University of Cincinnati

Date: 3/28/2012

I, Drew P Scherer, hereby submit this original work as part of the requirements for the degree of Master of Architecture in Architecture (Master of).

It is entitled:
Urban Free Agents: Active Territories Through Nascent Ubiquitous Networks

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University of Cincinnati

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Urban Free Agents

Active Territories Through Nascent Ubiquitous Networks

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May 10, 2012

A Thesis Submitted To:
The Division of Research and Advanced Studies of the University of Cincinnati

Master of Architecture (MARCH)
School of Architecture and Interior Design
College of Design Art Architecture and Planning

Committee:
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Abstract

The main investigation of this thesis questions the pre-defined territories within the downtown urban infrastructure of Cincinnati in an attempt to redefine the normative paths of play and interaction through evolving growths and swells of activity. These formations will be investigated and determined through the redevelopment of neglected infrastructure and their influence on local nodes within the urban setting. As the city has continued to thin in pedestrian attraction and vacancies increase, these broken and under utilized properties can be used to inject new life and density into the city. These territories will be used as an intensifier in creating a remapping of the city and how it evolves through an open-content model.

This interaction will be activated by modern ubiquitous virtual networks that draw populations of all scales and backgrounds together. By harnessing the collective power of personal electronic networked devices the anonymous public becomes agent in directing the swell of content within these armatures. The goal is to introduce a new archetype wherein the separation between virtual and physical realms are blurred, and a more dynamic social space is derived.
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While walking the streets of downtown Cincinnati, one comes across many instances of abandoned and largely dead real estate, whether it be built structure that has become empty shell, or the ubiquitous surface parking lot that struggles to satisfy fifty percent occupancy. This wasted potential is part of the critical departure of the proposal, as it will be argued that these entities could be used to increase the livelihood and interest in certain areas, attributes the downtown realm arguably lacks. This circumstance is driven by the low demand for downtown real estate, in part because of areas that are not desirable due to a variety of factors including proximity to degraded areas of Over-The-Rhine and the overall economic downturn. The pragmatic side of the project aims to use this empty real estate as a device through which to instigate activity, interest, development, and greater pedestrian and civic involvement. The negotiation of these spaces will move toward a goal of increasing density by way of creating new programs and uses within the shelled and closed off spaces within city infrastructure.

Within the downtown area of Cincinnati there are many locations that see the inversion of the street in its use as a public space. In many areas it permeates with free pedestrian traffic and a loose regard for the presence of the automobile. In some ways the car can be seen as an intruder within a porous public sphere. The pathways of the pedestrian become open and sporadic as they move into the streets and off of their typically defined routes. The street can thus be seen as a space for public use in that it becomes more of a meeting place and a location for exchange than just a path for vehicles to travel. There are many times when the rules are blurred, and the pedestrian overrides the dominance of the car, where the driver is forced to stop at random for people spilling into the street, exchanges being made, or the simple act of individual rebellion in a type of border skirmish against the presence of the car itself. This dynamic begins to create an inverted hierarchy where the desire for a more democratic free spaces usurps a regimented, institutional space. There also seems to be a correlation to the time of day in which this occurs, which could also inform the way in which the streetscape or free space could be interpreted. This phenomenon amplifies as the day becomes night, to a point where the

Urban streets and alleys become places of subversive business and play safety and the rules of street vs. pedestrian we take for granted are questioned. The question of how do standing, crossing, walking, and playing relate within a largely closed network of the street becomes important. How are these activities altered or augmented? Do they gain an alternate meaning or presence? Do they create the need for a questioning of the space itself and what it constitutes? The notion of “path” becomes a more loosely defined term among the multiplicity of activities taking place.

This questioning of institutional space, and the notion of a subversive and open public realm that flickers with life inside
a pre-established and closed institution, brings about various questions of how other spaces within the urban context may also be interpreted similarly. These dynamics may potentially instigate alternate use or meaning within other closed or controlled spaces so as to bring greater life back to certain territories that may suffer from lack of density or use. These places where the normative hierarchies of social behavior are questioned become social spaces that lend to alternative meaning, not only personally, but at times on a broader scale. In some instances the street corner becomes a business which affects those who pass through the area, and those who partake in the purchasing of goods that would not otherwise be available whether it be drugs, prostitution, games, gambling, or other modes of procuring desired objects or attention. In others instances the street becomes a place to gather and discuss or even a place to play sports. These marginal spaces are typically occupied in these alternative methods by younger crowds, many times those living within close proximity and by those who have a greater understanding of the local code of play and occupation. In a city such as Cincinnati where a large percentage of the surface area is infrastructure needing repair or is simply underutilized, an argument could be made that these locations could be examined for alternative use through novel methods of instigation in a way that directly involves the public and gives them license to augment the space to their desired reality.
Heterotopia

The questioning of alternative social uses of pre-defined space is something that has been discussed widely by many, and perhaps one of the most notable examples is Henri Lefebvre’s writings on social space and the public manipulation of it. In Fran Tonkiss’s “Space, the City, and Social Theory: Social Relations and Urban Forms,” Lefebvre’s theories on the influence of the private sector and private institutions on city life and its development are described. He characterizes the privatization of public space as valorizing a relationship based on private interests, and the shrinking of public spaces as a symptom of the reduced status of publicity as a social value. This shift can be seen in the downtown Cincinnati area in the slow erosion of the extent and worth of urban public space. Aside from the cafe or occasional gallery, there is a lack of open public access to urban territories for individual or collective use outside of Fountain Square. The Fountain Square area is one of the few places where individuals may find space to gather freely or organize larger events.

However, what remains true for all those inhabitants of this shared space is just that—an ideal of public space based on equality of access, however organized through forms of exclusion or control, and the unsteady boundary between public and private realms. This questioning of predefined institutions, and the manipulation of those socially established boundaries that delineate access, use, and meaning, in a way that allows new meaning and the potential for discovering new use, could be a valuable tool in reinvigorating the non-places of the downtown area. Non-place, a phrase coined by Marc Augé, a notable French anthropologist, describes places of transience that do not hold enough significance to be regarded as “places” such as motor ways, hotel rooms, airports, and supermarkets. These places have become backdrop to daily life, and serve as the connecting tissues moving the user to his or her true destination or desired locale. However, in some instances, through the integration of public spheres in formally privatized or institutionalized spaces, there could be found a ground ripe for new territories for public and cultural exploration. The goal of the investigation would be to introduce alternative channels of flow and use to the urban environment in program, access, and potential for future development.

