

EVERY- WHERE IS HERE

Architecture and a Developing Information Society

.01

ESSAY:

*Everywhere is here :
Architecture and a develop-
ing information Society.*

.02

DESIGN:

*The Open Information
Campus
Kliptown, Soweto.
South Africa*





EVERY- WHERE IS HERE

Architecture and a Developing Information Society

AERIAL SITE PLAN

DECLARA- TION

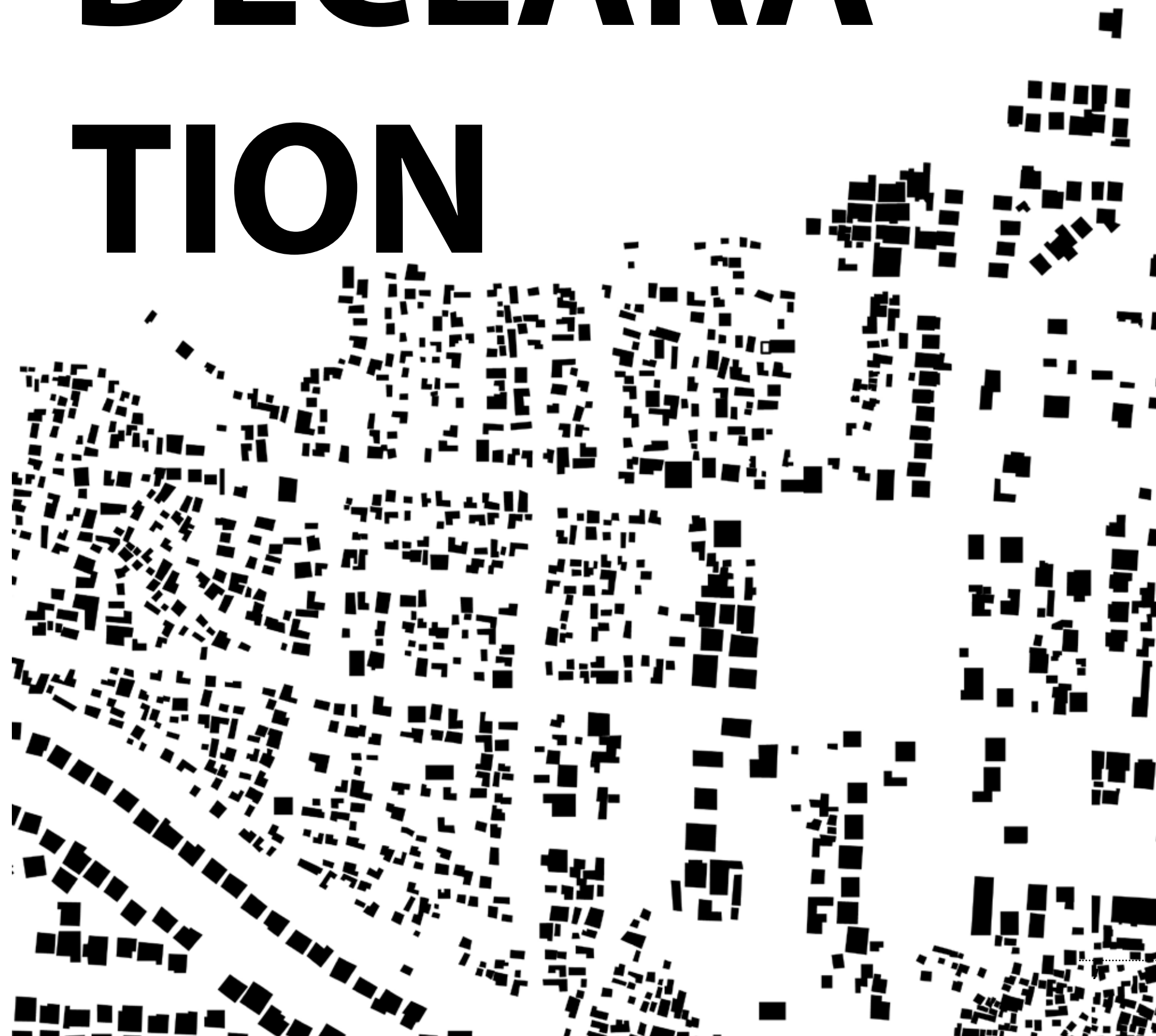
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Guy Adam Ailion
28 November 2009

This document is submitted in partial fulfilment for the degree:
Master of Architecture [Professional] at the University of the Witwatersrand, Johannesburg, South Africa, in the year 2009.



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This paper is dedicated to my family. To my loving parents Fred and Vivienne thank you for all your enduring support and endless encouragement. To my brother Saul thank you for your patience and humbling attitude to life. To Hilton Judin thank you for all your input, thoughts, and direction during the past year. To Emmanuel Pratt for getting the ball rolling. To the formidable Team KFAG, Kirsten, Dana, and Andrew thank you for keeping me both sane and insane, for the late night dancing and two years of unforgettable memories. To Andrew for opening the door, thank you for your patience, ideas and support you are both a mench and a great friend. And to all my friends thank you for reminding me about reality.



**CALL BOOTH
SOWETO**

*One of many lit-
tered call booths in
the streets of Soweto.*

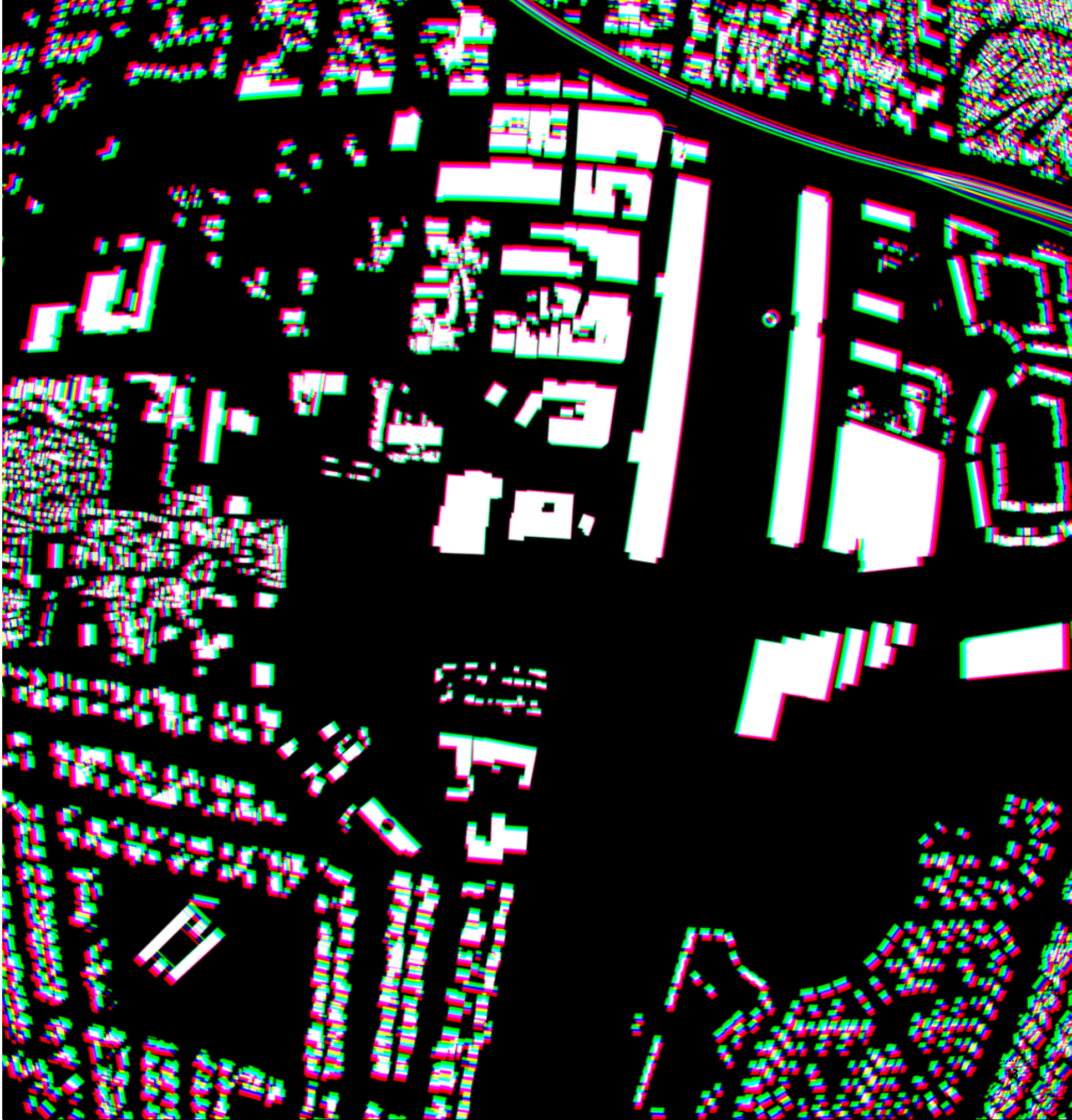
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.01 ESSAY

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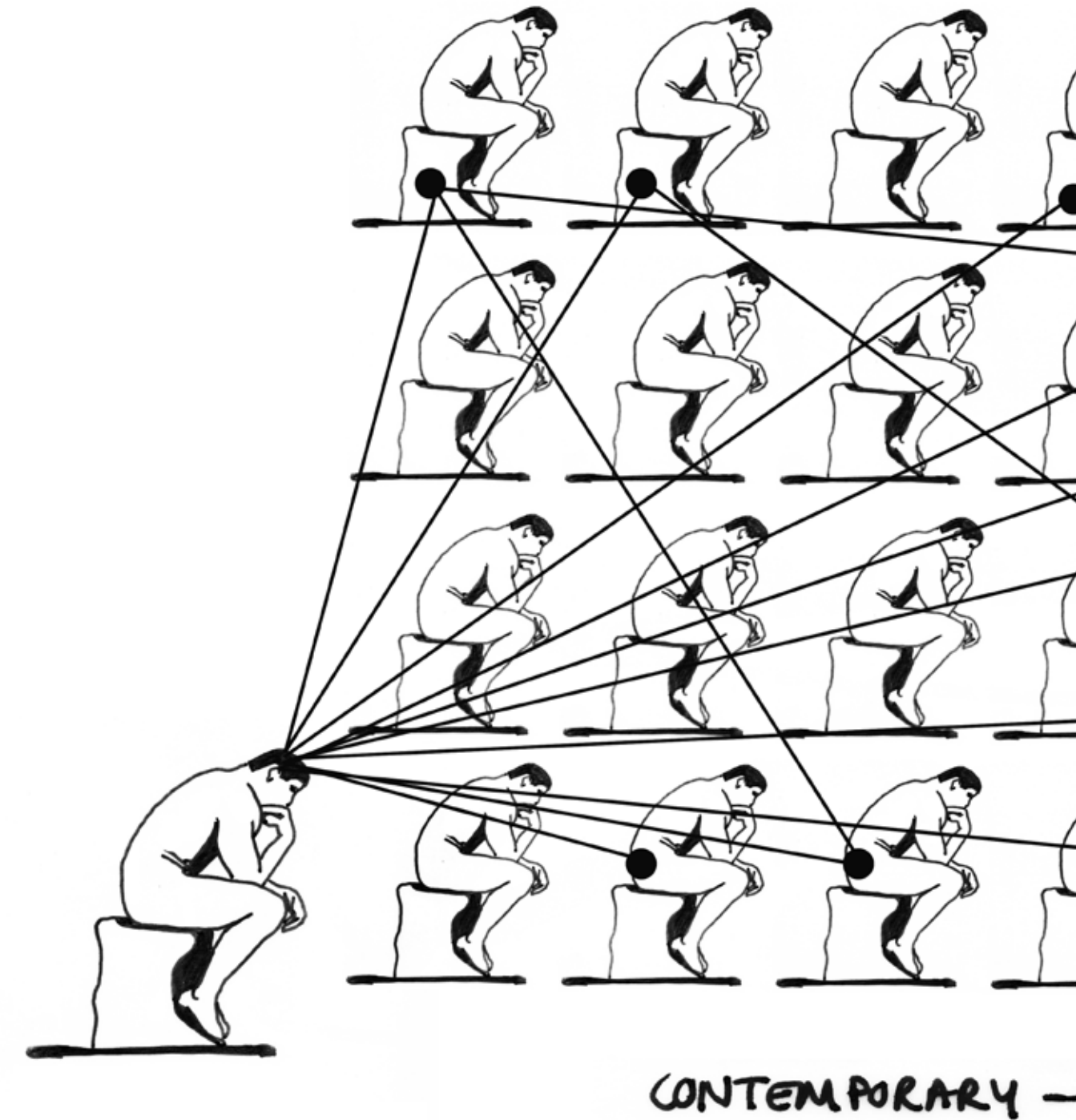
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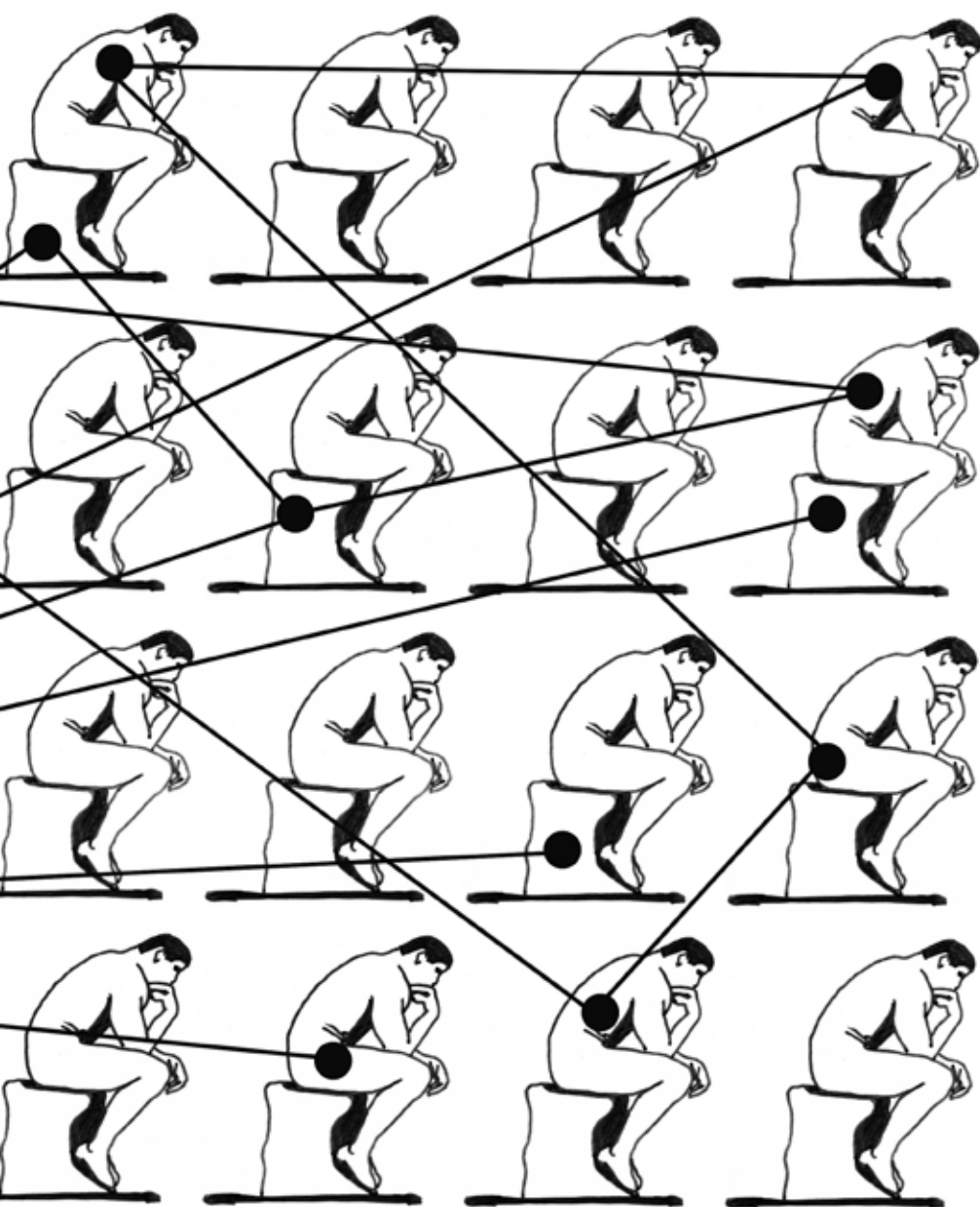


ABSTRACT

'Bit by bit' our society is moving through an Information Age characterized by a global shift towards an increased need for Information. In an instantaneous age of digital information, the ability to access the world's knowledge from anywhere by anyone is a new reality, but one not yet true for communities on the other side of a digital divide.

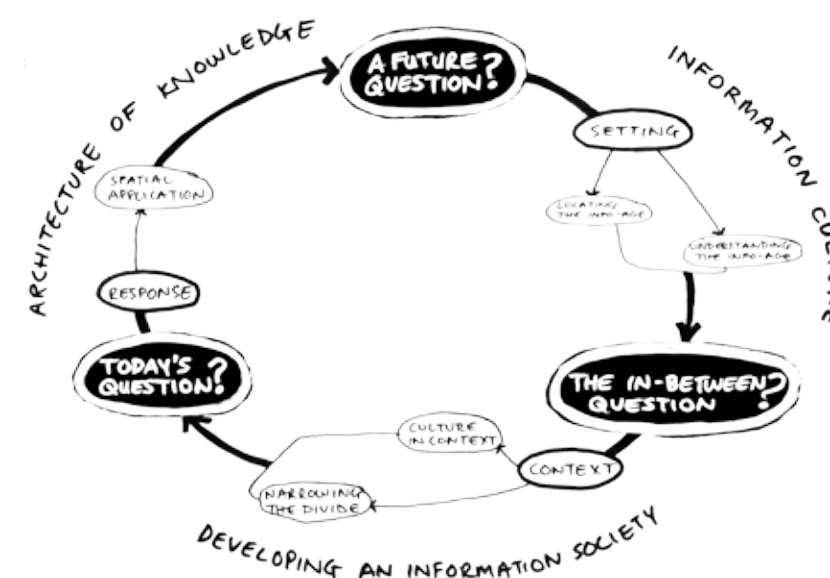
With technology becoming cheaper and faster this digital divide must be seen as more than lack of hardware, rather as a cultural divide. Nurturing information societies in a developing context needs a bottom-up approach that applies local cultures and methods of interaction to global trends of the Information Age. By providing free access and awareness to the world's knowledge and interfaces between the virtual and real, public space and the library as historic resource centres could be the first to embrace this new era in digital information. Digital information is an ether of knowledge with no physical form and the structures of libraries and resource centres must become more flexible and creative when interfacing with the virtual. Through rethinking spatial environments that evoke awareness, participation, and immersive environments for the production and consumption of digital knowledge, the contemporary library has the potential for narrowing the cultural divide, providing new systems and spaces for public education and cultivating a new social culture of use.





— CONNECTED

HOW THIS THESIS WORKS



This thesis asks three questions; a future question, the in-between question, and today's question. The questions aim at identify a critical social and cultural discourse from which an architectural response can be explored for developing an information society in a developing context.

The future question requires an examination of the context of the information age and a growing information culture. *The in-between question* explores the present application of information culture in a developing context and the social and spatial implications. *Today's question* responds to the future and in-between question by exploring the function and role of architecture and information. A complete rethinking and reshaping of the civic library as the point of departure for nurturing an information society in the developing context becomes one response to the future question; What did Google mean for architecture?

A photo essay of the project's contextual information landscape runs throughout this document.



**"Tell me and
i'll forget;
show me and
i'll remember;
involve me
and i'll
understand"
Proverb**

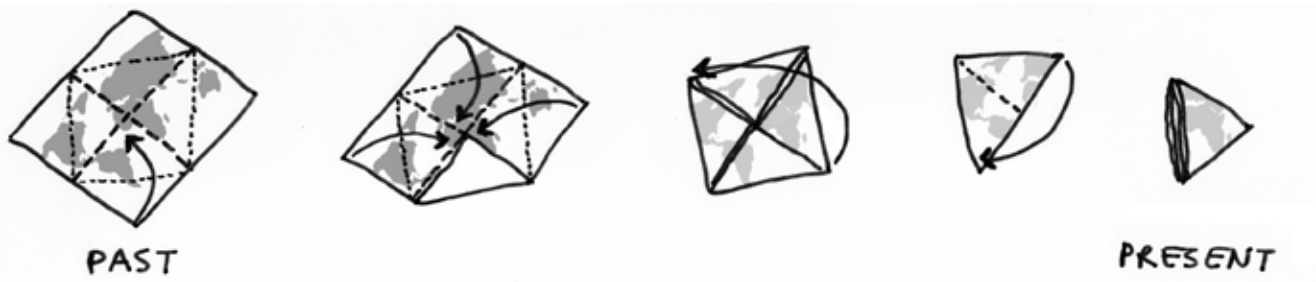
**PROVERB
ON WALL-
NEWTOWN**

*proverb painted on the wall
of the recently revamped
Newtown SCIBONO Centre.*

“The net is ambient – nowhere in particular but everywhere at once”

(Mitchell 1997:8)

-



INTRODUCTION

What happens when everywhere is here?

Information is changing and our world today is increasing folding in on itself like origami, bringing distances closer together and connecting us to the world. As we move further into the Information Age toward a Network Age all the world’s knowledge will be attainable from everywhere and by anyone thus qualifying the statement “everywhere is here”.

Architecture has always imbued a spatial relationship with information and communication, but only in the last decade has the virtual come into question. The public square or public fountain was traditionally the place of chance encounters and information exchange in the city. Manuel Castells writes that “public places, as sites of spontaneous social interaction, are communicative devices of our society” (Castells 2004b:6). People would

collect around the square and trade stories, gossip and news about personal life, the lives of others, politics, and current affairs. The square was a space of constant twittering¹, debates, battering deals, and political lobbying. The town hall was used to congregate communities and deliver verbal information to a concentrated audience of keen listeners.

Advancements in technology saw the creation of the telegraph, radio, and television all of which began to change the way both society and individuals communicate information as well as the spaces in which we access information. New technologies began to liberate the human voice and a new culture of information has been developing. Information is now no longer static; it is digital and more dynamic. As information and communication technologies (ICTs) evolve, the city and its buildings begin to reshape and redefine their roles in communicating information for the savvy information society.

The Information Age presents a battle between bits and atoms as the increasing virtual domain of information and communication is face with the physical world of our built environment and our processes of storing and accessing content. Architectural programs and archetypes are faced with the duality of physical representation and virtual implementation of new information technologies while still placing an impetus on context and culture specific buildings.

In the 21st Century, public space and the Library as resource centers must be the first to embrace a new era in digital information and its potentials. Gone are the days of the static library as the ultimate source of knowledge. As information from books is quickly digitized and emancipated from the physical world, we now access information from our homes and remotely on our mobile phones. Ross Dawson, a future strategist, in his 'Extinction Timeline'² predicts that the library will disappear by 2019. Dawson might be right if the library remains the way it is now, but the library should not be entirely threatened by the digital world and see it as an opportunity to reinvent the urban spaces of knowledge.

The rapid advancement in today's ICTs has grown with it a digital divide. In the developing world the digital divide presents not only a social and infrastruc-

tural prejudice between information rich and information poor but a cultural divide too. For low-income communities with little to no access to the technological hardware associated with digital information, the digital divide has rendered them left behind in the evolution of the culture of technology.

If culture is grown and not built, then designers must identify that the access alone is not the solution. In a developing context new strategies and thinking towards information access, awareness, participation and experience is needed to develop a culture of use. In developing an information society specific understanding of the context's economic, social and cultural barriers and habits are required.

Many of the low-income communities have a stigma toward new information technologies. This stigma stems from a lack of understanding of its uses and the perception of it not having value to their immediate needs. Narrowing the cultural and digital divide should see the evolution of civic library presenting new interfaces between the virtual and the real, providing free access to the world's knowledge and educating a culture of use. The civic needs to become civic again and remove the barrier of between street and building icons of information. The library as traditional symbol of free access to information is the perfect model for developing a public awareness and a new perception to digital information. Spaces of information should include functions that encourage inclusion and participation, both on a community and individual scale. The library must become public again, and not intimidate or exclude, it must become as social as a market place and as comfortable as a home while still remaining an urban retreat and quiet space of introspection.

Representing an architecture of information today presents a difficult scenario for architects. The digital ether of information requires spaces that are flexible and adaptable to change. The Seattle Library, by Rem Koolhaas and Joshua Prince-Rasmus of the Office for Metropolitan Architecture, was designed as an information drop-in centre or urban lounge filled with magazines, computer consoles, and couches, that resembles an urban loft. The library does not have a reading room instead it shapes multiple public spaces dedicated to the expression and consumption of both raw and digital information. The contemporary library may not be 'library' at all, but a theatre of knowledge or open information campus and playground that celebrates and stages new ways of thinking about information and communication in a growing digital world.



¹Today, the expression 'to twitter' or 'tweet' is used to describe instant social communication. Twitter is a free [social networking and micro-blogging](http://www.twitter.com) service that enables its users to send and read other users' updates known as tweets. Senders can restrict delivery to those in their circle of friends or, by default, allow anybody to access them. www.twitter.com
² The 'Extinction Timeline' categorizes what will disappear from our lives before 2050. http://www.rossdawsonblog.com/weblog/archives/2007/10/extinction_time.html

INFORMA- TION CUL- TURE:

*"Architecture is no longer
simply the play of masses in light.
It now embraces the play of
digital information space"*

(Mitchell 2000:41)

A Future Question

1. What did Google mean for Architecture?

"In our lifetime we are going from not everyone being able to communicate to almost everyone being able to, from not everyone having access to a library to almost everyone having access to the world's knowledge"
- Eric Smidt, Google CEO 2009 ¹

Before the present obtaining information from books was like picking up pebbles on a private beach. If you were a member; you could hold them in your hand, fill your pockets with a few, take them home and go back for more. These stones were heavy, different shapes and sizes and your coat could only hold so many. As information began to evolve it became more liquid and malleable and eventually completely formless. Today information is more like a cloud casting shadows on the beach– a vapour of minute particles, invisible and intangible. Information is amorphous and almost accessible by anyone.

In years to come, built environment institutions may well ask their students; 'What did Google mean for Architecture?' As one might look back today at the Industrial Age and observe the effects of machining in the creation of the modernist experience and form, future architectural students will look back at the Twenty-first Century to examine the effects of the digital age of information systems on the city, buildings, and space-making to ask; 'What became of the public library when access to knowledge was instant and everywhere?'

In gathering these traces, students and historians will formulate a timeline illustrating how architectural form and programming altered, evolved, adapted, and sometimes completely disintegrated in order to accommodate new forms of information access, communication technologies, and digital interfaces in the rip-curl current of the information revolution currently underway.

¹ From Interview between Charlie Rose and Eric Smidt, CEO of Google. SEE link: <http://video.google.com/video/play?docid=8240499345320964787&ei=9HfgSY7oEMSD-AbEzPijBw&q=charlie+rose+eric+shmidt&hl=en>

SETTING

Responding to the future question and the effect on the built environment of today first requires an understanding of our **present condition** within the Information Age and toward a Network Society. Projecting where society and architecture is headed, such that designers can make appropriate decisions today, means grappling with both the here-and-now and future **simultaneously**. Technological advancement throughout history has not only shaped and evolved cities and spaces we inhabit but also the very way we use and navigate them.

**KLIPTOWN
CONTAIN-
ER BOOTH**

Another calling booth
setup by service provider
Vodacom in the street
of Kliptown, Soweto.



There is little doubt that new technologies result in structural and functional transformation in the city and of new building types. In the Agricultural Age, the wheel and plough provided for agricultural proficiency and a surplus of supplies, allowing societies to work and live off the land. *All roads lead to Rome*-the infrastructure of roads, aqueducts and the technology of sewer systems provided the advancements that strengthen the Roman Empire. Maritime cities developed exponentially with advancements in sailing ships, the anemometer, and navigation technologies, while the size of crate barges shaped the structure and growth of ports.

New industrial skills and steel construction reshaped urban development and erected habitable obelisks across the skyline. The “creation of the Chicago Loop required railroads, the steel frame, and the elevator” (Schon, Sanyal & Mitchell 1999:107). The genesis of the telecom centre, the media library, and ICT infrastructure rise out of an age dedicated to the service and flow of information and communication access. The automatism and remote functionality of wireless technology and personal computing have begun to re-shape both commercial landscapes and social spaces of interaction.

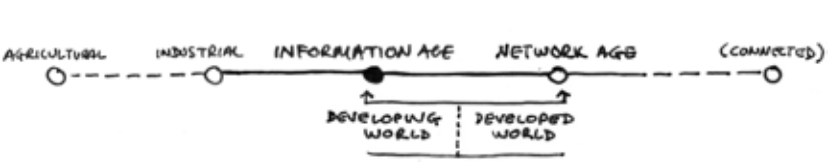
“People or societies tend to lose clear sight of the ‘now’ distracted by blurry glimpses of visions of the future. Often because our imagination is infatuated in lust for the utopian visions that the future presents”
-Conversations with Emanuel C. Pratt (2009)²

As these technologies advance, the physicality of architecture is set against the virtual realm. The overwhelming evolution of highly sensorial digital experiences and virtual realities substituting real ones, can quickly conjure up perspectives of a digital city of flying cars, holographic impersona-

² Extract from conversation with Emanuel C. Pratt, an Architect completing his PhD in Urban Agriculture, through Columbia University. 2009.

tors, and ‘pleasantville’³ citizens in grey Issey Miyake rags. The image of a Bladerunner-esque⁴ future is all well in speculation but understanding today’s technology for today’s context means rationalizing the in-between.

The ‘Global World’ theory or ‘Uni-City’ theory is in reality a far-fetched truth from the perspective of the developing world. Designing new architectural models for a emergent Information Society within the Information/Network Age, means designers must be real about what constitutes effective use and the correct application for specific and diverse cultures; all the while still making reference to future projections of societal and spatial evolution. Like a storm cloud, contextual strands must overlap, interweave and permeate each other to give shape and force to new forms of understanding.



³ Pleasantville is an Academy Award-nominated 1998 film written, produced, and directed by Gary Ross. It presents the dream world of Pleasantville – a society of complacent, conforming, and blissful characters. After the protagonist is transported into this world which he idolizes, he begins to realize that the perceived happiness in Pleasantville is not nearly as fulfilling. He eventually sees Pleasantville not as the utopia he once imagined but as a dystopia as the freedom of choice and expression is severely limited.
⁴ Blade Runner is a 1982 American science fiction film, directed by Ridley Scott and based on the novel *Do Androids Dream of Electric Sheep?* by Philip K. Dick. The film depicts a dystopian Los Angeles in November 2019 as a retrofitted future city.

LOCATING THE INFORMATION AGE



THE INDUSTRIAL AGE

The Industrial Age, otherwise called the Machine Age (Wilson, et al 1986) was characterized by blue collar workers and machinery in industry from the latter 18th Century to the early 1900s. Architects questioned the efficiency and practicality of spatial programs and urban planning. Open-plan theory and Le Corbusier’s home as the “machine to live in” (Fishman 1982) formed the basis of spatial and architectural philosophy that was a response to the Industrial Revolution. New forms and architectural styles like Utilitarianism and Functionalism evolved as the modernist experience and the language of industrial aesthetics. Architects and urban planners designed new public spaces that conveyed the ethos of the time, a precise and systematic order that constructed our image of the modern society.

THE INFORMATION AGE

What is now called the Information Age⁵ is for a theorist such as Manuel Castells, a new techno-economic development paradigm that emerged in the 1980s as the offspring of the industrial age and a new, revitalized information technology (IT) revolution (Castells 1996). The new mode of

⁵ The 1st mention of the term ‘Information Age’ was used by author Hammer (1976) in a book about the Library, Science and Technology. Manuel Castells revisits the term when he characterises our current era as the Information Age (Castells 1996). According to Castells the genesis of the Information Age can be traced back to the 1940 and 1950 technological inventions and has a significant boost in the 1990’s with the public release of the World Wide Web (Castells 1996).

economic, social and cultural development is no “longer industrial but *informational*” (Audirac 2003) and knowledge generating. Not only is access to information leveraging local and global networking and remodeling our notion of time and space, but it is fundamental to our daily lives and every aspect of society in the future of our built environment. The Digital Revolution is transforming economies and shaping spaces within the city. Cities in the developing world have grown in a technological divide that deepens the existing patterns of socio-spatial segregation, a type of “urban schizophrenia” or “dual city” (Schon, Sanyal & Mitchell 1999:27). The dual nature of the city is then increased by the economic effects of the digital revolution. High end jobs now require education in information-handling and the low-end population receives the dead-end jobs.

The material culture of physical production and form is faced with an inevitable shift toward a relationship with the virtual culture of increased communication and information networks and highways. The virtual reality is by no means unreal but its full effect is still not evident (Picon, Lerner 2003). Cultural attitude and habitual archetypes of communication systems need to apply a new logic that incorporates a marriage between the virtual and the real. These applications require a bottom-up approach that is particular to specific societies; in this case, developing contexts and their existing social structures and way of life.

THE NETWORK AGE

From the everywhere Information Society to the Network Society. As information becomes ever-present and is embedded into each aspect of our lives, clothes, transport, homes, and cities, we will be linked to the spaces around us as we communicate and engage with our surroundings instantaneously. Discoveries and inventions in wireless devices, intelligent nono-technologies and *ubiquitous computing*⁶ (Mitchell 2000) will dramatically change the way we interact with the world. Not just smart buildings, but smart public spaces will be highly responsive to the needs of their inhabitants and their consumption of resources (Mitchell 1997).

⁶ Mark Wieser’s Ubiquitous Computing project in the early 1990 produced the first early glimpses of the possibilities of this technology. Workers wearing wireless transponder devices could interact with a building and information displays. The building contained hundreds of its own devices linked to cell-phones, computers, vending machines, TVs, displays, elevators, and furniture. All interconnected these devices allowed the workers information to follow them wherever they went directing adverts, emails and furniture to them. (Mitchell 2000)

Our cities and structures will be both virtual and real, an ‘e-topia’ of living and evolving digital organisms (Mitchell 2000). The significance in projecting one’s thoughts past the Information Age and into the indefinite is that when designing for the now you whittle a stone in the future. Our buildings and cities live on beyond the life of their designers. When considering the design of structures and space-making in the Information Age, it is vital to still have one foot on the ground. We must keep up with pace of the digital-information revolution to ensure the construction of a culturally rich and productive network society in the new economy to come.

For example, in avoiding the introverted nature of personalized remote communication, designing for the correct evolution of face-to-face interaction in public space can only be done in considering the present in relation to future expectations.

UNDERSTANDING THE INFORMATION AGE

Information technology has been instrumental in the shift from the Industrial Age to the Information Age. As an information society we will currently be characterized by the ability of individuals to access and transfer information freely and instantly.

neously. We presently live in a society in which the production, acquisition and the flow of knowledge drive the economy, and in which global information networks represent key infrastructure. It is important to understand the formation and logics inherent to the Information Age and the Network Society when designing for new programmatic models and space-making that is contextually relevant today and progressive in thinking for tomorrow.

SHELF LIFE AND RAW DATA

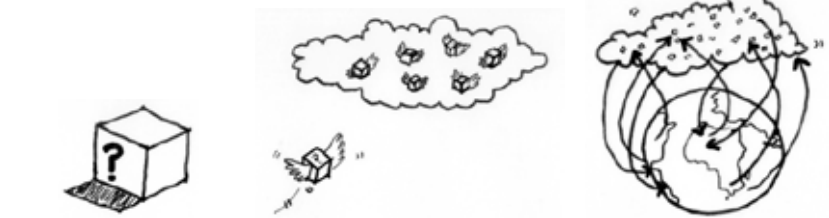


“Information is information not matter or energy” (Wiener 1948:155) How and what we understand as information has changed exponentially over the last decade. There have been numerous technological inventions that have significantly changed how we not only process information but perceive it. The Information Age can be characterized by identifying six information revolutions, Writing, Printing (Printing Press), Mass Media Entertainment (Television) and today the Internet (Monge, Contractor 2003). Each revolution began with a radical new technology that provided a new vessel for information data in which it could transcend its former technology. Every new vessel dramatically influenced the way in which societies and individuals assimilated information, communicated it, and generated knowledge from it. In order for us to understand the current form or vessel of information, we must first define *Data*, *Information*, and *Knowledge*, in relation to each other: *Data* is a collection of facts or content, *Information* is organized data, and *Knowledge* is built upon information.

