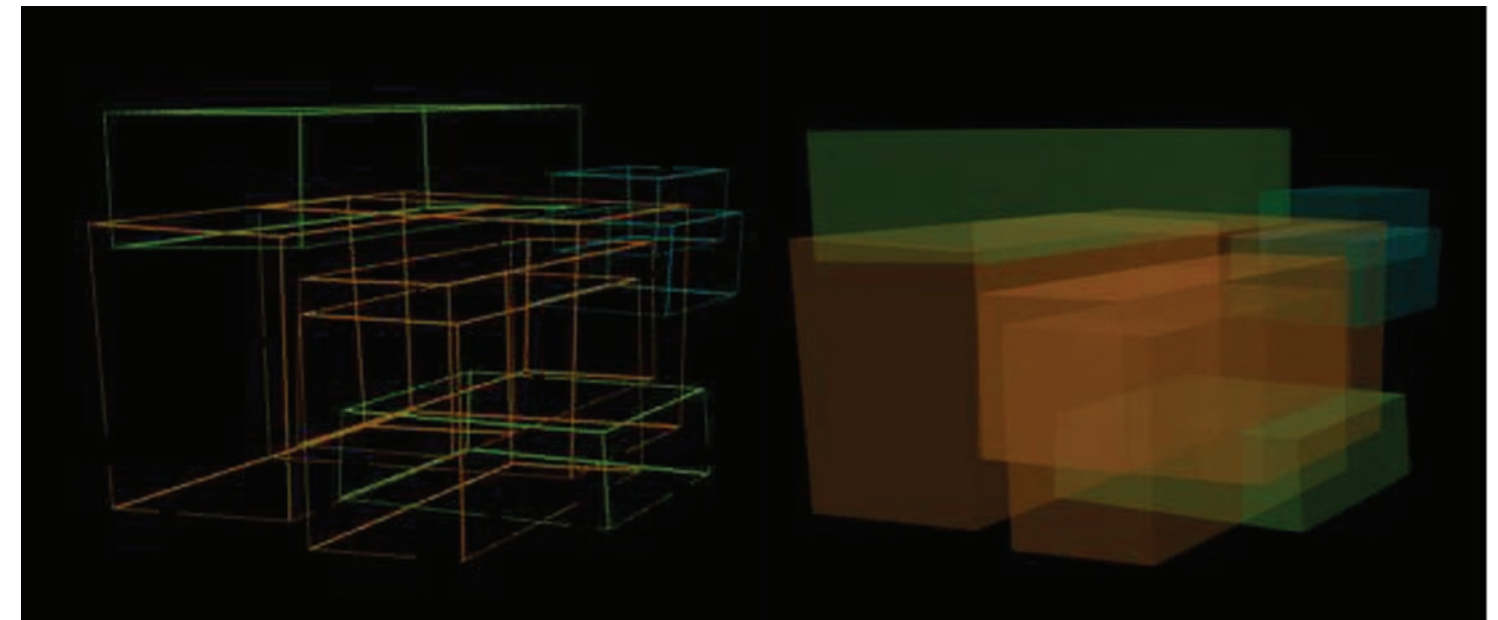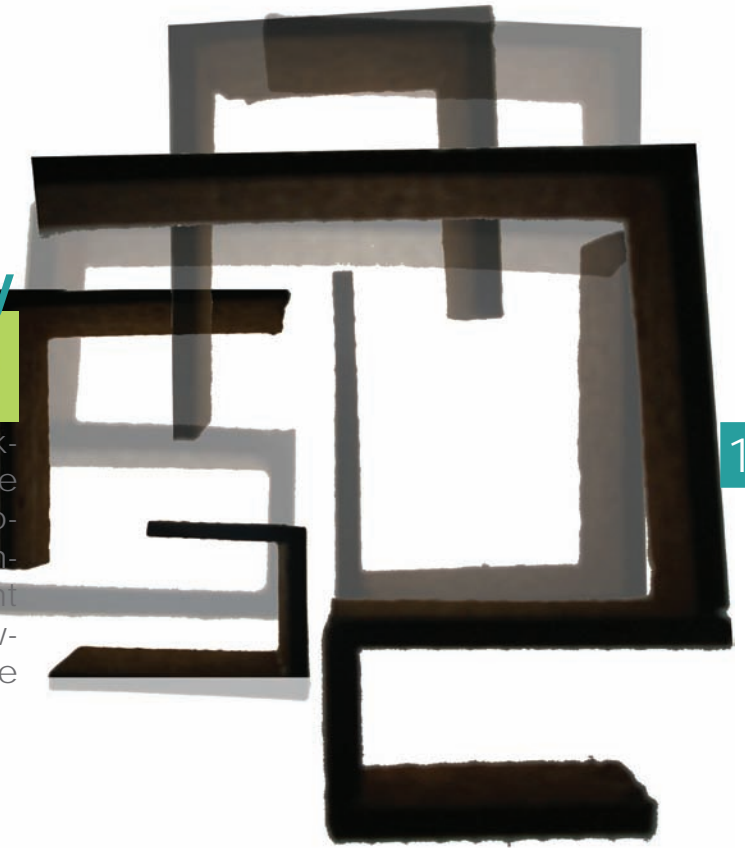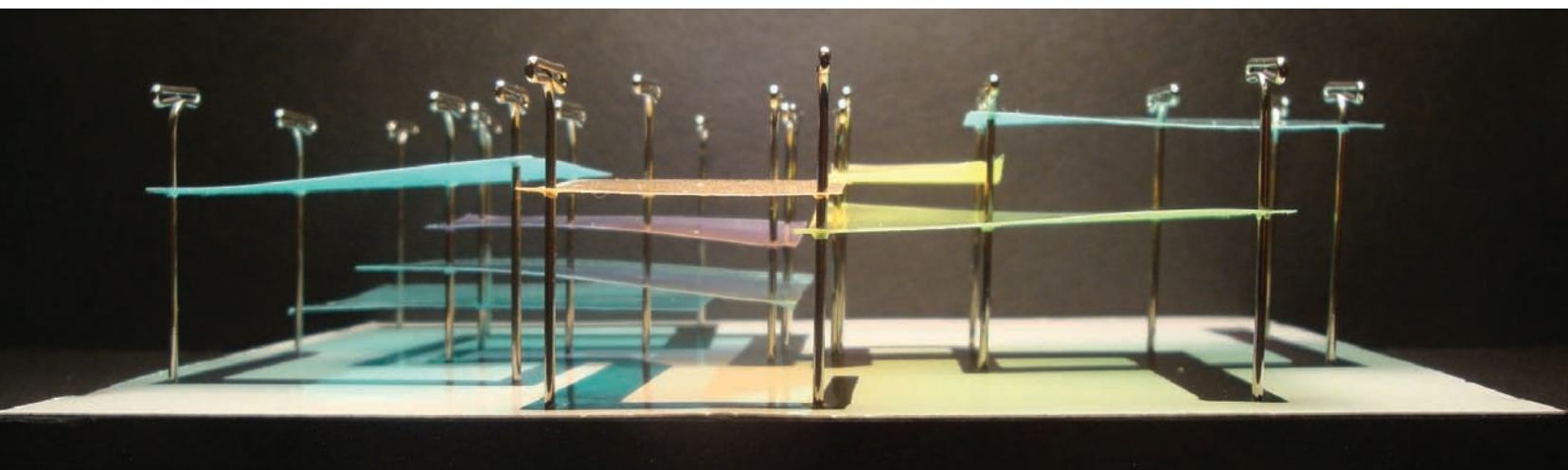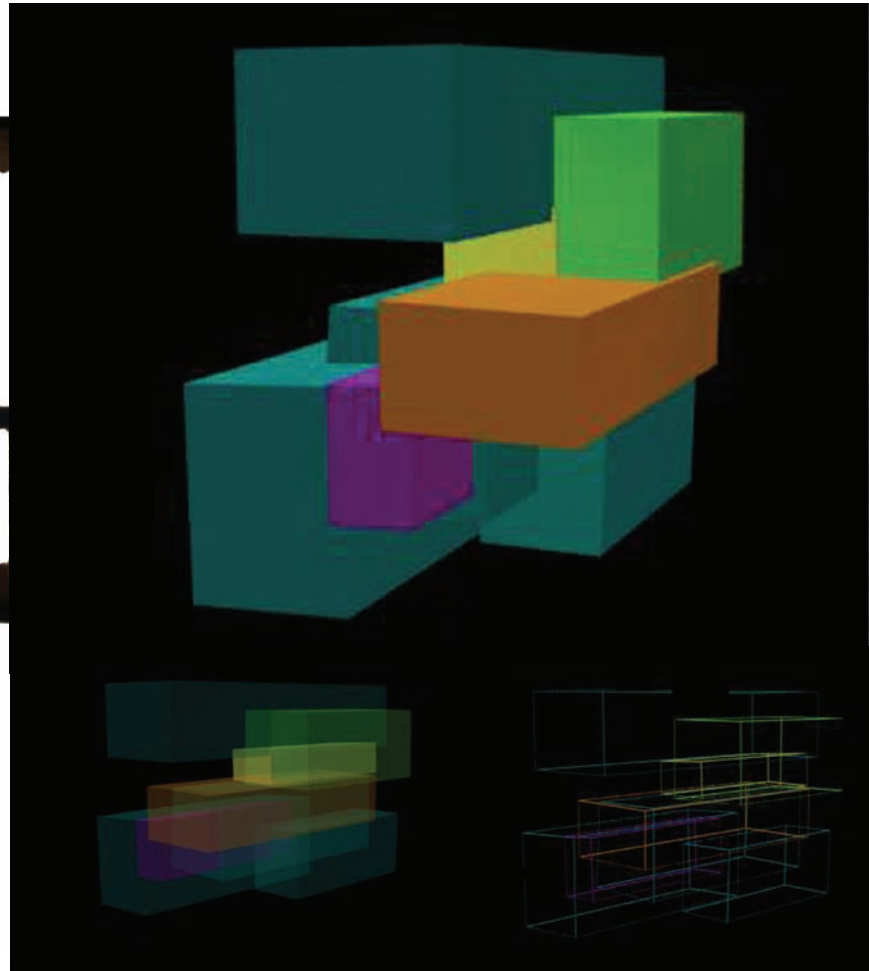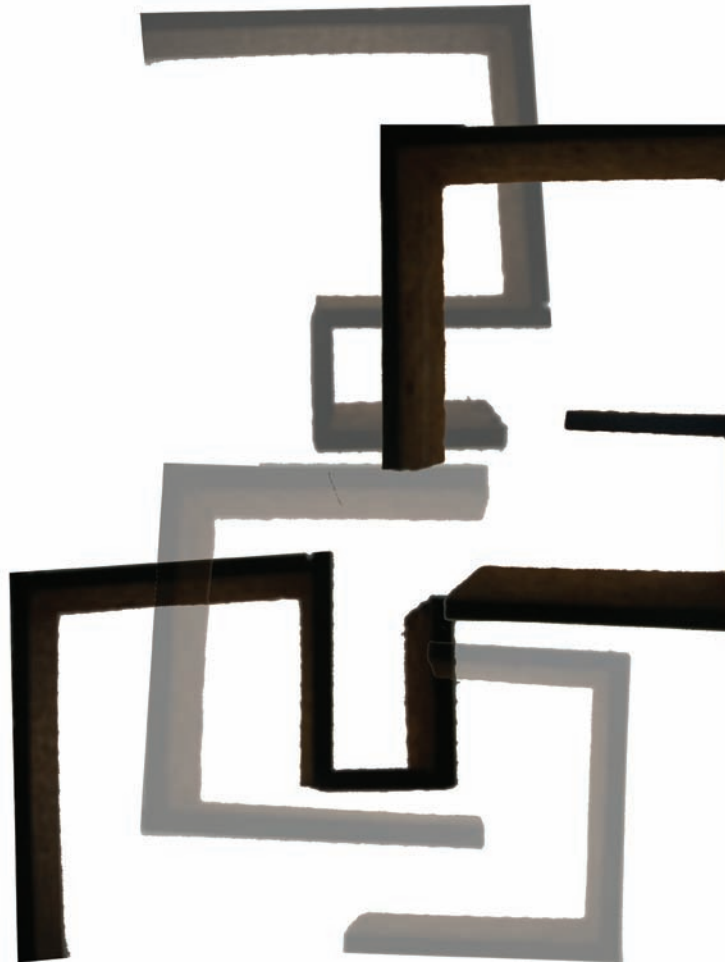
# 7