In Michel Foucault’s essay “Of Other Spaces,” he mentions the concept of a place no longer anything but a point in its movement, and site being defined by relations of proximity between other points or elements. These “heterotopias” he mentions are utopian sites with no real place, or fundamentally unreal spaces or counter-sites found in the forming of societies. These sites are represented, contested, and inverted through time as societies that could redefine and reform.
progress. They evolve according to the synchronicity of the culture within which they occur, and re-appropriate meaning and function. An example of such a space would be the cemetery in western culture. It is a territory that has gone through various changes within the hierarchy of the city or state over time, and has remained linked will all sites of society in that each family has relatives located within its boundaries. It wasn’t until the end of the eighteenth century that it was moved from the heart of the city next to the church, to the outer periphery of cities in correlation with the individualization of death and the obsession with death as an ‘illness.’ Their appropriation shifted from one of the sacred and immortal heart of the city, to the other city, where families “created their dark resting place.”

Linked to the accumulation of time, the concept of the heterotopia is one consisting of a constantly opening and closing system making them both isolated and penetrable. They become apertures within the negotiation of exclusion and opening, implying entry in a localized extension of these contested territories. This line could be drawn within a typology itself, as in the case of the museum, which exists in various forms both stoic and permanent as the art or history museum, or temporal and compulsory as an isolated exhibition or traveling show. As the medium through which we observe and interact with art or design changes, the framework or armatures that support these institutions also evolve.

The non-places of the city; the parking lot, the skywalk, the alleyway, all interstitial and overlooked, could be ground for a revisioning of the city through which the modern connective networks that now link us pierce the physical membrane and manifest as a social palimpsest. The marginal spaces that often exist on the periphery of the urban experience can find new presence and purpose more directly tuned to the will and desire of the local inhabitants through emerging social network infrastructure and collaboration.

Typical urban spaces can be redefined when hierarchies of the urban environment are broken down. A common typology such as the square can become many things and opened up to new programs and configuration when these hierarchical restraints are removed.
The concept of the heterotopia placed within a contemporary context of networked culture exists as a definition of the Internet and its ability to be shaped into a nearly infinite array of communal interaction and constant adaptation to user desire. Graffiti is an older example of an analog public expression of the need to lay claim over certain areas of the city, and the ability to layer and revise content on-demand. This act of creation gives the user generally unlawful agency over the immediate content they experience and relays that which is important or meaningful. In recent years the digital era has expanded the act of graffiti from a physical to a digital paradigm, with a greater ability to affect design and opened up new potential in terms of scale and speed, something works by hand were very much limited by. The emergence of this subversive creative culture has found new ways of claiming or influencing the urban scene and its image, and reflects a still growing need of a public to exert some form of control and ownership over local territories. It is also an expression of an open-content model, wherein it may be revised and built over by others within a certain boundary and reformed to suit the desires and creative energy of the author. Now technology enables those who hold a certain degree of knowledge of computer software and electronics with a near limitless potential to create digital works at will within a given space. The tacit understanding of the hand drawn process is transferred to machine limitations and application while the creative eye remains the driving force.

The digital era is accelerating the pace in which we alter our environments as we please and form bonds and relationships with others around the world. With the introduction of open-content databases and systems, individuals are more and more becoming authors of their personal environment, creating and editing information for consumption by others. iPhones, laptops, and social media websites linked to ubiquitous computing networks received by our personal devices all lead toward a culture that is immersed in a constantly updated realm of enmeshed digitized lives and experiences. Termed in the late nineteen-nineties, the ‘open content’ neologism describes any creative work, or content, published under a license that explicitly allows copying and modifying of its information by anyone. It is an alternative paradigm to the use of copyright to create monopolies, and is intended to facilitate the democratization of knowledge. It also applies to works described as ‘open access,’ wherein the work is available to everyone.

Open-content is amplified by the online world, in which “open” refers to a continuous contract. Technically it can be defined as granting copyright permissions above and beyond those offered by standard copyright law. The “content” is content that is licensed in a way that provides users with the right to alter those uses normally permitted under the law, generally at no cost to the user. The primary permissions or usage rights concerning open content are expressed under a framework of reuse, revise, remix, and redistribute. The emergence of personal blogs and other instantly updatable personal or public virtual

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content has led to a boom of content creation and information relay. The creation of an environment that is equally accessible to anyone at any time, and one that allows users to freely change and adapt others’ work is also seen in the emergence of the “wiki,” a web platform that allows editing and creation of content in an open system. Wikipedia is perhaps the most prominent of these, establishing a paradigm of constant content updating and creation to be used by the world population and acts as a virtual encyclopedia. These advancements in knowledge and idea sharing are further steps toward new ways of information exchange, and all allow for a more democratic and efficient way of producing it. The open content model has also questioned the traditional ‘all rights reserved’ model, wherein aggressive expansion of corporate control of significant cultural products has created a “permissions culture” where someone needs to constantly ask permission to do just about anything. In our current creative environment, the value of open content and creation adds to the realms of increasing collaboration, experimentation and innovation.

Within the gaming world, there has also been a rise in the implementation of what is called an Open Game License (OGL), which leaves the primary content open to enhancement over the prior art. The use is non-exclusive so long as it is accompanied by all copyrights updated to the previous contributors. Games such as Dungeons & Dragons were open to modification or derivatives under the OGL license, and royalty-free third-party developers were allowed to publish products compatible with later editions of the game. Those who license their works under the OGL are sometimes collectively referred to as the “open gaming movement.”

These models present new ways for individuals to relate to architecture in a more meaningful way and more relevant to contemporary society, and allows the components of those armatures to be tuned and manipulated by those that occupy it. The responsibility for expression is changeable, and is altering the methods in which architecture presents itself to the public from one of static monuments to that of active scenario environments.

In the public realm, architecture will be connected through these virtual networks directly, speaking to one another to build more efficient and relevant interfaces with their users and the public, as well as the buildings themselves. This is already happening indirectly as smartphone users can access data regarding a building and the businesses contained in real time. However, they have no direct influence on the architecture or how it can be used. When connected to users through an interface allowing democratic modification of the space, architecture is enabled with a new presence applied within a globalized world on a local scale. New building types may emerge to build new relationships among participants, and new links between human experience and machine knowledge can grow through these real and virtual resources allowing the manipulation of their content.

City infrastructure can set the stage for many opportunities and a way of finding new methods to rearrange them for the networked public. Parking structures, skyways, even the unseen connections of water, sewage, gas, and electricity form the foundations of urban life in the physical city. Today, software, sensors, and connectivity build a new layer on top of and next to the previous infrastructure, one that is monumental and one that blends in. These two systems can work together more directly to reform our relationship with architecture and our cities.

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Many people today are more likely to check their GPS mobile phones than the stars for orientation, and experience the world through sensor enabled gadgets, and these sensors replace lost skills to introduce new ones. Magnetic flux, infrared waves, and ultra-sonic sound are a few of the worlds closed to our sensory organs, but these new devices can be used to develop new modes of architecture where we can harness these realms by proxy through ubiquitous networks and mobile technology.