For many years the storage of raw data was concerned with a material

culture made up of matter. Raw data was and still is, organized into texts, printed on paper, compiled in a book, sitting on a shelf, and enclosed by a building. For the majority of human existence putting data to paper was the most reliable method for archiving and storing information. Libraries are a Society’s custodian of information, often holding thousands of books on a thousand of shelves. The problem with books is the fact that they are static channels of information flow. What I mean here is that communicating the content of the book is a one-way channel from the author to the reader. The spatial distance of this flow is literally defined by the posture of the human body while he/she reads the text. Today’s technologies and digital processes mean that information is attainable almost anywhere and by anyone and with no loss to its clarity and original format.

THE INFORMATION ETHER AND DIGITAL DATA



“The Net negates geometry... it is fundamentally and profoundly aspatial. It is nothing like Piazza Navona or Copley Square... it is ambient -nowhere in particular but everywhere at once” (Mitchell 1997:8)

From smoke-signals to pigeon post, and the semaphore to the electric telegraph, societies and individuals have always needed and invented reliable ways of communicating information to one another over vast distances. Today’s methods of communication and access to information are ‘telepresent’⁷ and can “transcend space and time” (Castells 2004b:36).

⁷ Castells(2004) uses the word ‘telepresent’ or ‘telepresence’ to describe an experience of being fully present in the real world at any given moment while being remotely at another location as the same time. Castells goes on to describe how “the space of flows dissolves time and distance” (Castells 2004b:35) by transcending the sequence of events and process that previously disabled the speed and distance of information networks, thus making them “instantaneous” and “structurally ephemeral” (Castells 2004b:35)

The nature of raw data has changed from atoms to bits with the arrival of new information technologies and the World Wide Web. Raw data concerned with matter is now converted into digital data, a hypothetical container that exists in a new *virtual* vessel of storage. In this virtual vessel, the data is unbound by the laws of gravity and place. So along with its billions of friends this new digital content flies off its dusty shelf and into an information ether or cloud of wireless interconnected highways and networks that span a distance though time. The term *Information Ether* describes the current condition or vessel of information storage and access that is synonymous with the Internet and the Information Age.

As the ether evolves, cities and public spaces will be profoundly impacted by this dramatic change from physical to virtual information (Mitchell 2003). Spatial programs of various institutions, libraries, education facilities, community and town halls, and the public square are all places of physical information harvesting that are now present with the transient ether of information. To return to the quote “*Information is information not matter or energy*” Wiener (1948:155) suggests that information should be considered alongside matter and energy as a conceptual constituent that partners them.

NETWORKS AND A PROPHECY

“The network is a pattern that is common to all life. Wherever we see life we see networks” (Mitchell 2003)

Whether we are discussing the success of your new stone arrow-head or our latest online blog post about our pet hamster, we are engaged as a civilization that has evolved and survived on the ability to communicate our thoughts and desires to one another. We build social structures bound by a myriad of networks and connections to which we negotiate and facilitate every aspect of our existence. Archeologists and historians of antiquity have always stressed that these networks are the very backbone of our societies (Castells 2004b). In social life, the analysis of the dynamic relationship between the networks of social interaction and the production of information led to the formulation of the theory of communication networks (Monge, Contractor 2003).

It is true that homing-pigeons were a relatively reliable means of relaying information as far London to Paris, providing they didn’t die from exhaustion, and that “wind-powered boats could build transoceanic networks of trade and conquest” (Castells 2004b). But the time lag associated with the

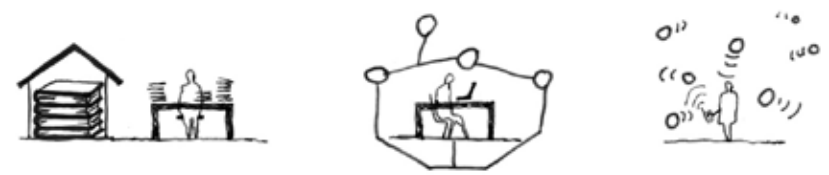
feed-back was so lengthy that it meant that these networks of communication were one-way (Castells 2004b). According to Castells, the micro-electronics revolution that took place in the 1940s and 50s in communication and information technologies established the core foundations for a new technological paradigm, consolidated in the 1970s, mainly in the United States, and rapidly spread to the rest of the world unleashing the power of our present networks (Castells 2004b). A “technological paradigm” (Castells 2004b) organizes a series of technological discoveries and relationships that enhances the performance of each specific technology. And so the spread and innovation of new technologies is constantly expanding and evolving and has exponentially increased in processing power, while equally becoming cheaper and faster every day. Today’s flow of information is instantaneous and applied from anywhere and everywhere. The efficiency of today’s digital networks, due to mobile technologies and the release of the Internet in the 1990s, means that information is literally at the palm of our hands⁸. Networks become the most efficient organizational form as a result of three major networks that benefit from the new technological environment namely: Flexibility, scalability, and survivability (Castells 2004b). The networks survival is maintained by its ability to reproduce multitudes of web-like networks and innovation generated by any size of organizational institute or individual and therein its scale is supple. At present the networks of Information and communication flows hold the potential to expand global and local economies, connect us to the world’s knowledge and bridge new developments in education, social and individual activity, and the way we interact with both our physical and virtual environment. When applying this notion to the design of new programs for education and resource within the city, the contextualizing of the local forms of interactions and information flows in relation to the global network becomes crucial.

COMPULSION AND USE

Information and communication are the most fundamental dimensions to all human activity and organization. A revolutionary change in their performances affects the entire realm of human activity (Castells 1996). In our everyday lives we are surrounded by technologies which we have consciously and subconsciously accepted as part our daily routines. Although not obvious, our physical world is changing and with it our per-

⁸ Giving new meaning to the lyrics of the 1958 #1 pop song “He’s got the whole world in his hands”. The year of this musical release is strangely prophetic with the date Castells suggests was the catalyst for the Information Revolution.

ception of space and time. The incredible speed of which we can connect and communicate with each other across the world dissolves the previous time lag associated with older methods of communication like postal letters. The diagram below illustrates the spatial affects that new Information and communication technologies have on our current *modus operandi*. In the Information Age these structural and “spatial changes must be understood in the broader context of our social transformation” (Braham 2007) (Castells 2004a). Information now has the ability to bridge space and time to such an extent that it is difficult to imagine how we operated before.



In the last three decades we have witnessed the expanding capacity of new technologies to process and produce information. The Internet is an endless process of production of information, communication, and feed-back. This is fundamental because the recombination is the source of innovation, and innovation is the root of economic productivity, cultural creativity, and political power-making (Castells 2004b). These technologies and networks by their very nature now, for the first time, allow today’s educational institution and libraries the ability to become flexible and malleable themselves both programmatically and structurally. For designers in the information age the challenges are how these spaces speak to the evolving new world of technological efficiency and knowledge flows.

The Internet and its virtual networks of communicating, accessing and storing information, email at the click of a mouse, online voice calling (Voice over internet protocol - VOIP) and chat rooms, connect us to social communities and individuals all over the world as fast as Dorothy could tap her red shoes to and teleport back to Kansas. Streaming videos, personalized blogs, 3D maps of our planet, and picture sharing construct new dimensions in visualizing landscapes and cultures we have never seen before, and all of this in real-time. The extremely attractive world of virtual applications and digital channels of information are highly personalized as well as socially constructed. The rate at which these applications are introduced to us is so swift that we do not even notice the change in the way we operate or our compulsion to do so. An important question is how these virtual and therefore invisible

realities are made tangible and evident within our physical environment.

FLEXIBILITY AND SCALE

Another feature of new information and communication technologies effecting spatial transformation is their flexibility. This flexibility allows the distribution of their processing power across any given context and application. This is made even more malleable by way of wireless discoveries and remote technologies linked to satellites. Traditional notions of public and private space begin to lose spatial control in terms of their previous definitions. As William Mitchell writes “wireless connections and portable access devices create continuous fields of presence that may extend throughout buildings, outdoors, and into public space as well as private. This has a profound implications for the locations and spatial distributions of all human activities that depend, in some way, upon access to information” (Mitchell 2003:168) Without the need to plug-in the multiplication points of information networks are becoming available at any level of individual except of course for those on the other side of the digital divide (Castells 2004b).

GLOBAL AND THE LOCAL

Every new social structure has its own origins, dependent on spatiotemporal contexts (Castells 2004b). In the Network Society within a Network Age, the social structure is global but, “most human experience is local, both in territorial and in cultural terms” (Castells 2004b). Castells describes how specific societies are fragmented from the global network by a double logic of inclusion and exclusion (Castells 1996, Castells 2004b). This is because the global in its entirety overwhelms the local unless the local becomes an alternative node in the global networks. The information Age and its application to various communities and societies must institute a relationship between the historic process of production of a given social structure and the personal characteristics of the local. This is particularly true for application of information technologies in the developing world where not only has illiteracy and poverty been inherent in constructing a cultural aloofness from the use of technological advancements, but rich political turmoil, educational elitism, and urban segregation results in a slow absorption of these technologies. The ability of communities to preserve the meaning of the locality and to assert the *placeness* of space to the global logic makes a parallel to what Castells refers to as “‘Grass rooting’ the

space of flows”(Castells 2004b:39). The space of flows expresses the networks and nodes with which the flows of information circulate and interact.

The integration of IT as a response to social problems and inequality in developing societies can empower historically underprivileged individuals and promote knowledge, innovation, and organization. Educational institutions and civic resource centers, rooted in local culture must be the first in assimilating a new culture of use into the everyday lives of divided society.

DEVELOP- ING AN INFOR- MATION SOCIETY:

"The interplay between social structure, social behavior, and the construction of meaning, as mediated by the internet, express the process of social transformation that results from the interaction between technology, culture and society"

(Castells 2004b:233)

The In-Between Question

3. *How do you nurture an information society in a specific social context today?*

CONTEXT

We now understand the context of the Information Age and its logics of application and growth. But how is it viewed in relation to a developing world context and the experience of the **Digital Divide**? Before constructing new models for the integration and education of an information culture, designers must see the affects of the digital divide as greater than just a lack of hardware and access, rather as a **cultural divide** fed by a stigma of new information technologies. Architects and designers must also identify and explore the limits and realities associated with developing contexts and **rethink** relevant and applicable spatial models and programs.



THE CULTURE WITHIN CONTEXT

"In the twenty-first century, the capacity to communicate will almost certainly be a key human right. Eliminating the distinction between information-rich and information-poor is also critical to eliminating economic and other inequalities between North and South, and to improving the life of all humanity."
– Nelson Mandela, Telecom '95, October 3, 1995

DEVELOPING AN EVERYWHERE CONTEXT

The “Dual City” is polarized by the socio-spatial segregation of the information rich and the information poor, as well as the dynamic systems of wealth, power, knowledge, culture and information access (Schon, Sanyal & Mitchell 1999). In the developing world, urban infrastructure suffers from this marginalization and extreme poverty. There is a great need for services but there is little wired plumbing to many low-income communities, even though many are not far from the city centre.

Wireless technology provides an alternative dimension to heavy duty fiber-optic cables. While having the ability to span distance without structural cabling and bringing the notion of *everywhere is here* closer to a reality, the technology is very expensive and currently has a very “limited communication capacity in the electromagnetic spectrum” whereas you

can always add capacity in the wiring of cables (Schon, Sanyal & Mitchell 1999). Wireless connectivity when routed from a central point of infrastructure, such as an information centre, has the ability to transcend space and to expand ‘access’ passed the massing of walls and into the public realm. ‘Hotspots’ or ‘Wi-Fi Zones’ lend themselves to mobilizing information access and an individual’s freedom to tap the ether without the constraints of a contained space. Information in the public realm of the café sidewalk, the street, and the square, is now emancipated beyond our current perceptions of democratized speech and freedom to information.

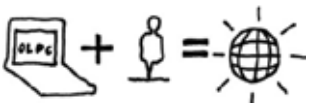
Accordingly, information and communication networks are vehicles for dialog between individuals, institutions, and communities-at-large as well as having greater potential for socio-technical change compared with the effects of industrial production, the telephone and automotive transport. The ethereal properties of Information production may not have obvious urban implications, but rather more obvious spatial and programmatic changes in building types.

Nicholas Negroponte’s and his team developed a \$100 robust, low-power and low-cost connected laptop that has the ability to withstand tough conditions and remote areas. **One Laptop per Child** (OLPC) is both their aim and the name of the non-profit project that wishes to see every child with access to the internet and learning computer literacy from a very young age. The laptop is designed with unique software to inspire children to explore, learn, create, and share, no matter what language they speak or where they live. The laptop, called the XO, connects them to each other and to the world’s knowledge. It includes open source software so that the laptop’s ability can expand and grow.



The Meraka Institute for Open Source in Soweto has also begun developing low-cost software and appliances for poor communities. The Cen-

tre was established in “efforts to dismantle the mindset that technology is something that is incomprehensible and distant from the lives of ordinary South Africans”⁹ The centre of young scientists is inventing new ways for the Soweto community to access information and communication technologies, that are cheaper and more user-friendly. One such invention is called the **‘Tin-can Can’**, which allows owners of laptops and computers to use a banal object like a tin-can and a small cable they developed, to connect them to wireless zones that would otherwise be too far away. The simple invention uses the shape and metallic properties of the can to harness wireless electromagnetic waves from long distances.



In Kliptown, a poor informal district within Soweto, there is a small establishment called the **Kliptown Youth Project** (KYP). KYP is a small project that has been sponsored by independent donors and the international OLCP project. Started in March 2008, the center has been given over 150 XO laptops and KYP teachers were trained by a technician from the Kofi Annan Centre for Excellence in Accra, Ghana and more recently by a willing internet café owner from the Walter Sisulu Square of Dedication (WSSD). The project’s mission is to introduce underprivileged kids to the creative world of computers and the internet as a tool for discovery and learning. The OLCP has provided this opportunity and maintains that kids have to own the laptop and be able to take it home and share with family and friends. The XO laptop requires teachers to educate the children and maintain programs and updates. These products and others like them may deliver an optimistic mission statement of connecting all the children in the world, but are these appliances enough?



Although Ernest J. Wilson in his book *The Information Revolution in Developing Countries* is correct in saying that an Information Society is akin “to the number of appliances and applications that citizens own in a society”(Wilson 2004:48) he is also quick to point out that within a developing context, the personal acquisition of access, or the wide spread

⁹ Extracted from the Keynote address by Minister Mosibudi Mangena at the launch of the Soweto Meraka Institute of Open Source on 2006-05-12, 13h35.

use of personal computing is unforeseeable in the near future, and that “alternative must be pursued” (Schon, Sanyal & Mitchell 1999:70).

An experimental project spear headed by Bruno Tardieu called the **“Street Library”** began in the Bronx and other low-income areas in America. The “Street Library” was a community computer driven around in a modified van. The computer was setup to be a community-specific encyclopedia that everyone contributed to through conversations and questions started by others within that community. Questions and answers were discussed like “can bees be bad since they are God’s creatures?” or “what is the tallest skyscraper in the world?”



In India, a New Delhi PhD physicist Sugata Mitra set upon an experiment called **‘Hole-in-the-Wall’** to take his country’s next generation into the Information Age. Mitra’s passion for computer-based education propelled him into thinking of new ways to introduce India’s poor communities to the possibilities of computer technology and the incredible information stored in the Internet. As in South Africa, India’s internet and computer user is almost entirely restricted to more affluent metropolitan areas. From his small IT office that borders on one of Delhi’s most poor neighborhoods, Mitra and his team decided to literally cut a hole into the building’s perimeter wall and place a very basic computer and finger-pad that was connected to the internet. They decided not to intervene, advertise or offer any help to passers-by and they just observed what interaction took place. Most of the adults and elderly understood what this screen was and had made little attempt to engage with it.

The first participators were curious young children. Mitra describes particularly the first young boy he saw placed his hands on the screen and after nothing happened he touched the finger-pad and observed the mouse-cursor move. The young boy investigated the computer for hours and began to teach other children that were curious as to what he was up to. These groups of kids taught others and the popularity of the hole-in-the wall grew rapidly. The children within this community taught themselves how to browse the internet, interact with online Disney games,

check the news, and draw pictures that they stored into their personal folders. The ‘Hole-in-the-wall’ experiment then moved on to other poor and rural communities across India’s landscape providing community nodes or “street libraries” that connected them to the world of digital technology that they had previously never seen or engaged with.

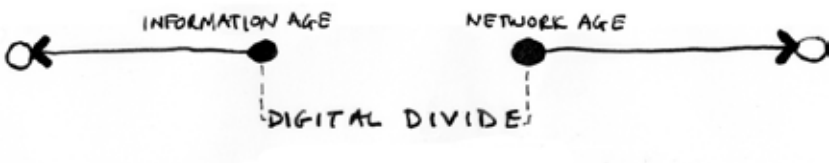


In South Africa (2009) a pilot project called ‘**The Digital Doorway**’ was established and modeled on the same principles of ‘The-hole-in-the-wall’. Many of South Africa’s young learners have never touched a computer in their lives, and the situation is even worse when it comes to the elderly citizens. The Digital Doorway Project set up by the National Institute for Information Technology (NIIT), consists of placing a robust three-terminal computer kiosk, connected to Wireless Internet, into poor and rural communities. The Computers applications include email, chat programs, Voice Over Internet Protocol (VOIP) and games. The kiosks are anchored “in suitable public spaces to provide free and open access to communities”¹⁰ The first pilot was in the rural community of Cwili Village, in the Eastern Cape, where they found that children do indeed teach themselves how to use the computer.

Experiments and projects like these identify the need for connectivity and they attempt to provide not only access but more importantly they explore the methods and cultures of communities through participation and collaborative learning. Tapscott and Williams, the authors of *Wikinomics*,¹¹ describe this type of interaction as ‘peer-production’ and believe that we are entering an ‘age of participation’ where a culture of mass collaboration and interaction are fundamental to the way we innovate and learn with IT and the internet (Tapscott, Williams 2006:15). These experimental nodes

of connectivity are nodes of access that act as mediators across distances that are not connected. The spaces they create are not personal retreats, they are public places or community centers that activate their knowledge and create new uses for information technology, and allow them to be part of the Information Society through public space. Tapscott and Williams stress the development of a “Net-Gen”; a generation of digital competency and culture of technology that must not be limited to developed countries and that application must be address in relation to the Digital Divide.

DIGITAL DIVIDE, A CULTURAL DIVIDE

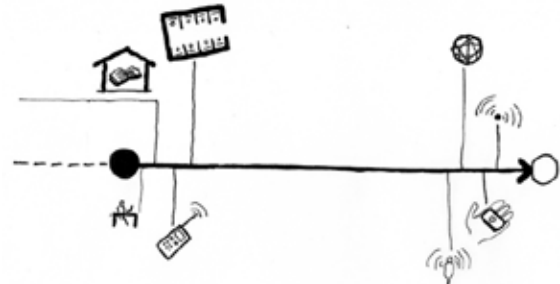


“Being an Intelligent Community is not a matter of technology – it is a matter of creating a culture of the use for that technology”
-Intelligent Community Forum (ICF)

The term *Digital Divide* is loosely understood as the absence of technological infrastructure and an up-to-date integration of Information Communication Technologies (ICTs). Understanding the digital divide is seeing it as more than just a lack of digital plumbing, but as a Cultural Divide. By calling it a Cultural Divide I am referring ‘culture’ as it is presented in this definition by Manuel Castells: *“Culture is not made of content but of process”* (Castells 2004b:39)

After interviewing a number of respondents in Africa, Asia and Latin America, Ernest Wilson observed how these individuals on their own used the term *Culture of Knowledge* or *Culture of Technology* to characterize the nature of the challenges they face (Wilson 2004:74). They pointed out that success was not reliant on imported content or hardware, but that the challenge for national leaders was “to foster a new set of attitudes, expectations and values that encouraged people to lean toward the creation and diffusion of knowledge” (Wilson 2004:74). But here, the nurturing and designing for a *Cultural Divide* or *Culture of Knowledge* presents a problem that is more organic, open-ended and difficult to address than the mechanized provisions of technological hardware. The implementation of digital infrastructure and access is “pre-determined and minimizes human agency” (Wilson 2004:74)

where as a *new culture* assumes social organization and active participation. In a developing context, where historical political conflicts and segregation led to massive internal structural and economic exclusions, the years in which the developing world absorbed and innovated new technologies, were missed. During these principle stages of development in the Information Age, developed societies nurtured a casual yet rapid growth of new technologies and methods of application. Societies and social structures, slowly implementing these new technologies into the daily use of people, were developing a particular culture for their use. For the developed world this significant process provided a culture for the immediate embracing of the Internet, an otherwise completely foreign and alien process and philosophy to our previous methods of information handling.



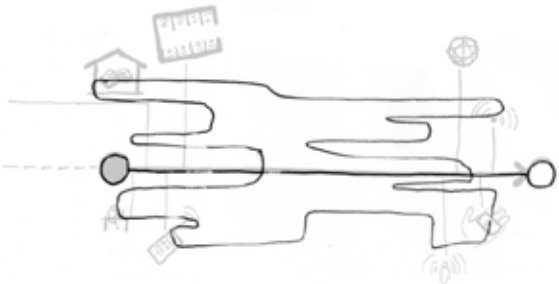
Designing for the creation of an Information Society in a developing context requires a specific and contextually appropriate formula for developing a particular culture of use, one that teaches technological literacy. Wilson argues that “participation and engagement are more appropriate concepts to capture today’s new possibilities and challenges” present in the developing societies (Wilson 2004:304). Bangalore, India’s flagship city did not become a ‘Silicone City’ because of its technological infrastructure, but because its leadership and institutional developments developed new attitudes and values toward availability that supported the creation of a new information culture that drew on its traditional and modern strengths (Wilson 2004:74). Like the strands of DNA traditional habits, rituals, and specific methods must be understood and intertwined with the modern so that they may penetrate and re-shape each other.

Information Societies are grown and taught technological literacy and an associated ability for personal production and innovation in much the same way as we might teach a child the alphabet *and then* how to read, write and speak. When we learn a foreign language, we know that

truly understanding the language is more than just being able to say “where is the bus stop?” but rather it is the ability to engage in a two-way dialogue or to eavesdrop on an interesting conversation in café. The success of implementing and designing with ICTs in a developing context is a process that requires the overlapping of ‘access’, ‘affordability’, ‘interfaces’ and most importantly, the ‘awareness’ of its potentials for use, collaboration, creation, exploration, connection, and innovation, such that the end-user understands how ICTs and the Information Ether can benefit them and their communities (Schon, Sanyal & Mitchell 1999:13).

ACCEPTANCE AND APPLICATION

The advent of internet in the Information Age has become the most influential construct in the evolution of ICTs in the city and worldwide access to information. Less than 5000 days old to date (2009) it is obvious that the Net is still in its infancy and we have yet to see it full potential. Although the cost associated with new technologies and broadband connections is too expensive for the less-privileged population in a developing context, it can be argued that the Digital Divide is not a matter of inequality but of openness to the Internet both on a civic level as well as an individual level (Wilson 2004). This is a lack of recognition for the culture of autonomy, based on the internet’s technological freedom, by municipal resource institutions (Mitchell 1997). “The implications are obvious. Unless somebody is willing and able to make the infrastructure investments necessary to provide connectivity in a low-income community, that community will remain without service” (Schon, Sanyal & Mitchell 1999:156)



The internet affects the way we access knowledge, self educate, work, play, connect, and live out our day-to-day lives. Communities on the wrong side of the digital divide are cut off from these advantages (Wilson 2004). But is it

¹⁰ Extracted from the Minister of Science and Technology’s opening speech at the launch of the NIIT’s Digital Doorway Project in eNtshongweni, Durban, South Africa on 2007-09-05 08:28.

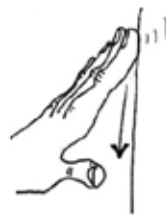
¹¹ The Book *Wikinomics*, by Williams and Tapscott, describes a new era of art, science and collaboration made possible through the growing connectivity and networks of the World Wide Web. A ‘Wiki’ is described as a metaphor for an age of mass collaboration and participation in lifestyle, economics, sciences, and culture through the use of technology. (Tapscott, Williams 2006)

all just a luxury? Is access to the internet just another heated-blanket that we could live without? The doubts and misgivings are legitimate as this stage in the Information Age timeline, but unlike television, radio, telephony, which are all on-way information pipe-lines, the internet is responsive, an “In-fobahn” of networks that allow users to produce feedback, contributions, innovations, adaptations, and self empowerment, education, and control (Mitchell 1997). This level of customizations and input means that specific cultures and histories shape the use of the Internet (Castells 2004b:238).

Hotel Yeoville for example is a grassrooted social networking website designed for a specific community’s needs and methods in a neighborhood with unique spatial characteristic and social framework. Yeoville, an eastern suburb on the border of the inner city of Johannesburg is home to a large population of refugees and migrants from all over Africa, including Ghana, Nigeria, Cameroon, Somalia, Ivory Coast, Liberia, Malawi, Zimbabwe, Botswana, and Angola. The suburb’s close proximity to the city and jobs makes it a popular destination for workers from all over Africa and rural townships around Johannesburg. The Yeoville neighborhood is bustle of public life and activity and hosts an unusually high number of Internet Cafes in comparison to many other suburbs in Johannesburg. The research project initiated by Terry Kurgan, a Johannesburg Artist, and John Spiropoulos, set upon investigating the connection between the Internet Cafes and this exceptional community of foreign nationals. They used questionnaires and interviews with Internet Café owners, staff and users to determine what they used the internet café for and what would make for a practical response. Kurgan explains, “Our thinking was to introduce a cultural space or project that would not be separated from the existing social infrastructure and contemporary everyday practices”

The website responds to the issues faced by the foreign nationals and migrants. Kurgan and her team found that the internet cafes only really make money from the use of faxes, printing machines, and international calls to loved ones in other countries . Kurgan says that the website “aims to be a social map of the neglected inner city neighborhood, which is home to a largely invisible community” . *Hotel Yeoville*, shaped by a particular community’s practices and habits, provides an interactive platform that extends out of the restrictions of the user’s physical environment. “The Virtual is generally seen as a drive against the spatial or physical world” suggests Sumrell and Varnellis, “Nevertheless... the virtual world requires an infrastructure that exists in the physical and spatial world”

(Sumrell, Varnelis 2007:65). The *Hotel Yeoville* initiative is an example of understanding culture as a means of providing infrastructure. With their new outlook, the internet users now connect online with each other so that they may communicate, network, find jobs or accommodation, socialize, ask questions, and research and navigate the foreign city around them.



The community of Yeoville developed new ways of thinking and interacting with the internet. Through a soft approach and a helpful and appropriate programmed interface, the users now see a new benefit and use for the internet. Administrative, social networking, and resource searching is one part of ether awareness that has been expressed already and it certainly has a vital role to play in establishing a culture of use. But in wake of an age of participation, through interactivity youth must be shown and stimulated by the ability to create and not just consume. The simple act of building a sand castle on the beach, teaches children about the properties of structures and the materiality of dry sand vs wet sand. Observing a diagram, or reading a paragraph on ‘*How to Make a Sand Castle*’ is not quite the same. The architecture of information spaces must provide immersive environments that stimulate creativity and interface with both physical and virtual applications. Architect Toyo Ito suggests a new thinking for the application of digital awareness and spatial environments in schools and libraries. In his personal notes on his Mediatheque library in Sendai Ito writes: “we utilized a number of metaphors in order to emphasize the image of architecture in the information city. The focus of our interest shifted to seeing to what extent we could dissolve, or mutate the conventional program” (Riewoldt 1997:12).

NARROWING THE DIVIDE



AWARENESS

First step in stimulating a culture of information is identifying an awareness of the growing information ether, and the technology associated with information, creation, learning, networking, communicating and sharing, and how one can use these functions in one’s daily life (Wilson 2004). Projects like the Digital Doorway, the Street Library, and ‘Hole-in-the-wall’ provide a very basic point of access. Although they do not provide the structure for expansion, and education for innovation and adaptability, they succeed in establishing the first step of awareness. Being introduced to new technologies and information access, and discovering some of its benefits, underprivileged users make the first and fast step of overcoming the stigma of not knowing

what it does.

After awareness is established, and access to technology is provided for and experimented with, there needs to be a second wave of awareness and this is where users must discover not only the ability to contribute, but the gratification of it. The Internet and the Age of participation means that users are not just consumers of electronic hardware but are producers of content. Tapscott and Williams say that “while their parents were passive consumers of media” the Net-Gen “today are active creators of media and hungry for interaction”(Tapscott, Williams 2006:47). The digital holes in the wall need to expand not only spatially but interactively and begin to stimulate a culture or “wiki” of creation and participation.

Mitchell Resnick co-founded the ***Computer Clubhouse***, an international network of over 100 after-school centers where youth from low-income communities learn to express themselves creatively with new technologies. The Clubhouse provides its users with interactive software and technologies that stimulate education through creativity. Users are encouraged and taught to use the Internet and programs to create content around the subjects that interest them. Resnick says that the Clubhouse “needed to consider not only new technologies, but also new forms of social interaction, new types of activities, new areas of knowledge, and new attitudes toward learning”(Schon, Sanyal & Mitchell 1999:267-268). Participators use technology to draw, design, blog, upload photos, make videos, and share online galleries of their personal work. They are encouraged to help each other with problems and use the internet as a library of knowledge to help them with any kind of issue they may have. Unlike a conventional Library’s media department the Clubhouse model is designed to span the multi dimensional principles of: Social, Pedagogical, technological, Epistemological, and Emotional learning in creating new learning environments (Schon, Sanyal & Mitchell 1999:268). The architecture of the civic library must adopt these overlaid principles and design for the environments and spatial integration of new interactive and social learning. Spaces of learning are traditionally as generic and basic as a four walled classroom that requires a teacher and a chalk board, or it could be a jungle gym in a green park where kids learn to socialize, balance, fall down, climb and interact with a physical environment.

The principles and the success of the Computer Clubhouse outline how important interaction and creativity is when it comes to motivating for studying or personal learning. When users created content and get feed-

back from it, they were inspired and motivated to learn more, therefore developing a culture of use through production and resultant gratification. The Orange Farm ICT Hub, a centre with similar motives as the Computer Clubhouse, was established in an informal settlement called Orange Farm in Soweto, South Africa. Surrounded by shacks the brick building that houses the centre is aimed at making a “low-tech informal settlement into a high-tech centre of modern technologies” The centre mainly concentrates on computer literacy, documentation, VOIP, and online business skills. The growth of the centre has been slow, and despite a large building with nearly 20 staff the project only attracts a small amount of members from the community. Design activities engage learners as active participants, “giving them a greater sense of control and responsibility over the learning process, in contrast to traditional school activities in which teachers ‘transmit’ new information to students” (Schon, Sanyal & Mitchell 1999:269). The ICT Hub, unlike the Computer Clubhouse, has not addressed the issues of creativity, or ‘awareness’ sufficiently and the community perception of what goes on inside the building, and what can be achieved through the technology that taught still remains stigmatic and foreign to many of them. In many ways it’s also not just the nature of how and what you teach in these ‘clubhouse’ typologies, but the presence or form of the building has the capacity to portray an intended or unintended image.

In the post Cold War period Western Governments, eager to communicate their loyalty to transparent democracy, quickly adopted the International Style modernism for its pledge to visual translucency and global equality . “Advocates of Modern Architecture proclaimed that a culture of brick prevented democracy from functioning and proposed translucent or transparent glass as a means by which to produce political transparency” (Sumrell, Varnelis 2007:67). Hannes Meyer, the director of the Bauhaus, in his competition entrée for the Palace of the League of Nations 1926, proposed glass staircases to prevent the making of illicit and concealed deals (Sumrell, Varnelis 2007). In this way the architecture conveys a deliberate image, designed to evoke the promise of see-through politics and egalitarian democracy through the use of glass as a material. The Information Ether and the internet are formless, yet contain the potential for unimaginable possibilities. For individuals in a society without computers, to realise and accept its potential they must be made aware of its uses, its ease and advantages, through facilities that invite and encourage integration and participation. Sanford Kwinter writes:

“We must acknowledge that ‘communication’ is a very profound and rich thing,

and while it is the foundation of what we are, it is neither exhausted nor explained by the one-dimensional activities and apparatuses within which we increasingly confine our lives. This is why planning in industry and in technological milieus needs more than just scientists today. These milieus need artists and designers and other experimentalists to drive speculation into the world of social, and not only industrial evolution.” (Bettum 2007)

THE STIGMA CAFÉ



“But access alone is not enough”
(Schon, Sanyal & Mitchell 1999:226)

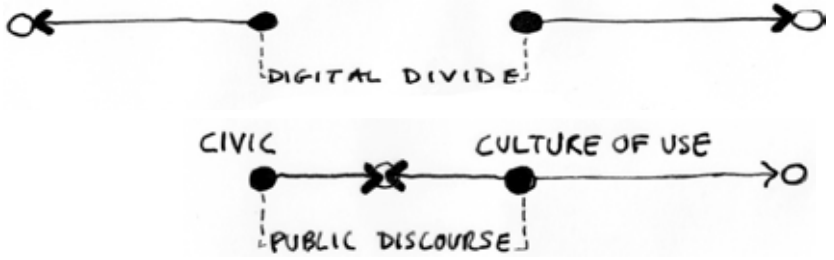
I gave my mother a laptop and *her* life didn’t change. In fact she couldn’t understand why you would click ‘START’ when you wanted to shut down. The concept of the Digital Divide is more than a lack of personal PCs, and often it is the simple solutions that mask and even exacerbate the problem (Audirac 2003, Mitchell 2000, Castells 2004b, Wilson 2004). The Internet Cafés have a purpose in that they provide access in the form of scattered nodes of connection around the urban landscape. For an aware public user unable to afford personal access, these dotted entrée points to the ether are quite suitable- like a sweets store to a parent shopping with a nagging child. But these cafés are not places of learning or interaction and are spatially individualized. The static environments of the internet cafés render static interfaces; rooms with cubical dividers and with computers placed in rows, they do not invite participation or exploration. The older citizens and youth that make up the culturally divided population don’t understand the internet, and their perception is of an alien technology with little purpose in their lives.

The Internet Café or rather the Stigma Café’s response to this perception is one of apathy. The Stigma Cafés are un-engaging spaces designed, as for an ‘aware’ European public, for individual consumption of digital content. You cannot assume that the same design methods and employment principles in more affluent areas will work for the low-income worker’s motivation and interest (Schon, Sanyal & Mitchell 1999). Mitchell explains that

just overcoming the access barrier is not sufficient in a developing context, and those users “may not make much use of that access. If important usage is to develop, community members must be motivated” (Schon, Sanyal & Mitchell 1999:161). In other words the spatial environments of access must stimulate an interest and motivation to learn and develop the correct skills of use, and show users the benefits that information technology can offer. The resource center or library of new information must be public “community computers”, places of interaction and engagement, and express a transparency that dissolves the stigma associated with high technology. In other words, for the developing context’s low-income communities, where access and awareness to new information technologies is severely hindered or non-existent, community learning and participation help relieve the negative perception associated with a foreign technology and its philosophy of use. The ‘Hole-in-the-wall’, ‘Digital Doorway’, ‘Street Library’, ‘Computer Clubhouse’ and lessons observed in the ‘Hotel Yeoville’ initiative and India’s Silicone City, all identify how the cultures within specific contexts must be engaged publically with new technologies and information culture. It was observed that through communal learning they can overcome the stigma perceived with computational and information technologies.

Internet Cafés are not only often too expensive and un-engaging but can be too small and scattered to be an answer for society (Castells 2004b). Although price is not always an issue it begs to question the willingness of governments to provide free Internet access. Growing Information Societies could use libraries, town halls, and resource centers to provide fundamental structural change using IT as a tool for inclusion (Castells 2004b:335). As already mentioned, there is a successful use for the dotted stigma cafés, where proximity access can be provided for ‘aware’ communities with little-to-no personal computing. But it becomes the role of the next generation of public information Libraries, as symbols of free access to education and resource, to take on the responsibility of the stigma destroyer and creators of the ‘aware’ society. They need to provide a picture that “[creates] an ensemble of values, expectations, norms, and incentives that impels more and more individuals to want to create and become active, engaged members in a knowledge society” (Schon, Sanyal & Mitchell 1999:402).