## Investigation:
## Individual + Public



investigation seven groups individual areas and centers them around the highly designed client spaces. This method allows for the workers to be situation near prominent design features.
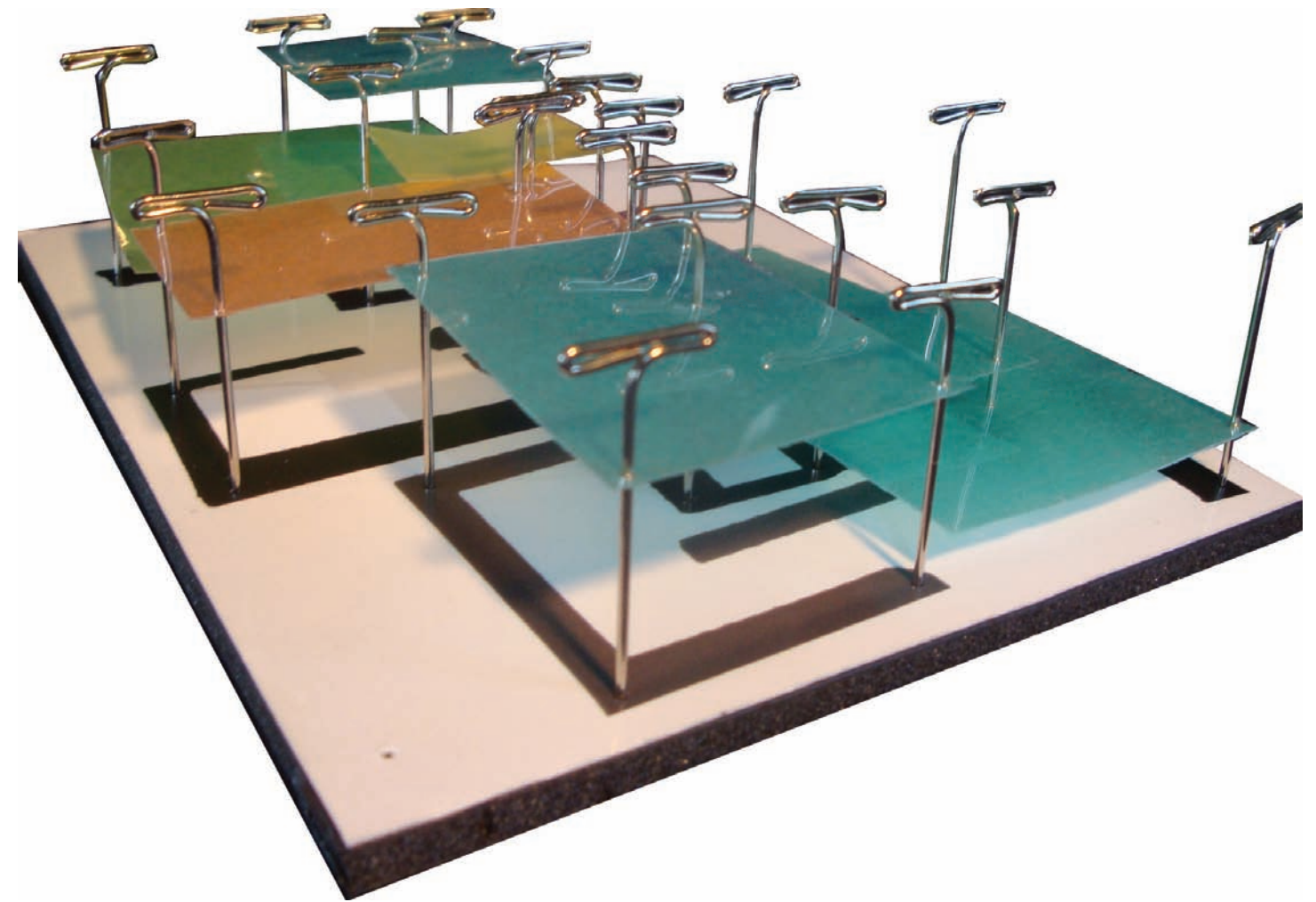
# 8

Investigation:

## Workspace + Transition
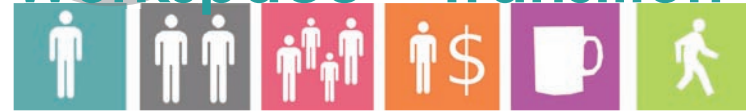


The weaving of group and transitional spaces throughout the individual work areas reveal moments of informal interaction that can occur from moving from one space to another.
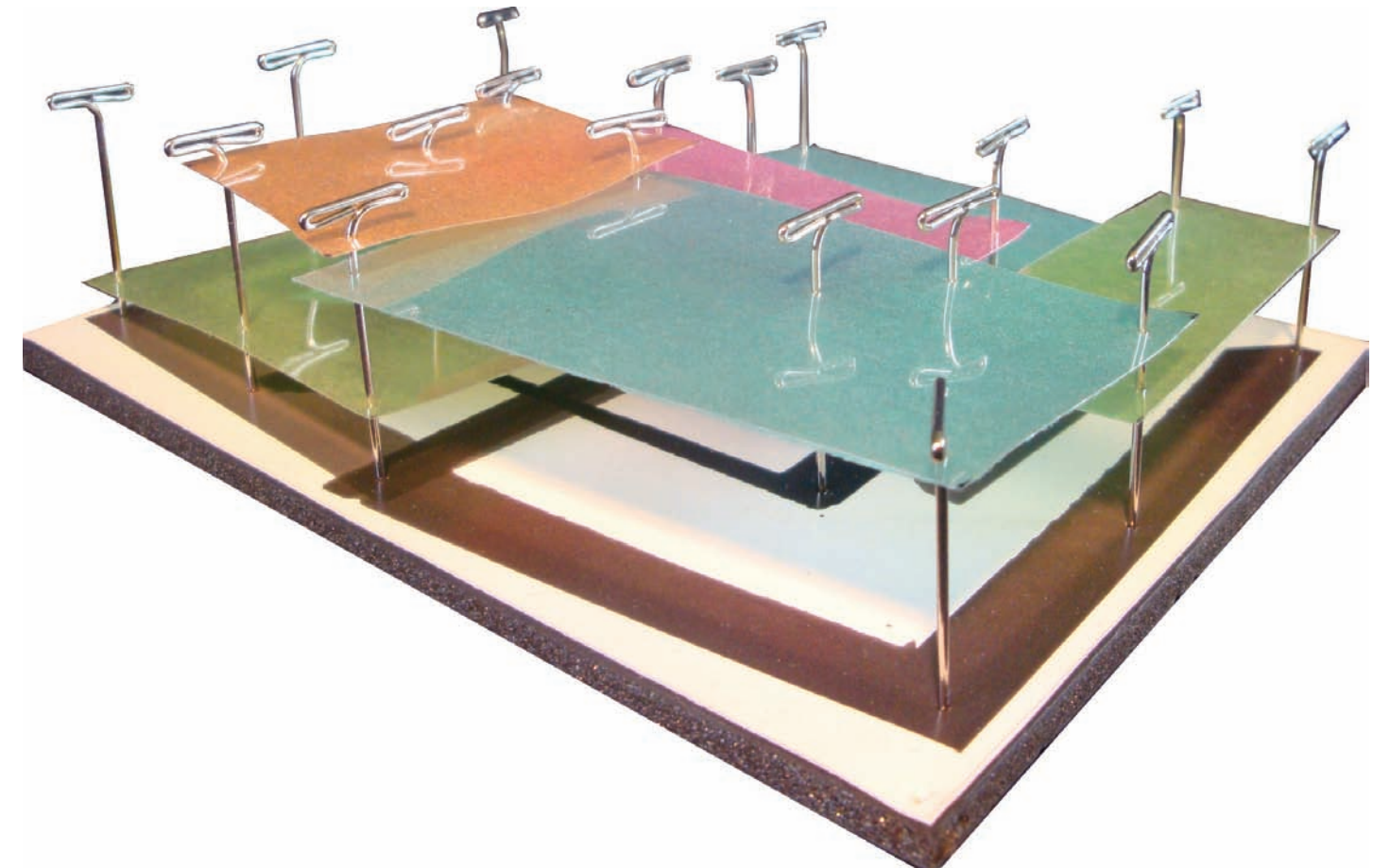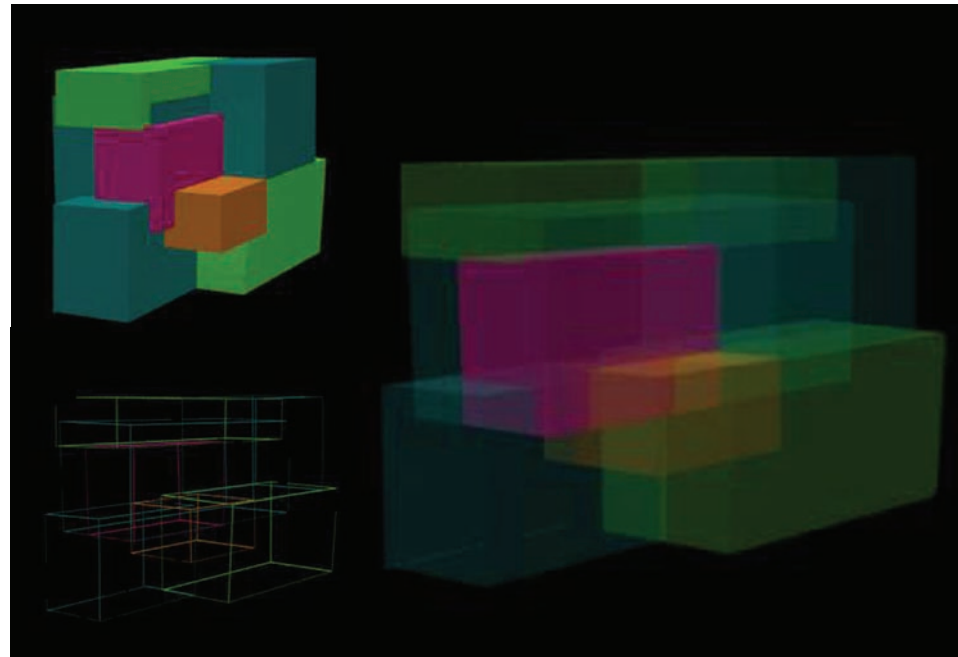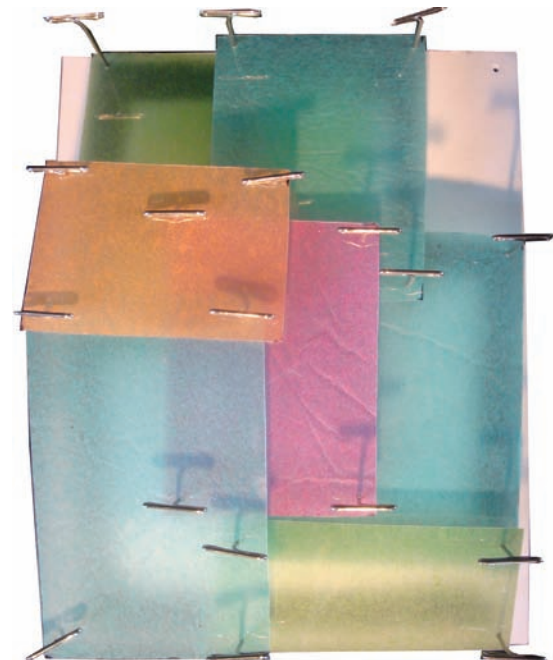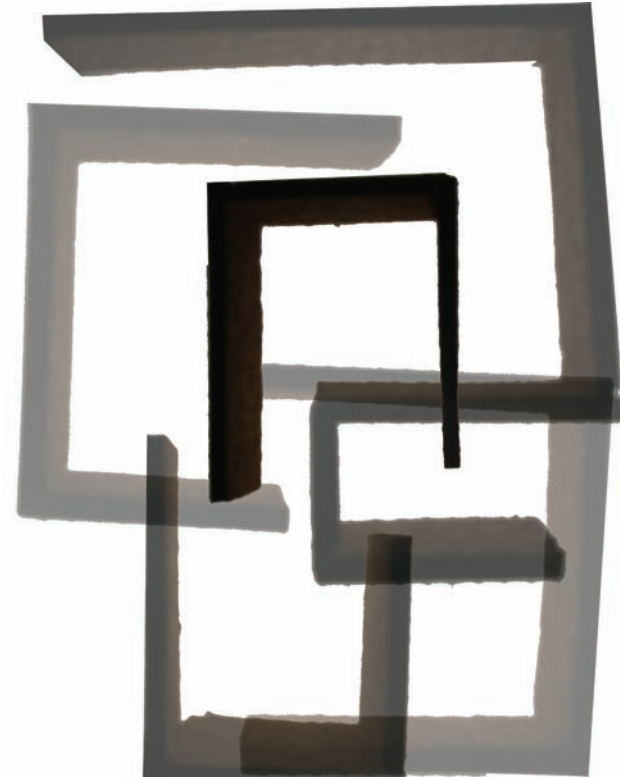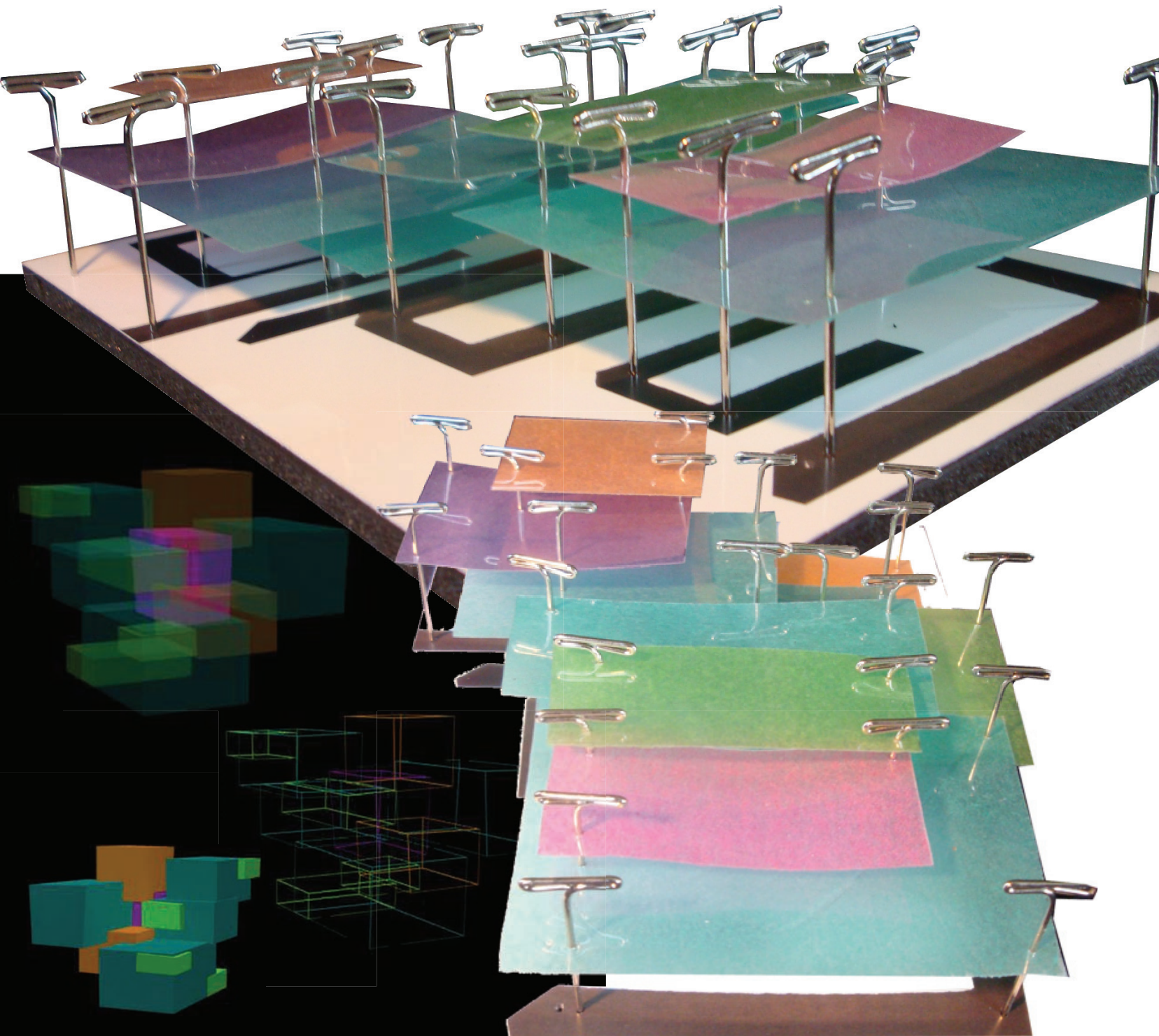
# 9