The ability to reform and reuse a single space will allow architecture to gain added meaning while becoming more efficient in its use of resources. As the user alters their desire for a space, so too will the architecture mold to the flux of input in real time. The marginal quickly becomes the dynamic and a hyper-local reflection of the flickering pulse emerging from networked communities. A GPS device will not just relay information but reform urban territories lending to novel modes of design and space creation. Users will bridge a more personal relationship with space, and the space will, in return, reflect a better understanding of local wants and needs.

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Rhizomatic Development

Similar to the concept of Foucault’s heterotopias, philosopher Gilles Deleuze describes in his book *A Thousand Plateaus: Capitalism and Schizophrenia* a system or assemblage that is transitory in states, and one that continually reforms itself through the influence of internal and external forces or networks. In his essay on the “Rhizome,” he describes an entity built on a principle of connection and heterogeneity, through which at any point it may be connected to other chains or organizations of power, and notably in the contemporary world circumstances relative to the arts, sciences, and social struggle. This notion brings up an allegory to our modern day lifestyles and their organization or mediation through various means of social communication both private and public. The formation he describes is something both real and virtual in nature; real in its influence on an individual or group, yet virtual in its operations.

The rhizome exists through expansion and multiplicity as it increases its influence and mapping of assemblages of social formations or outgrowths akin to social networks or virtual lives. Another important trait is the affinity for constant modification and the ability to be amputated or grafted and re-grafted by an individual or group. These constructions act on the basis of a model in perpetual construction, something nervous, temporal, and collective. It becomes a process that is perpetually prolonging itself, breaking off and starting up again. Because of this mode of existence there is an inherent short-term memory, or anti-memory, as the organism detaches, reconnects, and modifies, this circulation of states creates a self-vibrating region of intensities that resist orientation toward a culmination point or end in a ceaseless process.

Taking this notion a step further, this theoretical model also contains the central tenet of ‘population thinking’ - the idea that ‘the population not the individual is the *matrix for the production of form*’. Deleuze and Guattari describe the town/city as a network, one that exists ‘only as a function of circulation, and of circuits’. For the authors, cities and towns must be understood as combinations of processes and spaces of flows that adjust to differing inputs and outputs. They use the interaction between a wasp and an orchid to illustrate their concept of the rhizome. The relationship is a simple one, wherein an insect is attracted to a plant, and thereby serves to cross-pollinate the plant. The wasp is then ‘housed’ by the orchid, giving the description a notion of architectural relevance. However, what seems to interest the authors most is the interaction between the organisms.

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2 Deleuze, p 20.
The orchid has adapted attributes that attract the wasp, but the wasp has also developed a pattern of behavior that serves the orchid, thus entering into a mutual reciprocity. They form an ‘assemblage,’ which unify into a singular body.

As John Marks explains: ‘The rhizome is proliferating and serial, functioning by means of the principles of connection and heterogeneity...The rhizome is a multiplicity.’ This principle of ‘becoming,’ of forming a relationship with the other, where one deterritorializes the other: ‘The wisdom of plants: even when they have roots, there is always an outside where they form a rhizome with something else—with the wind, an animal, human beings (and there is also an aspect under which animals themselves form rhizomes, as do people, etc).’ As an extension of this, the city could be understood as a rhizomatic network with its inhabitants, leading to a relationship of humans as agents within the system and the fabric of the city as a form of exoskeleton to human operations. The city can then be seen as being ‘formed’ by registering the impulses of human occupation.

Here, the task of design would become to anticipate what would have evolved over time between the interaction of the city and its inhabitants. ‘Scenario planning,’ or envisaging future trajectories or choreographies of spaces and the built environment could now be implemented through the virtual networks and worlds already established, creating a more dynamic and democratic relationship between the urban inhabitant and the negotiation of urban growth. Architect and researcher Francesca Iovino summarized this theory in her essay on the modern metropolis:

“The city is a vast spread beyond the edges of the concrete, a structure that extends itself and shades its limited of belonging: the metropolitan complex becomes a “domain of connection,” a landing for temporary legs during navigation. The design of this metropolis takes shape as an enlargement and transposition of existing systems of planning, but composed of junctions and infrastructures far from preestablished programs, somewhere inside the endemic disorder of the digital universe.”

The concept of alternative channels driven by the influence of dynamic energies could lend in deriving new operations for the redevelopment of the non-places or dying infrastructure found in downtown Cincinnati. With the rise of social media networks and communication technologies that are now ubiquitous, these frameworks may house the potential for becoming the neural network under which these non-places are reformed or augmented. Harnessing this potential for integration into the physical realm and that of architecture could lead to novel methods of architectural production and occupation.

The defining of space within the context of the assemblage can be defined as either smooth or striated and the interplay between them. Space is measured by what it enables and the inventions of new spaces it facilitates. Because space is never whole, becoming is a necessary process for deterritorializing space in a continual process of creation, and at some point a control space is needed to provide context. As seen in the virtual world, a smooth space is born where a subject can distribute themselves within and throughout as they wish, allowing them to make connections and decodify space while challenging

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4 Leach, p 62.
5 Leach, p 62.
7 Deleuze, p 486.
monuments and commercial and metric boundaries that mark state power. The virtual space is near limitless and is constantly being reformed and defined by its users, always adapting to an ever-changing cultural and technological environment. By contrast, the striated space is scripted, and serves a more concrete and defined purpose, almost as an exoskeleton containing the soft and maleable insides of a virtual construct. The striated becomes the rigid framework within which the smooth is enabled.

The virtual realm being in constant flux also gives rise to personal authorship with content that remains fluid. Contemporary society values the ability to disseminate, update, and customize content on demand. The boundary between the author of a work of art and its audience is blurring, and as the digital era has seen an introduction of open-content databases, individuals are now becoming authors through creating and editing information for consumption by others. The digital paradigm has given rise to a culture that expects and values ad hoc customization, manipulation, and creation of content. Personal ubiquitous computing devices now link billions of individuals in real time and permit them to become authors of their own immediate environmental experience in the digital realm. This paradigm has an inherent democratic undertone as it allows anyone with access to the network to build relationships with others and create new forms of interaction and development.

This smooth space of the virtual world is now beginning to inform and compose our physical reality. The striated space comes as a product of the smooth manipulated by the user to a finite end. The relationship between the two forms the foundation for a new paradigm of interaction and responsive design on varying scales, and could serve further purpose in the relationship between architecture and the public. The striated or scripted spaces that guide our movements within the city, such as the skywalk or the parking structure, could be used to house the amorphous inputs and outputs of a connected virtual channel allowing an analog creation of space and interaction through an open, networked system interface.