CIVIC ROLE AND THE CULTURE OF USE



In considering how architects are to fuse the virtual with the physical when designing for digitally divided cities, Mitchell points out that there is a “complete dissociation between the two if electronic public space is accessible only from personal computers in homes and businesses” (Mitchell 1997:127). Another possibility is to associate access points with civic architecture.

Present Civic library archetypes have existing long since the 16th Century. Libraries as public institutions were traditionally the only source of information and resource archives. The public library as a civic structure is rich in cultural heritage and historic significance, and having always represented a culture of information access, it reveals itself as the perfect model for a new attitude toward applying relevant technologies for public access to the information ether. Mitchell sees the future of the civic library in creating electronic venues of local communication and interaction, and playing a “public role much like traditional one of fountains in the public places of Rome” (Mitchell 1997:127). As a culturally understood social interface and platform for public discourse the library can begin to expand for a 21st Century and within the developing context, can nurture and educate a particular culture of use as parent to a new Information Society.

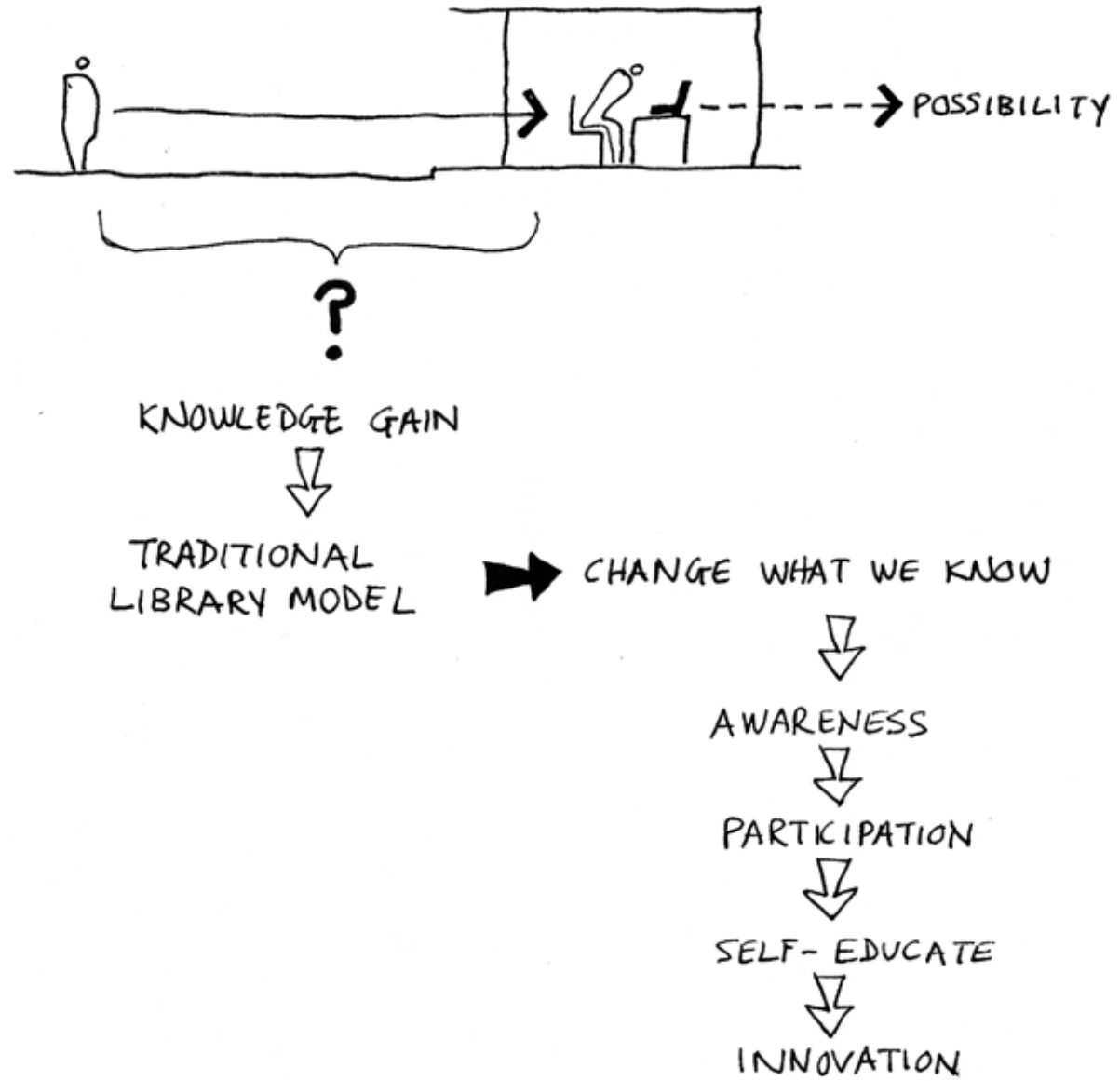
Creating an ‘awareness’ has been outlined as a critical stage in the procurement of an information society. Through understanding the stigma attached to the internet and new information technology, awareness is established through rendering new spatial environments and architectural form. The public library anchors itself alongside public space and usually associates itself with historic precedent and spectacle. These characteristics of the civic archetype strengthen its role as a public educational platform or ‘community computer’. A space of learning detached from conventional institutions, that could target low-

income learners, elderly citizens, children and young entrepreneurs.

“Outside the classroom, the educational computer can be modified to become a “community” rather than a “personal” computer, operating as a holding environment for the local knowledge” (Schon, Sanyal & Mitchell 1999:386)

Most importantly is that the poor must not be excluded. The poor are hurt most by their “exclusion from mainstream economy, society and policy” (Schon, Sanyal & Mitchell 1999:384) and it is also under these conditions that if just given access to technology, they are unlikely to make use of it. When designing new models for the integration of low-income societies with an information culture, once awareness is established the applications must educate for a culture of use. The functions and facilities of the library and its overflow into public space must optimize on interfacing between the foreign and intangible virtual world with the practicalities of our physical world. Through design interfaces, games, interaction and communal learning and sharing, communities can begin to play, and experiment with new technologies to ease in and undo the knot of current perceptions toward new digital technologies. By being shown not just a screen and mouse, but how the world wide web of digital knowledge can help them for their own problems, communities will then learn to adapt, contribute and share in a digital world.

In the words of Mitchell “We would need design scenarios, action strategies, and action research that could influence policy and feed into longer-term planning for the use of information technology in low-income communities. In the wake of such an experiment both the low-income community and the technology would be transformed” (Mitchell 1997:392-393)



ARCHITECTURE OF KNOWLEDGE:

Today's Question

2. How can the architecture of the Information Age interface and educate a particular culture of use?

Someone can tell you, “Lavender smells like nausea and modern cosmetics”. An Online Encyclopedia can tell you it’s a mix of soothing mint, crisp basil, and a relaxing vanilla aroma, but do you then really know what lavender smells like or have you just learnt it? In the 1980’s children would swop small pieces of paper called ‘Scratch ‘n Sniff’, that allowed them to physically scratch a piece of paper thereby removing a micro-fragrance coating that released a faint odor. This basic product incorporated a physical contact that provided kids with mystery, engagement and education by interaction. The invisible virtual world of information and the World Wide Web is like a plethora of people telling you what lavender smells like.

At present we observe a world that is 100 years into the Information Age (Castells 2004b). Characterised by new Information and communication technologies the Information Environment is still in its infancy and is ‘ferociously Darwinian’ in its development (Mitchell 1997). Progressive Information Technologies are constantly evolving and mutating, and if communities do not evolve with it they face being left behind (Wilson 2004). Architecture and urbanism must see this evolution as an integrated experience into the daily lives of the public instilling a culture of use and awareness (Mitchell 1997). It is important to see how the current forms of Information transference, storage and access exist in a virtual realm, an invisible world that both surrounds us and eludes us. A problem occurs where this lack of physical presence within the virtual realm creates an invisible barrier between its relative form and its function, or rather between its possibility and its use.

Architecture has always imbued a relationship with the sciences and the human senses through a ‘sensorial dimension’ (Picon, Lerner 2003:295). In other words, “science and technology only meet when they both contribute to the cultural construction of perception.” (Picon, Lerner 2003:295). Architecture and its relationship to public space are concerned with a material-form existing in the ‘real’ (built environment). We can see it, touch it and engage with it as a physical experience. In the Information Age, Architectural form must offer its components to interface between the physical and virtual, linking information technology to new spatial programs, surfaces, experiences, and public functions (Witte 2002). The Civic Library as an archetype for public resource and information access plays a significant role in educating and nurturing the Information Society. The role of the public resource centre in the Information Age goes beyond providing the surface of a screen - it must update, physically interact and stimulate a culture of knowledge and innovation that is both relevant to its context and progressive in its thinking.

We must become a scratch and sniff information society.

RESPONSE

To take the public library archetype, as a suitable platform for the in-between application of information culture for a developing information society, is more than just an **adoption**, it is an **adaptation** and **evolution**. The information age and virtual constructs propose a new thinking toward information and equally toward the urban experience. As architecture is a discipline traditionally shaped by material culture, architects must begin to unfold its services, functions, forms, and programs to suit this new way of thinking. In order to represent society the information age architecture must do more than just provide signage to Silicon Valley. The contemporary library as space of information must rethink its programs and function for the creation of an immersive knowledge experience that is both **public and private**.

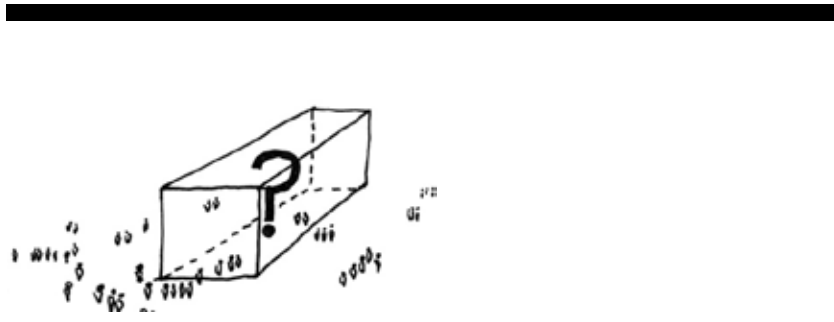


**BLOOMB-
ERG ICE**

*The interactive wall on
the street edge of the
Bloomberg ICE building.*

Source: <http://www.klein-dytham.com/uploads/projects/full/327.jpg>

SPATIAL APPLICATION FOR THE INFORMATION SOCIETY



“Architects of the twenty-first century will still shape, arrange, and connect spaces (both real and virtual) to satisfy human needs. They will still care about the qualities of visual and ambient environments. They will seek commodity, firmness and delight. But commodity will be as much a matter of software functions and interface design as it is of floor plans and construction material” (Mitchell 2000:105)

RETHINKING IN(FORM)ATION

In 1896, architect Louis Sullivan discussed the well digested architectural dictum “form follows func-

tion”. During this period of early modernism, it was expected that a building’s form should reflect its function. The digital age begins to suggest otherwise. Ghani for example proposes “In this event of technology and the existence of an information society, we are actually reshaping the fundamental concepts of architectural form and function” (Ghani 2007:10).

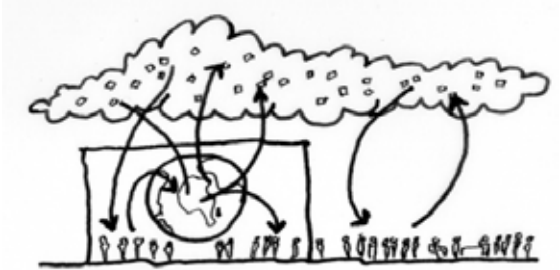
What creativity is there for re-thinking the relationship of architectural form to its function? With the advent of an imposing network age on today’s society and the built environment, the virtual world of digital content and information handling begins to change how we operate in our everyday lives. Daily activities like shopping, writing letters, watching movies and reading books are all changing, and with it the role of buildings that play shelter to these activities. In the Information Age where there is a “partial eclipse of our text-based culture” (Riewoldt 1997:7), why now should a civic library look like and function as a traditional library?

The symbol of the Civic Library is not only that of access to a resource, a government’s pledge to freedom of knowledge, and public discourse and debate, but an image firmly anchored by the impression of a progressive civilization. So perhaps grandeur itself is no longer *the* symbol of a public building, but instead the image of progression and transparency is how it should differ from a private dwelling. Today there is a new “breed of culture” defined by technology and a breakthrough in information and communication technology (Ghani 2007:96). But regardless, public architecture should always reflect the people, image, identity, and cultures of a society. In this regard, Sullivan has even suggested that it is not only form that should follow function, but often the human “environment determine[s] form” (noted by Twombly 1987:331). The ‘human environment’ stresses the extrinsic context that the building sits within, the social cultures, economic period, and of course the individual end-user. Library architecture within the Information Age must “return to an architectural reality that reunites with [its] social cultural and natural environment” (Riewoldt 1997:11).

Our environment determines the architecture and event of our built form.

In the digital age, information centers and library spaces are faced with an increasing digital environment that concerns itself with a virtual culture. The storage of bits is replacing the storage of physical objects (Mitchell 1997). This battle between “bits and atoms” has had an obvious effect on institutional libraries and architectural space. In conversations with Dr. M. Macagnano, (a leading architect and scientist in *Intelligent City Design* at Council of Scientific and Industrial research (CSIR) in Pretoria, South Africa) he explained to me how the physical CSIR Library, which had been around since the establishment of the Institute in 1945, does not now exist. The library building’s were demolished or retrofitted for other functions. All their data was converted into a digital format and is now accessed through private networks by scientists and researchers all over the world. The effects of the Information Age and digital technology can be severe with regards to architectural space.

But should a library be entirely virtual? or a combination of virtual and physical? The question suggests a need to revisit the function of the library. Thomas Horan explains, that “While the virtual world of websites and chat rooms provides an intoxicating array of new experiences, it is not realistic to think that we can disassociate ourselves from our physical environment. Rather, the rise of cyberspace begs an examination of its connection to the physical world, the world of bricks and mortar” (Horan 2000:6).



There is of course an inevitable “reduction of space” but “even the most successful Library designs are actually an integration of traditional elements and advance technologies” (Ghani 2007:71). Within the developing context, the function of the library can be a guiding hand ushering a developing information society into a network society. There is a need to re-define the label of the library and ask: How is the civic role to be met by the built environment today and the context of the digital divide? The character of the Information Society is defined by its user’s participation in consuming, producing, and sharing digital content. The urban experience is influenced by the aesthetics of built form (Ghani 2007). If the image of the city is mundane,

then the experience of the city is ordinary and routine. Rethinking the form of the library or resource centre for today’s developing context, requires understanding the culture of knowledge in a digital age, and identifying generators that evoke the shared consciousness of an information society. Form should render the delight of playfulness, experimentation, awareness, community learning, creativity and technical advancement while considering the local histories of its specific context and social framework.

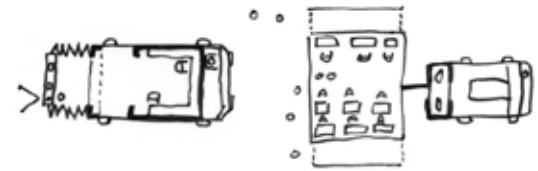
ARCHITECTURE AND EDUCATION

The adaptation of a library into an educating resource centre, that provides more than just access requires a rethinking of the institutional process of education. Public education and participation in the information age is paramount to the growth of a knowledge society and its economy (Castells 1996). Architecture, restricted by modern rationality and determinism, must be liberated from the constraints of older typologies and be inspired by the transient qualities of information technology, and present new ways of thinking about our growing knowledge culture.

Archigram, the innovative think tank out of the 1960s, envisioned many concepts that make up elements of contemporary architecture today. They challenged the norms and taboos of post-war modernism and the preconceptions of the role of technology in modern society.(Crompton 2003) While interested in 1960s pop art and consumerism, they maintained a “techno-libertarian manifesto” addressing the issues of societal individualization, flexibility, information, public education and globalization (Selwyn 2008:5). Neil Selwyn writes that Archigram’s work pre-empted many concerns raised only later with the arrival of the Information Age and with it digitized information, wireless access, ubiquitous computing, visualization technologies and the network society (Selwyn 2008). Although Archigram’s thinking of public education and the disbanding of institutions, seen in the ‘plug-in city’ and ‘instant city’, was highly criticized at the time, Selwyn points out that their concepts of convergence between architecture, technology and education should be revisited for today’s contemporary information society.

Archigram saw “information and learning as central tenets of modern society” and “the cultivation of mass informal learning with communities” (Selwyn 2008:6). These concerns were alongside their ideal of the role of technology in “individualizing and de-institutionalizing the learning experience” (Selwyn 2008:6). The Plug-in City and sister project The Plug-in University by Peter Cook in 1963, were conceptually designed as a heavy and robust steel

frame structure that had a crane anchored to the apex. The crane carried units or rooms around the framework city and plugged-in or plugged-out the units at various locations. The units or rooms comprised of student residence, playrooms, classrooms, libraries, bars, food halls, etc. You could decide where you wanted your personal living space to be at any given moment, while information was piped to you through the steel tubing (Archigram 2005). The project was based on a drop-in, drop-out learning experience where users learnt what they wanted and when they wanted, much like the reality of the current advantages and ease of the information technologies and the ether. Archigram conceptualized a more flexible structure based on personalized choice and information handling, and while promoting individualism and customization allowance was made for the static frame of the structure and the architecture as a whole to act as the symbol of the learning. The structure's industrial aesthetic was reference to the industrial spaces of the 1960s. The learning spaces of today must articulate an architectural language that represents the digital revolution and liberation of information.



To contrast to the fixed notion of the conventional education program, today's information ether leverages more flexibility and flow of information and learning. The Massachusetts Institute of Technology (MIT) have created an online portfolio of high profile lectures for free on Youtube.com, allowing study groups and individuals all over the world to watch and learn, and for everything else there's Google. The 'Ideas Circus' developed by Peter Cook with Archigram, was more along the lines of today Information Age. The 'Ideas Circus' was conceptualized as a type of "road show" of education (Selwyn 2008:10). Designed as a travelling road vehicle, it was a means of sharing information to people along the way and allowing the information to be adjusted with input from various people that took part. It was especially aimed at unconnected groups of people in areas outside of the main educational facilities; these vehicles of education and information transportation are models that emulate the realities of today's ICTs and are being applied through projects like the 'Street Library'. The Archigram model, like "a circus travels from town to town" (Archigram 2005:115) must be seen as relevant way of thinking for "the cumulative acquisition and distribution of knowledge" (Selwyn 2008:10).

Whereby the 'Ideas Circus' was carried out for small groups and communities, the 'Instant City' was designed to target the many thousands.



This travelling metropolis was also conceived along the lines of an "open air rock concert" (Archigram 2005:10) that provided a cocktail of opportunities, leisure, education, information and culture by bringing the "metropolitan dynamic to provincial towns and their citizens" (Selwyn 2008:13). Designed By Peter Cook, Dennis Crompton and Rod Herron in 1986, the 'Instant City' was transported by an air-balloon rather than the land-borne vehicle in the 'Ideas Circus'. It was erected quickly over the sleepy buildings and hosted events, spectacles of knowledge and learning and an intense rush of information and new cultures. The air-balloon brought the urban, social and cultural experiences of other cities, thereby bridging communities and creating networks like the social-networking world on the internet. The 'Instant City' program covered "all areas of everyday life, whilst retaining education and learning as a core element of its function" (Selwyn 2008:13).

Functions of the blimp included study rooms, self-pace skills and learning, workshops, audio visual libraries and Information Play Centers. The functions and programs for a new theatrical learning environment are not dissimilar to the flexibility and ethos of some of the concepts being applied by individuals today in the developing contexts. Projects like the computer club house coupled with the hole-in-the-wall whether in a building to public space, they are reconceptualising the public education experience for the Information Age. The role of a new resource centre will be to provide the awareness and facilities of such activities only dreamed of by Archigram.

The 'Instant City' Blimp diagram can easily be substituted by the cloud of information ether that is ever present around us. The ether is a potential time bomb of creativity and knowledge waiting to be explored and added to by all members of society. In order for Archigram's blimp to nest itself in a developing community it needs a platform on which it can rest its cables of information and opportunity. This platform is built of a ramp that provides an easy accent, through creating awareness and stimulating interactive learning and contribution. We know that the personal pc is not an imminent

future reality and that there *is* a home for the internet café yet it does little for the stimulating the creative spatial "rock concerts" of information and technology so desperately in need *faci litate* awareness and uses of access. The virtual domain renders only still virtual spaces of such collaboration. The developing world presents a complex context, one in which personalized access is stalled and awareness is almost non-existent. Present civic libraries in the delayed developing context must become the landing platform and offer its social symbol and architectural form as public stage to the virtual ether.

STAGING THE VIRTUAL



Representing the virtual realm of digital information presents a difficult challenge for architecture. The very nature of the virtual realm lies in its invisibility and lack of physical expression. How we continue to perceive the internet, either embracing it or repelling it, is related to how well we understand it and participate with it. Representing the virtual world means making the invisible tangible. Technology and architecture "often meet in their common attempt to shape or reshape the categories of visual perception" (Picon, Lerner 2003:295). To perceive the invisible we need to reshape the space that houses it. We perceive and question space through the act of seeing and feeling. Perception as is represented in the diagram above 'P' is, according to Barry Maund, an inner visual experience made up of 'perceptual takings' and emotional responses when viewing an object. In the case of stigma, associated with less privileged communities, when an unknown object or reality (represented by 'X') is seen by the subject (S) the resulting perception (P) is one of curiosity, or hostility. As with the stigma café, if curiosity is not embraced and catered for then the perception is rendered negative and the object is not seen to have a positive or worthwhile outcome. When an object does not exist physically, like the information ether, then its existence can only come into being through an understanding or awareness of it. An awareness of the virtual ether and its potentials needs to be established to evoke a curiosity and change public perception.

The virtual ether is a reality, but a potential one waiting full actualization to perform. Staging the virtual within the confines of architecture to evoke

an awareness and curiosity, must see the design of spaces that interface between the virtual and the real. The spatial geometries and surfaces must allow for an activation of meaningful virtual experiences and potentials on both an individual and social scale. "Design, order and proportion, ornament, structure and space" are the "potencies" that must be reshaped and rethought to cater for new virtual content and interface (Picon, Lerner 2003:300). Information buildings, such as a library, are traditionally designed to contain rows of books on a grid of shelves and reading corners, all of which including the books themselves have a human scale. But as the library becomes a theatre of knowledge, incorporating a hybrid of digital data and raw data, civic and social interactions, event lounges and quite spaces, and individual access-corners and group participation rooms, then the functions and experiences of spaces as well as their walls, furniture, roofs and floors need to reshape for new digital functions and virtual programs that inspire and educate for a new world of digital freedom and production. The purpose of a new model of architecture for the library or resource centre is not to establish a completely new world, but to be a symbol of information and a platform that acts as a catalyst for these virtual potencies for a developing information society. A theatre of virtual and physical events provides more than access but the activation of new creative potentials, potentials that might prove "emancipating in the end" (Picon, Lerner 2003:307). Just like the Internet the realistic architecture of our time must be both "compatible" and "revealing" of the potentials for information and virtual freedom (Picon, Lerner 2003:307).

One such virtual freedom to consider in today's world is the shift in our visual and perceptive categories of scale. Satellites and computer generated modeling and visualizations of information allow us to visually experience the micro scale of atoms or the world at large. We now have far more perceptive capacity than our ancestors and the world is virtually becoming smaller and larger simultaneously. The ambiguity of scale in digital renderings is "contrary to the traditional notion of structure. Information ignores the distinction between the large, medium, and the small" (Picon, Lerner 2003:308). Architecture must explore the play on scale made possible by information visualization and surface interaction while still providing a human scale to real spaces. Textures contain a real and human scale in their ability to be touched and observed up close. It is in surface textures that the "abstract information and tangible sensation meet today" (Picon, Lerner 2003:309). Bloomberg ICE in Japan is an interactive architectural installation by Klein-Dytham Architects attached to the head-

quarters of the Bloomberg building. The ICE (Interactive Communicative Experience) project allows public participators to engage with a floating wall made up of sensors and an LED display set behind a glass cladding.

The wall reacts to gestures performed by people standing in front of the wall or by touching the glass surface. Participators play digital ball games, create motion graphics or browse information through scroll menus. The project was aimed at delivering a new interactive surface and public interface with information and was strategically aimed for all ages. Textures are the place of planes and surfaces which engage human participation and visually define our habitats. Like the ‘scratch ‘n sniff’ example, through the act of seeing and touching, the virtual learning experience can be enhanced through a physical interaction that goes beyond just the click of a mouse. The stigma toward object ‘X’ (being new information technology) is then reversed by way of awareness, curious participation and play (‘scratching’).

THEATRE OF KNOWLEDGE

Even though the liberation of technology still seems the stuff of science fiction, it has begun to free up the discourse of the traditional library’s role and spaces in contemporary society. John Naisbitt, in his book *Megatrends from 1982* coined the term ‘high tech, high touch’ when arguing that the more technology distances us, the more important human and social contact becomes. Naisbitt’s observation encompasses the response of the library building type to a growing digital society. The library is predominantly a place for knowledge, experience, access and exploration, as well as a meeting place for both scheduled encounters and chance meetings. As architects reassemble the functions of a library for an information age, spaces and functions of a library must become hybrids of virtual, real, and social experiences. Just like the traditional agora or public square hosted performances, public protests and debates, urban relief-space and places of communication the role of the library today needs to simultaneously assert itself as a symbol of access and as a knowledge theatre of exploration, activity and community.

“Architecture is as much about the event that takes place in a space as about the space itself. In today’s world where railway stations become museums and churches become nightclubs, we must come to terms with the extraordinary interchange ability of form and function... architecture must be seen as a combination of spaces, events and movements, without any hierarchy or precedence among these concepts”

- Bernard Tschumi (cited in Noever 1997:125)

As showroom for the knowledge society, the new civic library combines the transient events of public spaces with the excitement of performance spaces with the freedom of digital information-scapes. The Dutch architectural firm Mecanoo, designed the main library at the University of Delf in the Netherlands as a structure that “resurrects the grand notion of a public edifice” while representing new processes of information “retrieval and perusal”(Betsky 1998:1). The project brief envisioned the library to resemble “something more like a train station or an airport than a traditional library” that would be both heroic and playful (Betsky 1998:1). A sloping grass roof tilts off the ground gradually to shelter a transparent glass structure housing reading rooms, vast social spaces of exchange and information ports. The design of the grass roof as a performance space and student park “rejects the static spatial configuration of most libraries” and together with a shining tower of light that shelters smaller information and meeting spaces, favors a dynamic hybrid expressing the evolution of digital information and exploring new spaces for the gathering and sharing of information.

The successful Malmö City Library in Sweden is an elegant civic building for a post-modern information age. Designed by Henning Larsen, the library aimed at strategically designing for expanded participation and spaces of inspiration. The library offers free, open and accessible information to everyone and encourages participation, experience learning, multi-media interactivity, innovation, creation, communication, and social debate. According to the Malmö City Library Strategy Plan , the library’s strategy was to create spaces of “profound immersive experiences” and rethink a “radical new approach to how we communicate”. The library aimed to stage “new spatial contexts, materials, workshops and provide new experience to steer the library in new directions in the minds of the visitors and the city”. Larsen rethought accessibility to physical spaces in a library and designed spaces that are “lively and dynamic places” of information and curiosity that express “a spirit of liberty”. There must be a flexibility to new information-scapes that allows the spaces to change and be used in new ways, which are fun, spirited, and educational for “both those who are loud and those who are soft”. The walls throughout the building are experiments designed with multi-media surfaces for all age groups incorporating themes of cultural heritage. With new programmatic functions of creative and meditative ‘living rooms’, retrospective book corners, loud and quite reading circles, public study spaces and playing on the interactive diversity of ‘the market place’ and virtual con-

tent, the Malmö library becomes a hybrid of traditional public spaces fused with the flexibility and social intensity of a new digital information market.

The contemporary library is already in its first evolutionary steps with architects and librarians rethinking models of information spaces. In the developing context where access alone is a short sighted solution and low-income communities not only can’t afford internet access but would most likely not know what to do with the technology, the library as the public centre of information must become a theatre of knowledge or an open information campus.

Participation and engagement with digital information is made more alluring and creative by way of physical interactivity and creative ways of thinking of virtual and physical interfaces. Learning environments become places that are curiously exciting and positively perceived. These new perceptions are only evoked through stimulating an awareness of technology usage. The architecture of the knowledge theatre must play with the vitality and colouring of the market place to stimulate our urge to consume knowledge, while transparency and openness must motivate an engagement and curiosity. The spatial environments in the library must construct theatres of debate and learning, that encourages community and peer participation and production. It must be a place for both individuals and groups, with reading circles, study rooms, play zones and relief spaces, supported by the discovery of digital and raw information.

Table 4.13: Public space		
	Synchronous	Asynchronous
Presence	Agoras, forums, squares, piazzas, streets, public parks and gardens	Public monuments, museums, galleries, and libraries
Telepresence	Radio and television talk shows, online chat rooms, MUDs and MOOs, shared virtual environments	Online newsgroups, bulletin boards, communal Web sites

A table listing the differences between synchronous and asynchronous structures of public space. *High Technology and Low-Income Communities.* (Schon 1999:128)

CONCLUSION

As we move further into the Information Age towards a Network Age, society and urban infrastructure are changing with new information and communication technologies becoming part of our everyday lives. Information as we know it is becoming more digital and virtual reassembling to form a digital ether that is accessible from everywhere. The liberation of digital content has spawned an information culture from which information is both consumed and produced by a knowledge society.

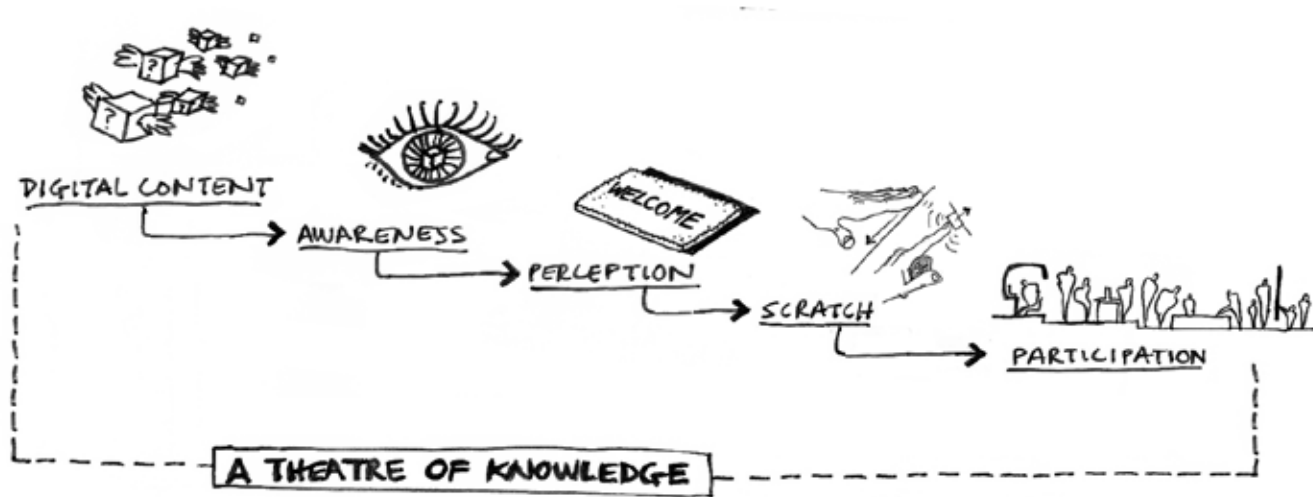
The knowledge society now innovates, creates, adapts, self-educates, and explores the world's ether of information at the push of a button. Knowledge is deinstitutionalized from traditional institutions of information and designers must begin to rethink and reshape the structures and processes of education and resource. The malleable and formless characteristic of digital information means that structures and spaces must become more flexible and public.

In the low-income developing world, the digital divide presents a prejudice towards this cultural evolution, access to hardware, and the infrastructures of resource. Government policy assumes access alone is the answer, but as the evolution of information handling changes from day to day, developing and educating a culture of use becomes fundamental for one's ability to grasp its potentials and uses. The spatial environments of the internet cafés, placed in marginalized communities, don't do enough towards developing awareness and engagement. In the wake of experiments of public participation and community learning programs such as the 'Street Library', 'Hole-in-the-wall', 'Digital Doorway', and the 'Computer Clubhouse' we learn how important a public interface is in nurturing aware-

ness, enticing participation, and making communities active. Public space as an urban playground provides a dynamic environment in which people have the opportunity to engage and observe various types of installations.

The first steps to developing an information culture in a developing context are that of free access and developing an awareness of new ICTs through reprogramming the public places of information access. But how do we develop this awareness? The library is the civic and cultural symbol of access to information. As more and more books are emancipated from the shelves and digital information becomes a way of life, the library's role begins to change and reshape its function and programs. The library must draw on concepts of hybrid public functions, creating awareness, social transparency, public space, social functions, and virtual interfaces as design generators for expressing new ways of thinking about information. The contemporary library must become a theatre of knowledge providing visitors with an immersive knowledge experience unlike any traditional library before. Within developing contexts the glossy drop-in big building library may do little to entice and unfamiliar public and may do more of disrupting contextual scale. The re-invented centre of information needs to be less intimidating yet triumph in expressing knowledge as many contemporary libraries do. The library or public campus of information must be as comfortable and social as a market place while still being a place of retreat from urban density living and a quite space of introspection.

The library must still present a deep connection to its context and history so that communities will have a sense of loyalty and ownership. Its spaces must feel as private as a home and as dynamic as a public square or market place. The spaces outside the building hold as much gravity in stimulating awareness and engagement as the spaces inside. As structures of collective organisation the library will stage a mix of private and public functions together with virtual and physical information-scapes. This new spatial environment will inspire, motivate, interact, and engage visitors to participate with a virtual extravaganza. Users and communities will be able to participate in an information age. While still upholding the old world of books, the library will show the old in new ways. In a developing context the contemporary library serves the purpose of creating an awareness and offering free access while educating its users on how to use ICTs for the purposes that suit them individually. The role of the library is now parent and playground for an information culture. For low-income communities within a developing context the library is more than a point of access, it is a point of departure.