Investigation:
## Workspace Spectacle

The Workers create a show as do the clients. The spectacle roles reverse and both employee and client roles are celebrated through extending remnants of the statement area client design into employee zones creating group spaces that one can invite clients into for informal collaboration sessions.
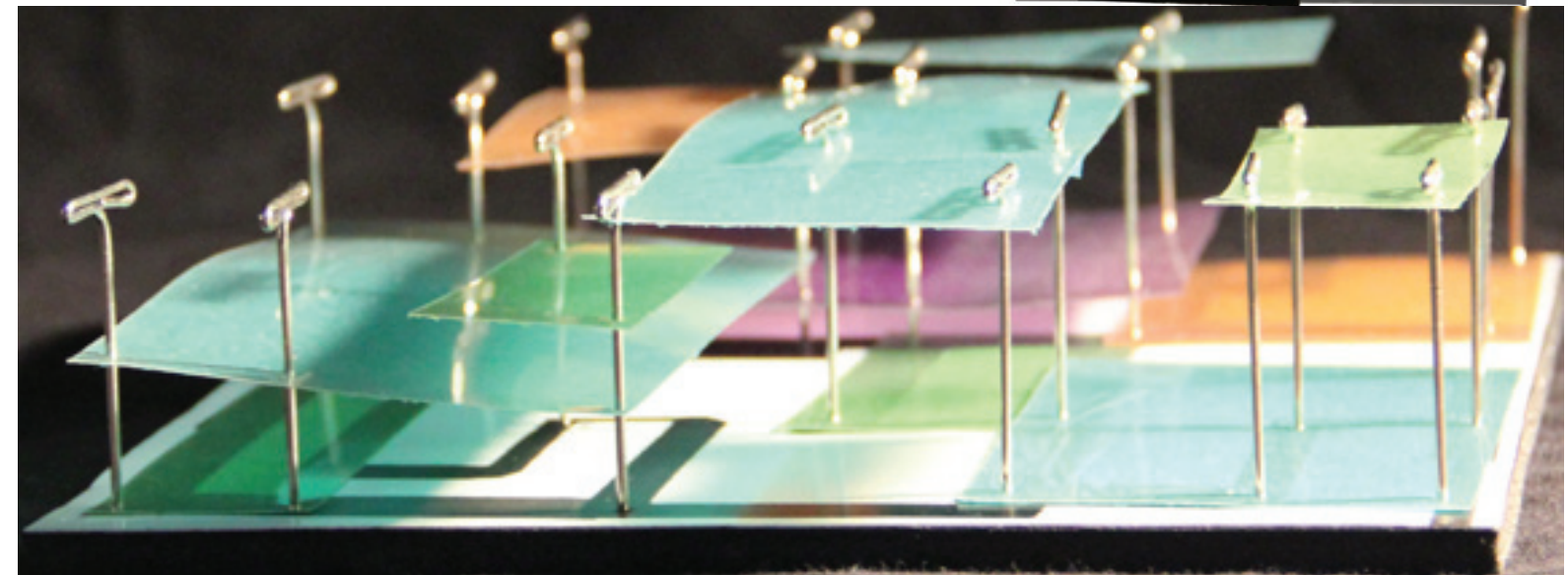
Investigation:
# Workspace Detail
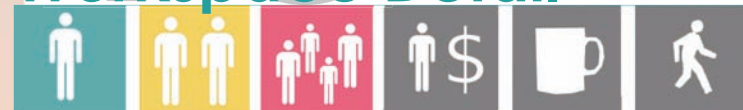
Investigation ten is a micro detail of two work spaces that are adjacent to one another and the way the shared and individual spaces manifest and break up these large areas for privacy and noise control.

Second Level



Third Level

# Program Analysis

Program [Analysis]