This continuous feedback loop enmeshing a physical and virtual architecture opens up a more symbiotic relationship between architecture and the public through a readily accessible and easily understood platform. The architecture feeds off of input from the user to become more efficient and the user is able to explore new programs and engage in a dialogue with both other users and the space itself.
One of the primary goals of the intervention is to create a symbiotic relationship between disparate urban typologies, so as to open up new territories within previously closed networks or spaces. The above diagram looks at how the varying occupation of surface parking could be informed by visual media exposed through the extensions of the rhizome system. The relationship would aim at taking advantage of the vacancy found on site as a platform for inserting new programs. As the parking space is deserted or filled, other opportunistic programs may emerge or recede.
Modern Design Precedent

The notion of anticipatory architecture, impermanent architecture designed for continual change, saw a rise in interest and investigation beginning in the early 1960’s. Architect Cedric Price was one of the first to adopt these principles. His work was geared toward redefining the architect as an agent of change, whose main responsibility was to anticipate this change, and offer new possibilities for society as a whole. He explored architecture’s potential to nurture the ability to adapt, intellectual growth, and social development. His design for the Fun Palace, a project initiated with Joan Littlewood, the theater director and founder of the Theater Workshop in London, was an idea intended to construct a ‘laboratory of fun’ with facilities for dancing, music, drama, and fireworks. Central to his practice was the belief that through the correct use of new technology the public could have much greater control over their environment, resulting in a building which could be responsive to visitors’ needs and the many activities intended to take place. The project itself prescribed to no particular program or fixed activity, and instead he conceived of a skeletal framework such as a garden trellis within and around which activities would grow or develop. He began referring to it as an ‘anti-building,’ that would self-regulate with the integration of cybernetics and computer technologies as they evolved over time. In theory, his design would ‘learn’ behavioral patterns and ‘plan’ for future activities by modeling according to cybernetics principles and game theory strategies. Thus, the three-dimensional structure of the Fun Palace would be the “operative space-time matrix of a virtual architecture.”

The integration or influence of modern technologies was viewed in his eyes as a field allowing convenient and efficient means of permitting individuals agency and control over their environment, and never as an end in itself. His ideas revolved around creating architecture as events in time rather than objects in space, and redefined the role of the architect from that of a master form-giver to designer of a field of human potential. The architect, in essence, surrenders most of his authorship to technologies, engineers, contractors, manufacturers and others, in an almost “post-heroic” status, instead more concerned with providing and developing a kit of tools to enable people to perform their own “ad-hoc cultural bricolage.” This notion of ‘free space’ is something he comes back to as the foundation for

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2 Price, p 73.
3 Price, p 245.
many of his gestures, and its inherent fluidity of both physical structure and human intellect rather than traditional manufacturing processes, hierarchies, and object-buildings.

His *Potteries Thinkbelt* project is a design which marks a transition from a society of production to one of consumption, and of one from the determined and mechanical, architectural, economic, and social norms of the industrial age to more fluid paradigms of post-industrial and informational societies. The project began in 1964, as a critique on the traditional university system. His proposal provided a mobile learning resource for up to 20,000 students making use of the infrastructure in a degraded industrial zone. His architecture would make use of the local rail network, the many areas of unused, unstable land, and provide a response to local unemployment, stagnant local housing, and a need for scientists and engineers. It offered a solution to the need for educational facilities and a response to the economic and social collapse of the area. Price would later reflect that the project was driven by the notion that “further education and re-education must be viewed as a major industrial undertaking and not as a service run by gentlemen for the few.”

Price’s ideology stems largely from the agitprop movement and associated departments formed initially in Bolshevist Russia in the 1920’s. This portmanteau of agitation and propaganda was originally coined to describe the methods of the Department for Agitation and Propaganda, which was part of the Communist Party of the Soviet Union. At the time the term propaganda contained no negative connotation, it simply meant the dissemination of ideas. Within that, it could mean not only the ideas of communism at the time, but any kind of beneficial knowledge, such as new methods of agriculture. The term also refers to agitprop theater, which also originated in the 1920’s and 1930’s in eastern Europe, eventually spreading to America, and came to describe any kind of leftist politicized art. The notion of this kind of ephemeral showcase of ideas and social activity is central to Price’s discourse through his designs and conjectures, both real and virtual.

What is also interesting and provocative about many of Price’s designs is his recycling and reuse of the obsolete industrial detritus of bygone eras as the base infrastructure for a post-industrial age. The use of old steel mills or even campus infrastructure was used by Price as an armature for his designs, and the gutting and recycling of the old and unused is now something modern communities are having to negotiate more and more as metropolitan areas or outlying industrial zones begin to see a decline in growth and populace. These leftover or dying

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4 Price, p 250.

5 Price, p 45.

shells could potentially be re-injected with new life through a process similar to Price’s; allowing modern technology to inform the behavioral aspects of the built environment within an open and evolving program.

Price’s discussion of a new agitation within existing infrastructure could lend to the re-thinking of the non-places in urban areas and a new direction for the development interventions to inject life and activity back into the system. The main gusto of Price’s intention was the concern for public access and usability, both in program and the architectures containing or generating space or series of spaces molded to public desire. His designs were intended more as a tool than a building, with the ability to manage creation and imagination of a varied public. The primary lesson was the offering of a feedback system, through control of which the space acted or reacted to inhabitants and they acted back. His ideas were centered around the construction of a “spontaneous combustion” machine within urban life, through which friction, debate, interaction and event upon event would occur. The spaces were intended as a constant work in transition, through which a collective consciousness was the driver and would offer the rules of engagement.

More recently, Interboro Partners, a design group based in New York, have explored this notion of re-territorializing dying or vacant urban infrastructure in various ways and on various scales. One particular example is their Dutchess County Mall project, begun in 2001, in which they proposed a series of programmatic injections within the empty mall that had gradually declined in use due to a variety of factors including market nuances within the particular site, proximity to other growing regions that took precedent, and proximity to a more sparsely populated area. The group proposed many interventions, be-

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lieving that the site was still a prominent property with a lot of promise, and had potential for future development. They believed there was a hope beyond any inevitable decay, and that the mall would not need to die, but that it could be transformed into something greater through alternative strategies, or “therapies,” to induce growth from inside the system. They proposed various inclusions of a range of programs, all under the idea that the process would be incremental, and that small amounts of investment would be made over time in the hopes of creating agglomerate economies to begin supporting the area’s gentrification. Anything from conference rooms and lounges, nightclubs, summer stages, gardens, and recycling centers were put forth as potential opportunities, and all would be added in phases so that tenants could activate one area at a time, growing informally through negotiation. The site was meant to bring greater involvement with the public for the re-occupation of a primary local space, and let individuals determine its growth and meaning. While a more static model than Price’s earlier work, it shows a modern effort toward the re-use of public infrastructure and how an informed public can control the process of space mediation and the programs created. It explores the ability of a space to house various programs simultaneously and allows the public to negotiate the evolution of them over time.