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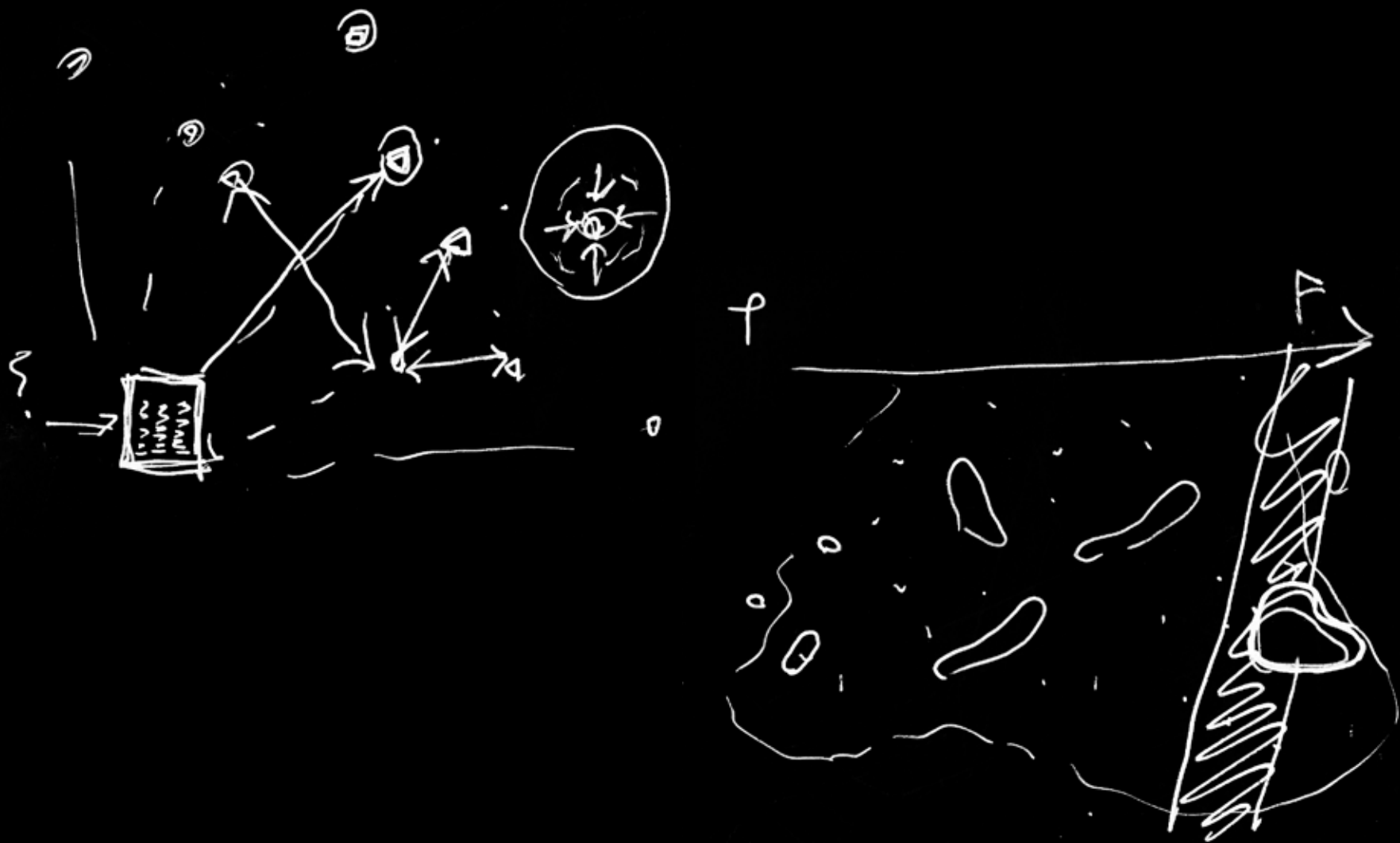
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ARCHITECT SKETCHES

Sketches of the spaces of emancipated information from conversations with architects.

.02 DESIGN

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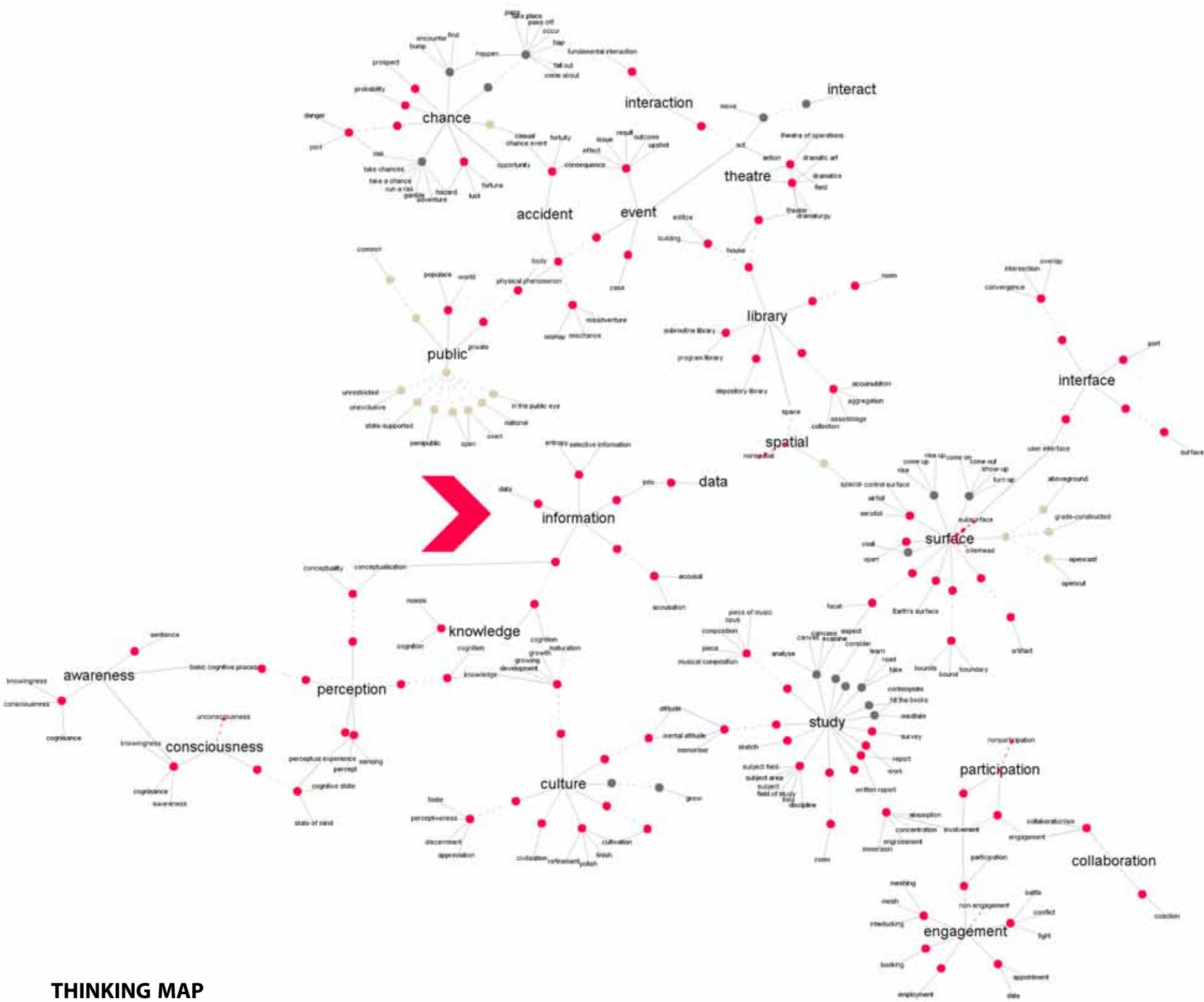
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From Context to Building Form
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THE OPEN INFORMATION CAMPUS



THINKING MAP

A thinking map of words that connect from the root word 'information' while searching for a connection a physical space.

DESIGN BRIEF

From information to purpose built structure

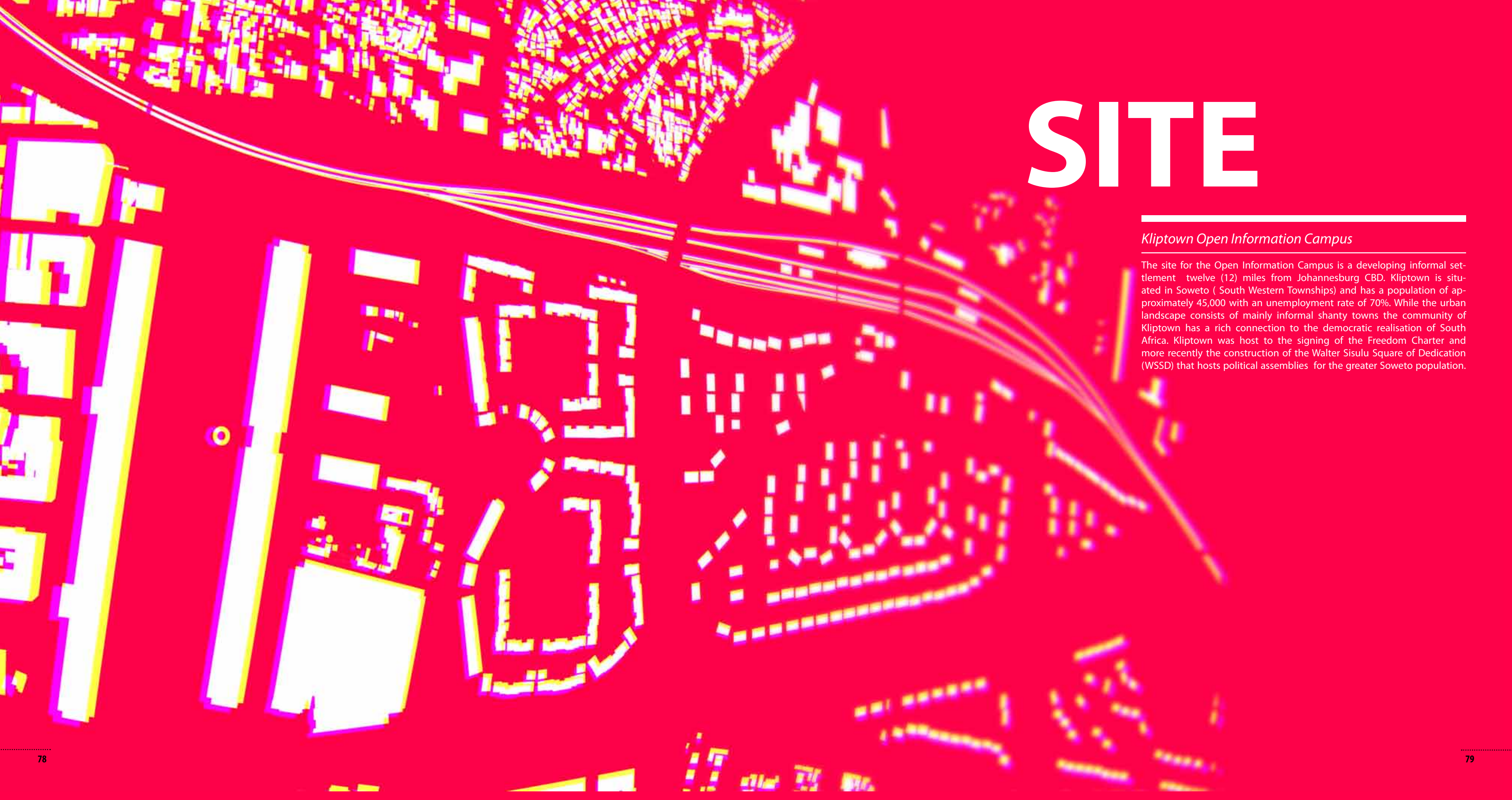
While the temptation to design virtual landscapes of digital content wrapped in glass and steel structures is fresh for the picking in a first world context, the fruit does not stay ripe when further south in the developing world. Design is now in need of being human centred, and although it may integrate technology, it must start with the needs of the end user with an aim of making life easier and more enjoyable. This is an act of more than just good ergonomics, it is achieved through reading the context and knowing the cultures it will be applied to. Instead of starting with technology we need to start with people.

So if human need is the place to start, then design making quickly becomes learning by doing. The information platform for developing a new culture of use for information technologies in a developing context must become a vehicle for progress. But when the design is the progress, then we must see the spaces of information as more than just a place for the consumption of information and rather begin to explore the potential of participation.

The new knowledge platform must provide for a shift from a passive relationship between consumer and producer to an active engagement of everyone in experiences that are productive, meaningful and profitable.

The information playground contained in the building must be of a dynamic and often hybrid program that can appeal to everyone, young and old. The youth especially must be enticed to engage in the building and become active users and ultimately the teachers. The spatial environments must be designed for a culture of sharing and peer learning, and like a street in urban context, the spaces must accommodate these moments at any given time.

The design of the Kiptown Open Information Campus like the traditional library must remain civic and connect to both context and history. Patrons of the campus must feel a sense of ownership, comfort and loyalty. The Programming should accommodate play, social activity, business, leisure, education, and escapism, while all being linked to information and the accumulation of knowledge through participation. Ultimately the iconic space and structure must be designed for the purpose of engineering awareness and generating public involvement.

An aerial photograph of a densely populated urban area, likely Soweto, South Africa. The image shows a complex network of streets and buildings. A red circle is drawn on the left side of the image, highlighting a specific area of interest. The text 'SITE' is overlaid on the right side of the image.

SITE

Kliptown Open Information Campus

The site for the Open Information Campus is a developing informal settlement twelve (12) miles from Johannesburg CBD. Kliptown is situated in Soweto (South Western Townships) and has a population of approximately 45,000 with an unemployment rate of 70%. While the urban landscape consists of mainly informal shanty towns the community of Kliptown has a rich connection to the democratic realisation of South Africa. Kliptown was host to the signing of the Freedom Charter and more recently the construction of the Walter Sisulu Square of Dedication (WSSD) that hosts political assemblies for the greater Soweto population.

CONTAINER CALL BOOTHS

On the outskirts of Soweto the littered calling booths are visible moments of an acupuncture solution for a community in need to communicate.





**INFORMAL
SETTLEMENT**

View of the Klipspruit informal settlement on the west side of the WSSD.

**RAILWAY
BARRIER**

The railway buffers the informal settlement from the east side of the track and the retail node. Pedestrians have access to only one foot bridge and so make their own way across the tracks often leading to fatalities.



SITE SELECTION

Gauteng, Kliptown Precinct, Soweto (District D)

Soweto townships house the majority of the less privileged population of Johannesburg. Kliptown is located within the centre of District D in Gauteng and borders both poor informal settlements and developing low income suburbs such as Eldorado Park, Jabavu, Klipsruit, Racecourse, and Dhlamini. The centre of Kliptown is thought to be Freedom square, but could be argued is actually the retail node that supplies whole sale items and food markets for a large population of Soweto. The retail node attracts hundreds of commuters to its stores daily.



.01 RAILWAY BARRIER
Separates the informal settlement west of the WSSD from the centre of Kliptown.

.02 BRICK FACTORY
Currently the site just north of the WSSD is occupied by a privately owned brick factory. This factory will be re-located and land purchased in the next phase of Kliptown urban redevelopment

.03 HERITAGE SITE
Adjacent to the brick factory are the original farm houses that have deemed heritage structures. Despite this announcement the farm houses have been broken down and all that remains are dilapidated walls.

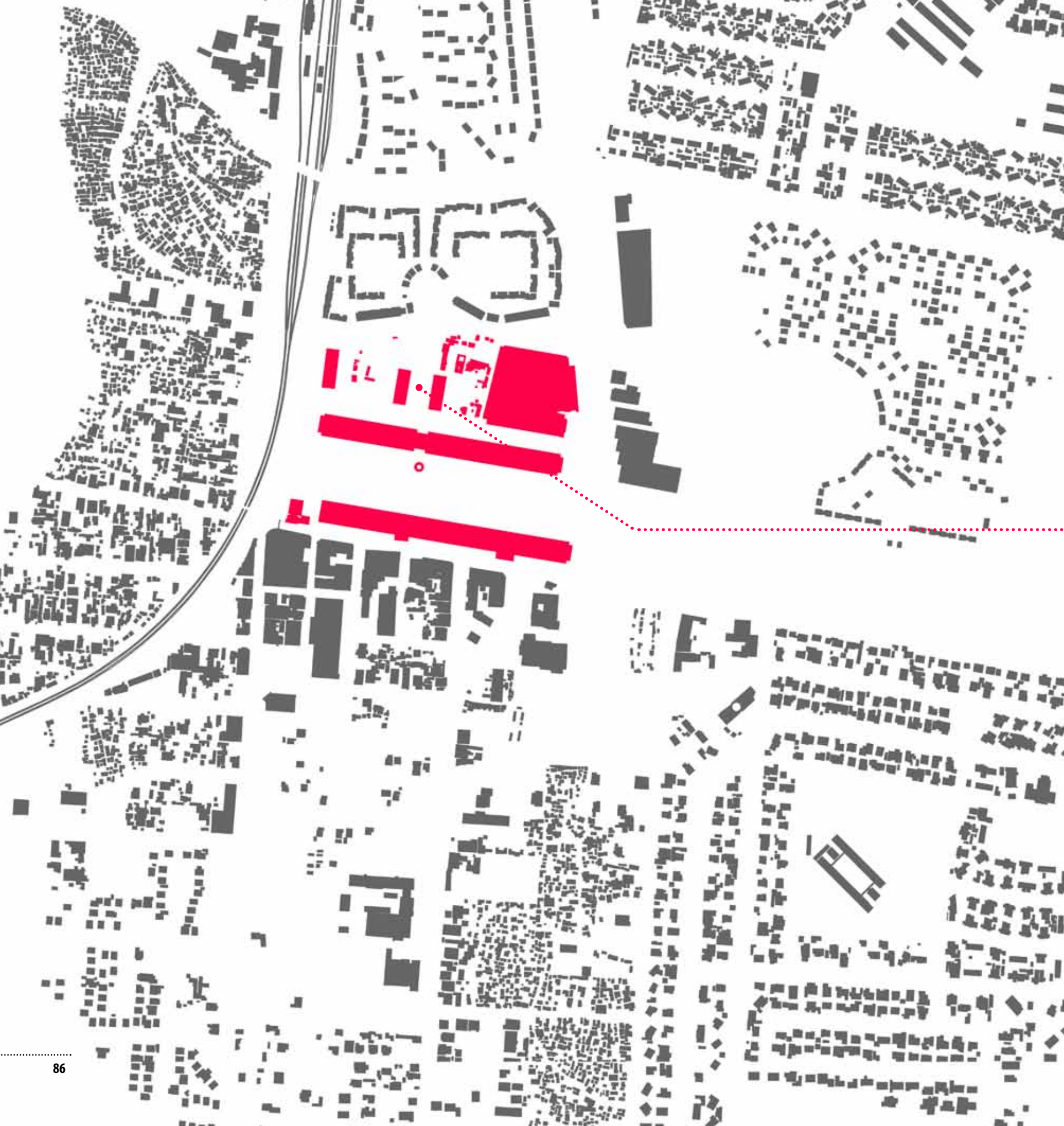
.04 TAXI RANK
A recent addition in 2005 saw the construction of a new taxi rank. The taxi rank is rarely used by local taxi's because of its bad location.

.05 WSSD
Walter Sisulu Square of Dedication (WSSD). Also known as Freedom Square.

.06 RETAIL HUB
South of the WSSD is the vibrant and active retail node of whole sale buildings and Indian owned kiosks and shops.

.07 POLICE STATION

.08 MAGISTRATE COURT
The only other Civic building in Kliptown is the magistrates court located along Beacon street. In a more recent Urban study compiled in 2009 a suggestion was made to move the court to the inactive WSSD



.05 **site location**
Brick Factory North of
Walter Sisulu Square
of Dedication (WSSD)

Walter Sisulu Square of Dedication

The north site of the WSSD is the brick factory and boycotted new taxi rank. This site was picked for its potential to be reactivated as charged as a space of knowledge and information for Kliptown and Soweto residence. The investment of the square may have been misdirected and disregarded context but it cannot be ignored. The potential of Kliptown as a centre of information for Soweto feels appropriate when considering its history as a somewhat contested space during apartheid where a diverse mix of culture organised themselves as the only retail node in Soweto. Kliptown's current context is a true showcase of the multiple scales of urban living within a developing world context. There are newly developed high-rise low income apartments, low-income suburbs and shanty towns all surrounding Kliptown. "These diverse scales acknowledge the fact that cities fulfil many different roles: they are major drivers of national economies but at the same time provide the context in which ordinary citizens lead their daily lives" (Judin&Cohen and Silverman 2009:3).

The site has access to major transportation routes including Taxi routes in and out of Soweto along the Soweto Golden Highway, The train station north of the site, and the proposed Bus Rapid Transport stations for the ambitious new BRT system currently underway by the City of Johannesburg.



PEDESTRIAN MOVEMENT

Kliptown is predominantly navigated by pedestrians. Residence of the Klipspruit informal settlements and Dhlamini settlement travel over the railway line

across to the WSSD and the retail market.

The structure of the WSSD square splits Kliptown in half restricting direct movement to the north from the retail node just south of the

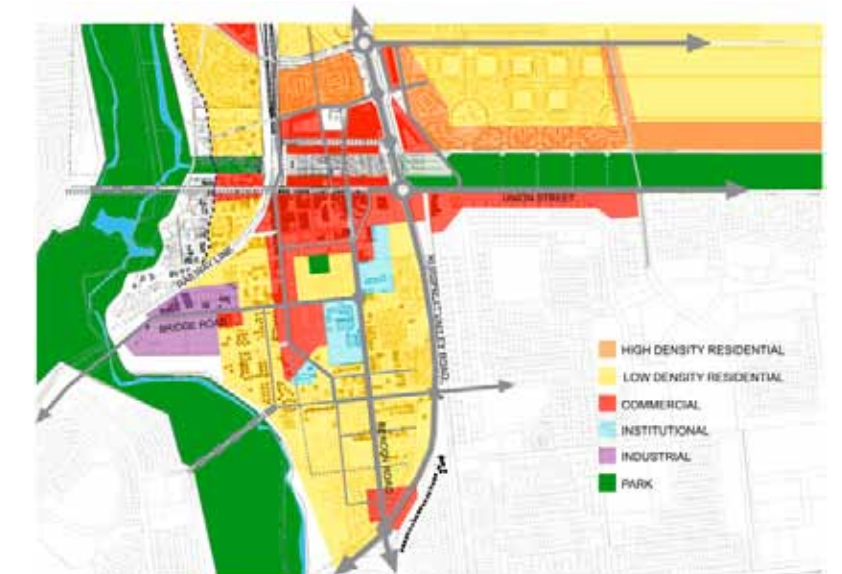
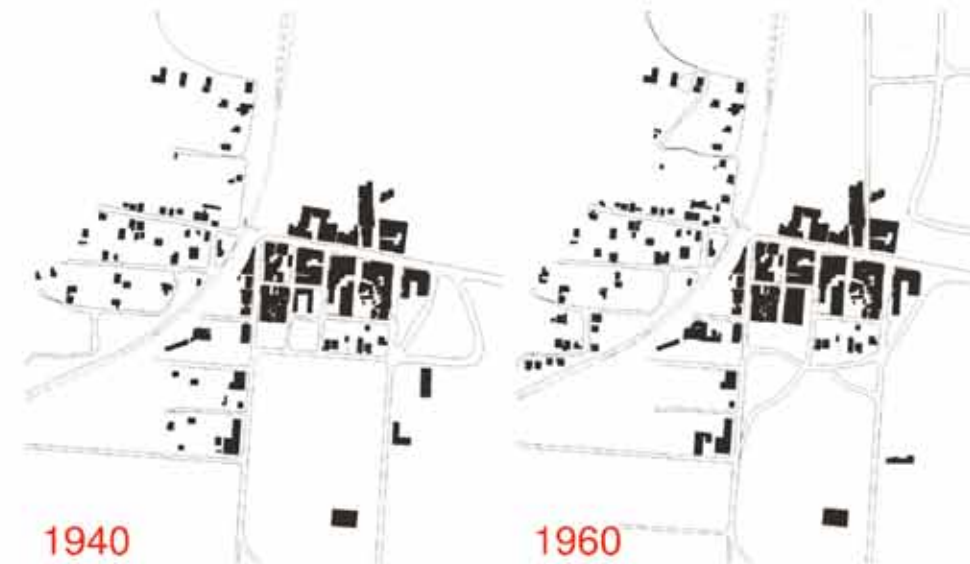
square. Pedestrians are now forced to move around the east and west edges of the WSSD.

When compared with the diagram of historic urban growth a strong pedestrian thorough-

fare can be identified through freedom square and the brick field site. In the 2003 urban development plan for Kliptown by StudioMAS an obvious emphasis was placed on establishing a east-west develop-

ment by incorporating the east-west belt as a civic strip starting with WSSD. As the planning was not enacted the realisation of just the square and the misplaced new taxi rank, the WSSD stands alone separating old

Kliptown (south of square) from new Kliptown (north of square)



(above)
KUDF ZONING BY STUDIOMAS 2003
Source: (StudioMAS 2003)

(left)
HISTORIC URBAN GROWTH
Source: (Judin&Cohen et al 2009)



WSSD

WEST-END

The WSSD dwarfing the urban built landscape of Kliptown and looking down onto the informal community to the east.



WSSD SOUTH-WALL

The south strip of the WSSD is host to the elevated tourist hotel and its scale is

less overwealming in comparison to the northern strip due to its perforated form that breathes and frames views on either side of it.

FARM HOUSES AND BRICK FACTORY

The current state of the farm housing is that of

a few falling brick walls. Although noted as a Heritage site the preceding lack of concern as left the farm housing close to complete destruction.





sourced online from Google Images

**CELLEBRATING
POTENTIAL**

*Image of celebrating youth
at the signing of the Free-
dom Charter at Freedom
Square in Kliptown 1955.*

HISTORIC LANDSCAPE

Kliptown and the Freedom Charter

The Kliptown Township can be dated to 1904 when it was declared a reception camp for forcibly removed populations during the period of increased control over black urban dwellers. Due to an outbreak of bubonic plague people from the Coolie, Kaffir and Native Locations at the western end of Johannesburg town were moved twelve miles south west to the banks of the Klipspruit River.

Facing further control by a white government, the new residence of the camp eventually settled in the area. The general population within the camp included Malays, Indians, and Africans. The larger proportion were Zulu men. The municipal government at the time allowed for an Indian trading area to conciliate Indians who had lost their stores during the removals. By 1910 the area was developing an increasingly segregated character of white and black-owned farms. Furthermore there was an emerging “embryonic retail node” (Judin&Cohen, and Silverman 2009:5).

In the 1950’s the Government shifted their policy strategy from keeping Africans out of the city to one of accommodating Africans within Urban areas for the purposes of cheap labour. The manufacturing boom meant that there was a need for skilled labour in the manufacturing sector. Townships were zoned and established under a national housing program primarily as residential dormitories for labourers working in white industrial areas.

Notwithstanding their strategies for segregation, the government deliberately zoned township land to areas often buffered by natural “buffers” such as rivers, arid landscapes or mining compounds and slime damns. Furthermore transportation access was limited and controlled in and out of townships and into the industrial areas.

Throughout the 1950s the Nationalist government rolled out standardised housing schemes across Soweto. The dusty south-west townships were

buffered from Johannesburg by the mining belt and included the townships of Pimville, Orlando, Meadowlands, Jabulani, Moroka, Dobsonville, Naledi, Zola, Dube, Mofolo, Dhlamini, Diepkloof, Phiri, Meadowlands, and others.

These deprivations notwithstanding, Hilton Judin, Nina Cohen and Melinda Silverman explain that, “Soweto became a focus of intellectual, cultural and political life. It was home to iconic leaders – Walter and Albertina Sisulu, Nelson and Winnie Mandela, and Robert Sobukwe, amongst others – and also produced great sportsmen, writers and musicians. Today apartheid urban patterns continue to persist at a metropolitan scale.” (Judin&Cohen, and Silverman 2009:9).

Kliptown was host to the Congress of the People in 1955 where words inscribed in the Freedom Charter was first read. A significant moment in South African history and notably an event that brought together thousands of oppressed communities and individuals together to hear the information compiled in the Freedom Charter. Kliptown was a mix of diverse communities including Coloureds, Indians, Africans, and Malays. Despite the absence of any retail or commercial nodes in Soweto, Kliptown had established itself as the dominant retail area within Soweto comprising of small and large scale shops. “Kliptown was one of the few places within this bounded, buffered ghetto that offered residents a place to shop and socialize” (Judin&Cohen, and Silverman 2009:11).

To date Kliptown still continues to function as a retail node, bustling with spaza shops, wholesale outlets, formal and informal trade, and other mixed-use function. In response to the growing informal housing settlements in Kliptown there have been two urban redevelopment strategies that both concentrated around housing strategies. The 1997 Greater Kliptown Development Framework (GKDF) setup by a consortium of engineers, urban planners, and architects concentrated on housing, place-making and an emphasis on Kliptown as a retail node for Soweto but was never enacted. The Kliptown Urban Development Framework (KUDP) by StudioMAS in 2003 was also never realised but saw the construction of the oversized Walter Sisulu Square of Dedication (WSSD) and the new taxi rank aimed at strengthening the existing infrastructure with an acute concentration placed on freedom square as the centre of Kliptown.



**CELL PHONE
REPAIR SHOP**

A typical custom made sign board displaying the services offered by the many cell-phone repair shops around Soweto and Kliptown.

INFORMATION LANDSCAPE

Kliptown is an informal and residential neighbourhood that plays host to large wholesale retail stores and informal food traders. This highly charged mix of low income living and retail activity has a population of near 45,000 and with an unemployment rate of seventy percent (70%). Kliptown's degenerated landscape is home to a very large population in need of skills, resource and infrastructure. Many of the neighbouring schools have closed due lack of teachers and educational resources for students.

The information revolution within Kliptown is near typical of a developing world's rural context globally compared. Cellular phones dominate the information landscape, with cellphone repairs, second hand sales, and informal service provider stalls littered on every corner. With very little access to information technology infrastructure established local service providers have setup container-like calling stations around Kliptown and neighbouring Townships. These temporary setups while appearing to be randomly placed in both built area and residential suburbs have translated into small business for tenants willing to give up a segment of their property.

Some savvy and intuitive locals have also noted the increased need to be connected and have setup illegal call booths from either their shacks or makeshift structures on sidewalks with wiring tapped into existing telephone networks.

However obvious the desire and need for communities and individuals to be connected the government has done little to phase in implementation strategies for better ICT infrastructure. The recent Broadband and ICT

strategy for Johannesburg concentrates on the inner city business district becoming a wireless zone with the impetus ultimately being the roll out scheme for establishing an African ICT hub in the inner city, yet no interest is shown in activating infrastructure and ICT education for rural and informal populations.

Kliptown has only two Internet cafes that serve the greater Klipspruit area. In interview with the store owners they expressed a greater need for awareness of the benefits and uses of both a computer and the internet. The store owners and staff believe that it is this lack of awareness or understanding that limits the local's participation and enquiry is stifled by both ignorance of the benefits and a fear of the new. The larger proportion of Kliptown internet users are school children and young business men using the facilities for social and educational research and make use of printing and type programs.

From a series of twelve hour studies of the spatial use of the internet cafes is was noted that during the periods of intense usage the stores became both after hours study stations for youth, and a place to hold business meetings for young entrepreneurs. During the low usage periods the cafes were typically occupied by individuals browsing the internet, looking for jobs, and only occasional online social activity and Youtube.

One of the most powerful drivers and catalyst of internet awareness is the social dynamic. They ability to connect and share socially has been the driver of internet revolution seen in the last eight years. Although most of Kliptown internet users are using the internet for research and job finding the power of socially motivate involvement must not be overlooked. It is only when a technology is ubiquitous and only when we take it for granted that is at its most useful. If ten percent of the population had a cellular phone, the technology would not be as powerful as it is when everyone has it.

**CELL PHONE
AND CALL
BOOTH**

*Scattered into the suburbs
are numerous temporary
call and cell phone booths
have become nodes of
communication and pub-
lic socialising thus rooting
themselves into the sub-
urban built environment.*





INTERNET CAFE AND POST OFFICE

The Owner of one of Klip-
town internet cafes. His

shop shares a spaces with
the old Kiptown Post
Office which is now closed.
He stands outside to invite
post box users to see what
happens in his shop and
tries to teach them email.



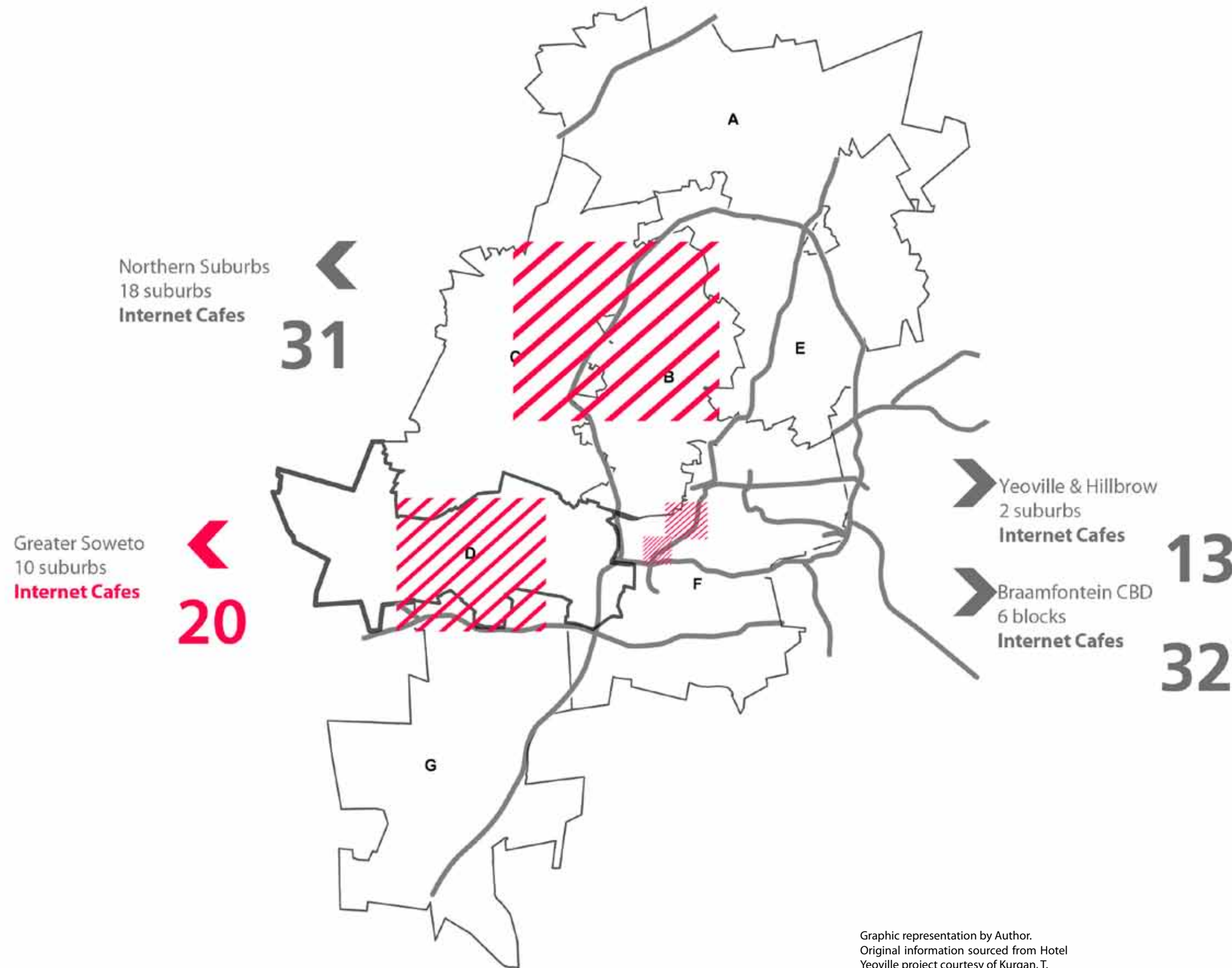
INFOR- MATION CONTEXT

Access to the Ether

This section covers the existing contextual and cultural ICT landscape. A series of mappings and analytical studies are developed at various scales. Understanding the context's access to the information ether is not only a matter of mapping points of access but includes an appreciation of who uses the technology and why they use it.

INSIDE THE IN- TERNET CAFE

The limited spaces and the traditional row of computer cubicles does little to entice the public nor does it accommodate the afternoon study groups and business meeting. The owner brings out extra tables and chairs to keep his customers happy and in the shop.



Graphic representation by Author.
Original information sourced from Hotel
Yeoville project courtesy of Kurgan, T.
(Kurgan, Hobbs, Bristow 2008)

Internet Cafe Map > Gauteng

Access to the ether in the Gauteng province is represented here by a comparison of the amount of internet cafes in four location. Of course the internet cafe count excludes the private household service providers but this map investigates the public spaces where access to electronic information is available. The affluent northern suburbs of Johannesburg have the second highest count of Internet Cafes while also having the highest number of private household connection to the internet. Soweto has the third highest number of internet cafes, largely this due to the high prices of household connections and the capital involved in owning and operating a household computer. The internet cafes in Soweto become the principal point of access for residence and social spaces of information.

In the Yeoville and Hillbrow suburbs, on the periphery of the CBD and with a population of predominantly foreign nationals, the Internet cafes are incredible spaces of mix-use program. The cafes are highly charged spaces of socialising and networking for job seeking, way finding, hair-dressing, and business transactions. The centre of Johannesburg's Braamfontein CBD has the highest count of internet cafes which accommodate the high-rise apartment population and the students living in the area.