Ground Level

Greening
of Detroit

Warm
Training
Center
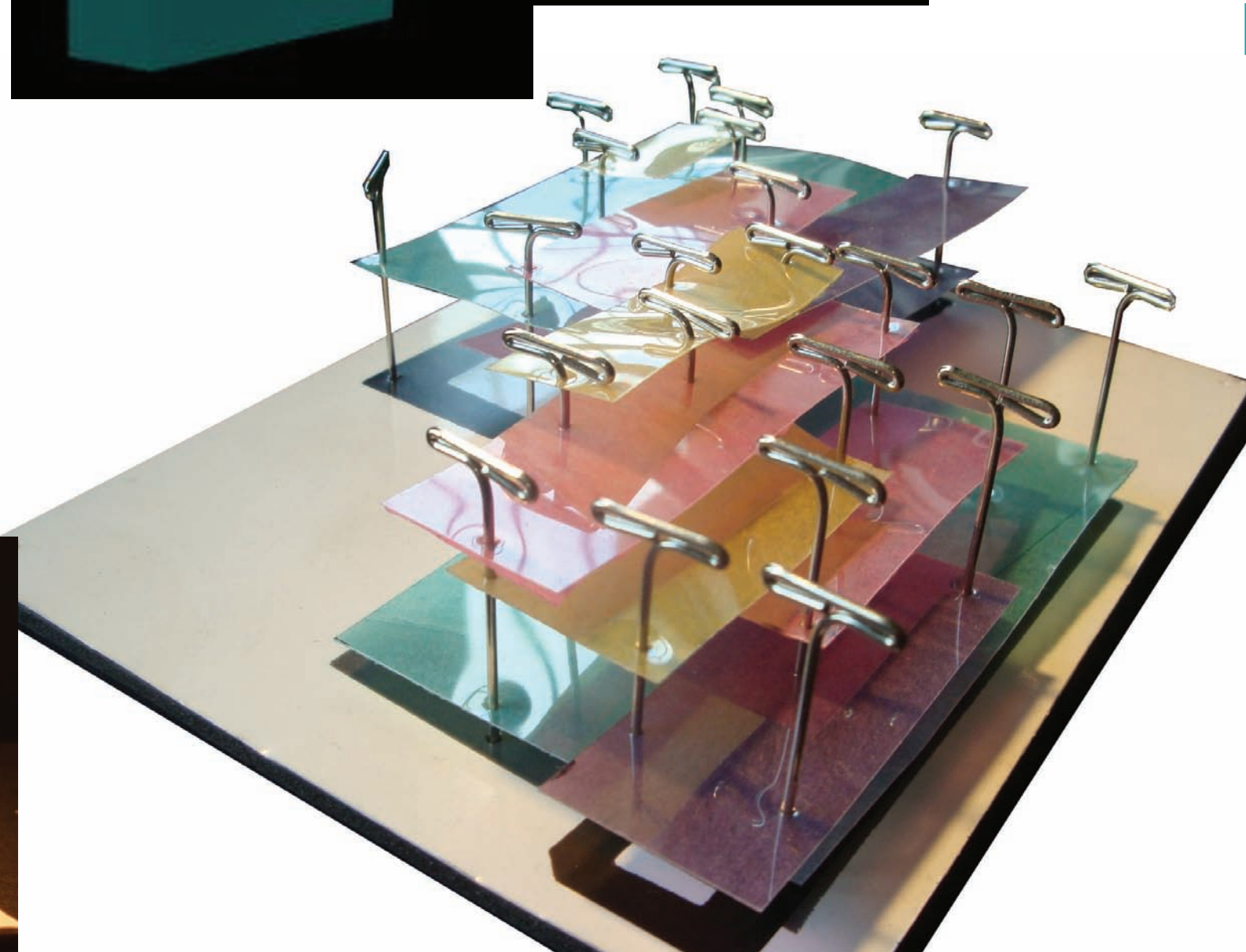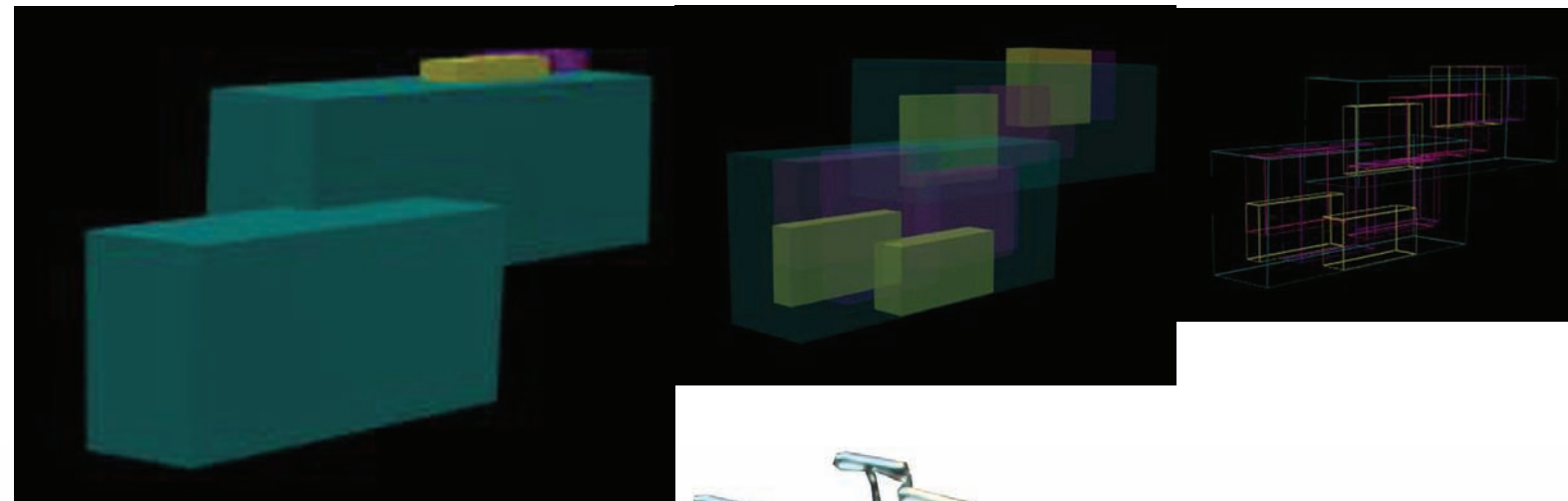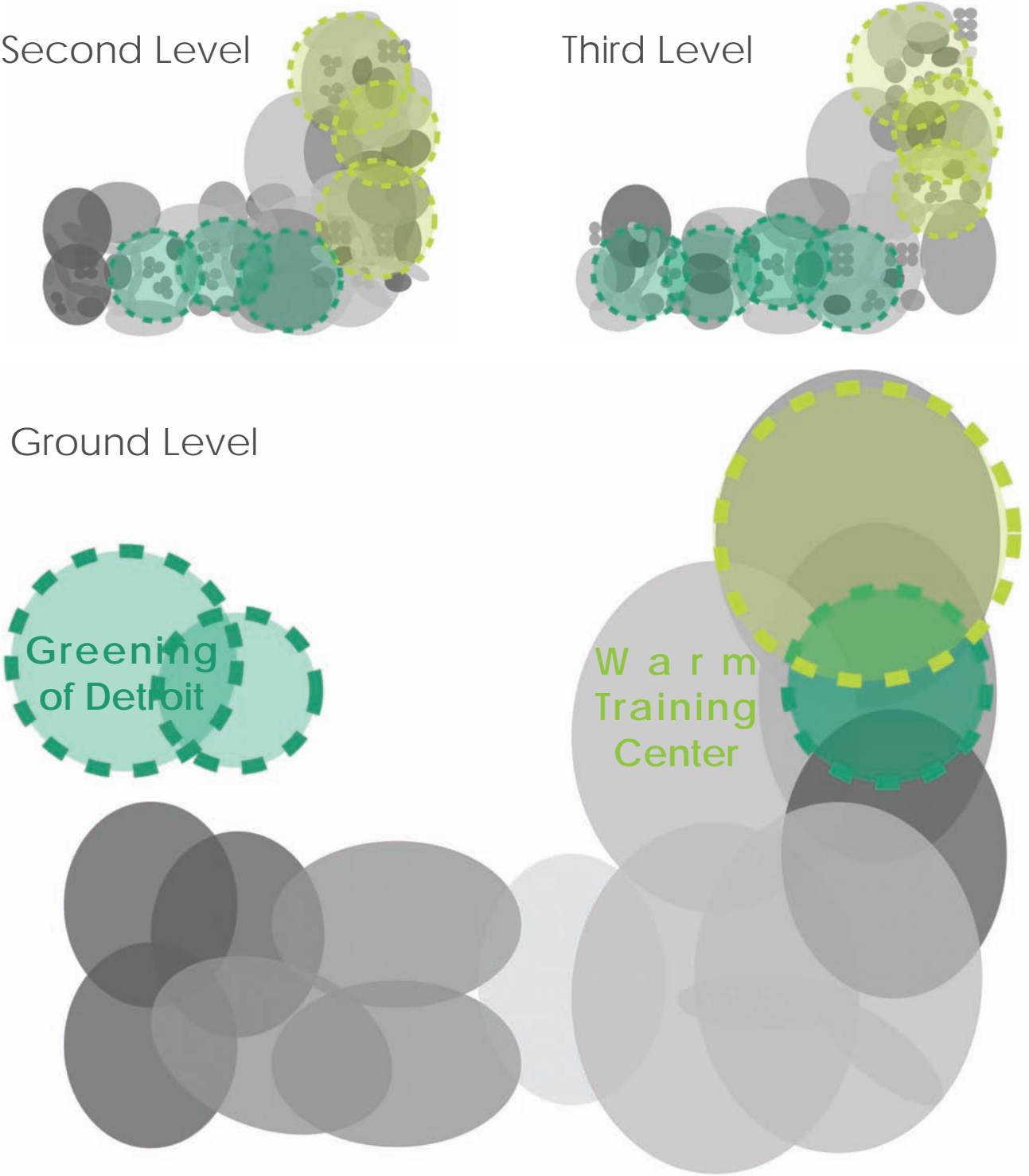
The program for the building is extensive. The final building is currently estimated at about 60,000 sq feet. The program includes classroom spaces, exhibition, and assembly areas including endless amounts of office space. The gray in the bubble diagrams to the left identify all the spaces that are shared spaces between the two organizations and the building's visitors. Most of the ground floor programming are shared spaces other than the tool storage and workshop areas for Greening of Detroit and Warm Training Center. The utilization of the shared spaces reduces the building square footage and provides for interaction between individuals from Greening of Detroit and Warm Training Center. On the second and third levels the building wings are split between Greening of Detroit office space and Warm Training Center office space. This separation is crucial in maintaining work areas that make it easier for the knowledge workers to get to their information faster so they can do their job.

# Quantitative Program Summary  UNIT: SQUARE FEET

## INDIVIDUAL

| | SHARED | GREENING | WARM | OTHER | TOTAL |
|---|---|---|---|---|---|
| Reception | | | | | 0 |
| President/Exec. Director | | 200 | 300 | 1070 | 1570 |
| CFO | | 125 | 100 | | 225 |
| HR Director | | 125 | | | |
| Office Manager | | 100 | 144 | | 244 |
| Assistant | | 60 | 200 | 250 | 510 |
| Assistant | | 60 | | | |
| Volunteer Coordinator | | 72 | | 50 | 122 |
| 2 Intern's Desk Areas | | 75 | 160 | 150 | 385 |
| Development Director | | 100 | 100 | | 200 |
| Development & PR Coordinator | | 100 | | | 100 |
| Development & Special Events | | 100 | | | 100 |
| Governmental Liaison | | 72 | | | 72 |
| Assistant | | 72 | | | 72 |
| Assistant | | 72 | | | 72 |
| Americore | | 50 | | | 50 |
| Director | | 100 | | | |
| Assistant | | 100 | | | |
| Intern | | 72 | | | |
| Intern | | 72 | | | |
| Director | | 100 | | | 100 |
| Educator | | 100 | | 1050 | 1150 |
| Educator | | 100 | | | 100 |
| Educator | | 100 | | | 100 |
| Educator | | 100 | | | 100 |
| Energy Ed. Scheduling Office | | | 300 | | 300 |
| Tech. Assist./Professionals Workstations | | | 800 | | 800 |
| Open Office | | | 400 | | 400 |
| Area for 3 Interns | | 112 | | | 112 |
| Urban Forester | | 125 | | | 125 |
| Assistant Urban Forester | | 72 | | | 72 |
| Assistant Urban Forester | | 72 | | | 72 |
| Assistant Urban Forester | | 72 | | | 72 |
| Assistant Urban Forester | | 72 | | | 72 |
| Assistant Urban Forester | | 72 | | | 72 |
| Project Development Director | | 125 | | | 125 |
| Assistant Project Development | | 72 | | | 72 |
| Assistant Project Development | | 72 | | | 72 |
| Assistant Project Development | | 72 | | | 72 |

## INDIVIDUAL CONTINUED

| | SHARED | GREENING | WARM | OTHER | TOTAL |
|---|---|---|---|---|---|
| Assist. Project Development | | 72 | | | 72 |
| Assist. Project Development | | 72 | | | 72 |
| Project Development Interns | | 200 | | | 200 |
| Director of Urban Agriculture | | 125 | | | 125 |
| Assistant Urban Agriculturist | | 72 | | | 72 |
| Assistant Urban Agriculturist | | 72 | | | 72 |
| Assistant Urban Agriculturist | | 72 | | | 72 |
| Assistant Urban Agriculturist | | 72 | | | 72 |
| Assistant Urban Agriculturist | | 72 | | | 72 |
| Assistant Urban Agriculturist | | 72 | | | 72 |
| Assistant Urban Agriculturist | | 72 | | | 72 |
| Assistant Urban Agriculturist | | 72 | | | 72 |
| Assistant Urban Agriculturist | | 72 | | | 72 |
| Assistant Urban Agriculturist | | 72 | | | 72 |
| Assistant Urban Agriculturist | | 72 | | | 72 |
| Americore & Interns | | 500 | | | 500 |
| Apprentices | | 350 | | | 350 |
| Work Force Director | | 125 | 125 | 600 | 850 |
| Work Force | | 72 | 72 | | 144 |
| Work Force | | 72 | 72 | | 144 |
| Work Force | | 72 | 72 | | 144 |
| Work Force | | 72 | 72 | | 144 |
| Work Force | | 72 | 72 | | 144 |
| FACILITY MANAGER | 100 | | | | 100 |