Cedric Price’s theories centered largely on cybernetic ideals, most of which were based on the integration of social input and software heuristics to inform space. Many of our current networking technologies continue to build on a similar model. Modern technology and personal communications have altered the way we interact with one another and how an individual interacts and views his environment. The devices relied upon for these abilities are becoming more and more ubiquitous, and are creating a network that is constantly growing and being augmented by both professionals and the public. From personal networking and social sites such as Facebook and Myspace, to blogs and Twitter, the way humans interact and trade information with one another is dramatically changing, becoming more virtual and globally accessible. There has also begun to emerge a desire for the built world to integrate this social paradigm and its capabilities in an effort to allow it to respond more to the needs of the user, and to create more dynamic relationships with the designed environment.

Architecture has taken on this potential in recent years by integrating modern media and technology into its designs. Media facades and reactive installations have become the prev-

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alent method of creating an interface between built space and user, primarily in areas of high population so as to react to the large number of people passing by. As technology improves and architecture continues to catch up to it, new structures are taking advantage of this interplay, both as a way of creating more interesting designs and to assist in more efficient buildings. This increased interaction with the public allows a building to perform new functions and derive a new presence in urban areas. Whereas architecture before was more static and unresponsive, it now has the ability to act and react to varying stimuli in real time, creating a unique effect giving the public a sense of control over their immediate physical environment. Scaling down from this, interactions between virtual and built environments have been used to create interactive armatures open to public use and manipulation. For example, the Living Light pavilion in Seoul, South Korea, is designed to involve cell phone users in relaying information in real time about air quality in the varying provinces within the city. This information, sent by individuals through SMS (Short Message Service, a communication service component of the Global System for Mobile Communication that allows messages between mobile devices), is then translated to a panelled umbrella structure resembling a map of the city and displays the air quality within each province and is updated by the minute according to input from the public. Taking a more subversive stance, as mentioned earlier a group of artists and programmers known as the Graffiti Research Lab have created technology allowing digital graffiti at any scale, and readily available to anyone without any background in scripting or interface
design. The custom software they wrote allows the user to project the movements of a virtual stylus as a stroke of color onto a surface.

In all of these cases an interface was necessary to mediate the connection between human and response. These experiences are successful because they offer expanded powers, and users can find spontaneity in their actions as well as a powerful sense of personal connection. As Philip Beesley, professor of architecture at the University of Waterloo, writes, the user gains a redefined “body” whose “expanded border embraces the surrounding environment.” The average American owns twenty or more computers, and many of these are embedded and act in isolation, which argues for a more networked environment wherein communication, sensing, and information processing will disappear into the background. As Erik Conrad explained in his essay on embodied space for ubiquitous computing, we have come to understand a computer’s effect on our culture as a tool of and as a structuring force behind the relationships between people, institutions, and practices. Henri Lefebvre also summarizes this sentiment as it pertains more broadly to the meanings we attribute to space in his The Production of Space, “social space reconciles the physical and the mental, concrete and abstract, and if we consider all interactions with computer systems ‘social’ then these interactions also have the potential to be places where the physical and the mental co-mingle.” Architecture and design is beginning to reflect the virtual pulse of the public through physical means and is now becoming more immediately and dynamically relevant among a broader range of the world’s population.


Virtual Lives

The growing ubiquity of personal computing and communication devices rises in tandem with the popularity of virtual communities existing solely on the internet. Many of these cyber enclaves revolve around a surreal premise, ranging from managing foreign worlds and gaining superpowers, to game scenarios where players combat each other and evolve their characters through repetitive tasks for virtual currency.

One of the first successful models of a personal virtual space wherein the user is able to manipulate outcomes and control his own world was the SimCity series. It revolutionized the gaming industry with its release in 1989 by creating a new paradigm in that it could not be won or lost. The player is given a map of a certain urban typology, and from there the outcome is up to them to create what they desire, or to set their own constraints under which objectives are to be accomplished. The creation of cities and balancing economies was the primary objective, during which the user was free to create and destroy as they pleased. However, the interaction was only Human-to-CPU and remained limited to that linear relationship. This would change years later with the expansion to a Human-to-Human dynamic through the online world. The concept of personal immersion into the control of and interaction with a virtual world has grown exponentially since then into many different variations, especially once it became enmeshed with the social sphere of the Internet. The most notable of these virtual worlds is Second Life, a completely customizable and immersive environment where the user can create an alternate ego or avatar and interact with others to communicate, trade, and form their own communities based on particular interests or backgrounds. Recent developments in these games have now allowed users to create and build virtual structures according to individual or communal desires. Designers have also now begun to use this potential to create their own designs within the game, and use the virtual space to display their creations and allow users to augment and submit alternatives, or even vote on certain ideas to later be produced in the real world.

This growing virtual world has been harnessed within the negotiation of architectural design and urban planning even further. A small design firm in San Francisco, Wikitecture, has already begun to explore this potential in recent years. Their practice is composed of a range of individuals from varying disciplines interested in the application of an open-source paradigm to the design and production of both real and virtual architecture and urban planning. The group has been working at harnessing the collective intelligence in designing architecture. Teaming up with software designers and game developers, they have begun creating interfaces that allow individuals and orga-
nizations to create and communicate in a virtual context so as to improve real communities and solve real design problems.¹

With the progress of global mapping information provided by Google and others now open to the public, perhaps these new repositories of information could be exploited to assist in the creation of site specific design and planning, open to local or global communities and organizations in developing new projects and designs. This also lends to architecture existing within the virtual realm, and its translation to physical reality. The data available to anyone with a computer is now immense, and the mapping of nearly infinite amounts of this information has already been done. The developments of urban areas, the current state of economies, and the needs and desires of a local and global public have been charted. These volumes of live data could be used in the development of new urban territories and architectures incubated and created in virtual, communal space, and finally manifested into physical reality through public software in-hand.

Most recently, mobile technology has begun to translate network data in real time to allow the user the additional ability to see updated information about the city around them. The concept, coined ‘augmented reality,’ is just now being released to the public and promises to alter urban life. Currently it allows a mobile device user to access business information anywhere on the fly such as restaurant menus, where the nearest sale for running shoes is located and the quickest way of getting there, or the ability to save favorite locations to a GPS server that can be recalled at any time in any location with directions. This has been taken a step further with the conception of the Articulated Naturality Web (ANW), which embraces computer vision to see

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elements within the physical world, and to relay information more efficiently and cleverly. It bridges a virtual universe to the mobile user that can be taken advantage of anytime or anywhere. In an urban setting it would allows an individual to reveal things such as objects within a museum, or more specifically would allow a designer, for instance, to test multiple furniture or space configurations to see visual and cost related benefits before implementing them.\(^2\) ANW begins to bridge the gap between the physical and real in a more complete sense, allowing experimentation, planning, and the ability to make much more informed decisions about what we do and how we operate. The growing involvement of networked technologies in our everyday lives is allowing the common individual greater ability to direct and form the world around them.