Internet Cafes > Kliptown

In this map three (3) points of access to the internet were identified in the immediate Kliptown vicinity and an additional noting of the Soweto Computer clubhouse in the Jabavu suburb just north-east of Kliptown. A one kilometer (1km) radius is shown around these nodes of access to express a reasonable walking distance to and from the cafes. Kliptown already has a shortage of functioning schools and while the location of the Internet cafes are far from surrounding schools, many school students still travel the distance to these internet cafes after school hours to do research and homework.

**.01 SOWETO
COMPUTER CLUBHOUSE**

A small group of street and school children learning and teching ea-chother basic computer skills, graphics, music mixing, and web design .

.02 KYP

The Kliptown Youth Pro-gram with sponsorship by the OLPC program is teaching young chil-dren learning programs on their own laptops.

**.03 INTERNET CAFE
AND HAIR SALON**

In the New Taxi the lat-est of only two inter-net cafes opened in 2007 sharing a space with a active hair salon.

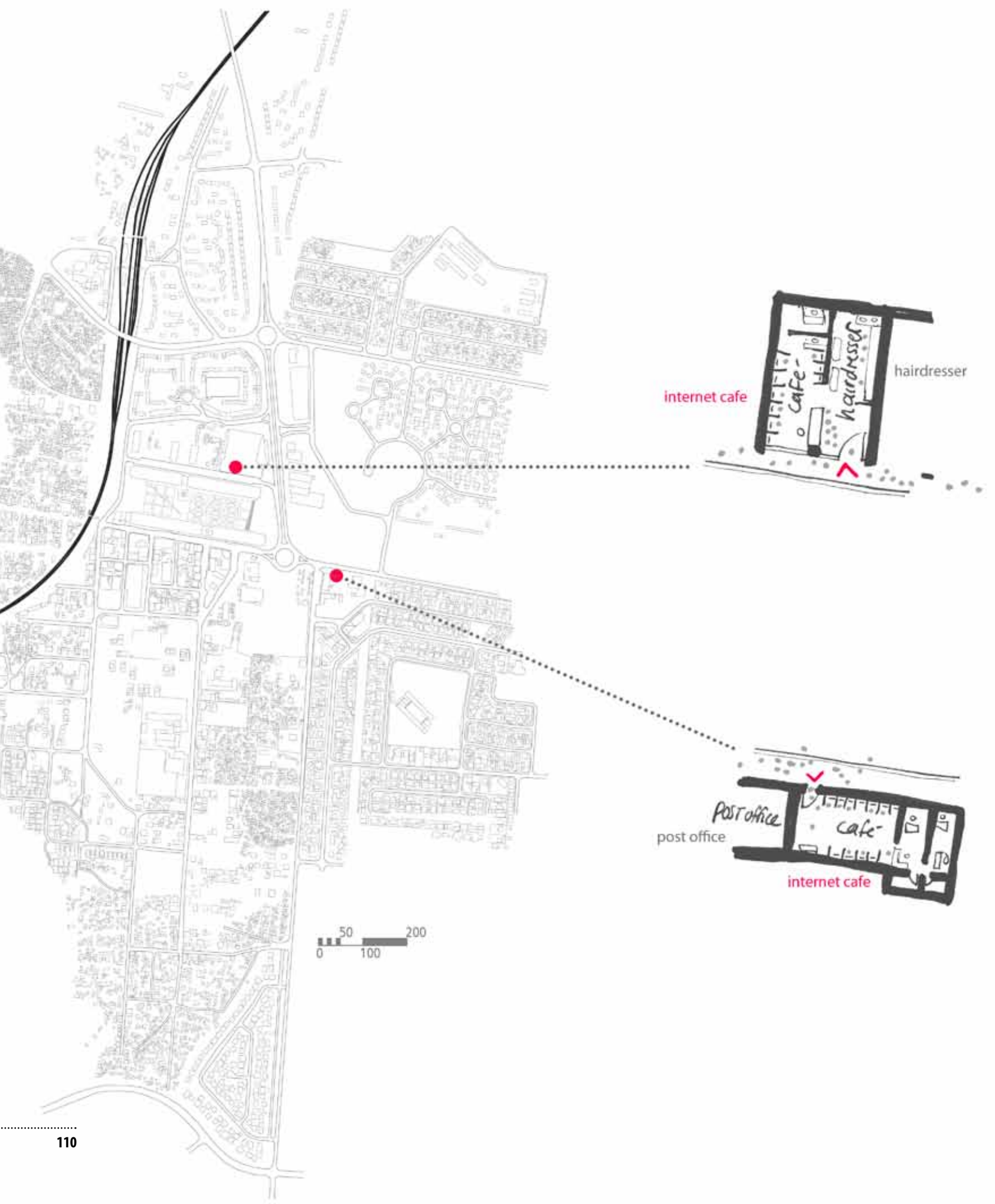
**.04 INTERNET CAFE
AND POST OFFICE**

The first of the two in-ternet cafes is in the old post office building.

SCHOOLS

Most of the schools are located far from the in-ternet cafes yet students are the most common us-ers of the cafes and spend most of their time do-ing after school research.





Cases > Shared spaces of participation

The bustling and animated spaces of the internet cafes in multinational Yeoville suburb are often shared with hairdressing salons and small retail kiosk. Because of the constant consumer gravatus that the internet cafes have in Yeoville the 'mash-up' of programs compliment each other. The Internet cafes bring the footloose traffic to the hair dressers and the hairdressers keep clients and activity around the cafes creating interests and social activities that then further attracts passersby.

The two internet cafes in Kliptown also share their spaces with another space. The Internet cafe and the post offices appeared to be a weaker hybrid. This was predominantly due to the post office building having been closed and the post boxes were all that remained. The owner made good use of the post office connection to his building by standing outside and inviting post box users to learn how to email for free. The most recent internet cafe located in the taxi rank shares its floor space with a hair dresser. Women are always hanging around socialising in the shared reception and the atmosphere is always busy and exciting. The hairdresser provides a anchor that draws in clients for the internet cafe that would have otherwise not known and not bothered to investigate the internet potential. The owner explains that it is for this reason that he places flyers of his services on the mirrors of the hair salon.



INTERNET AND HAIR SALON

The taxi rank's internet café shares its space with a hair salon. This hybrid brings in customers to the internet café that would

otherwise not have entered. The hair dressers often explain the uses of the PCs and the internet store owner puts up a lot of signage.

SHARED SPACES OF USE

The two business owners share the reception space and couches for their business. The reception acts a small meeting and social space for mainly women waiting for their hair appointments.





**KLIPTOWN
YOUTH
PROGRAM**

(ABOVE)
Young school children at the KYP centre with their donated OLPC laptops of which they learn with educational programs, get creative with games and problem solving programs.

All students own the laptops and take them home with them. The program staff explained to me that the young students use the laptops to teach their older siblings and parents how to use the internet.

Image Sourced from:
http://iuohot.blogspot.com/2008_08_01_archive.html



**SOWETO
COMPUTER
CLUBHOUSE
STUDENTS**

(RIGHT)
At the SCC older students engage in a space that has recreational games like pool tables placed alongside computer stations.

The more experienced students teach the less experienced students skills like basic office publishing, and the more popular courses in Photoshop, music mixing, video editing and animation web design.



**SOWETO
COMPUTER
CLUBHOUSE
SITE**

Despite a lack of resources the organisers of the SCC try encourage young students to play soccer in the front yard. This activity at the entrance of the building encourages loitering youth on the streets to hang around at the perimeter fence observing the activity. The organisers then start up a dialog with the kids and invite them to participate.



SIGNATURES

- * ~~Pungama~~
- * ~~Mullasur~~
- * ~~Ahu~~
- * ~~Eyng~~
- * ~~Skin~~
- * ~~~~Eyng~~~~
- * ~~~~Eye~~~~
- x ~~Racem~~
- x ~~Bacem~~
- x ~~Alkapp~~
- x ~~Stidias~~
- + ~~Alkapp~~
- x ~~Istholes~~
- x ~~Zick~~
- x ~~Cen~~
- * N. Mores
- * ~~Danghara~~

* ~~Pruning~~
* ~~Pruning~~

YOUTH PLEDGE

- * TO COMMIT MYSELF IN DEVELOPING THE YOUTH OF TODAY.
- * TO PUT MY WORDS TO BE HEARD AND PRACTISED
- * TO PARTICIPATE IN ANY YOUTH ACTIVITIES.
- * TO DO VOLUNTEER SERVICES
- * TO DO ^{PRACTISE} WHAT I PREACH
- * NOT TO BE JUDGED
- * TO BE A GOOD EXAMPLE TO THE NEXT GENERATION & MOTIVATOR

SIGNATURES

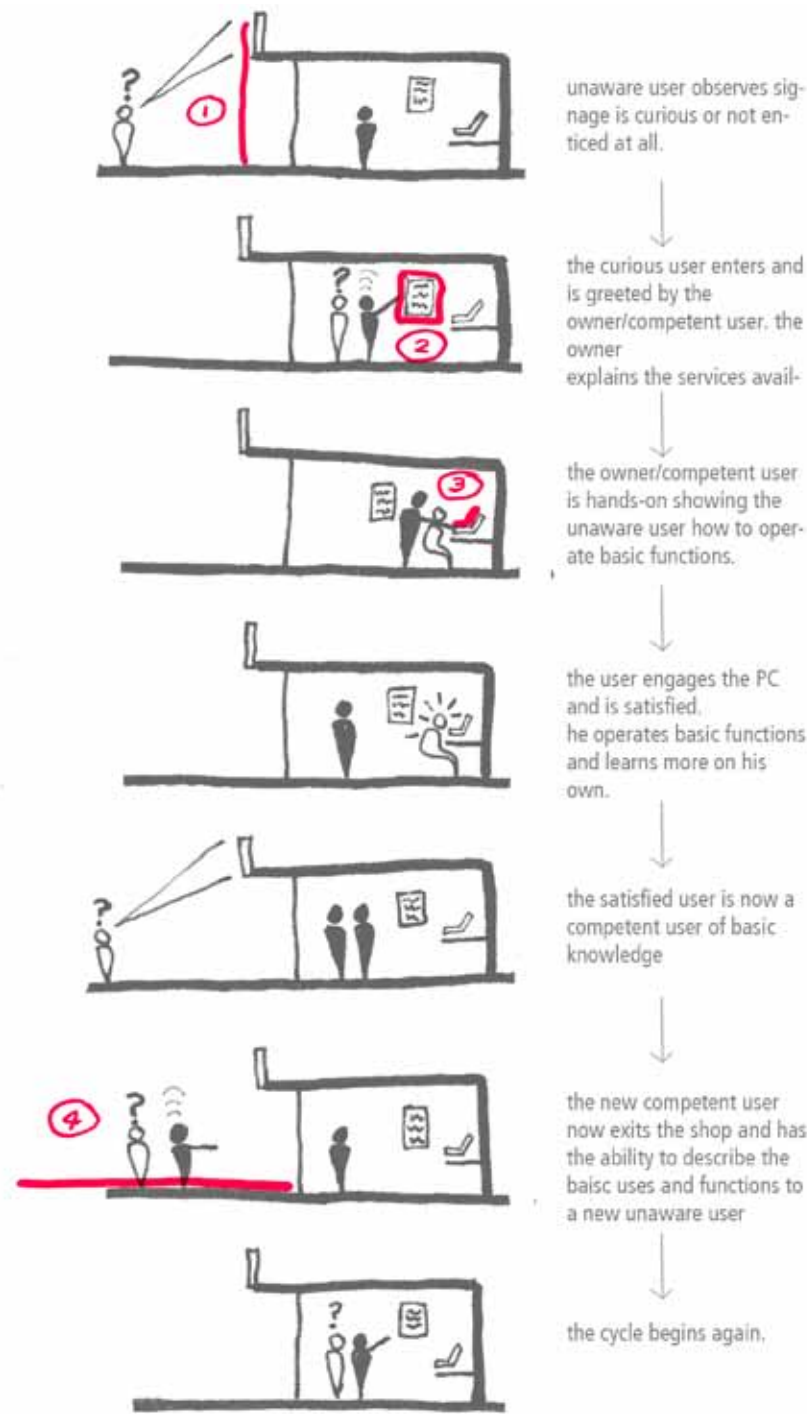
[Handwritten signatures and text on a piece of paper, including:]
 - Top left: A large, stylized signature.
 - Top right: "Hulaach" in blue ink.
 - Middle left: "Pankie Sam!!" with a signature below it.
 - Middle right: A green circular stamp with a cross inside.
 - Bottom left: "Apkation" and "Apobness" written vertically.
 - Bottom center: A large, stylized signature with "20/10" written below it.
 - Bottom right: "Chillim." and "DIVA. N.O.COM" written vertically.
 - Far right: A signature and "Q73385" written vertically.
 - Bottom edge: "SI Security" and "20/10" written horizontally.

COMPUTER CLUBHOUSE DECLARATION

All the students that take part in the SCC programs sign a pledge with an impetus of giving back the knowledge they learn to others. It is this full circle sharing culture that gives life and energy to the program. The young information consumers are not only producers of content but they become peer educators.

- Individual that has the basic knowledge for internet and PC use
- Individual that is unaware of the advantages and how to use internet and PC
- Individual that is ready to explore and learn just what he/she needs from the internet and PC
- The basic PC console station for one individual
- Internal poster with info on services available and user instructions
- External shop signage board displaying name and list of services

- 1 public interface**
The front street facing facade incl. signage
- 2 internal interface**
Internal posters and verbal human instruction from competent user.
- 3 surface interface**
PC console and station experience and ease
- 4 accident interface**
Public space outside of shop and conversation with friends



PERCEPTION AND INTER-FACE STUDY

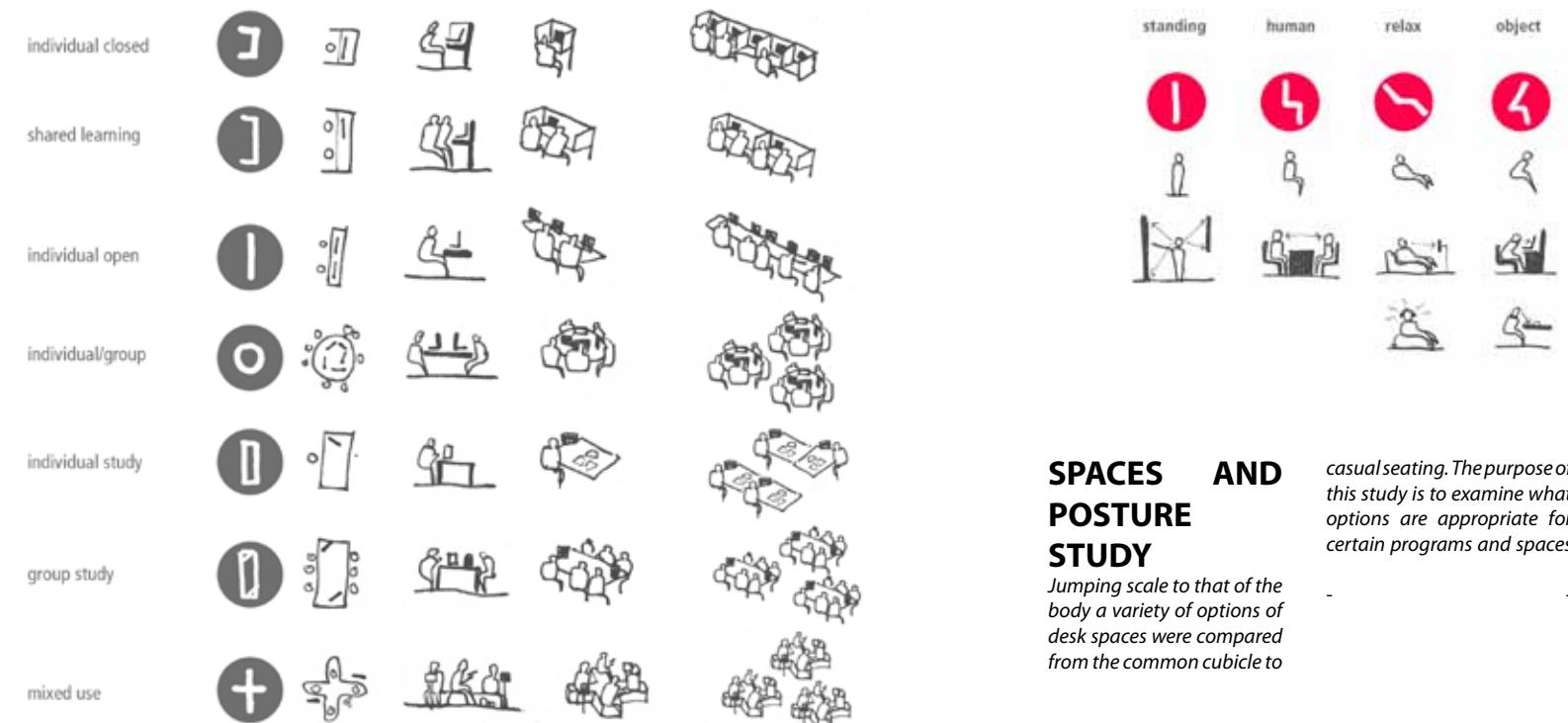
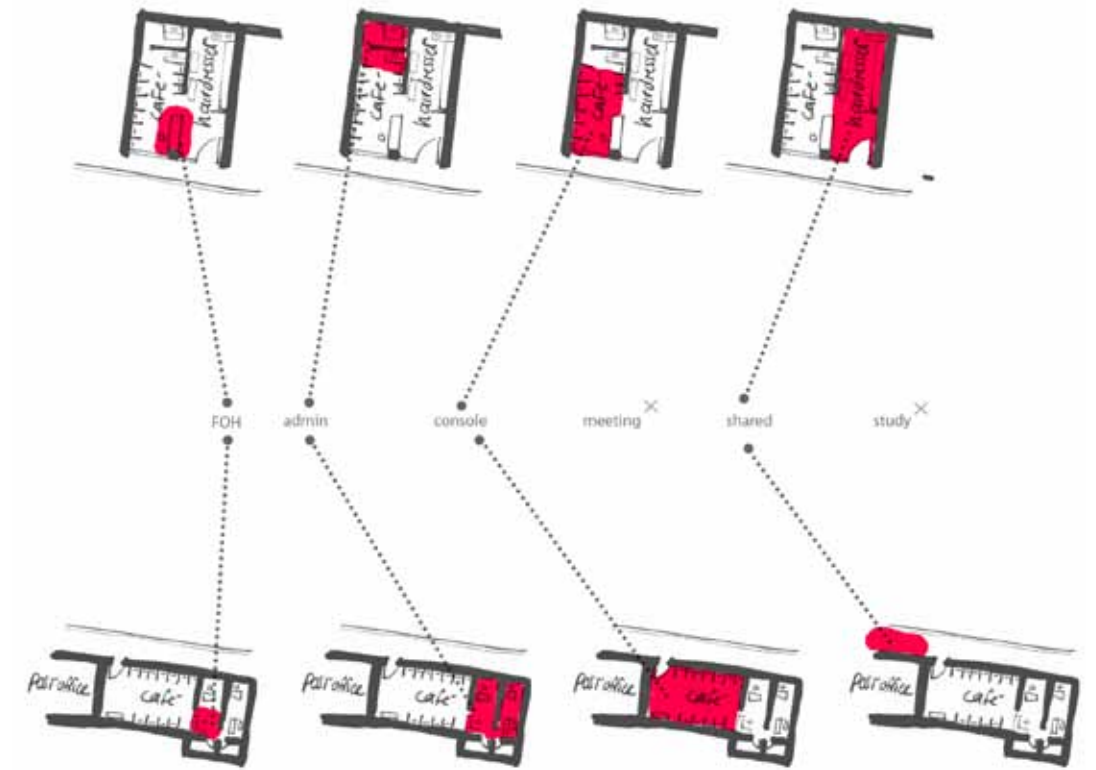
This short study was compiled from questioning both the owners and the pedestrian around the internet cafes in Klip-town and Jabavu Suburb.

In addition the basic internal spaces of the cafes were compared and simplified into diagram that represents the core experience and perception one has when engaging with the cafe.

BASIC COMPONENTS

Before any first attempts at designing were made a basic understanding of the components that exist and are required in the internet cafe case studies was needed. A comparison was made between two internet cafe cases that both share spaces with another store.

The obvious take-outs that are reinforced from conversations with the owners and the 12hr study of the internal spatial use is the need for meeting rooms or group rooms, as well as desks that have working space for books and notes and pair tables that share a PC between two people to encourage peer sharing and teaching.



SPACES AND POSTURE STUDY

Jumping scale to that of the body a variety of options of desk spaces were compared from the common cubicle to

casual seating. The purpose of this study is to examine what options are appropriate for certain programs and spaces

DEVELOP- ING A CULTURE OF USE

Finding the Kliptown Program

Already identified is the need for new programmed spaces within the new library/ theatre of knowledge but the program needs to be specific for a developing information society and cannot at this stage be as universal the current library programs. For this reason developing a culture of use begins with identifying what the local context's current and immediate needs are. In addition an understanding is required of how ICTs are used and perceived by the developing community. A series of questionnaires and spatial observation studies were conducted and analysed.



SCIBONO CENTRE, NEWTOWN.

A young child captivated by a graphic interface of cartoon shapes and a comfortable bright console. The child learns which basic material conduct an electrical circuit

USAGE MAP

(BELOW)
This graphic represents the proportion of uses of internet by users in Kliptown compiled after a three week observational and questioning study in conjunction with the cafe store owners.

The obvious take-outs were that the internet cafe services including internet, printing and faxing, were mainly used by men and women looking for jobs.

The cafe staff help most of the users with writing CV's

, setting up email accounts, searching for jobs online and emailing CVs. One internet cafe has setup a digital camera to take profile pictures of Job applicants.

The effectiveness of business admin and job find-

ing offered by the cafes is not be overlooked yet the fastest growing, most attractive and most powerful social features of the internet appear to be rarely used.

This may be due to the expenses associated with

long times spent on casual browsing and social networking or a lack of connectivity among peer groups.

-

DEFINING PROGRAM

From an analysis of the basic uses three (3) major programming nodes were identified; Business, Study, and Leisure. In addition to these two (2) more were pro-

gramming needs identified and added; Social nodes and accidental nodes.

The Social and Accidental nodes are to increase the knowledge of the social power of information sharing and producing

personal content. The social spaces will be aimed at getting peer participation to take place and optimising on people helping each other and friends.

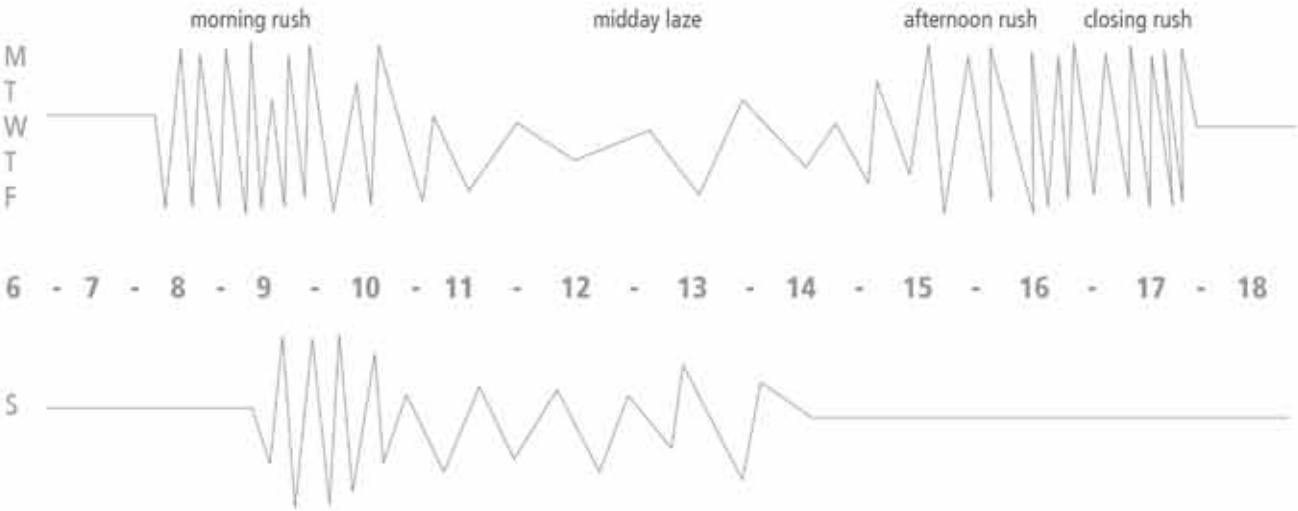
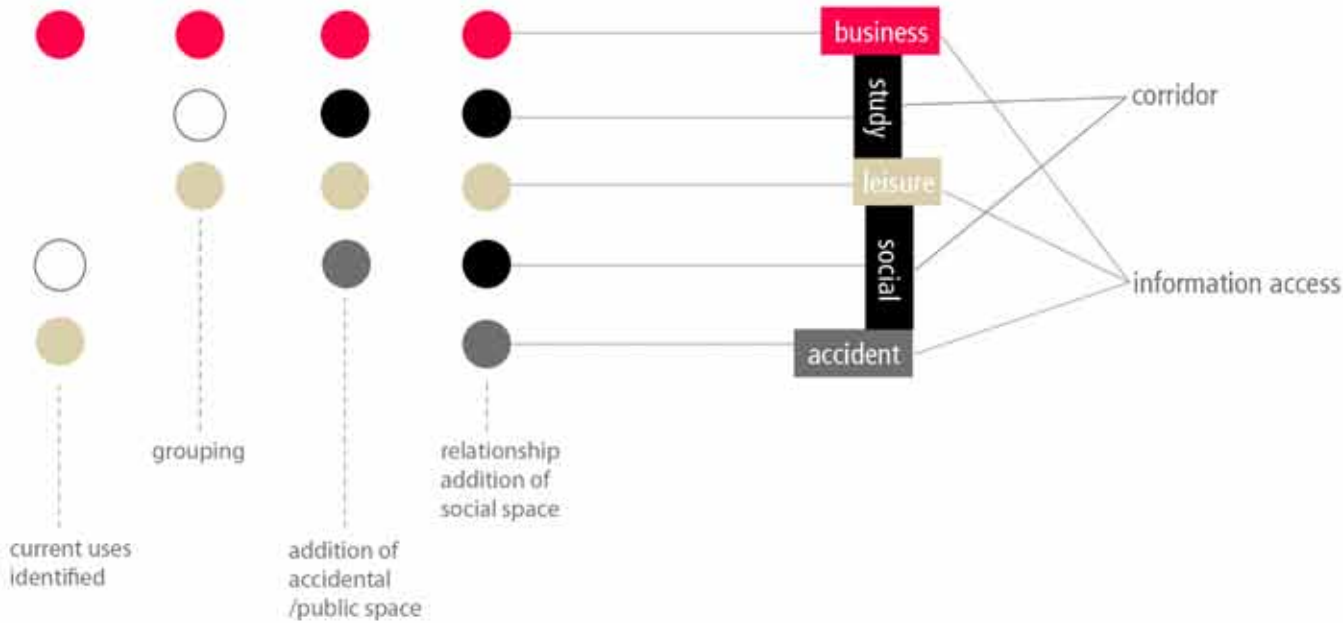
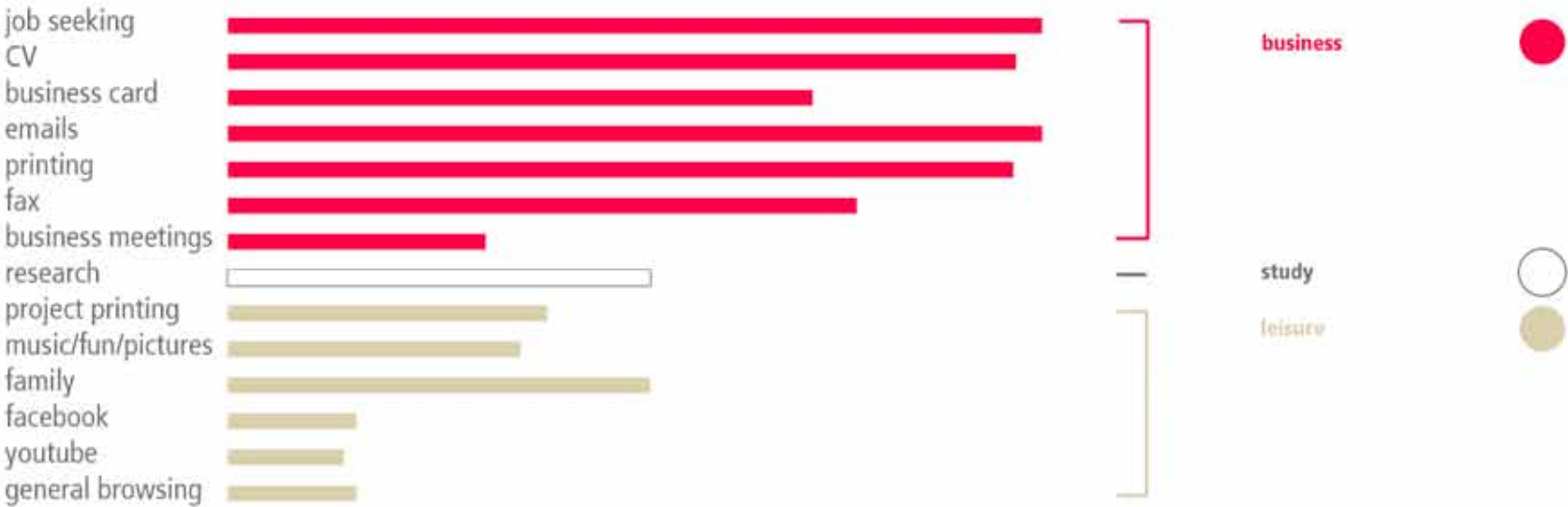
With an increase in the social program, spaces may

generate a hyper charged energy attracting more people like the front yard of the SCC Clubhouse.

The Accidental node is where an otherwise unassuming passer by may feel comfortable enough

to investigate the building spaces. This accidental space will become part of the public space and be programmed with a market space and attractive digital display systems.

-



SERVICE MAP

(LEFT)
The internet cafes offer services from 08h00 to just after 17h00 during the week. The morning is very busy with job hunters and working men and women sending and receiving mail. The middle of the day is rather quiet while the afternoon gets the most traffic with both school children doing after school research as well as working people using the services for both business and leisure after working hours.

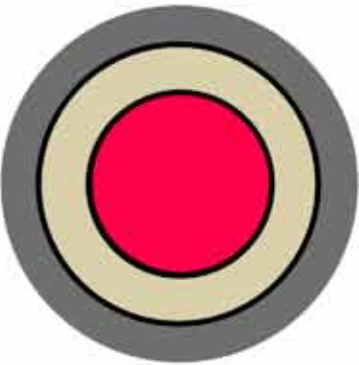
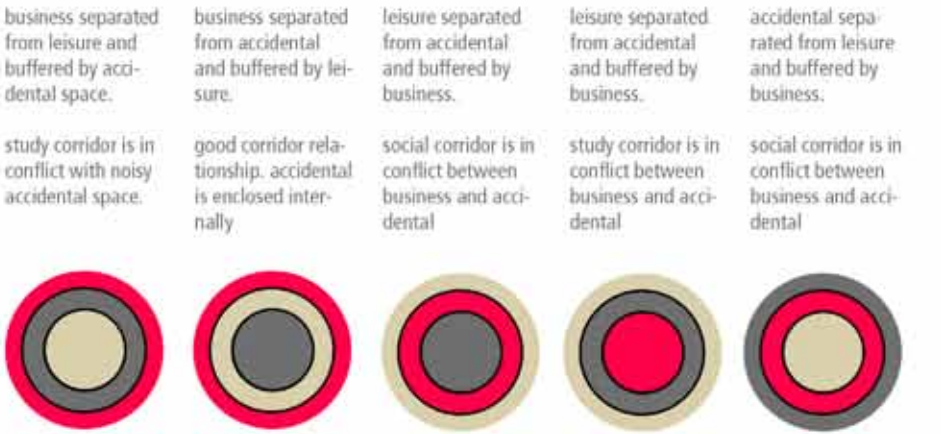
-

DEFINING PROGRAM CORRIDORS

The 5 program nodes were tested against each other to define the best practical relationship between them both spatially and atmospherically. The decision was taken to have the accidental node separated from business and the separation buffered by the leisure



extending the social and study corridors to connect to each other presents connection between studying activities and social activities. this requires zoning the corridor spaces: the study spaces will need to provide both quiet group, quiet individual and social study spaces. conflicts may occur in the absence of ordering this connection.



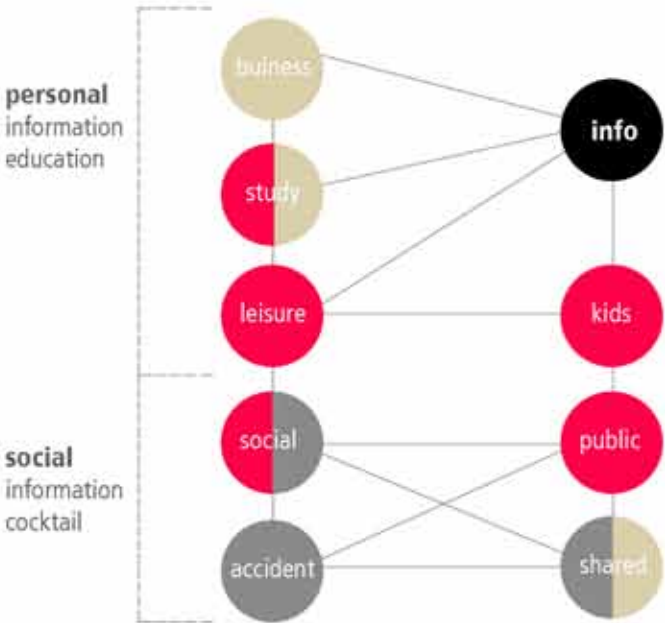
accidental separated from business and buffered by leisure.

good corridor relationships. the social corridor transitions from the bustling accidental spaces, filtering noise and activity and leading into the leisure spaces. the leisure spaces are then filtered through the study corridor and spaces further reduced and compartmentalised, the business spaces are consolidated in the centre and link to the study corridor

- archive
- study
- kids
- public
- social
- leisure
- library

PROGRAM CONNECTIONS

The diagram describes how the new program connects with traditional library programming and public space. In the diagram the black info-bubble represents direct access to information such as books or computers with internet. This information is connected directly to the Business, Study, and Leisure nodes where access to information is more educational and access by individuals personally. The Social, Public, and Accidental nodes are where information is less individualised and is rather more public interfaces. Information is exchanged via display format and experienced through observation and also shared through personal conversations or public presentations.