**11, 347**

## GROUP

| | SHARED | GREENING | WARM | OTHER | TOTAL |
|---|---|---|---|---|---|
| Computer Room | | | 50 | | 50 |
| Work Room | | | 220 | | 220 |
| Classroom | 1800 | | | | 1800 |
| Craft Room | | | 324 | | 324 |

**2,394**

# PUBLIC

Conference Space
Boardroom
Large Conference Room
Small Conference Room
Workshop

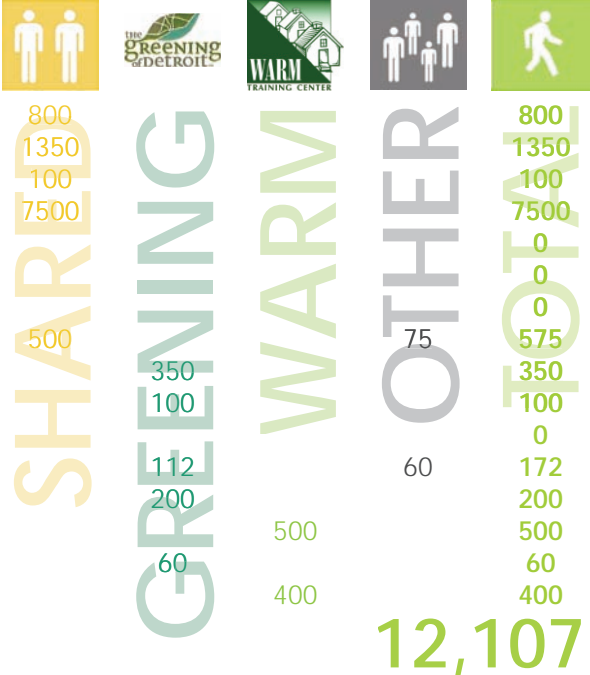| | SHARED | GREENING | WARM | OTHER | TOTAL |
|---|---|---|---|---|---|
| | | | | | 0 |
| | 500 | | | | 500 |
| | 300 | | | | 800 |
| | 150 | | | | 950 |
| | | | 6000 | | 6000 |
| TOTAL | | | | | **8,250** |
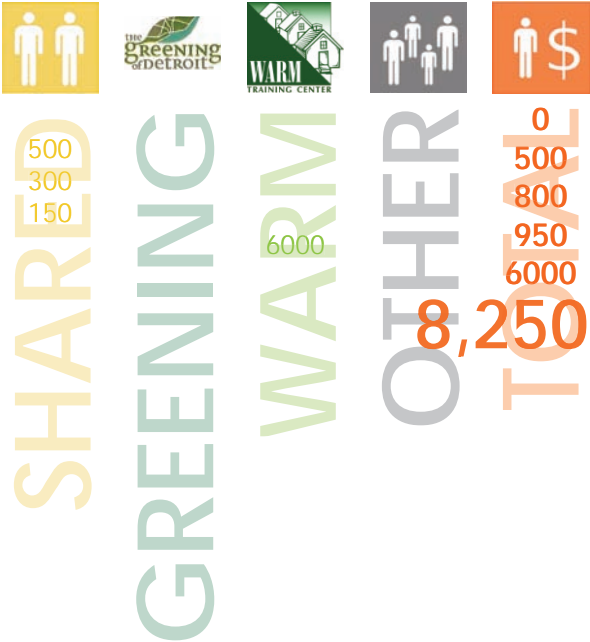
# LIFESTYLE

Catering Kitchen
Library
Day Care Area
Staff Kitchen & Lunchroom
Locker Room w/ 2 Showers
Training Room & Rec Area

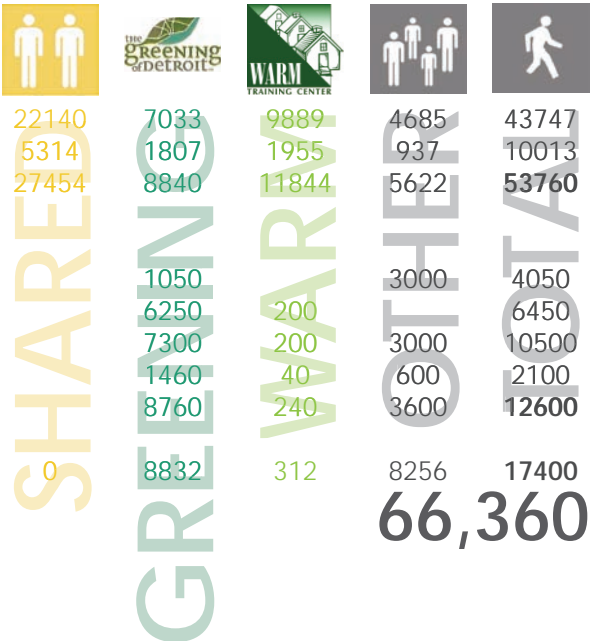| | SHARED | GREENING | WARM | OTHER | TOTAL |
|---|---|---|---|---|---|
| | 340 | | | | 340 |
| | 600 | | 500 | | 1100 |
| | 400 | | | | 400 |
| | 450 | | | | 450 |
| | 1500 | | | | 1500 |
| | 8000 | | | | 8000 |
| TOTAL | | | | | **11,790** |

# TRANSITION
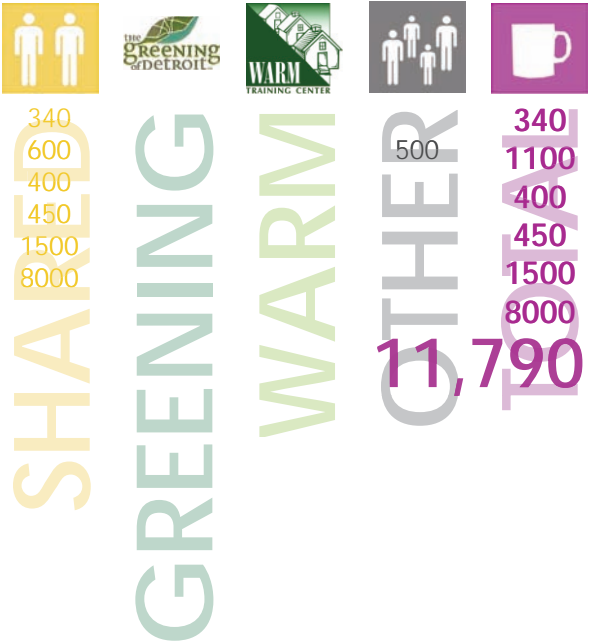
| | | SHARED | GREENING | WARM | OTHER | TOTAL |
|---|---|---|---|---|---|---|
| Entry, Waiting Area & Gift Shop | | 800 | | | | 800 |
| Public Rest rooms & Staff Toilets | | 1350 | | | | 1350 |
| Coat Closet | | 100 | | | | 100 |
| Assembly Space: | | 7500 | | | | 7500 |
| Environmental Interpretive Center | | | | | | 0 |
| Display | | | | | | 0 |
| Exhibit Space | | | | | | 0 |
| Large Meeting Room ( 250 People ) | | 500 | | | 75 | 575 |
| Copy Room & Supplies | | | 350 | | | 350 |
| Central Filing Room | | | 100 | | | 100 |
| Volunteer Storage | | | | | | 0 |
| Staff Toilet Rooms | | | 112 | | 60 | 172 |
| Storage | | | 200 | | | 200 |
| Supply Storage | | | | 500 | | 500 |
| Exhibit Storage | | | 60 | | | 60 |
| Storage & Files | | | 400 | | | 400 |
| Construction Supply Storage | | | | | | |
| TOTAL | | | | | | **12,107** |

# TOTALS

| | SHARED | GREENING | WARM | OTHER | TOTAL |
|---|---|---|---|---|---|
| TOTAL NET INTERIOR SPACE | 22140 | 7033 | 9889 | 4685 | 43747 |
| CIRCULATION, WALLS, MECHANICAL ETC. | 5314 | 1807 | 1955 | 937 | 10013 |
| **TOTAL GROSS INTERIOR SPACE** | 27454 | 8840 | 11844 | 5622 | **53760** |
| | | | | | |
| **ENCLOSED SPACE** | | | | | |
| TOOL STORAGE | | 1050 | | 3000 | 4050 |
| VEHICLE STORAGE/ RECEIVING | | 6250 | 200 | | 6450 |
| TOTAL NET ENCLOSED SPACE | | 7300 | 200 | 3000 | 10500 |
| CIRCULATION, WALLS, MECHANICAL ETC. | | 1460 | 40 | 600 | 2100 |
| **TOTAL GROSS ENCLOSED SPACE** | | 8760 | 240 | 3600 | **12600** |
| | | | | | |
| **TOTAL PROGRAMMED AREA** | 0 | 8832 | 312 | 8256 | **17400** |
| | | | | | **66,360** |

# how can space increase OUR interations?

# GROUND FLOOR PLAN
Scale: 1/32" = 1'



section I

section II

section III

section IV



LEVEL THREE* PLAN
Scale: 1/64" = 1'

section I
section II
section III
section IV

LEVEL TWO* PLAN
Scale: 1/64" = 1'
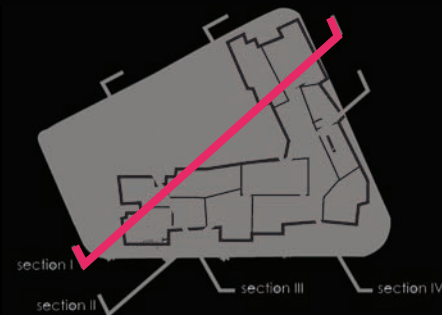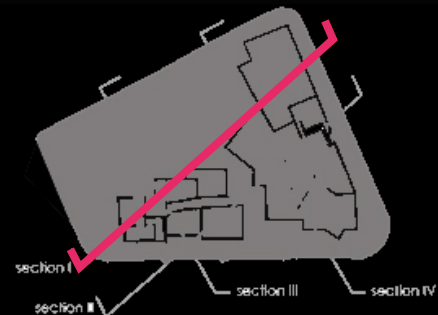
section I
section II
section III
section IV