As mentioned previously, through the interplay of architecture and networked culture, the architect must now focus on enabling, generating, and engaging, similar to the role an operating systems designer performs in the world of software. This brings with it new design goals; to develop infrastructures that enable non-designers to participate, and to widen people’s spheres of motivation, commitment, and agency with regard to the inhabitation of the urban environment. The architect expands his role to formatting frameworks for spatial design akin to operating systems, uniting hardware (in this case, the architecture is included) and software in which people can configure and refigure their desired territories. As Aaron Betsky described in his essay Architecture at a Crossroads, nodal network schemes of infrastructure theorized by firms like Archigram, Superstudio, Team X etc. began a precedent of designed space that flowed freely and created intersections that would order and organize activities and programs in an open-ended manner. These “boxes of delight” now more resemble the storage box, places of temporary accumulation that have manifested as a result of changes in computer and communications technology. He expanded by stating that design should bring “disparate parts and functions, pieces and people, structures and relations together at one open intersection where they establish, if even for fleeting moments, a sense of coherence. It might be this act of gathering, this weaving together the strands of a networked society into a crossroad, that might save architecture.”

The goal of encouraging people to create their own spaces and collaboratively build a social space, one conceptually “open” and imaginative, can help revitalize the public’s view of built space and their capabilities within it. Architecture must evolve as its users and their guiding networks and interactions change. As an early text from architects Coop Himmelb(l)au from 1970 states, “It is not that we should change in order to live within architecture, but architecture has to react to our movements, feelings, moods, emotions, so that we want to live within it.”

The general public, through the expansion of network and social technology is shifting from passive observer to active participant and creator. In an essay on the shift in networked culture, Michel de Certeau described the overwhelming history and current state of affairs regarding the public’s place within the world of media and the wired networks guiding them: “The television viewer cannot write anything on the screen of his set. He has been dislodged from the product; he plays no role in its apparition. He loses his author’s rights and becomes, or so it seems, a pure receiver, the mirror of a multiform and narcissistic actor.”

The boundaries between “user” and “producer” within the world of media and content creation are eroding. Traditional models of broadcasting and publishing are being challenged by a networked culture of blogs, music, fan art, video mashups, online communities, videogame mods, and virtual property now exist alongside the dominant entertainment and creative industries. Over 200 million people play a single MMOG (massive multiplayer online game) with over 20 million logged on daily. The game is centered on building local farms and teaming up with friends to trade goods and grow virtual communities together. This opens up new range of models of production and interac-
tation to emerge. A participatory culture transforming everyday life is reshaping flows of information, and creating communities and social structures that determine media production.

However, almost all of this exists solely in a digital context. Physical armatures attached through open virtual networks to a mobilized public can make use of this pre-existing data exchange. The dissolution of the traditional user/producer paradigm gives way to content creation and adaptation by users, and allows architecture to become something more democratic and open to public interpretation in real time aligned with local codes and understanding of space in the city. Volumes of information stored online become reappropriated and absorbed back into the physical system of the city. The constant flux of input and output leads to free and co-creative labor among the participants, and fosters more collaboration among users as their environment is continually reshaped by network culture, both virtual and physical.

Networked practices have a direct impact on our everyday lives in an active and immediate sense as opposed to traditional architecture which largely remains static and in the background of the daily paths and experience of the city user. They remain embedded in the backdrop of infrastructure just as networked practices remain embedded in the devices and technologies that make them possible. This thesis aims to bridge between the two to allow a symbiotic relationship to build a new paradigm of civic architecture and its attachment to the public through ubiquitous computing and its supporting networks. Just as Wikipedia is an exercise in mass collaboration, architecture can become a study in the creation of collaborative rewriting of space. A primary goal of this is to create a real-time discourse and collaboration among the public to propel a more participatory culture opposed to traditional hierarchical space delineation.

The goal of the new networked culture in relation to architecture is for crowds to interact and form through it and the cross section of digital and physical networking. Urban “consumers” will become collaborators. Anonymous users will define local codes of negotiation and space creation instead of planners and architects dictating program and use, and the palimpsest of content will be open to the public for (re)formation and control to optimize the architecture’s presence. The value of the space and the architecture therefore rises as it acquires a greater sense of uniqueness and communication with the local population. The ‘open content’ of these local nodes vary in philosophy and practicality between communities and individuals, yet are united by the same objective -- to make it easier to share and re/use knowledge, culture and content. The ‘open’ movement has grown and evolved over the decades, and has gradually become a fundamental and inextricable part of people’s daily lives, so the question becomes why can’t architecture become a part of that system.

Within a relationship to the physical realm, the notion of the crowd is one necessary for the building to have life and to operate. By reaching out to the user in the form of an “open call,” the architecture assumes a more symbiotic and a more personal relationship. Value can be gained from gathering data on individuals with similar tastes or desires, and actualized through civic engagement, interpersonal connections, and self-

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For many people architecture is simply a backdrop in the city, something passed through without critical thought or interaction on more than a trivial conscious level. If the public is given some amount of agency over their immediate environment it will reshape how architecture functions and operates on a variety of levels. It will have to co-exist within a constant conversation with its respective users and adapt accordingly, and the design armature will in effect become a mechanical prosthesis or extension of the enabled individual.

4.00 Digital Beijing Building (2008)

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7 Leorke, p 12.
050 Local Territory

In order to facilitate a connection between architecture and human networked culture, the terrain vague of the urban scene can be implemented. These territories share the double condition of vacancy and indefiniteness. In constant fluxuation and movement, these residual areas, described by Ignasi de Sola-Morales, are inherently morpheous and mirror the “non-place” of the electronic network of cyberspace. The individual programs themselves do no offer any opportunities for the emergence of an intersubjective space to modulate or break open these non-places. It only becomes anthropological once it meshes with human activity and interaction. The relationship between the absence of use or activity and the sense of freedom and expectation as part of the suggestive force behind these realms triggers the potential for inactive, interstitial space to be recharged. By infusing the site with a fluctuating or layered volume and program set in a dynamic relationship with the public breeds a development of the margins with higher density and greater connection with those who use it.

There are two particular infrastructures in downtown Cincinnati that are a cause of debate and revisioning. Both the skywalk system and the collection of sufrace parking lots stitch a network of underused and largely unproductive areas with potential for more meaningful and efficient design. The skywalks in Cincinnati were built with the best intentions, envisioned during the urban renewal of the 1960’s, the small network of second-story bridges has come under fire in recent years. Many critics feel they choke off pedestrian traffic, or hurt street-level retailers while limiting development within the core of the city. Jim Tarbell, a Cincinnati councilman remarked, “The skywalks were not the best-developed scheme in recent history and have not served us all that well.” Others still praise the system, stating that it makes retail and restaurant establishments easily accessible without moving through inclement weather, and can be especially helpful to out-of-town visitors. Michel Scheer, Head of the Hilton Netherland Plaza Hotel, stated that he believed the network could experience more success if links were added connecting more prominent downtown attractions such as museums and restaurants, as well better signage and increased advertising potential. According to a poll done by the Cincinnati Enquirer in 2001, 65% of Cincinnatians voted for the skywalks to remain, 22% were not sure, and 13% wanted to see it removed.