Open Information Campus

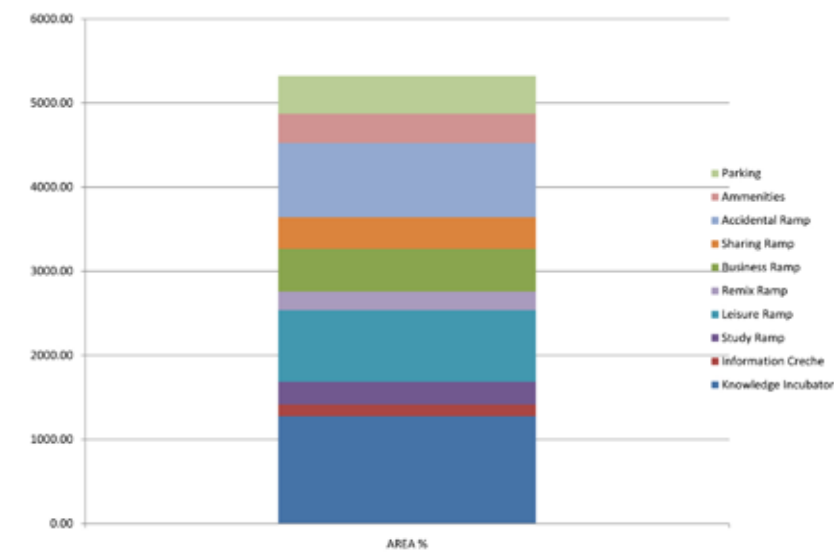
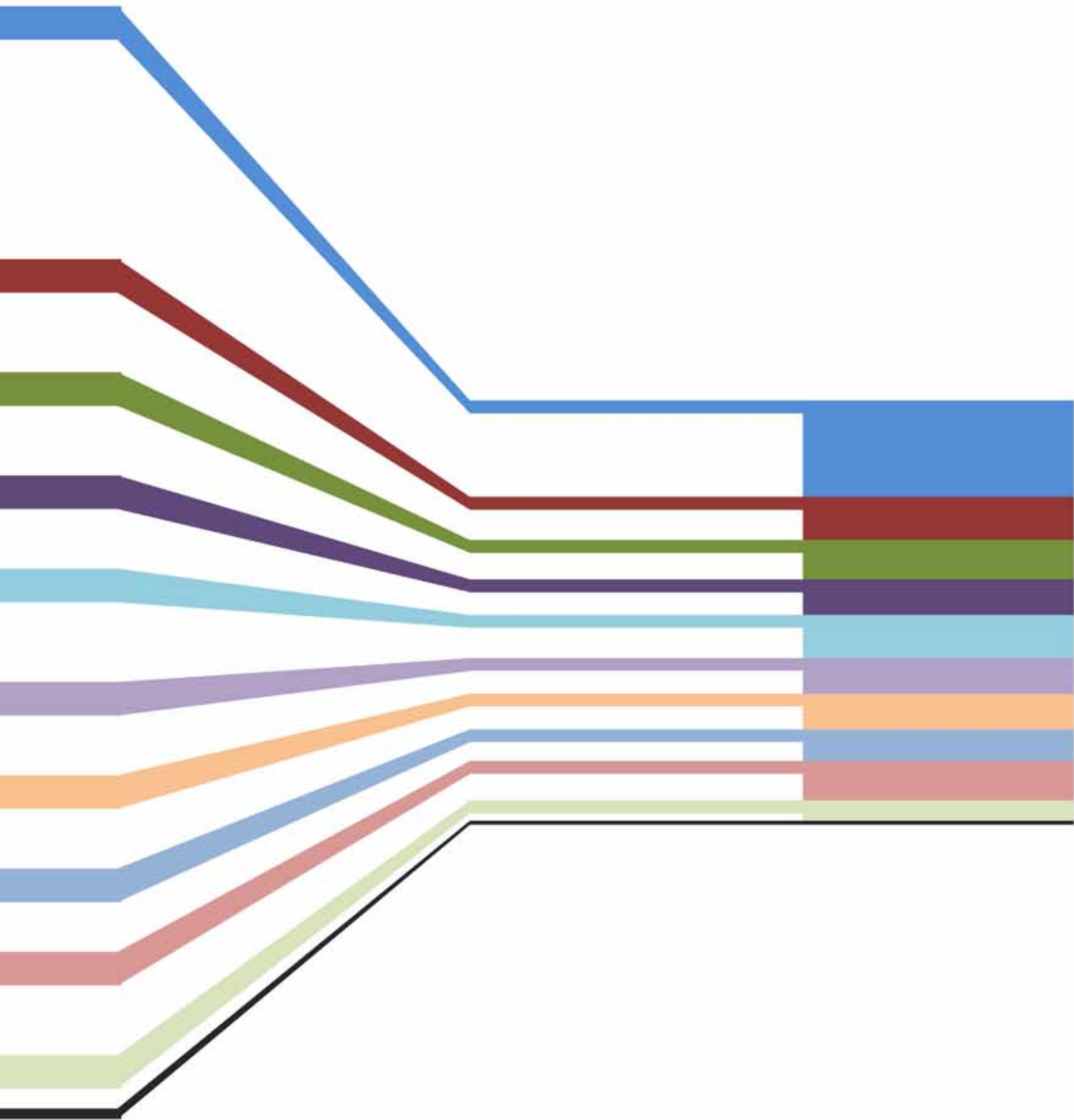
EXPAND- ING PROGRAM

Program as Thoroughfare

The program and areas were further divided and placed in order as per the relationship study. The program was divided as follows, Knowledge Incubator (library anchor), Information Crèche (kids), Business Ramp, Study Ramp, Leisure Ramp, Remix Ramp, Sharing Ramp, Accidental Ramp (public space), and Amenities. These programmed spaces are stacked in order of most chaotic and noisy to those which are more quiet. The Accidental Ramp becomes the corridor to the Sharing Ramp in which a PC and Cellphone market and stalls is placed. This comfortable social space becomes the main entrance to the building.

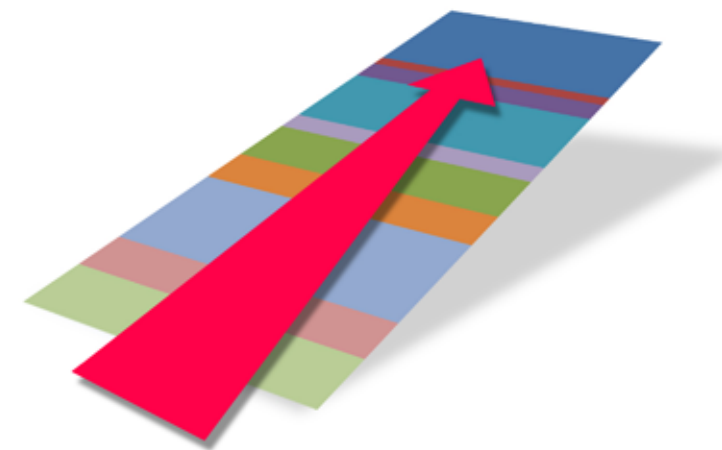
KLIPTOWN OPEN INFORMATION CAMPUS - PRELIMINARY AREA SCHEDULE

No.	Ratio % 100	Area Name	No. of units	Area in m2	Description
A 34.01% KNOWLEDGE INCUBATOR 34 1219.00					
A1		awareness gallery	1	480.00	
A2		participation zone	1	50.00	
A3		lecture room A	1	30.00	
A4		lecture room B	1	30.00	
A5		auditorium	1	200.00	
A6		archive	1	15.00	
A7		reading lounge	1	120.00	
A8		book stack	5	65.00	Reference, Non-Fiction, Fiction, News Papers, Archive
A9		console zone	1	80.00	
A10		info desk A	1	15.00	
A11		foh foyer	1	40.00	
A12		in-desk	1	8.00	
A13		out-desk	1	8.00	
A14		admin and management offices	7	20.00	1 staff librarian, 1 head librarian, 1 secretary, 1 managing supervisor, 1 floor manager
A15		staff room	1	12.00	
A16		safe	1	3.00	
A17		storage	4	20.00	
A18		sorting room	1	15.00	
A19		deliveries/arrivals	1	15.00	
A20		staff lounge	1	12.00	
A21		library centre	1	40.00	
B 3.49% INFORMATION CRÈCHE 3 195.00					
B1		play zone	1	40.00	
B2		reading garden	1	40.00	
B3		digital blocks	1	12.00	
B4		kids library	1	20.00	
B5		storage	1	8.00	
B6		touch screen/ consoles	1	8.00	
B7		info desk B	1	15.00	
C 4.58% BUSINESS RAMP 12 100.00					
C1		console rooms	1	120.00	
C2		breakfast floor	1	150.00	
C3		meeting rooms	5	60.00 12x5	
C4		presentation rooms	3	45.00	
C5		new entrepreneur zone	1	120.00	
C6		info desk C	1	15.00	
D 3.87% STUDY RAMP 11 300.00					
D1		group room	5	60.00 12x5	
D2		study ramp	1	80.00	
D3		seminar rooms	3	30.00	
D4		afternoon floor	1	80.00	
D5		info desk D	1	15.00	
E 16.81% LEISURE RAMP 1 852.00					
E1		body lounge	1	40.00	
E2		awareness wall	1	7.00	
E3		exhibition space	1	600.00	
E4		presentation amphitheatre	1	110.00	
E5		cafe	1	20.00	
E6		meeting floor	1	60.00	
E7		info desk E	1	15.00	
F 4.13% REMIX RAMP 11 320.00					
F1		information service office	1	30.00	
F2		rental desk	1	10.00	
F4		recording studios	2	60.00	
F6		remix console	1	105.00	
F7		music/media presentation	6	15.00	
G 8.99% SHARING RAMP 16 872.00					
G1		reception office	1	30.00	
G2		FOH desk	1	10.00	
G3		PC repair and cellphone market	7	60.00	
G6		welcome foyer	1	200.00	
G7		music/media market	6	72.00	
H 16.61% ACCIDENTAL RAMP 7 884.00					
H1		outdoor presentation theatre	1	480.00	
H2		recreational space	1	250.00	
H3		event space	1	150.00	
H4		digital doorway stands	4	4.00	
I 8.54% AMENITIES 7 348.00					
I1		toilets	1	198.00 1500 people x 0.132 at full capacity	
I2		services access	1	12.50	
I3		loading bay	1	12.50	
I4		giant room	2	100.00	
I5		security office	2	25.00	
J 9% PARKING 1 400.00					
J1		parking (out door)	1	400.00 30 x 95 bays	
PRELIMINARY TOTALS 113 9371.00					



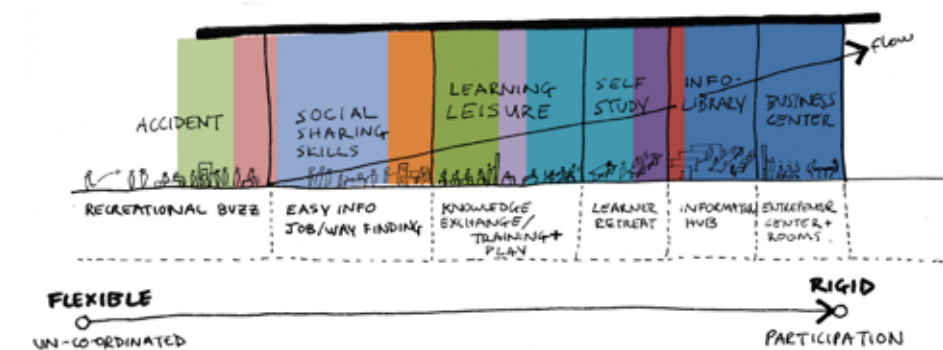
STACKING PROGRAM AND CORRIDORS

The expanded program is seen here with its area proportions stacked on top of each other



RAMPING PROGRAM AS THOR- OUGHFARE

The first concept in the design is to take the stacked program and ramp it from street level. With the more chaotic and lively space gradually getting more quiet as your move along the ramping plane



SCALE AND CLIMAX

When considering the scale of the building in relation to the arrival experience of the entrance and the internal climax of the ramp, the decision was made to scale down the entrance to two stories such that the arrival is less intimidating to the pedestrian and in addition to this the entrance will be submerged in a human scale market space. Once in the building the ramp climax is an exciting four story knowledge incubator that spirals down to ground level.



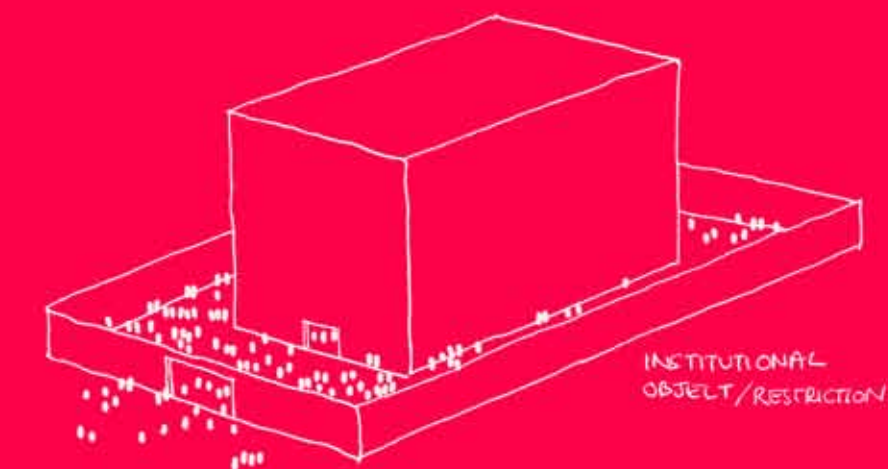
**PAVEMENT
CALLER BOOTH
BUSINESS**

On the pavement of a busy street in Eldorado Park Ext. 10, a man sets up a call booth business targeting pedestrians and the surrounding residence.

A NEW KNOWL- EDGE PLAT- FORM

De-institutionalising the Library platform

The tradition architectural object of the civic and institutional library has been through many movements in architecture since the 17th Century but the iconic object remains a box that contains static spaces of information gathering accessed through a front door. In a conceptual breaking down of the object the library block is de-institutionalised into a public platform that relates to the street and people.



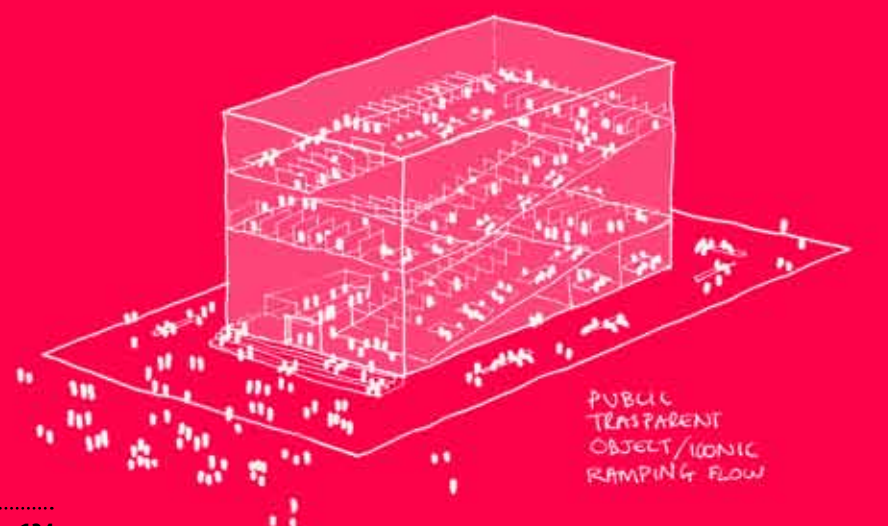
INSTITUTIONAL LIBRARY

The typical model of the traditional institutional library since the 17th Century was typically a heavy block with stacked floors. As seen in many university institutions the wall represents the perimeter layer of security, where access is restricted to a select few thus putting a filter on who may access the information contained in the building.



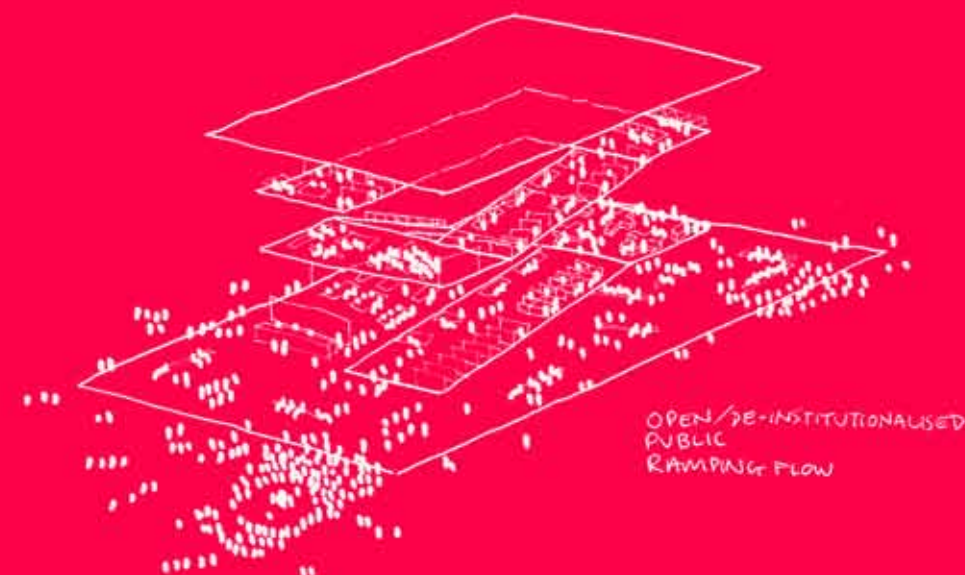
PUBLIC TRANSPARENT LIBRARY

The traditional public library is represented as an iconic object and interfaces with a public square or library gardens and generally with a gesture of entrance using steps and raising the building on a makeshift plinth or pedestal. Public library architecture experienced a movement in the 19th Century in which glass and transparency was introduced as a symbol of information being transparent and accessible. However the trend was merely a facade treatment and the iconic object remains only accessible through a front door.



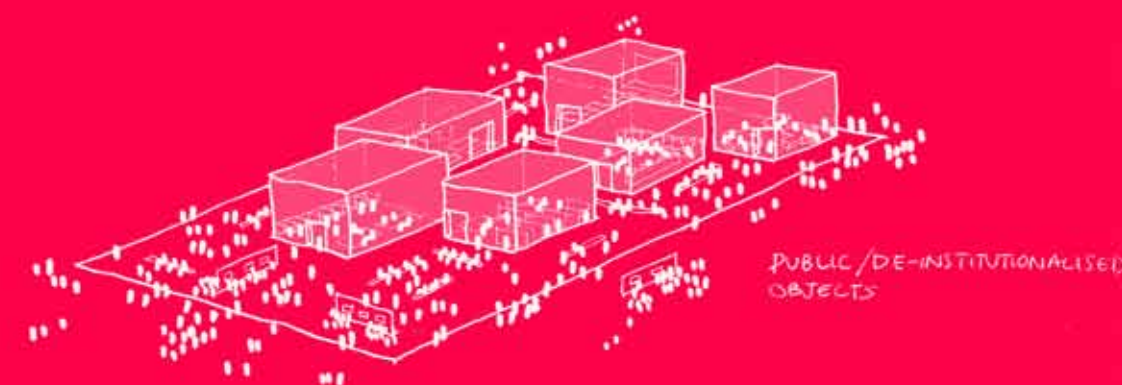
RAMPING KNOWLEDGE

The most recent trend in library architecture is that of 'ramping floor planes'. Used widely in public libraries the notion of a fluidity of space and ease of organisation of information is achieved. This advantage is still confined to within the walls of the object and does not interface with the public domain and entrance.



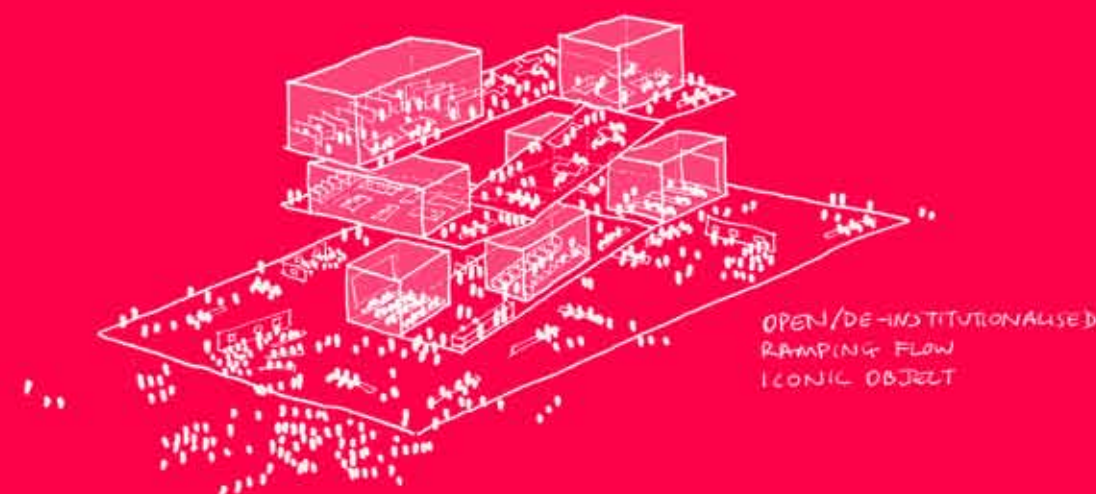
DE-INSTITUTIONALISED LIBRARY (a)

In an ideal world the first concept that attempts to de-institutionalise the information and perpetuates the ramping notion into the public domain is achieved by removing the walls that contain the object and restrict access. The entirely freed structure is roofed and emancipates the definition between public space and building. The iconic architecture remains while appropriating a completely social platform.



DE-ICONED CAMPUS MODEL (b)

The second concept attempts to break down the iconic object and achieve a less intimidating housing of knowledge. By dropping the scale of the building and spreading program into multiple smaller objects the building is made more intimate at a human scale. Public space is spread around the blocks and most importantly allow for moments of accidental happenings at a small, medium, and large scale.



THE STACKED CAMPUS

(a) + (b) = c

The final concept sees a marriage of the former concepts. The human scale blocks are stacked along a ramping street that becomes a ramping public spaces wrapping around the programmed blocks. The singular iconic object enclosed by four walls and a restricted entrance is liberated with the blurring of its edge condition and wrapping facade. The building or stacked campus is now both iconic and less intimidating.



BETWEEN FLEXIBLE AND RIGID

The new knowledge platform concept needs to achieve a spatial environment that resembles the current state of information being an ether of endless content that is liberated from the traditional shelves of library spaces. At the same time the civic architecture that houses the new information platform must not only be of flexible planning that accommodates constant change but also have an underlying spatial order. This means that fundamental architectural planning cannot be disregarded - program that is human centred and designed according to specific cultural and contextual needs must be planned in the an efficient and practical manner rendering the building easy to navigate and comfortable to be in.

TWITTER- ING SPACE

Between Library and an Information Market

One of the online mediums for casual dialog between groups of friends and 'followers' is called twittering or tweets. An individual tweets his or her thoughts and doings to a group of his or her followers and friends. These group and social conversations are random and haphazard and the content varies from current affairs to the most mundane activities. The Internet has provided the platform in which a structured system of information architecture is developed to allow multiple users to communicate publicly from wherever they are in the world. Achieving a twitter-like space in the new Open Information Campus required developing a flexible and uncoordinated space that is as social and comfortable as a market place while still allowing for a programmed building that is strategically planned for effective control of the buildings content, such as security, loud and noisy separation, amenities, etc. The scale on the left places four (4) public spaces of consumer activity on a scale of most flexible to more rigid programming.



INFORMAL MARKET

The informal market place stretches its uncoordinated program across a street corner, a parking lot, a rooftop or public square. The informality of makeshift paths and routes allows commuters to navigate at their own discretion.

The space is humble scale and comfortable. Small moments of information is exchanged and the experience is personal

EXPO CENTRE

The conference or expo centre spatially co-ordinates internal program while maintaining flexibility in plan to change and modify the program when necessary. The user experience is usually one of discovery as with the market space. A first time visitor navigated corridors

of programming but still has the personal ability to sway of course and change his intended path of investigation. The expo centres make use of an anchor node such as a food court. This anchor is designed to optimise complete movement through the space.

DEPARTMENT STORE

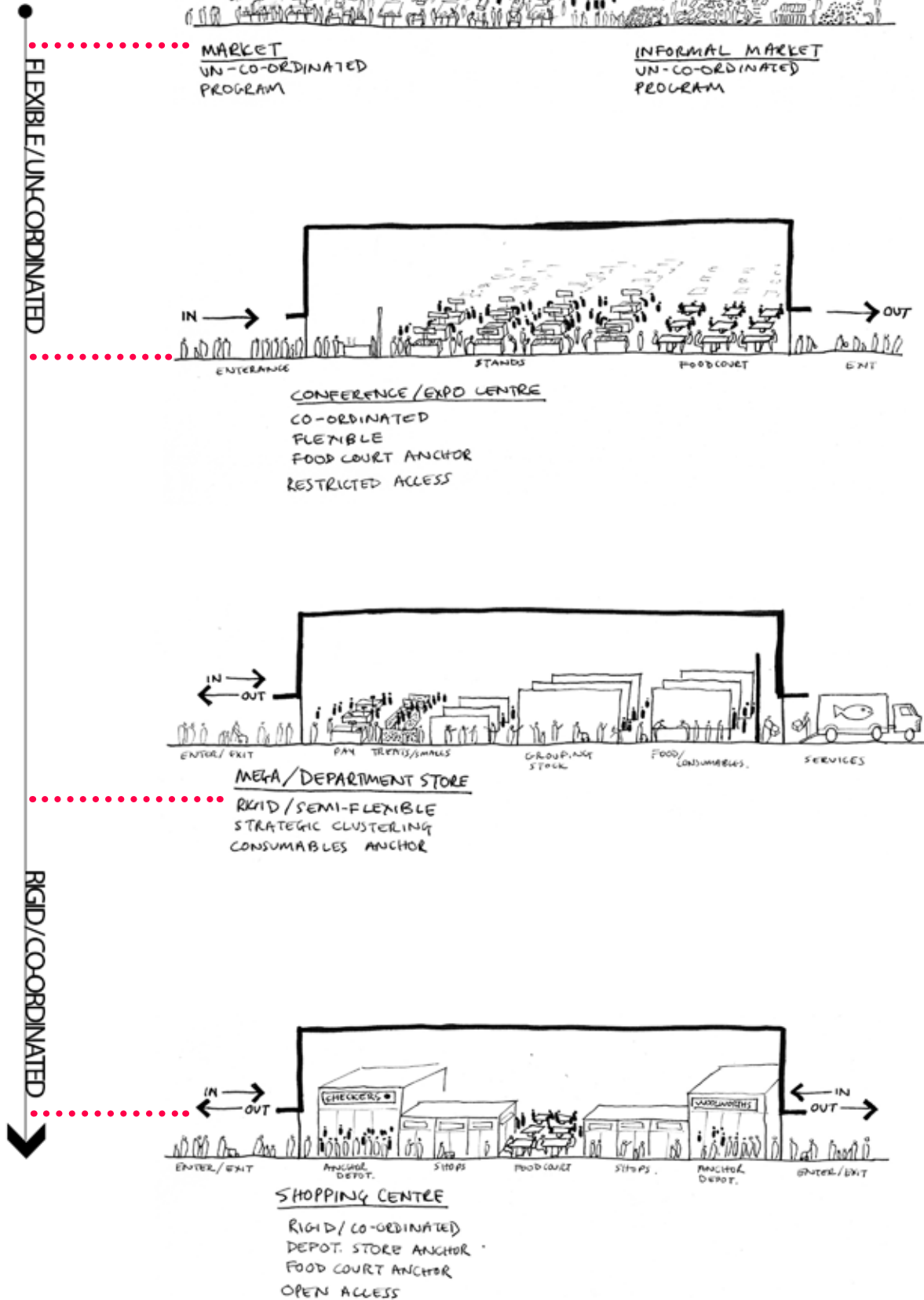
Moving down the scale toward rigidity, the mega department store's internal experience fits somewhere between flexible layouts and rigid planning. This mix is maintained such that certain program remains consistent while other program is changed. The visitors become familiar with the static programming and may immediately understand that refrigerated goods are toward

the back or walls (where their are electrical outlets) and that perishables are toward the back where service access is located. The advantage of this mix is that because the needs and desires of the customers change as often as trends and seasons, the department store owners can easily change the priority hierarchy of their spatial layout to accommodate the customer. The apparent 'givens' can remain where they are and in this way become anchors that pull users through the store.

SHOPPING CENTRE

At the end of the scale is the shopping centre. The rigid layout of shops means that the built form remains constant and allows little to no room for flexible open and closed space. The visitor's path is more defined to a corridor-like experience and rarely has moments of distraction.

The co-ordinated spaces of a shopping centre are made flexible only through a change of store ownership. While the feeling of a department store might be a 'seen one, seen them all' experience the shopping centre does have the advantage in its scale and internal massing to brand itself differently from its competition.



WSSD FOOD-MARKET

On the south-east end of the WSSD is the informal traders food market. The columns define the spaces in which stall owners set up shop. Despite the enormous scale that the square introduced to Kiptown the perforated south strip of the square successfully provides a twittering space.

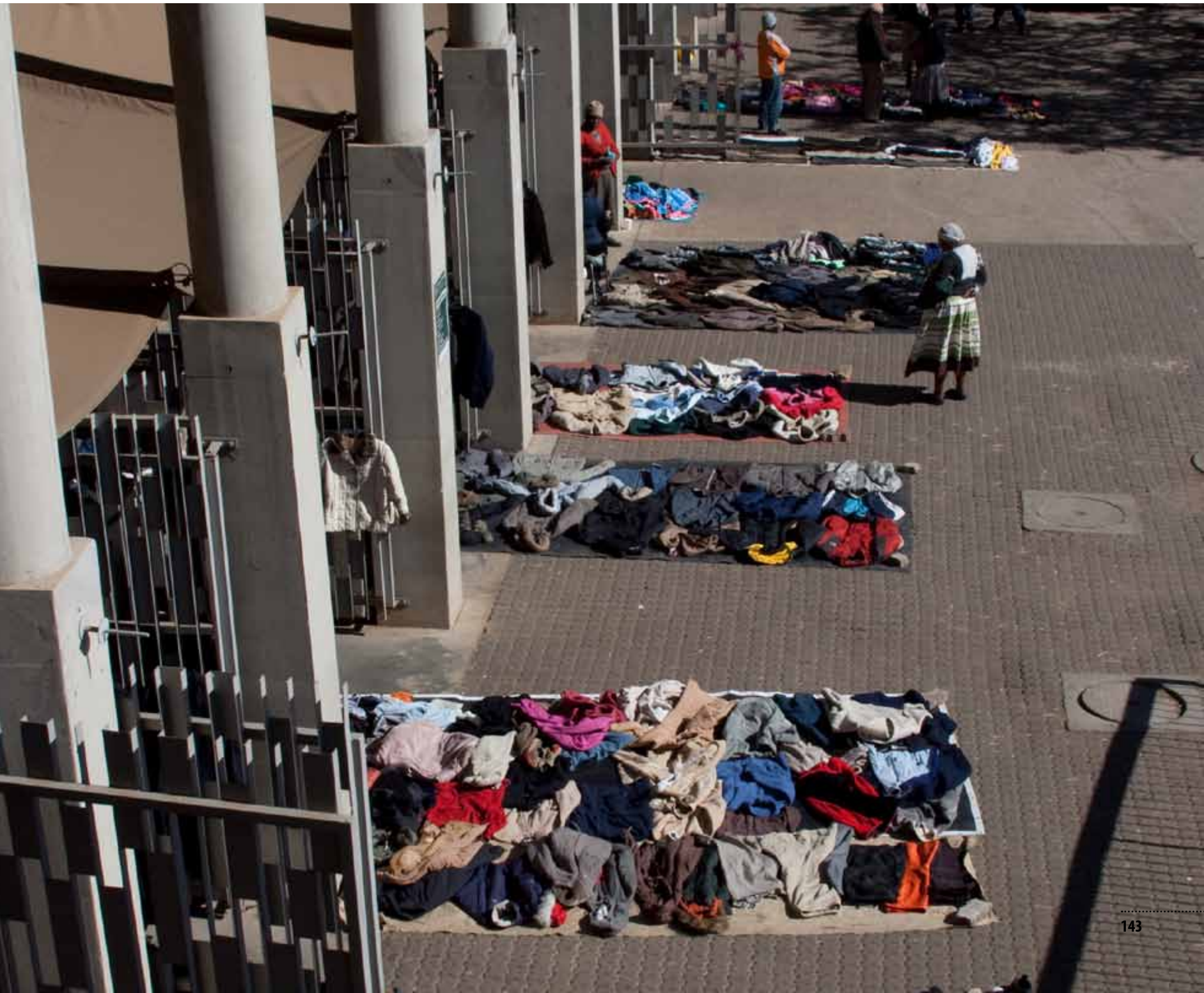




WSSD MARKET

(BELOW)

The market traders spill their goods out on the floor. This may not be attributed solely to a lack of shelving and table tops but rather it is a practical way for owners and customers to view all goods on offer.

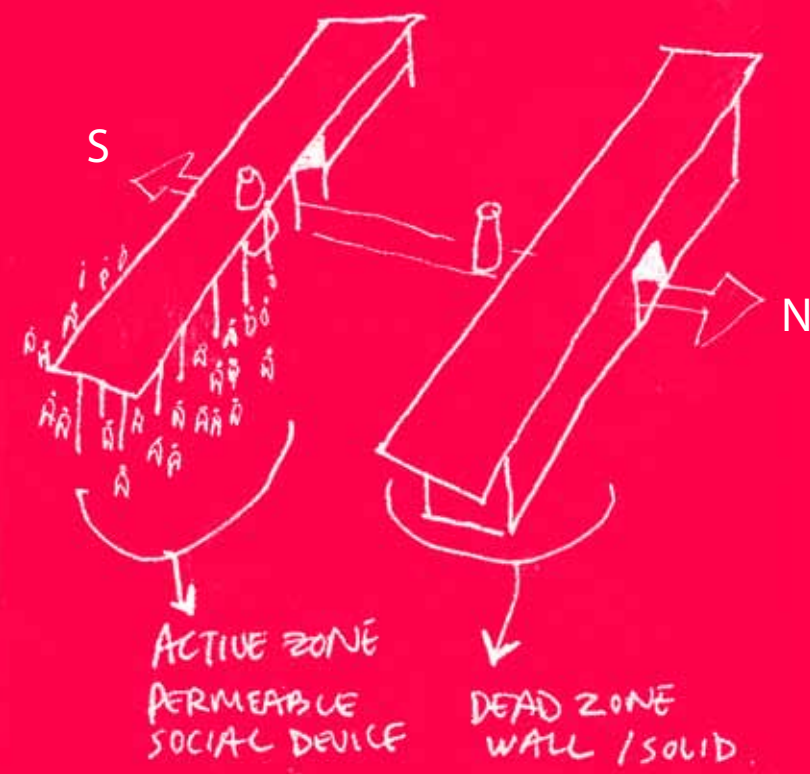


PUBLIC SPACE

(ABOVE)

Young children that do not attend school hang around the square while their parents shop or sell items in the market. This young boy finds a comfortable way to rest on the over scaled public furniture that is otherwise unused.

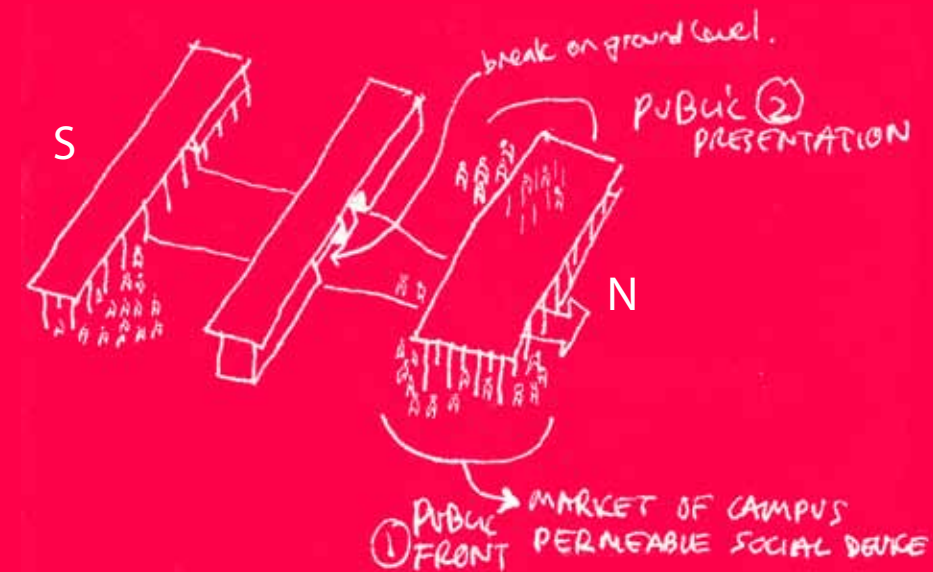
SITE RESPONSE



Design Response to the Walter Sisulu Square of Dedication and the North facade wall

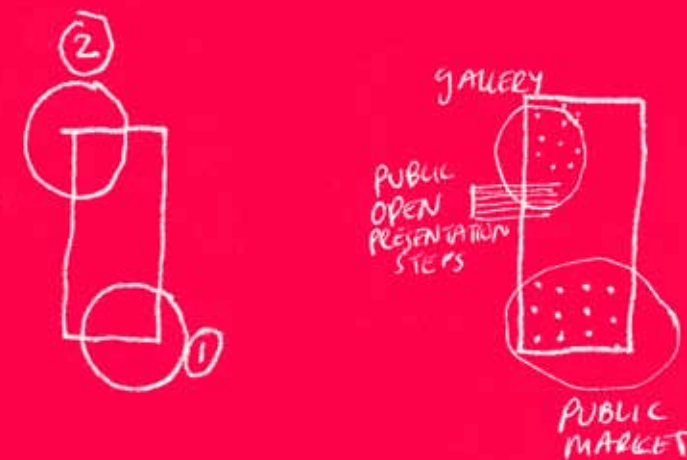
The south strip of the WSSD is perforated and accommodates a vibrant market on the south east end. This activity relates closely to the retail node just south of the square. While the south strip is loosely programmed and habitable the north strip was thought of as the formal retail strip and is filled with built program. The strip has only three small corridors that pass from side of the strip to the other side. The main thoroughfare is the central one that link via a pedestrian path to the south side passing the conical memorial structure. This thoroughfare is rarely utilised as it terminates at a dead zone. The lack of articulated north-south thoroughfares together with the concrete wall appearance of the northern strip and the overpowering longitude of the square splits Kliptown into two halves. The old retail node of Kliptown is now buffered from the developing north side of Kliptown by a continuous concrete wall.