Schematic Design
## Concept

The schematic design proposal were directly generated from the ten program summary investigations. Since each investigation was digitally modeled. The building came together through combining and scaling the different models while simultaneously changing the material property. The models were scaled according to the bubble diagrams that mapped out the desired spacial configurations. From there sections were cut of the rendering sketch. Each section provided an opportunity to test the program summary investigations probability by visualizing the spaces being occupied with their corresponding programs. In the schematic design the sections did not attempt to tackle circulation, in stead they captured the spirit of the interactions and illustrated the program adjacencies.
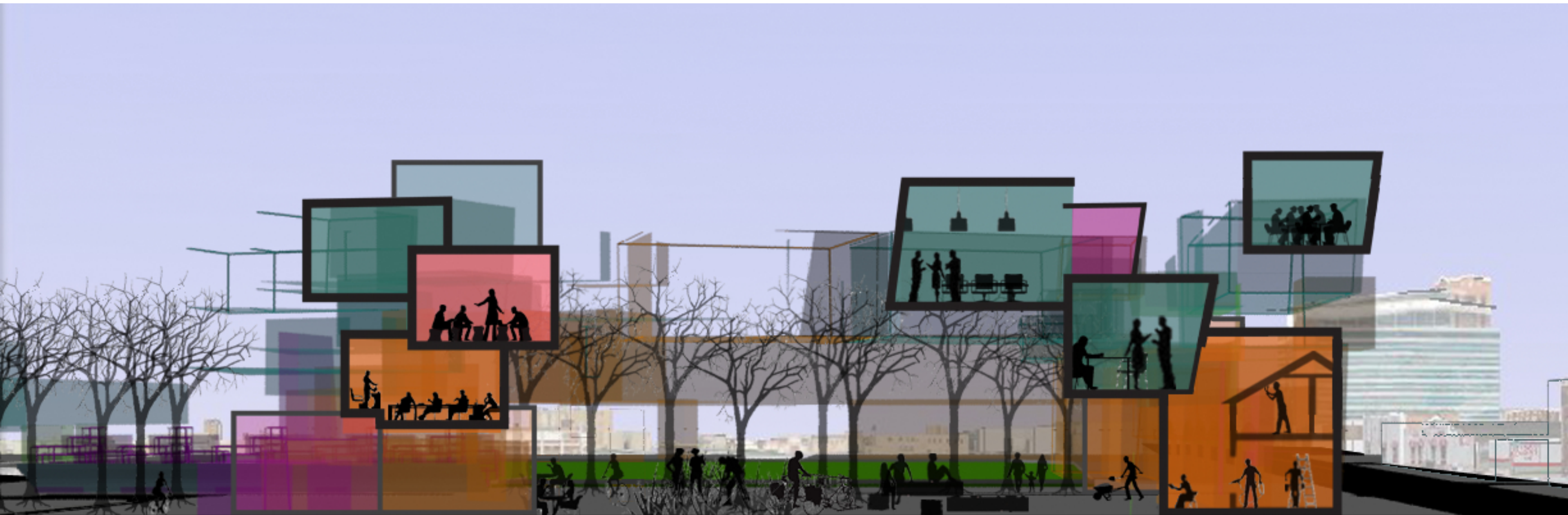
# Section I
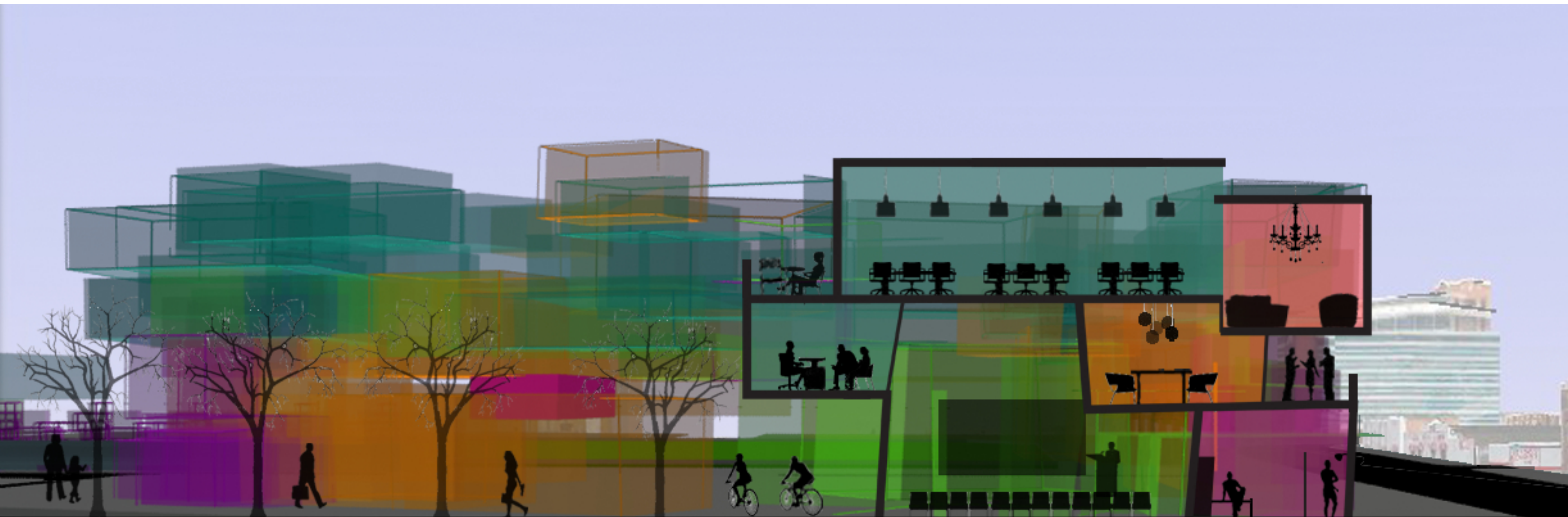
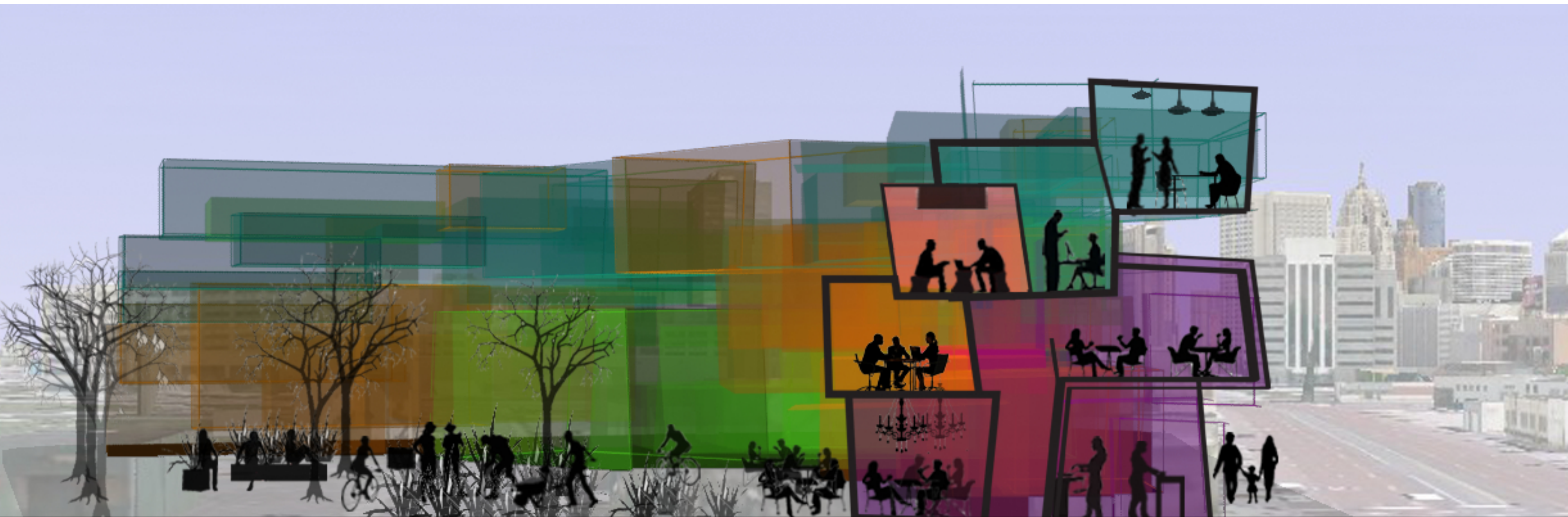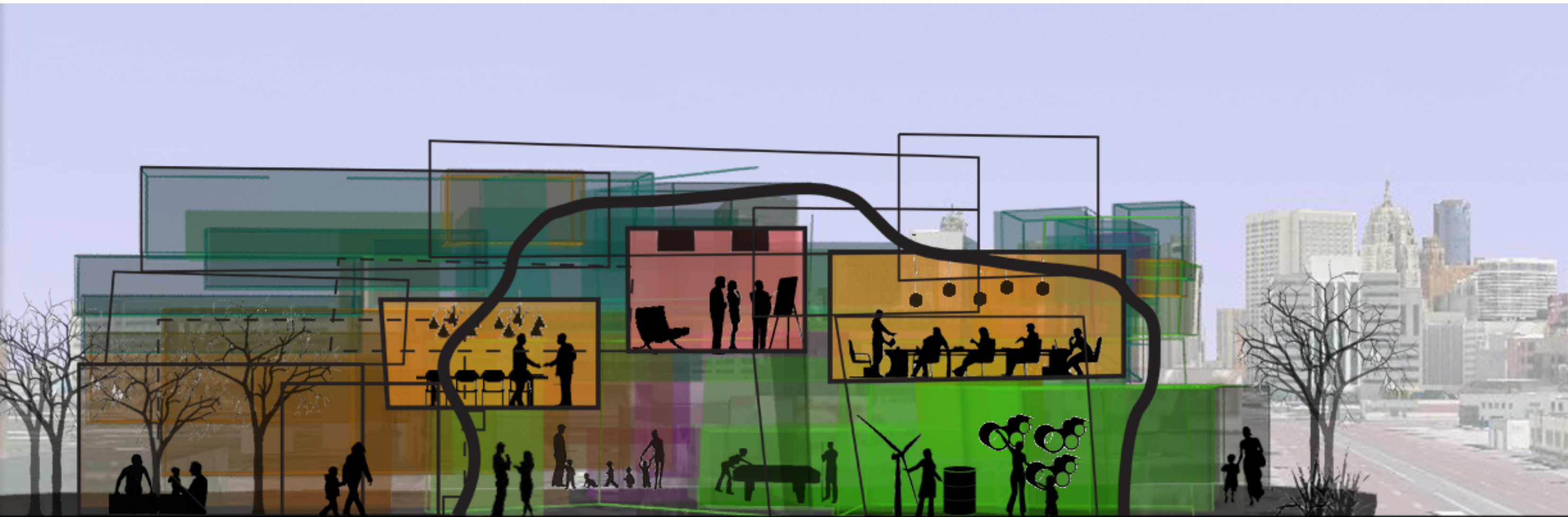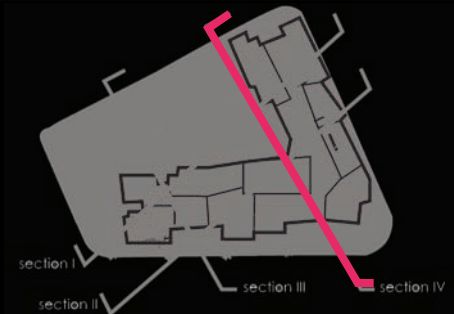Section II

# Section III
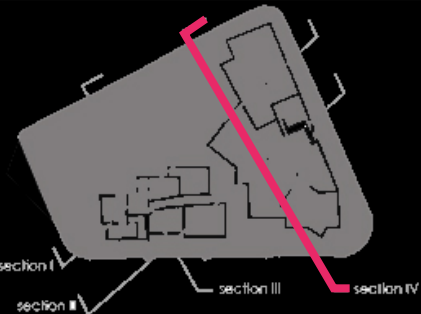
# Section IV

# how are YOU working?

**Final Design**

# Greening of Detroit + Warm Training Center Headquarters
Detroit, Michigan

### Design Opportunity
+   Create Proximity for those who work together most often.
+   Create flexible and adaptable work spaces to match work styles.
+   Ensure clear sight lines to make work signals visible.
+   Create focused work spaces in an open environment.
+   Make it easy for people to see and find information.
+   Allow for seamless movement between work-modes.
+   Create seamless transition between focused and collaborative.

### Design Concepts
+   Lobby uses and transitions extending the lobby into the side walk so to welcome people.
+   Exterior lifestyle, creating exterior areas such as conference and recreations areas that can me in door or outdoor.
+   Integration of difference spaces though slight offsets
+   Diminishing thresholds and creating spaces that respond to human to nature interactions.