The skywalk in Cincinnati is something of a unique case among those constructed, in that while it largely remains intact, there are a handful of areas where it has been severed, coming to an abrupt end and leaving tracings of past connections or future extensions. Some sections have been removed after being deemed a burden on the city for reasons largely revolving around lack of use and the shifting growth of downtown infrastructure. For most of the life of the Skywalk, it has served as an intermediary, a loosely scripted space through which pedestrians travel as they move from point A to point B, and remaining largely in the background noise of the daily travel of its users. Instead of simply demolishing them, their presence could assist in forming and framing new public space through which the vir-

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2 de Cauter, p 321.
tual network can emerge.

The possibility for re-injection of more appropriate and dynamic architectures could also lead to a formation of local cultures and new aggregate identities. The downtown metropolitan area suffers from a loss of population and left over spaces that no longer serve their original intent or any at all. The Over-The-Rhine community has suffered from a major loss of residents and paying tenants due to degrading real estate after the 2001 riots, and even within the central business district there are a number of prime spaces still vacant. However, in the last few years major redevelopment plans have

5.01 Aggregate of surface parking in Downtown Cincinnati in 2011
been completed through 3CDC and the area is beginning to see an ambitious revival of vacant or delapidated parcels.6

Within the downtown district there also exists another example of non-place in the surface parking lot. It’s presence is ubiquitous throughout the metropolitan area and in many cases fails to maintain fifty percent occupancy during peak hours. They also exist in central downtown locations, as either a placeholder for later development or a way to generate revenue over otherwise empty lots. These areas also sometimes serve an added function as annex to public functions such as parades or music festivals. However, these events occur relatively rarely and in isolated areas, leaving many of the lots vacant for most of their life, as even the spaces that experience the highest traffic are emptied outside of business hours.

One site in particular resides in a location shared between both the end portion of the skywalk which was discon-

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continued, and a surface parking lot of twenty-two spaces in the western end of downtown Cincinnati. It is situated adjacent to an above ground parking structure and linked to the outer perimeter of the main plaza next to the Sheraton Hotel along Sixth Street and Rusconi Pl., an alley running to the east of the site. The parking lot itself rarely sees maximum capacity, and serves mainly as a temporary space for those not wishing to park in the structure across the street or directly adjacent to the south. It is a relatively small space among the rest of the surface parking, but because of its location to primary centers of public congregation and traffic, serves a viable location for a more dynamic and programmatically dense intervention.

The pedestrian foot traffic through the site is relatively minimal, however, because of its connections directly or indirectly to main thoroughfares could engage a larger public presence as a node for linkages to virtual networked communities and to build alternate programs. By using the pre-existing infrastructure as a frame, a soft space of play and interaction can emerge. Using a simple set of rules to activate the space through a virtual network, the existing infrastructure can take on multiple programs and permutations in real time in direct response to public influence. The result of which is a new mode of ar-
chitecture similar to pre-existing virtual contracts--the idea of a product or service we have access to *when we want them*. This shifts the existing paradigm of static urban space or structure serving a singular purpose to spaces as bundles of energy with multiple outputs. The online social experience is brought out into the physical world of design allowing greater agency and creative demand to be captured within a sharable city.
Virtual framework

In order for the user(s) to be able to affect or take advantage of an architecture linked to a virtual network, they must have an interface through which to access it. Mobile technology has been steadily advancing through the past decade and with the growing demand for smart devices, more and more of the global public is now linked with the ability to access online content and various social networks wherever they are. According to a Nielsen Group survey, through quarter three of 2011, 62% of people ages 25-34 own a smartphone in developed countries. In the 55-64 year old range 30% own a smartphone and the percentage is growing.\(^1\) Through the use of GPS data and wireless communication a networked architecture could respond to public demand and learn optimal configurations over time. Varying programs based on temporal aggregate occupation and data stored containing various user preferences and past experiences will allow for more efficient and meaningful space to emerge.

The goal of the virtual aspect for the architect here demands a workable software framework to manage user footprint and the analogous machine derivative. This includes designing the linkages and underlying physical and wireless architectures to allow the space to speak to the public and vice-versa. If each person within a certain area owned a mobile device containing the software specific to a space, that person would be given a certain degree of control and creative expression over how it looks or what programs are generated. This in itself would lend to attracting more users to the site and garner more specific interests for use. The architecture could then largly be left to the public in terms of negotiation and participation. Different demographics or social spheres would determine the rules of engagement and how local space fits within their needs and desires, lending to a more efficient use of energy and marginal territories. Program development is now free to evolve and remain in flux over a twenty-four hour period and become a direct derivative of public interaction.

The space and programs will form through a process of typological and topological hyperlocalism, where the site is a product of a virtual instrument that absorbs abstracted projections to an assimilation of temporal realities in situ. As it relates to Pask’s conversation theory, rather than understanding information as a thing to be passed between conversationists, it is an effect that results from conversing.\(^2\) The question becomes can we “talk” with architecture in some way, as a model for developing more open interactive systems and reveal opportunities for opening the boundaries of human-object networks and the relationship between people and their environments.

A public framework would need to be developed, one with a set of rules able to be understood by anyone accessing the system. A free access application within a mobile device would allow anyone at any time within a certain proximity to exercise a certain degree of agency and control over the space. There are many options for how users interact with the space and with each other based on the constraints set by both the current virtual rules and the physical nature of the architecture itself. A simple GPS based proximity interaction could allow the user to manipulate the architecture by only having the mobile device on their person, without needing any interactive software or developed subset of programs. Further development of

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The initial virtual framework would be developed as follows:

- An open voting system would be implemented to allow a democratic process of program negotiation. It would be based on a 24-hour cycle, wherein current programs may be continued if enough new votes are placed to prolong it, otherwise that space could be erased back to a default or zero position to be manipulated by a new set of users. This creates much faster turnover of space and greater sense of urgency in demand and occupation for specific event programs.

- This “upvote” system, similar to other online news and information blogs such as Digg, would operate strictly through mobile software to allow the public the agency necessary to affect change on the architecture more democratically.

- Beyond a GPS proximity relay, the software program could be altered over time with different ratios depending on the amount of users influencing the site. For example, a 1:1 ratio for a single user, to a 2:1 ratio if a user has a greater history of use.

- Programs that are voted highest beyond a certain threshold could be saved for future use if desired, and spaces may also be phased in shorter periods than 24 hours if relinquished by the user(s).