The site for the Open Information Campus sits north of the northern strip of the square and provides a space to draw footloose traffic through the site in attempt to establish a highly charged space north of the square. Furthermore an intervention to open up the ground floor of the north strip in the middle would see the articulation of a larger thoroughfare and a bleeding of the WSSD public space into the north side of the site.



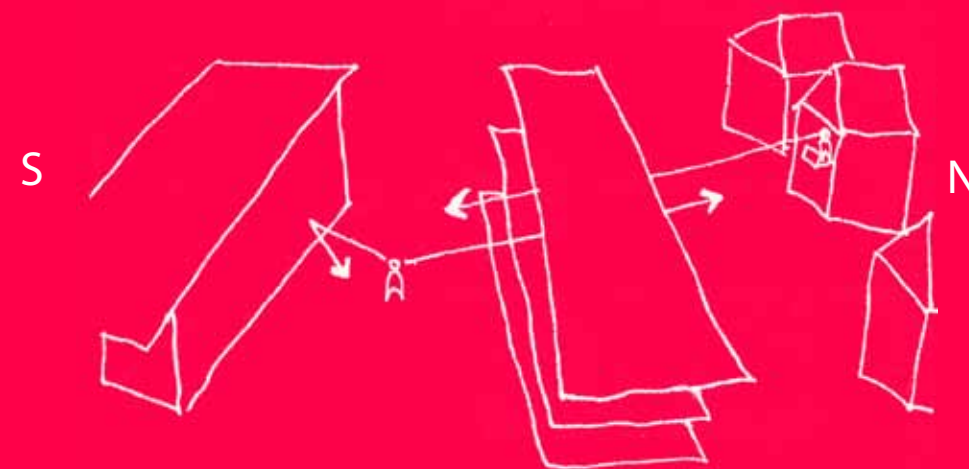
INCREASE THOROUGHFARE AND CASUAL ACTIVITY

The newly established thoroughfare connecting the south side to the north side should not be rendered obsolete but just removing the wall to the other side of the Open Information Campus and for this reason the thoroughfare moves through the campus entrance and across to the other side of the site. In addition the successful activity of the WSSD market is translated to the east (entrance) of the building by programming this space as a public sharing market (discussed later).



PUBLIC AND STREET THRESHOLDS

Furthermore the public activity on the east side is balanced by more public programming on the west end on the building. This is placed close to the pedestrian traffic arriving from across the railway and travelling north on the west side of the site.



RESPONDING PERMEABILITY

Learning from experience of the south strip of the WSSD in contrast to the north facade wall, the Open Information structure will allow for a perforated structure that not only breathes a relationship to the street but also exhibits its internal activities to passers by on either side of the site and connecting views from one end to the other.



NORTH

FACADE

WALL

001

002

003

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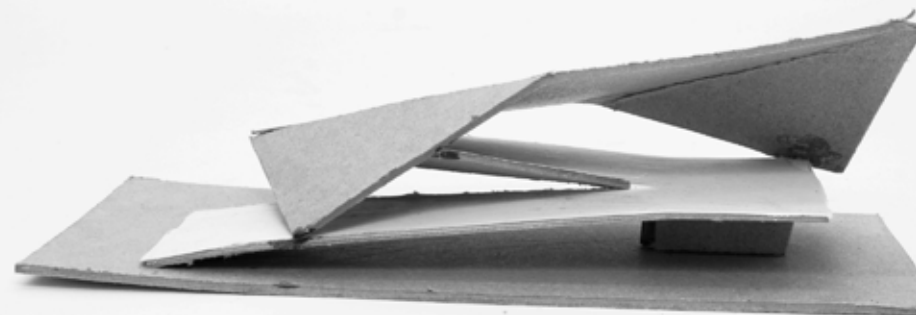
034

035

DESIGN DEVELOP- MENT

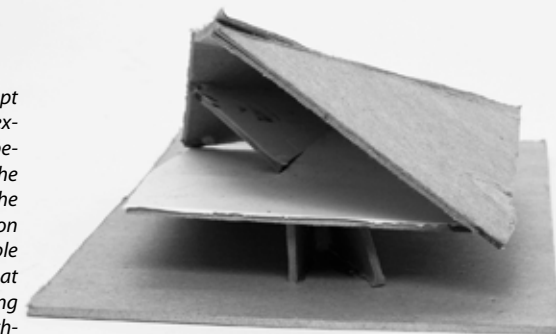
Design Concepts

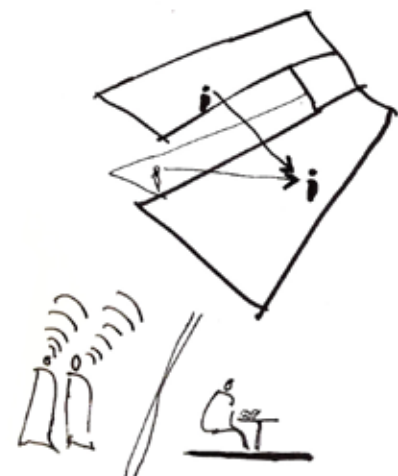
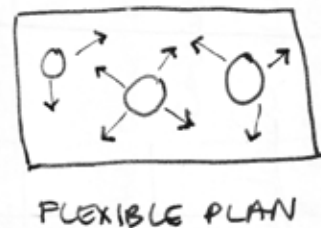
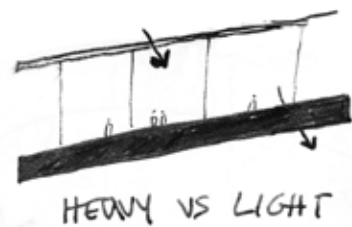
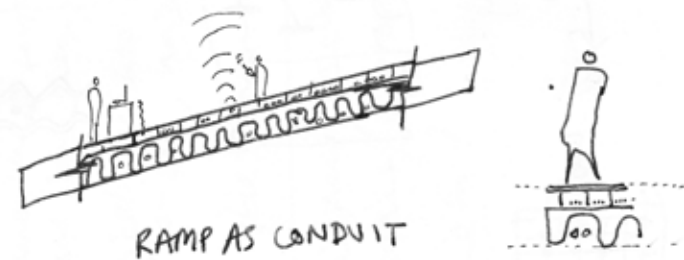
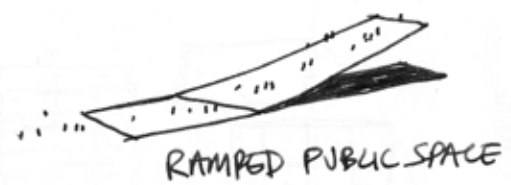
For the design of the Open Information Campus six (6) major design generators were identified. While still investigating facade treatments and other design features the six design concepts were used as the core generators to establish a flexible planning system, a social 'street-like' atmosphere, integrate the necessary technology infrastructure and cabling, as well as maintaining the relationship between quiet and noisy spaces.



CONCEPT MODEL EVOLUTION

A series of early concept models were built to explore the relationship between the roof and the ramping public street. The final model of this evolution began to shape a simple wrap-around ramp that was covered by a tilting roof that shaded the north-west and south-east ends.





01 RAMPING PUBLIC SPACE

The building must achieve a street like atmosphere internally and most importantly it must articulate a

gradual ease in entrance from street level into the building. Thus abandoning the tradition front door framed by a building.

02 RAMP AS SERVICE CONDUIT

The Ramps within the building will offer their depth to services and wiring for the buildings electrical demands. The ramp becomes

a conduit that will contain all network cabling server lines and wireless ports under a raised floor with access panels. The other wet services will be kept separate from any cabling by placing them in separate channels underneath the cabling.

03 LIGHT VS HEAVY

The roof structure will be perforated by light wells. In addition to the light holes the roof structure rests on high concrete columns and

this reduces the appearance of a heavy roof above

04 FLEXIBLE PLANNING

The planning of the ramps will be flexible and allow for a change of layout depending on events and user needs. Certain

program such as toilets and lecture rooms may remain permanent must most furniture and presentation or group spaces will be impermanent.

05 VISUAL CONNECTIONS

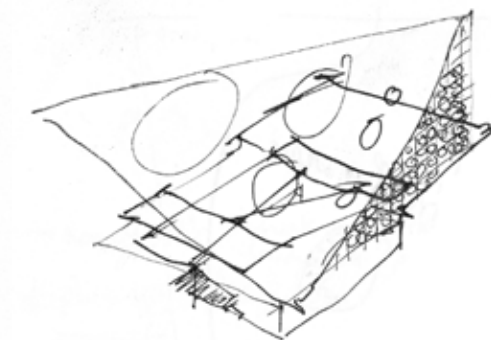
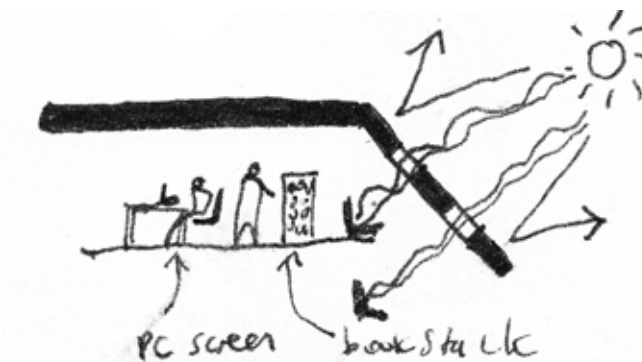
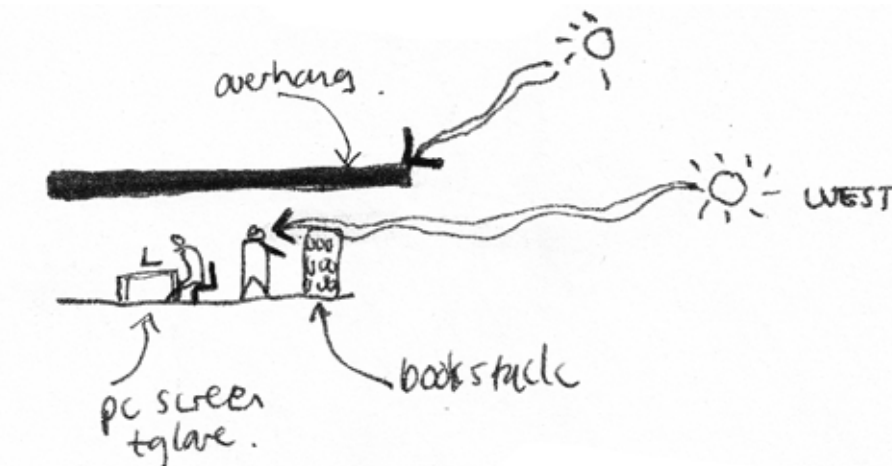
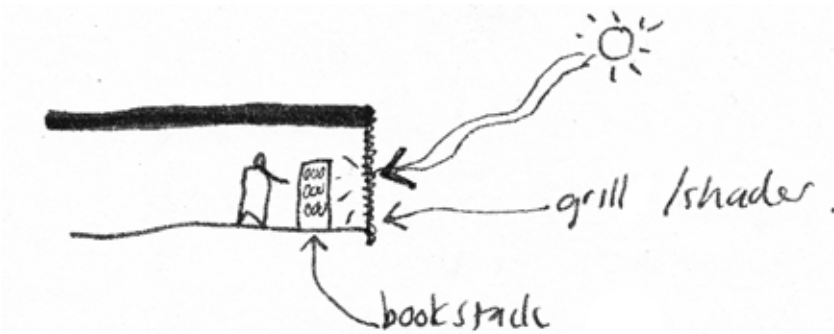
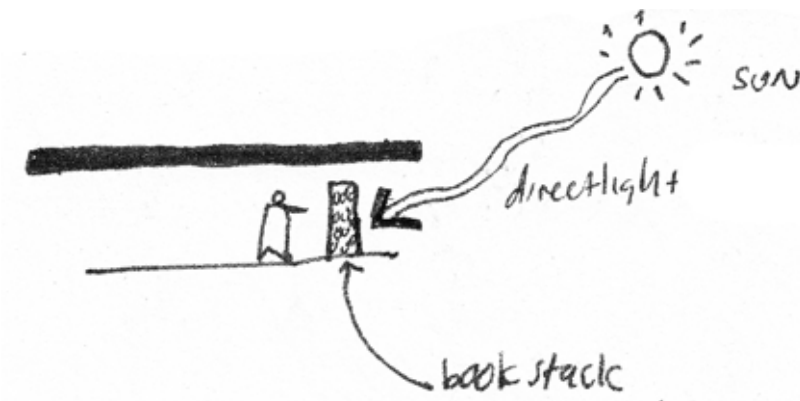
The various change in levels in the building must be visible from other floors/ ramps. As a design device for social intimacy the

ability to see activity and persons from anywhere establishes a dynamic spatial environment through human visual connections

06 QUIET/LOUD

While the building has an emphasis on social/community activities it must also accommodate for persons looking for retreat from the dense and harsh living conditions outside of the building. Students wanting to read a journal

or research an assignment online must be able to do so in silence. In addition these quiet spaces of introspection should also accommodate for quiet media activity in which users may listen to music or watch films while still being in an environment conducive to studying.



SHADING STUDY

The building will house both a book stack and PC workstation. The treatment of the roof edge and facade had to consider both of these working conditions. The books should not get prolonged exposure to direct sun light.

GRILLE / MESH

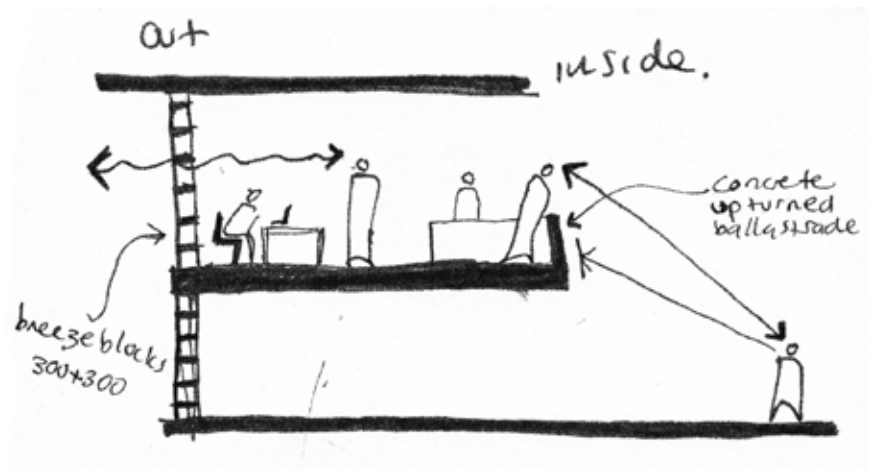
The mesh or grille treatment is used to diffuse sunlight entering the building. While still maintaining transparency and allowing enough natural light the mesh shades the books and also allows the building to breath.

DEEP OVERHANG

Deep overhangs will protect from rain but may still let in low angled sun light and this may glare the computer screens. A combination of an overhang and mesh will be utilised.

TILT

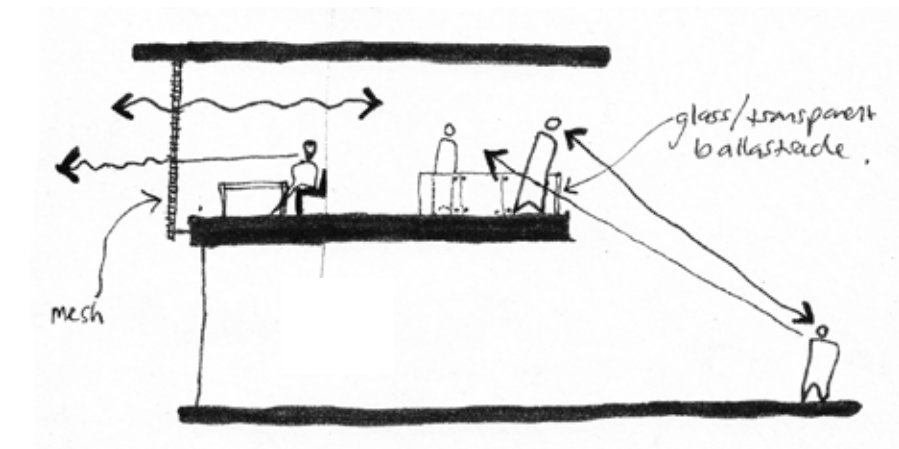
Tilting the western facade will protect the book stack from prolonged exposure to sunlight and shading PC screens from glare.



BREEZE BLOCKS AND CONCRETE EDGE

Exploring the edge condition sees moments where the edge of the ramps may differ. Deep (350mm) Breeze blocks will be used to allow certain programmed spaces to breathe while still block-

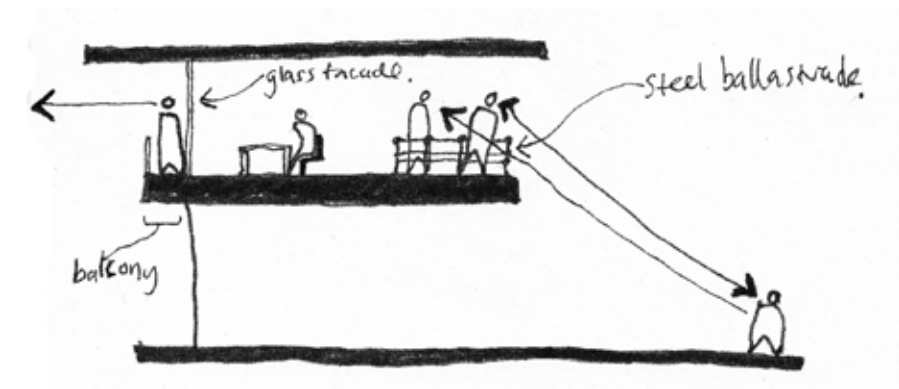
ing out screen glare and maintaining a visual link to the outside. Internally the use of solid concrete upturned balustrades disrupt the lower level line of sight. This is not ideal for an internal treatment but will work on the outside edge facing the street. In this manner the concrete edge creates a solid distinction between outside and inside.



MESH AND GLASS EDGE

The mesh treatment of the facade edge has more transparency than the breeze blocks and allows the space to breathe. The thin depth of the actual steel mesh reads lighter as a material than the breeze blocks but this is not a contradiction and rather supports a change in user experience of the edge of the building.

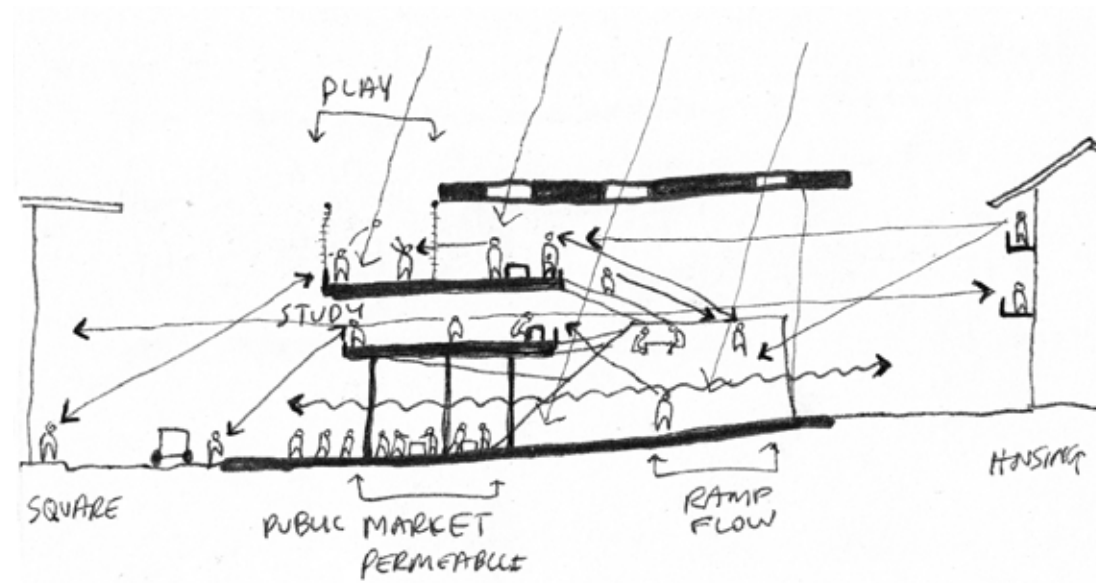
A glass balustrade allows for a uninterrupted line of site between users on a lower level. The glass railing will be used on ramps that in which circulation may take place on the perimeters.



BALCONY AND STEEL RAILING

Other moments in the building the ability to offer users the option of stepping away from the facade is necessary to achieve a sense of freedom from enclosure. Although the building will be predominantly open to the elements, the ability to step passed the material edge is still required emotionally. Again this achieves a dynamic addition to the edge

condition experience. Steel railing allows direct line of sight and while reading transparent its rail bars still define its length. It is for this reason that the steel railing will be used on the book stack ramp thus emphasizing the wrapping lines on the book stack circulation.

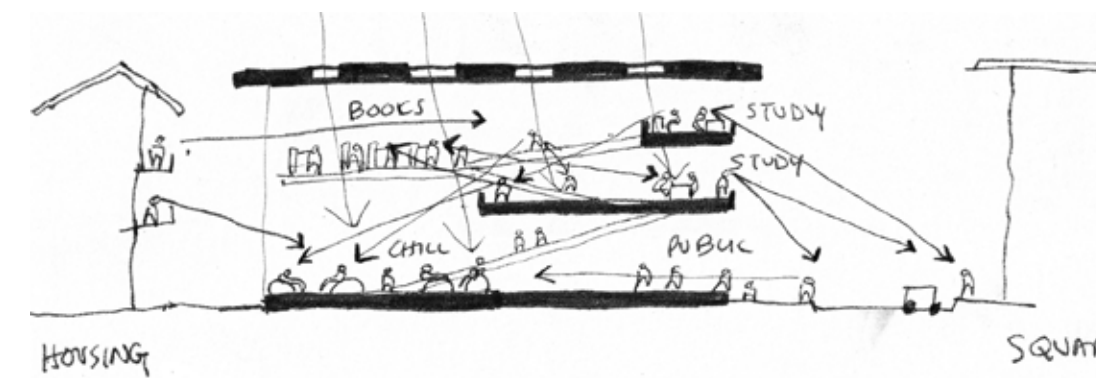


DEVELOPING THE SECTION EXPERIENCE

In section, visual connection are made between the various spaces in the building. These line of sight connections are achieved by overlapping floor slabs and high volume spaces. The triple volume space of the left ramp allows a view through the building from the housing. Residence in the housing complex and pedestrians in the street see through this volume and can observe the activ-

ity on the left of the section. The activity on the left will be programmed with more social and leisure activities such that their is a public relationship to the square.

An open computer and cellphone market of repair stalls and second-hand goods will be on ground level close to the square and flows through to the residential side. This market becomes the entrance to the building. It is a comfortable space that is not intimidating and can attract potential users to the building.



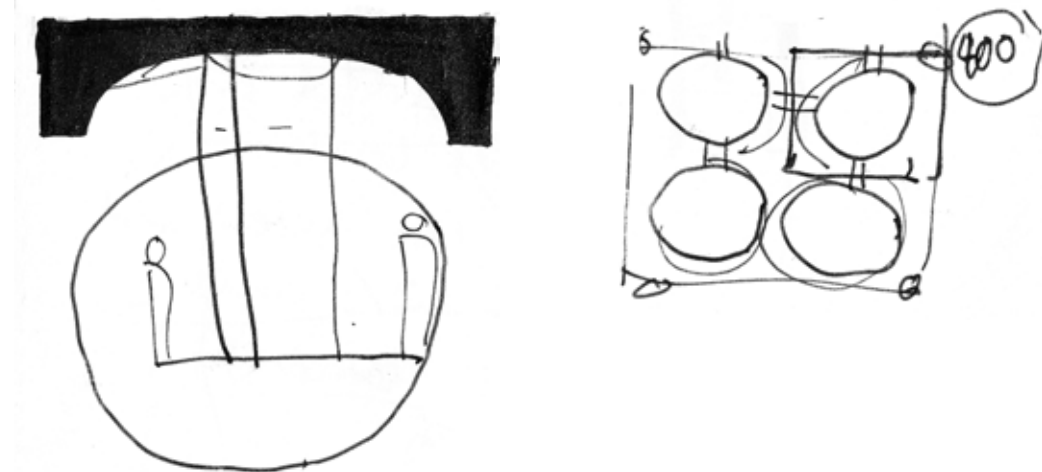
OBSERVING ACTIVITY IN SECTION

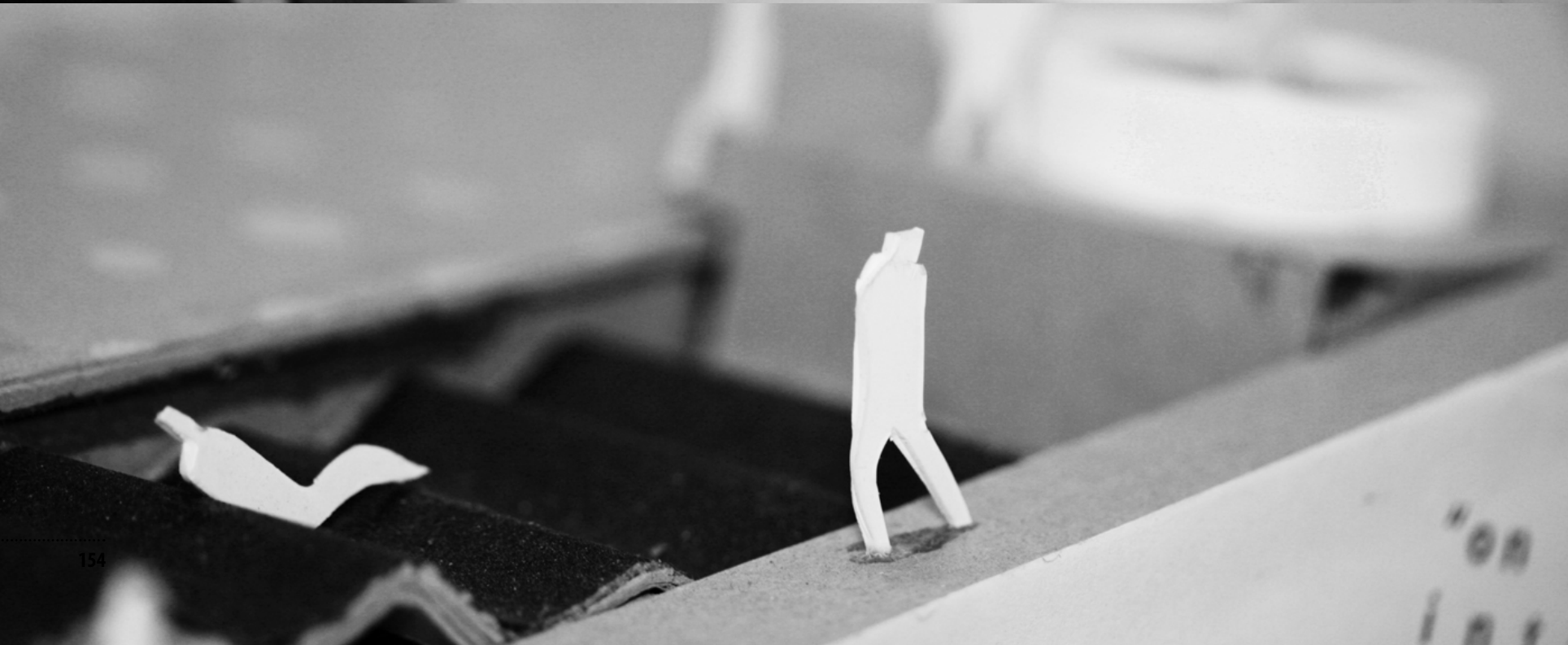
Activities will vary throughout the building such as reading spaces, study desks, business rooms, computer stations and lazy chill areas. Through the large volume spaces and overlapping ramps the various human activities can be observed not only when one is in

the building but from the outside as well. The public spaces inserted at the opposite corners of the building act as large entrance halls. The main entrance makes use of the market as its anchor tenant drawing in pedestrians while the library public space at the rear of the building has an open presentation amphitheatre.

ROOF SLAB

The construction will include two circular sky lights fit into circular coffers that make up the spanning structure of the concrete roof. The column grid is set at 8m x 8m with the circular coffers at a diameter of 3.5m with 250mm thickness around the circumference making each coffer a total of 4m wide.

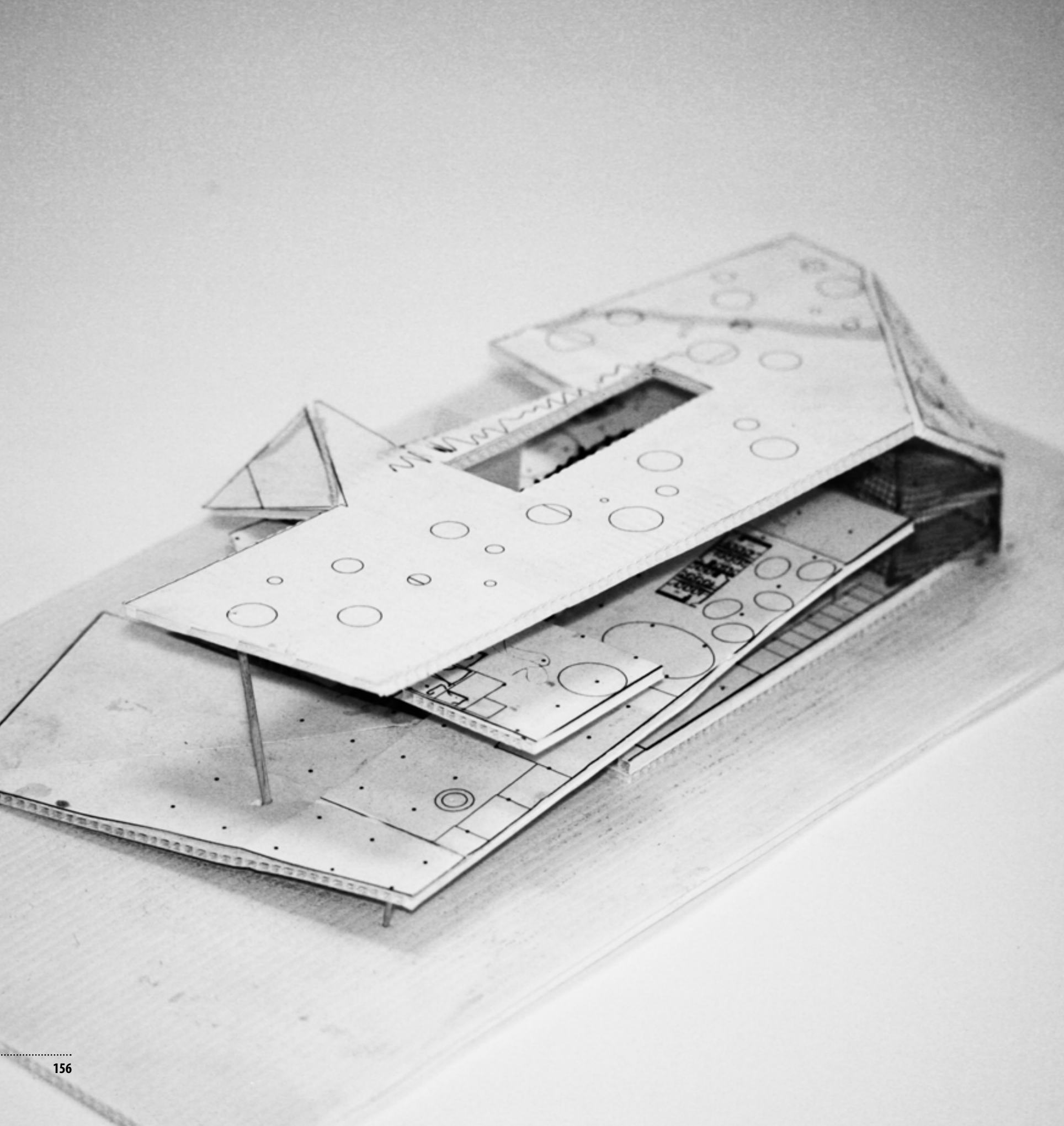




RAMP AS STREET LANDSCAPE

Explorative physical models were built to develop the ramp into a social device much like how a curb, bench, or steps on an urban street can, in the most subtle change of level or texture, become accidental moments of rest, group gatherings, informal traders stalls or a place of rest. By creating the ramp into a dynamic internal street the building's flexibility can accommodate for small presentations, a quiet reading corner, a social meeting place for after school study groups, or simply a place for conversation between friends or a business deal.

The models explored mixing ramps with steps of various tread and riser length. Platforms and circulation is varied and made dynamic by changes in levels and surface treatment. Movement is slowed down when circulation routes are narrowed and sped up when the floor width is widened. Walls become analogue billboards or even digital screens, some you can interact with and others just divide or define the space around them.



GENERAT- ING FORM

From Context to Building Form

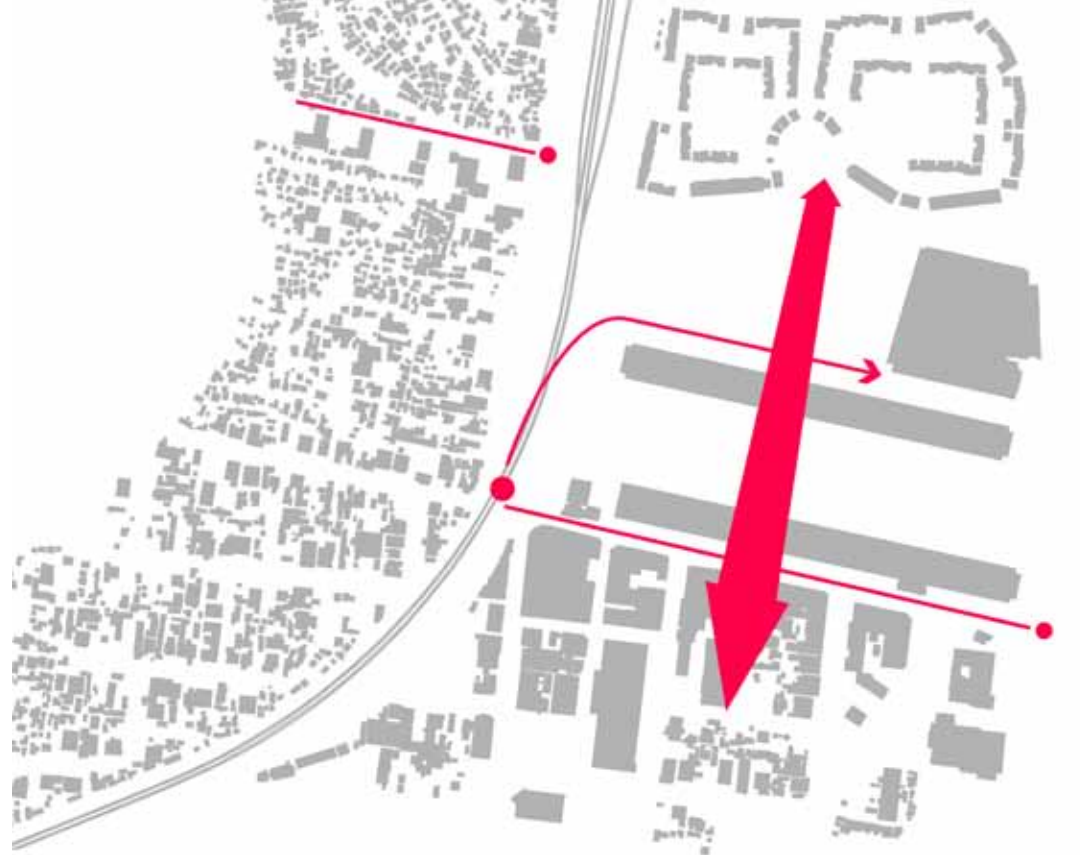
Taking into account both the six (6) design generators already describe, and an analysis of the immediate site the form of the building needed to successfully relate to the context and the appropriate re-thinking of an information space for a developing context.