The following sections illustrate the types of interactions that could occur within the site to enhance the experience and increase subtle cues.  The types of subtle interactions being referenced are things like being able to see many activities happening at once and reinforcing the conditioning of belonging to a larger organization while increases the amount of interactions that can occur between people.
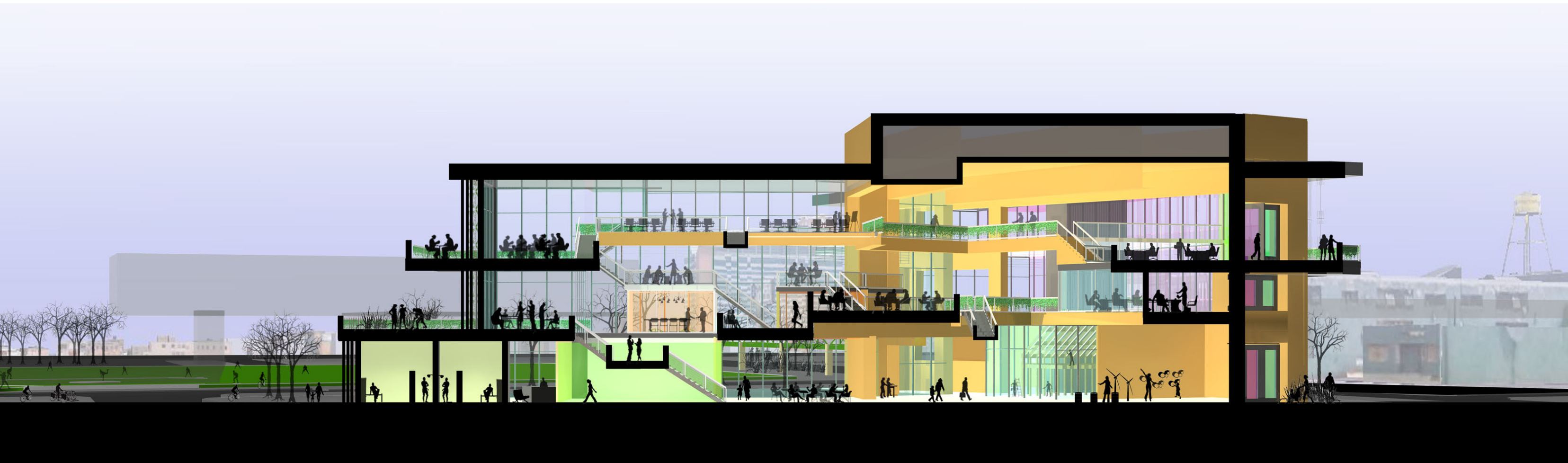
# Section I

Section I captures the dynamism between the spaces and the types of functions occurring. The building is predominately office space but it creates a collaborative environment. People engage with one another by passing through spaces. The adjacent to the day care are tables and chairs for dining to encourage parents to interact with their children during lunch periods.
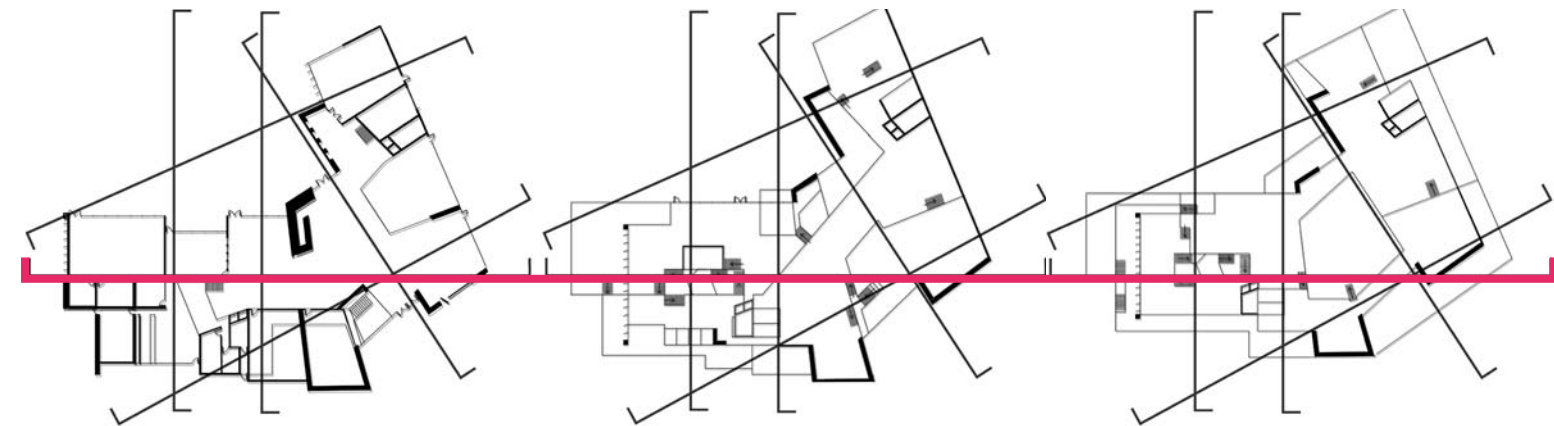
# Section II

Section II highlights the subtle exchanges the floor offsets create. Furthermore on the ground floor the integration of the Greening of Detroit gardens with dinning spaces is captured. the adjacencies between these two spaces is essential because it allows employees to be re captivated by the greening mission of outreach and education while they take breaks.
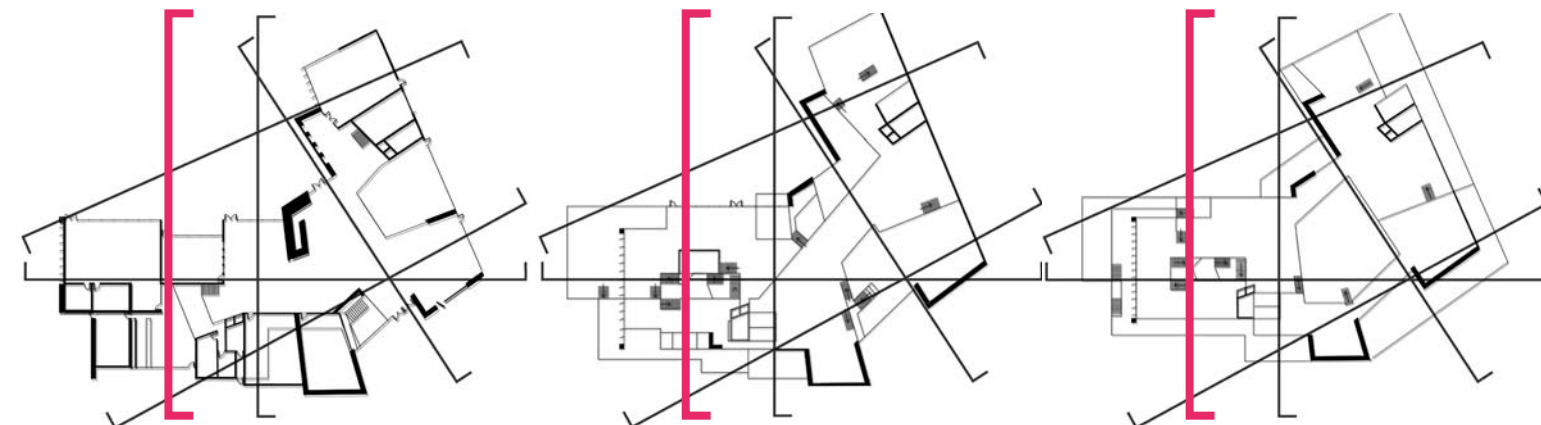
# Section III

A celebrated component in section III is the out-door conference space on the third level to East. Spaces like provide employees the flexibility to choose the types of spaces they perform their work.
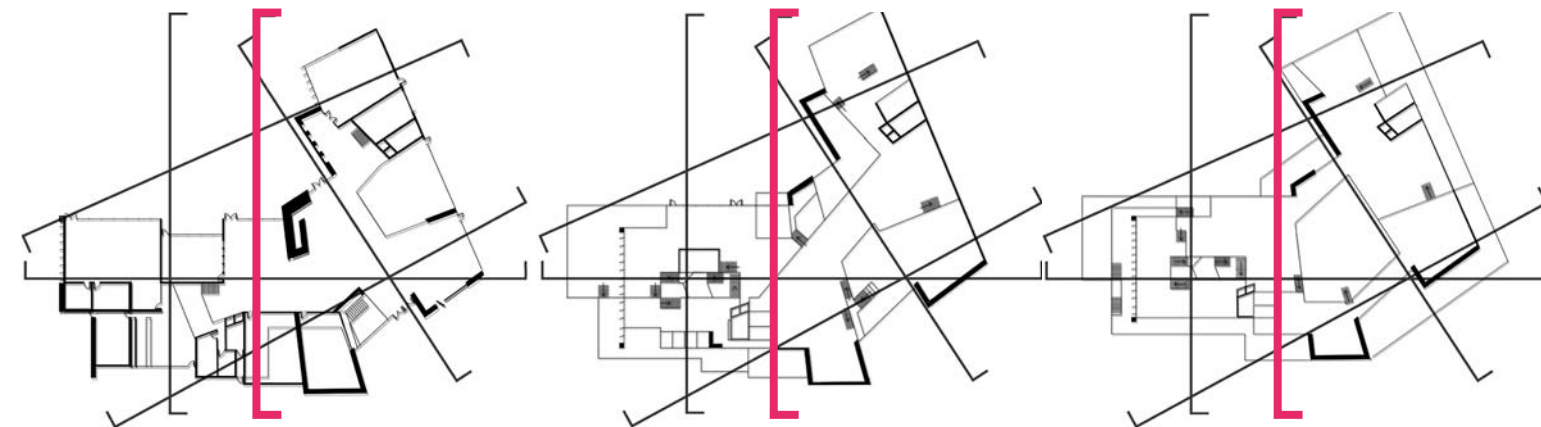
# Section IV

Section IV is taken through the Lobby. The lobby is focused around educating the public that wander in about Warm Training Center and Greening of Detroit's Mission. In the center Warm's Green Jobs Training classroom is showcased. The Green Jobs seminar teaches individuals technical building skills through hands on experience. Adjacent to the Warm Jobs Training is an exhibition area that can be transformed into an auditorium space. The Lobby also has a smoothie bar to rejuvenate employees on breaks.
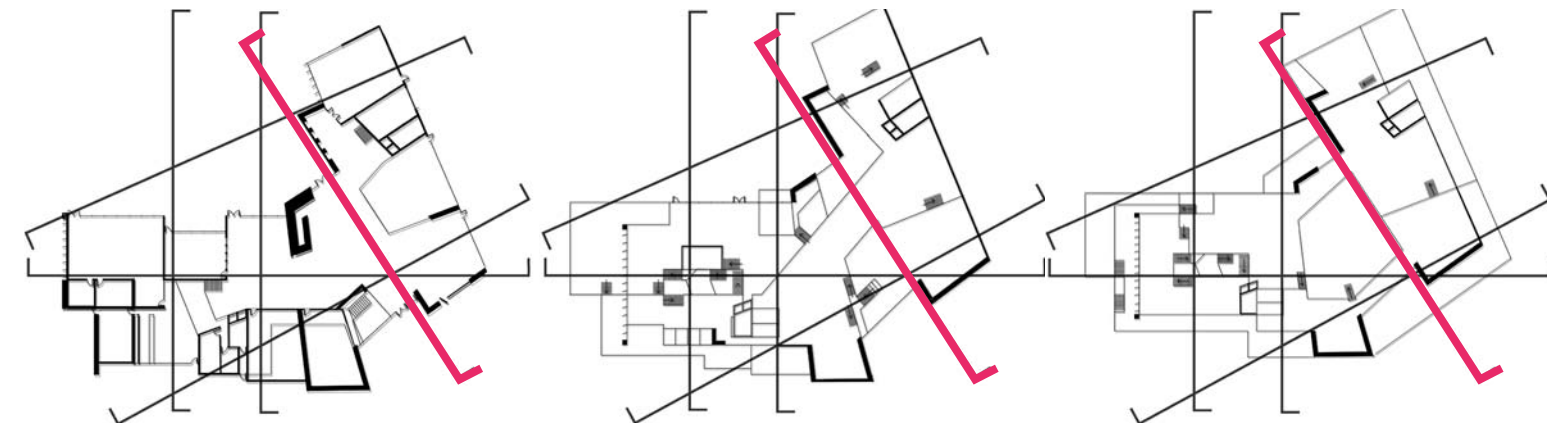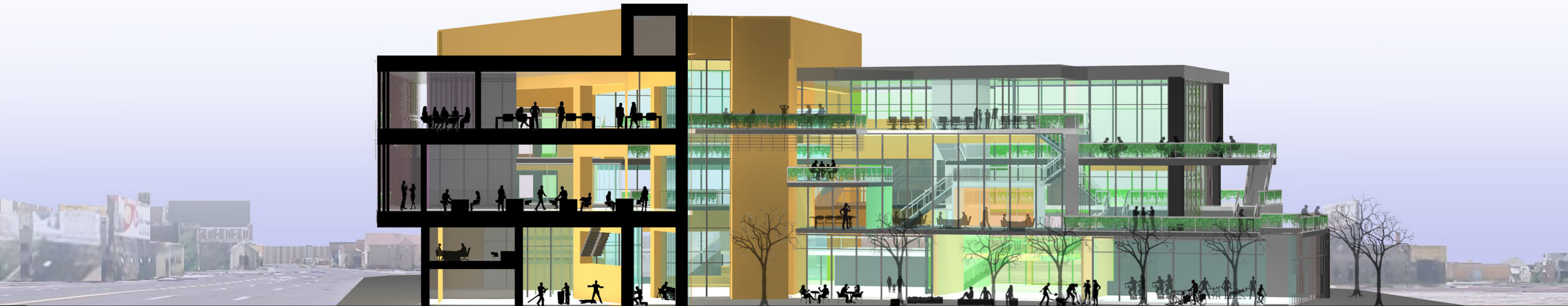
# Section V