- Future development will consider thresholds for manipulation or sphere of influence or history on the site. For example, certain spaces that have been created by a mass number of people remain for a certain period of time, perhaps longer than those generated by a smaller group. If a single person uses the site enough they may gain the equivalent weight of multiple people allowing them greater agency. This model would encourage interaction with and occupation of the site.
The driver of the architecture is the underlying network of individuals linked by their personal wants and expectations. The space is a translation of these inputs through the integrated virtual network(s).
The mobile handheld device has become very powerful in shaping our daily lives and how we operate as a society. This interface allows a faster and more personal link to the associated space. A simple application was developed to parse the updated data in an easily understandable and readable form to the user, offering the ability to save previous programs, relay information about who is at the site and its current configuration, and build a unique relationship with the architecture and how it acts.

The site is partitioned by volumetric cells (voxels) creating a pixelation of three dimensional space. These voxels are set along a grid which can then be manipulated by anyone with access to the software on a mobile network. Rules can bet set contraining variables such as how much influence each user has on the space or how long their territories remain before others may reshape the landscape.
The mobile device allows a range of potential based on crowd participation, encouraging greater use and feedback. The site remains inactive without digital influence, and through the use of a simple algorithm can produce a dynamic and easily understood negotiation of space.
As mentioned previously, a modular design consisting of a wireless sensor network open to the public on a 24 hour basis would allow an efficient system for program density. The architectural space as a whole opens and closes based directly on user desire. If there is no demand for occupation the site will remain dormant and closed in order to store energy for later use. Due to the constantly shifting programs and open network, curiosity becomes a driver in populating the site and creating buzz amongst the local community. “Have you been to the site lately?”

The main armature is designed to be flexible to facilitate both a larger singular configuration as well as multiple smaller programs within the same space. The supporting infrastructure will be able to respond to one or many network inputs simultaneously on a range of ratios, ie one person may have a greater ability to manipulate the space based on factors such as usage or prior history in creating certain configurations. The system itself will have a ‘memory’ of individuals who pass a certain threshold and enable them greater ability over within the system. The primary intent is to allow both creation of unique programs as well as communication or negotiation between users as to use and temporal output. The physical system, a repetitive system representing a pixelation of open space called voxels (volumetric pixels) will be able to quickly respond to input data constantly in flux. An integrated use of smart materials and energy re-use will aim to make the site a self-driving machine able to create and store its own energy while dormant and while active.

The site is accessible to anyone with a linked mobile device, and can remain open or closed to the general public based on the voting system within software. The space can be completely self-contained or completely open (open-air as well). The customizable voxel components allow for altered surface materials and the ability to create unique typologies within discrete areas of the space (plants/audio interfaces/visual interface etc). Each voxel will allow the ability to access an AC current for enabling personal devices or larger equipment for alternative use of the space (projectors/speakers etc). Within the space a closed range wireless shared network will be implemented to help attract users and to have the ability to support creative networking within the space or near it.

The voxel itself is fabricated from robust plastic so as to be light-weight and durable. Each contains an individual wireless GPS localized sensor for relay to mobile devices, as well as internal energy storing devices that actively store energy created by the motion of the voxel itself so as it expends energy to move it also creates energy to assist in bringing back the net energy to zero. A photovoltaic array affixed to the southern wall of the adjacent building will gather energy for storage while dormant to be used when the site is activated.

Pneumatic pistons drive the individual voxels linked to a central underground series of electric air compressors that draw energy from the integrated energy storage. The openings of the shell enclosing the space is composed of smart glass composite allowing precise control of shading and privacy if desired. The upper roof also opens up to allow an open-air space if desired during the warmer months. A digital display within the smart glass controlling information relay about the site and its users or activity currently or over time would be integrated to convey interior activity outward to the public. While the site is not under occupation, a feedback relay to those who use the site as they pass will be established. Specific promoted events, somewhat similar to the Twitter model, will be promoted as demanded within the digital relay. Institutions wishing to use the site must still gather the necessary critical mass of votes to garner the necessary space and time influence over a certain period for the desired program.
The premise is to create an architecture that is able to form a large array of programs within volumetric boundary. The site is broken down into zones allowing flexibility of site use and program. Each zone is fed input from a networked public and bends to reflect the aggregate desire of the users.
The modules are then further broken down into smaller units to allow greater individuation of space and to allow a greater number of discrete zones for the potential for multiple programs to co-exist.
The network sensors in the voxels relay the influence of the mobile GPS device based on a simple proximity algorithm. This can then influence the shading device above to control light into the space based on what the ground typography. This expression can be altered by simply tweaking the software code to generate alternate interactions.
The range of programs depends on site occupation and intention. Group think is encouraged and allows greater agency. The rule-based system is played by active members of the city, and in some cases with the intent to communicate with other groups.
A simple expression can generate programs for immediate use. Easily programmable spaces such as a symmetric typographies can allow a quickly enabled site such as a stage set or space for public performance.
The individual voxels each allow the ability to interchange a range of surface conditions for greater differentiation of programs (foliage, rubber track, tile etc). Each module remains in place while the user is standing upon it, while the surrounding units shift under the control of the wireless sensors linked to the mobile devices held by the user(s).
5.26 Voxel Operational Framework

VIRTUAL OPERATING FRAMEWORK:
- Open voting system promoting a more democratic process of program negotiation.
- Based on 24-hour cycle.
- "UPVOTE" system operating on mobile software to allow open public agency.
- Alternate mode of Proximity relay based on varying ratios of distance to a particular voxel unit.
- Programs voted highest beyond a certain threshold can be saved for future use and may be phased in shorter periods if relinquished by the users.

CURRENT STATE
- Time constraint: 30 minutes.
  - Mode: Isolated presentation.
  - A H = 30°

CURRENT STATE
- Time constraint: While occupied.
  - Mode: Occupied voxel.

CURRENT STATE
- Time constraint: 90 minutes.
  - Mode: Floor.
  - A H = 2°

FUTURE STATE
- Mode: Step.
  - A H = 6°

CURRENT STATE
- Time constraint: 120 minutes.
  - Mode: Step.
  - A H = 6°

> PROGRAMS
- STAGE
- GALLERY DISPLAY(S)
- WORKSPACE
- CLASSROOMS
- CO-OP WORKSHOP
- LOUNGE NIGHTCLUB
- RANDOM COMBINATION
- UNDEFINED

> SINGLE STAGE

> GALLERY

> GREEN SPACE
The skin condition is important in that it can allow for a further degree of adaptation to the local environment and desires of the users, and can project and relay information across the city to other sites and like outgrowths. It can also serve to increase temporal gatherings and events on various scales. Here the virtual community behind these sites becomes even more important, as the negotiation of these spaces and current issues or concerns could then be made immediately public. The static shell is the physical framework within which the fluctuating soft space can operate.
The above rendering depicts a spacial program determined by group occupation to allow a performance stage and seating to be created. Programs must co-exist or co-evolve. This framework necessitates greater democratic negotiation of space and understanding of the wants or goals of the user(s). The final goal is that of creating a new social practice of democratic space creation, negotiation, and program density the renewed infrastructure makes possible.


nytimes.com/2005/08/03/realestate/03tunnel.html?_r=1.