Section V shows the intimate exterior spaces formed from the vertical shading devices. The shading devices add a crucial layer in diminishing that passing through of the interior exterior threshold. The Greening of Detroit and Warm Training Center's workshops and storage are located off of Trumbull for easy access for delivery vehicles.
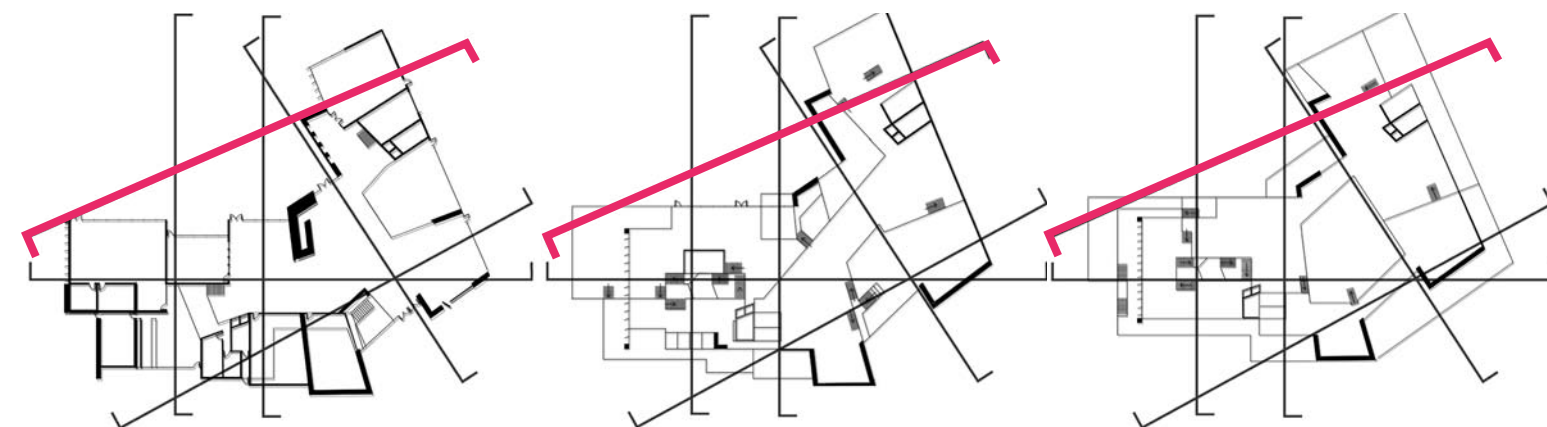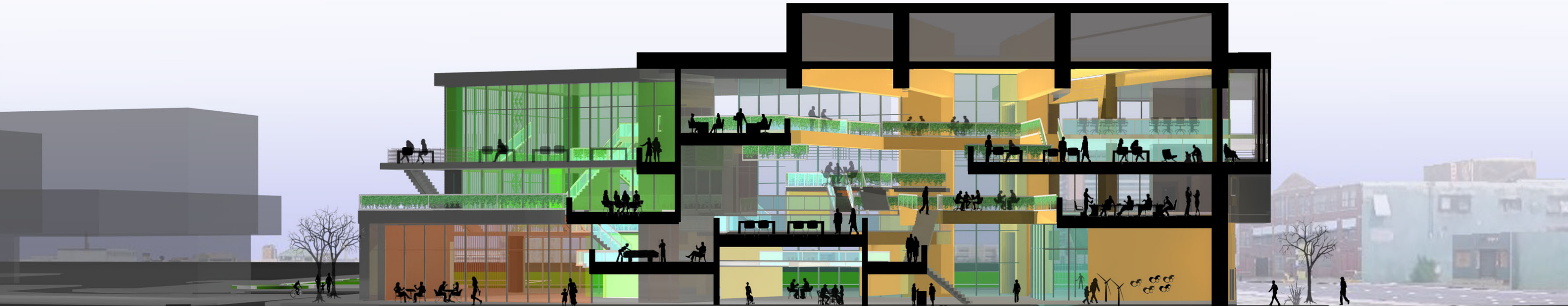
# Section VI

Section VI exemplifies the building feel. The multistory lobby connects employees with various types of activities that occur throughout the day. While the opportunity for interior and exterior spaces throughout the building provide an essential exchange between humans and their natural environment. the building is the foreground for a variation of interactions to occur, ultimately heightening the work experience.
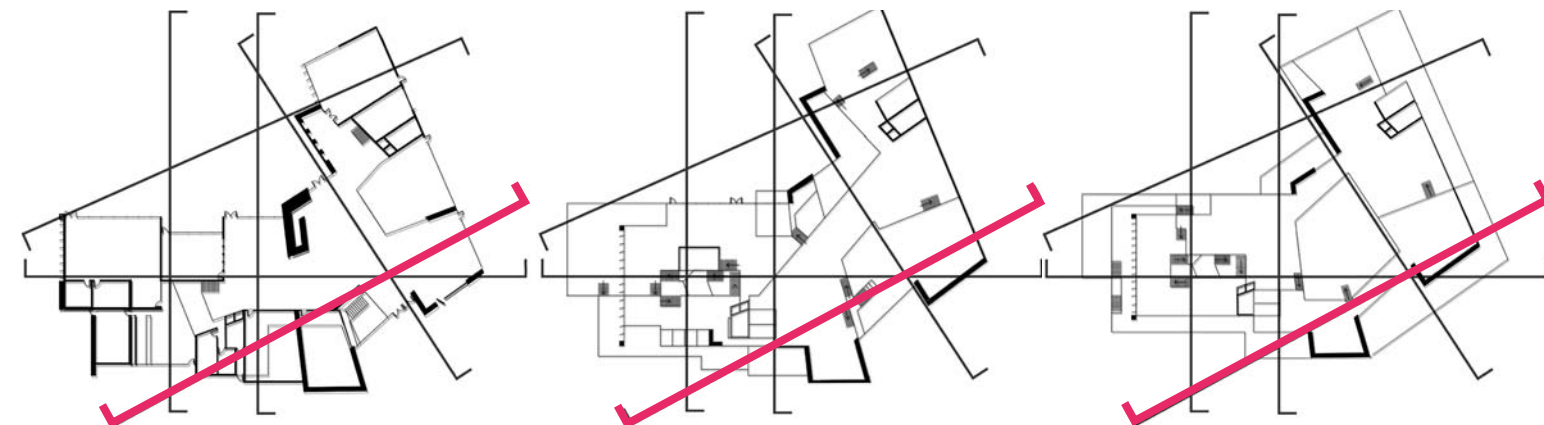
## Entry Experience

The lobby materiality is expressed on the interior and exterior in the same manner. This wrapping motion forces invites individuals from the community to see past the glazing and into the building. The building entrance is also pushed back to provide opportunity for Greening of Detroit to have a demonstration garden in the corner of the site. This also creates walking pathways that already push individuals closer to the building entrance. Upon entering the lobby. Individuals are encouraged to maintain a healthy lifestyle and are greeted by stairs as opposed to elevators. The lobby educates the community showcasing Warm's Green Jobs Training Program and allowing for product exhibition space. Employees and visitors are greeted by a juice bar to provide opportunities for healthy choices on breaks. from the lobby entrance office views of the second and third level collaboration spaces are projected projecting an interactive environment.

**Floor Offset Experience**

Similar to the entry experience the lobby view from level three captures the type of dynamic work environment that is created through the floor offsets. Also an integral part of the building that reinforces components from the focus quadrant are the various ways to work throughout the building. Employees can easily relocate themselves to rejuvenate their creative surge.  in the process of repositioning opportunities for dialogue amongst employees can occur.  These spontaneous moments have the ability to entice creative problem solving and idea development.

# Human to Nature Experience

The office space walls not only allow for maximum visibility to the exterior but provide for opportunities to employees to push their work desk out into a balcony space. This space shows the integration between one of Greening of Detroit's rooftop demonstration gardens and the individual workstation adjacencies.

**Interior Workspace**

Although the opportunity for individuals to work outside is highly intriguing it is undeniable that a good portion of the work must be done inside the building. this rendering of a work environment captures the indivisibility of the glass wall and its open feel through operable doors and windows. The building organization is in an open plan however areas for group space mixed in with balconies create a more intimate work environment.

Also the balcony integrates surfaces for work through the railing design. The Views from the workplace look out to the historic Tiger's baseball field. This visual connection with the openness of the field provides for a visual nature interaction.

# Conclusion

It is essential to the success of interaction design that designers find a way to understand the perceptions, circumstances, habits, needs, and desires of the ultimate users. Behavioral design research through an ethnomethodic approach was very successful as well as the application of the quadrant model to the clients.  Another strong component of the project was the program summary investigations , the demonstrated how research can support design and design can in turn influence research.

However the faults in the thesis project stem the large scale of the final proposed building.  In retrospect the final project should have been an architectural insertion to an existing building similar to the Warm Sketch Problem but at a significantly larger scale.  The final building being 60,000 square feet did not allow for a detail development of interior space that would if completed would have brought the project full circle.  Overall the thesis research and exploration into how people work and live is invaluable information in designing for anytime of building.

# Special Thanks

1.  God, for making all this possible.
2. My Family for always being there with constant love and support.
3. My Thesis professor, Will Wittig, for your constant feedback and for pushing me to do my best.
4.  My mentor, Amy Deines, University of Detroit Mercy, for 'planting the seed', for believing in me, for providing me a strong foundation and for continuing to nurture and challenge my design process.
5. Dan Pitera, for always radiating with energy and passion for our profession,  for investing time into my design process and for constantly reminding me to believe in the good of humanity.
6.  Stephen Vogel, Donzetta Jones, Alexis Saunders and Elly Gravelle, for constant insight, guidance and friendship throughout my academic career.
7. UDM SOA Graduating Class of 2011: without you guys being there every step of the way I could not have done it.  We did this together. The endless hours in studio, the critics, the feedback and all the emotional support are things I will never forget!

Thank You!

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01. interview with Greening Rebecca
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