- AB** - pedestrian route from railway foot bridge (A) to taxi rank (B)
- CD** - pedestrian route from retail hub (C) to housing (D)
- E** - highly charged 'spiritual street' with view of site
- F** - union street main thoroughfare into retail market

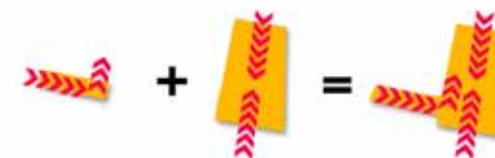
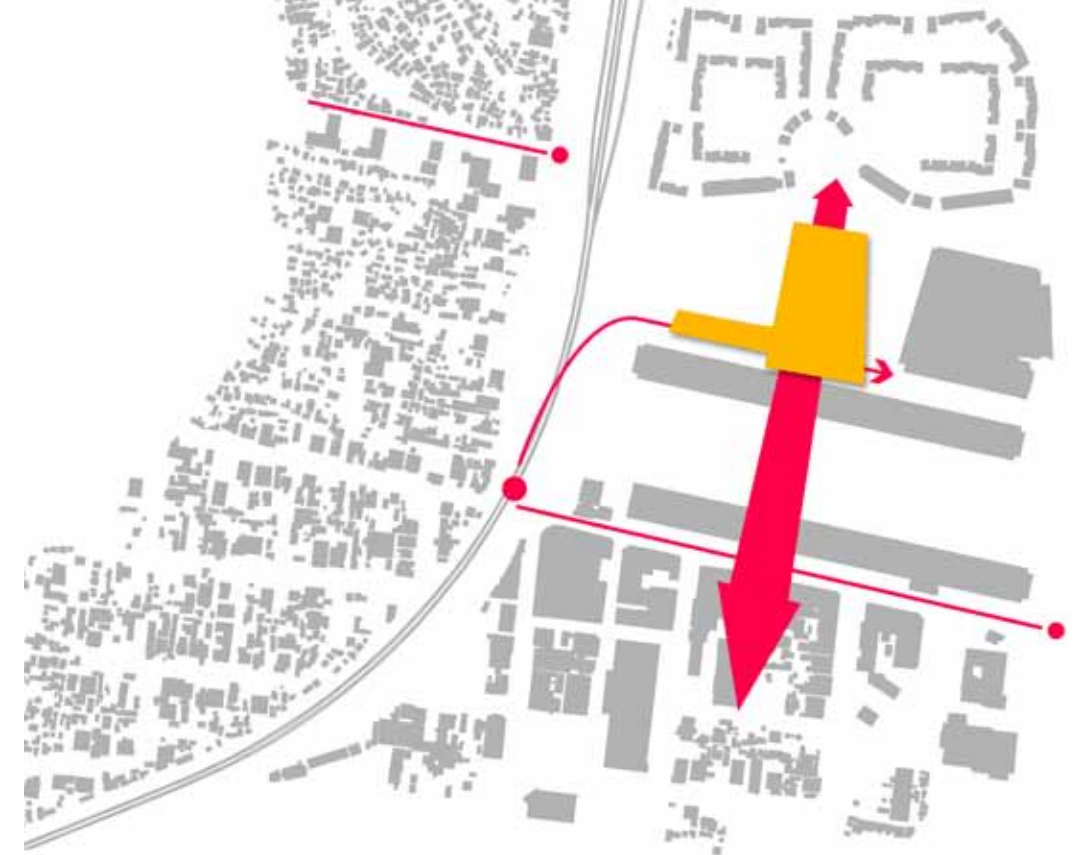
PEDESTRIAN MOVEMENT SUMMARY

Previously discussed was the restricted movement from the south of the square to the north, in addition to the importance of this connection is noting the existence of a 'spiritual street' of informal churches and church run programs on the west side of the train tracks (E). The street attracts a lot of footloose traffic and the project site can be viewed from this street.



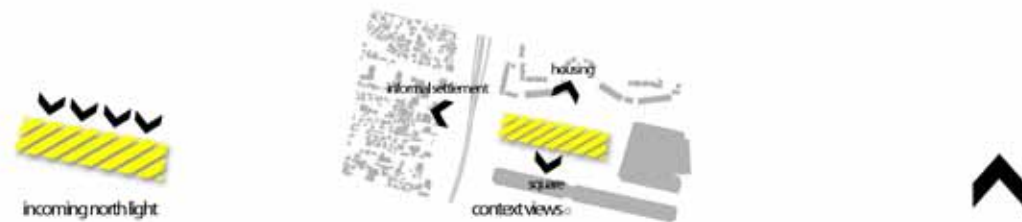
INCREASING THOR- OUGHFARE

The realisation of the building would include an intervention into the squares north strip. This intervention sees the ground floor thoroughfare in the north strip made wider thereby establishing a visual and physical connection through the square that begins at the retail node and continues through the building site reconnecting the original north-south flow.



SHAPING ENTRANCE RAMPS

The entrance ramps are placed in response to the movement mapping. The main larger entrance ramp passes through the entire site and gestures into the building.



ORIENTATING MASSING

The basic building mass is first orientated to receive maximum north light and makes note of site views both from the building and toward the building.

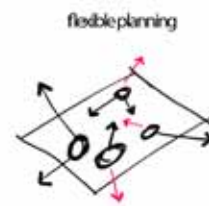
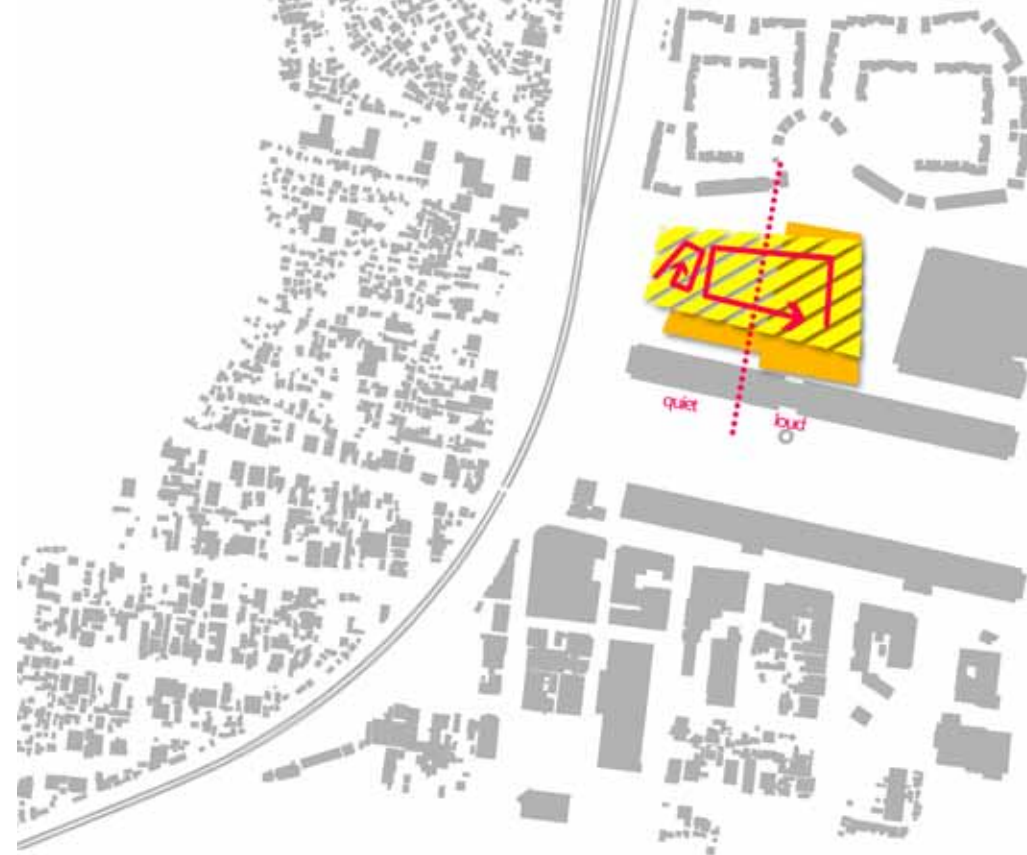
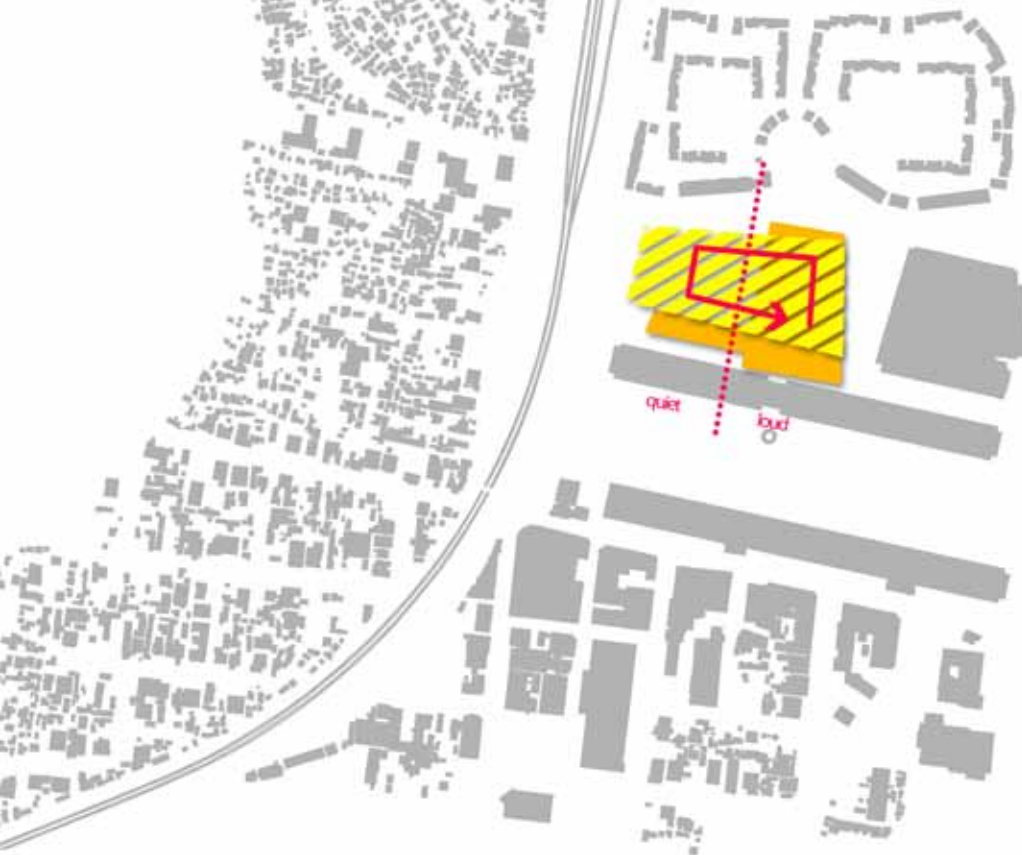
STRETCHING MASSING

The basic massing is stretched to the shape of the site while still recessing an edge to be landscaped and humanised with paths and shaded seating for pedestrians and the residence of the housing (North of site). A gap is left between the taxi rank and the building for the design of an outdoor cinema with projection onto the blank western facade of the taxi rank.

EDGE RESPONSE

Responding to the edge condition of the immediate site context the southern side of the building will be programmed with social activity and a basketball court to bring a energy to the otherwise dead end north of the square. The southern edge will be perforated and have the ramping

public space in response to the WSSD wall. The northern edge of the building while still being perforated is programmed with triple volume spaces to allow views through the building.



MOVEMENT

The central ramp twists while the quiet and loud activities spaces are separated from one another. The loud chaotic spaces are kept to the east where the entrance, market, and cinema is located. The knowledge incubator and study spaces are placed on the more quiet east end with raised views of the surround Klipspruit landscape

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CREATING CLIMAX

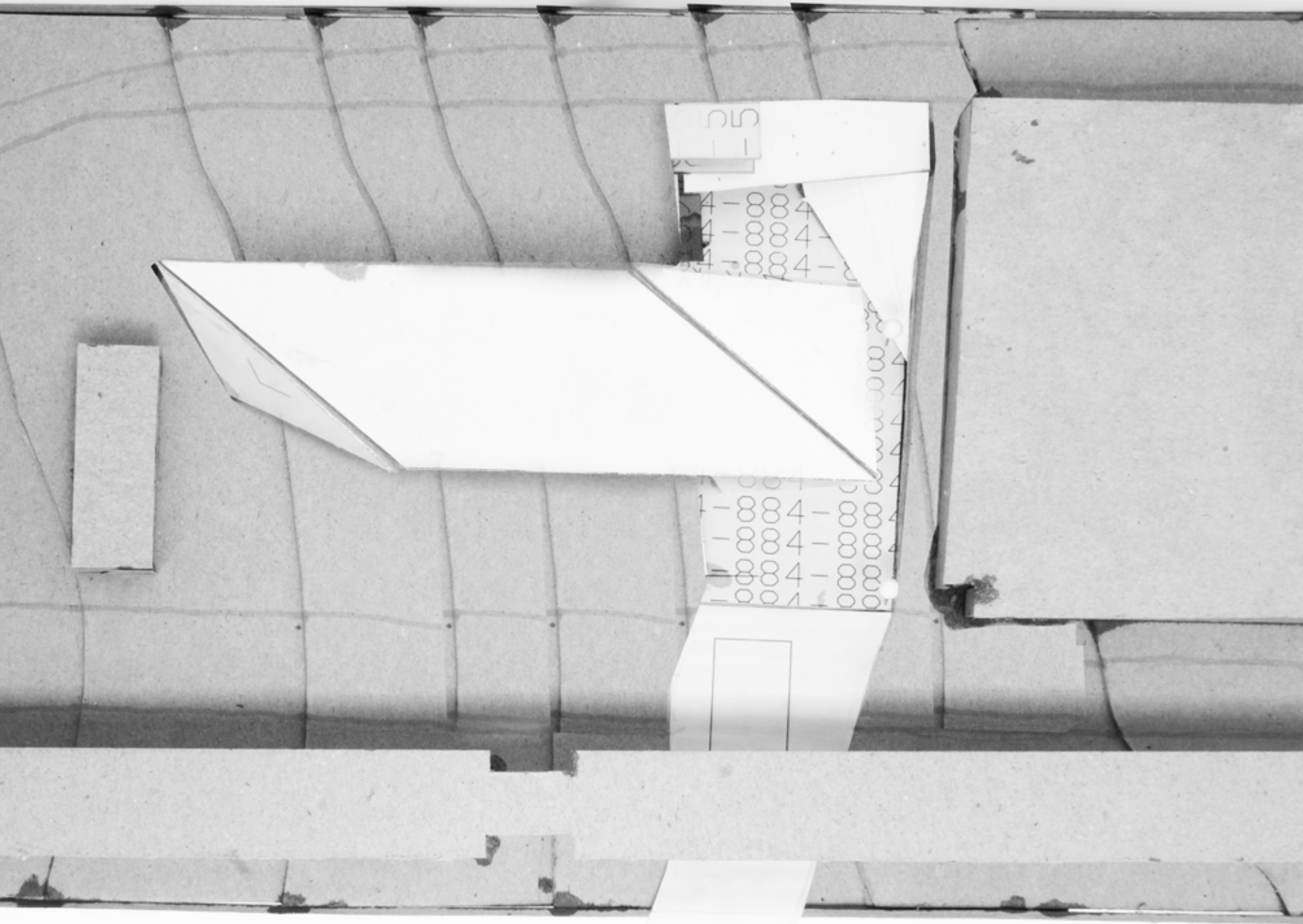
The Knowledge incubator is plugged into the east (quiet half) of the building. The book stack ramps up four stories and is twisted off-axis such that the ramps overlap one another and the change of axis together with the four story volume provides a dramatic and inspiring space at the turn of the central ramp. This space also provides views to the railway, Klipspruit valley and settlements.

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ROOFING

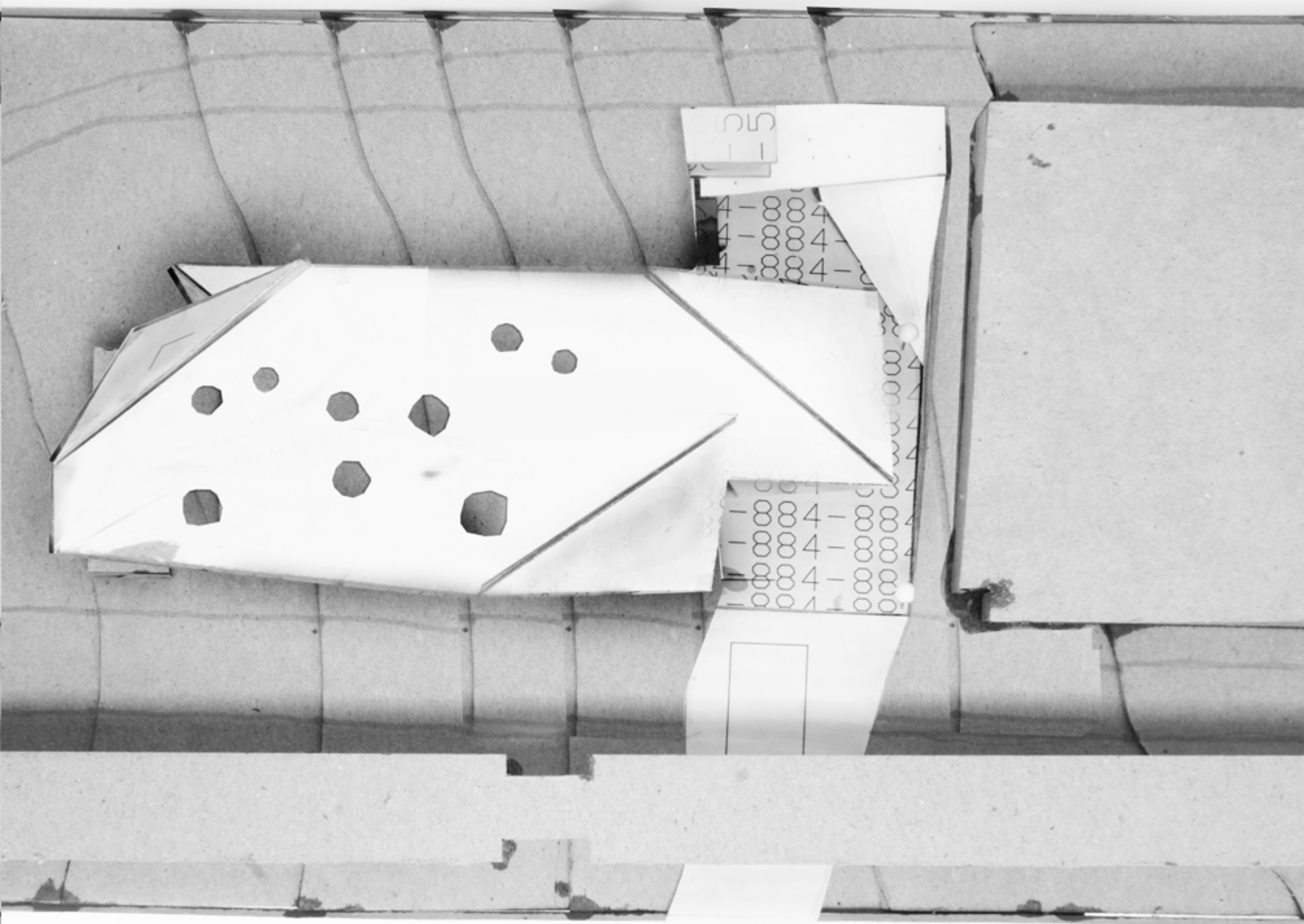
The roof tilt previously is introduced to the north-west edge of the building to protect the books located in the Knowledge Incubator. In addition the NW tilt shades a outdoor spill-out area for the knowledge incubator's media ramp. The tilting plane defines an iconic architecture for the passing trains. In a gesture to balance the architecture a second tilt is introduced at the arrival thus framing the public space in front of the building and enclosing a

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DEVELOPMENT MODEL 1

Early model showing the definition of the N-S public ramp and the initial building mass extending perpendicular from the ramp and shading the entrance.

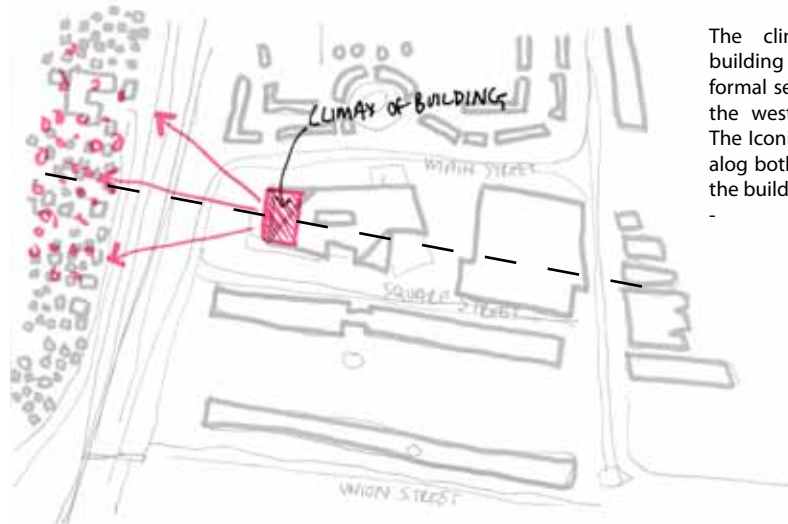


DEVELOPMENT MODEL 2

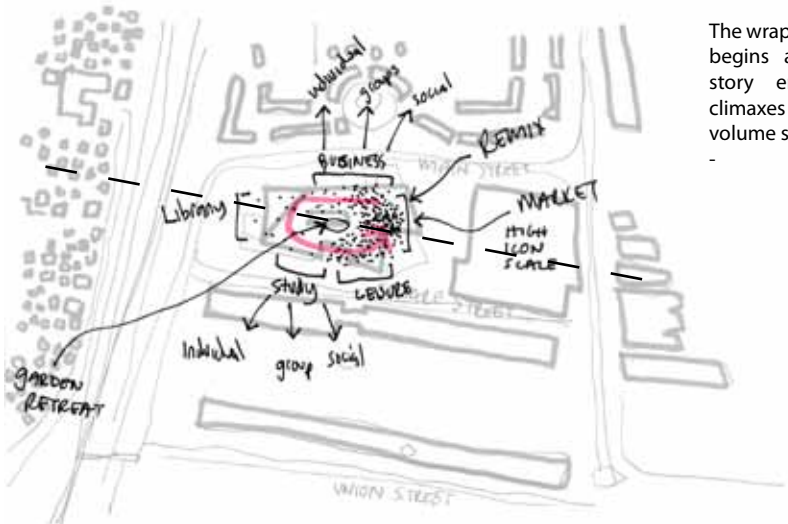
The next concept model begins to spread its coverage to the shape of the site and an early representation of the roof architecture.



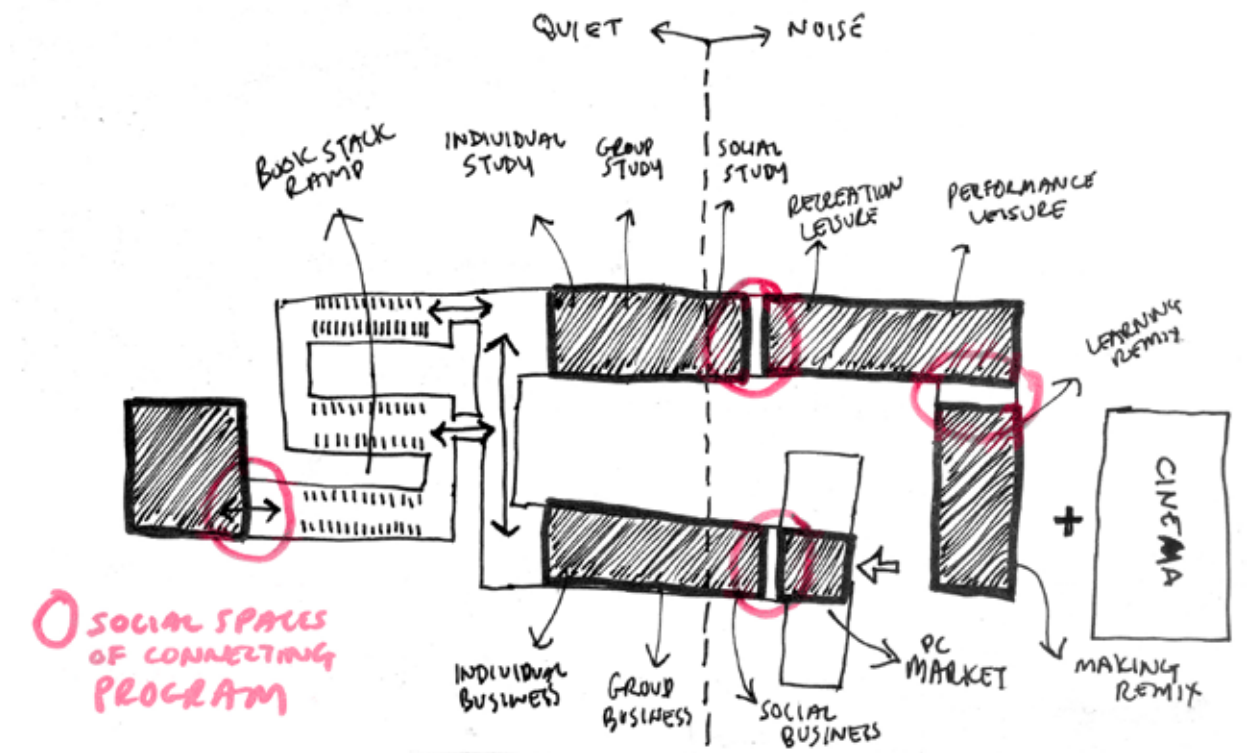
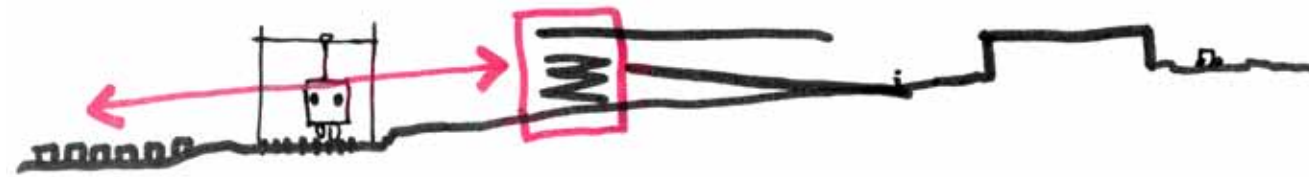
Main footloose traffic linked to entrance and outdoor cinema.



The climax of the building faces the informal settlement and the western sun set. The iconic strikes a dialog both to and from the building.



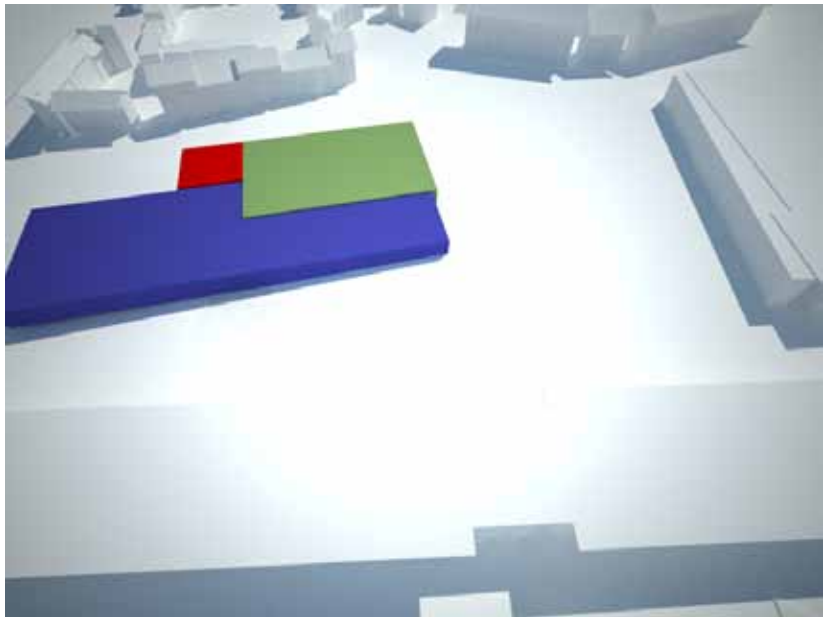
The wrap around ramp begins at a humble story entrance and climaxes in a 4 story volume space.



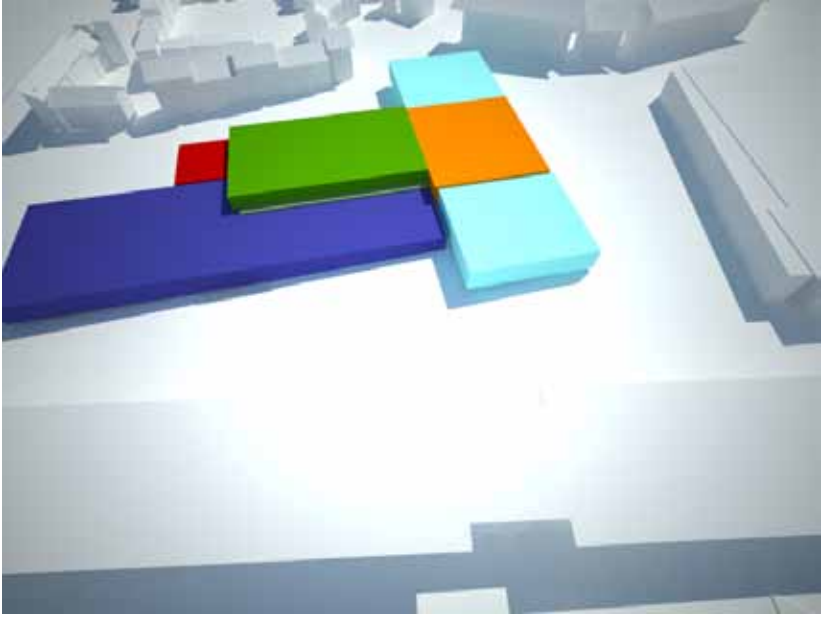
CONNECTING PROGRAM SPACES

The floor planes or ramps are shown here with the program beginning to divide into spaces that flow from quiet to loud and individual to social.

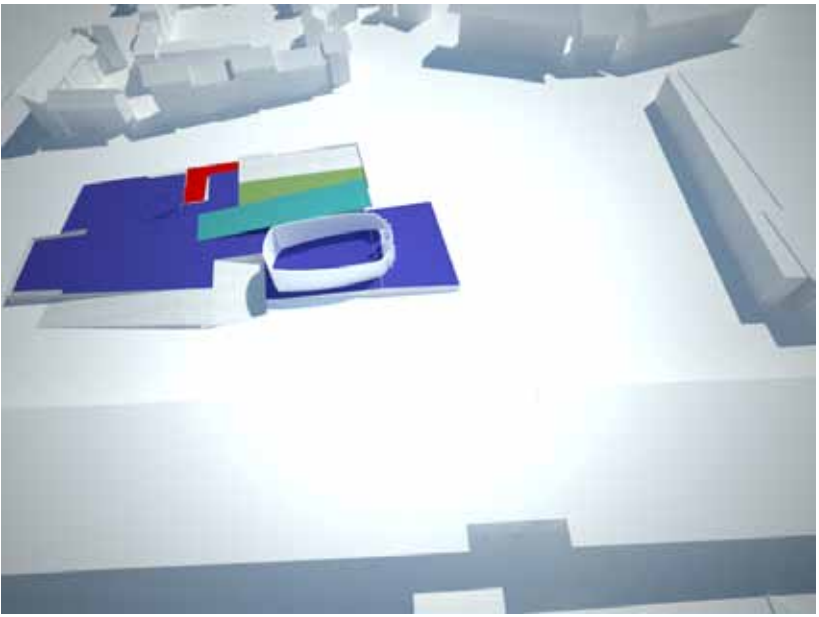
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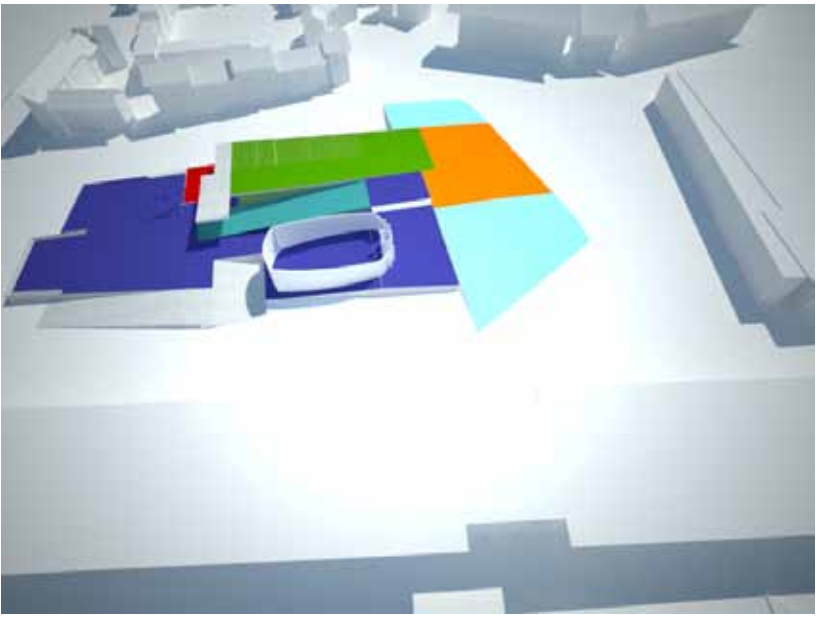
A2



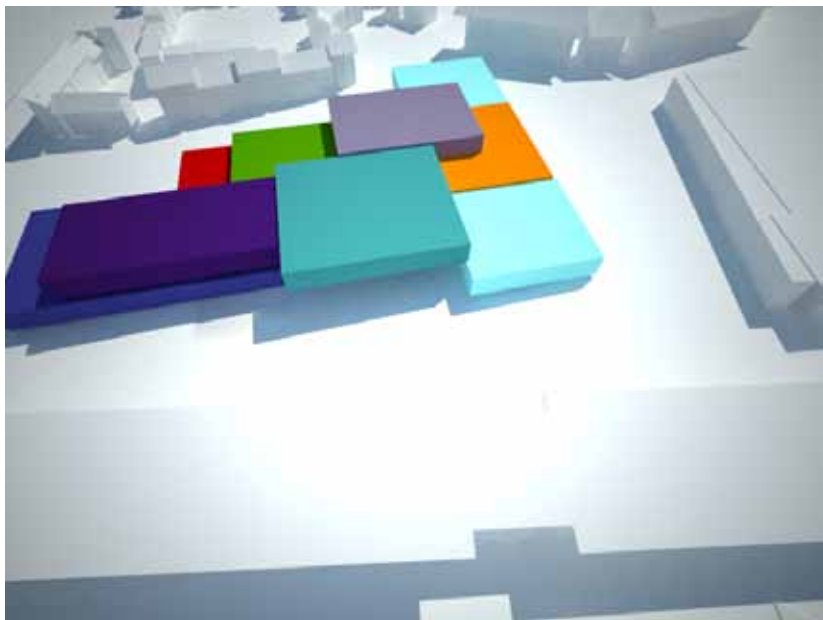
B1



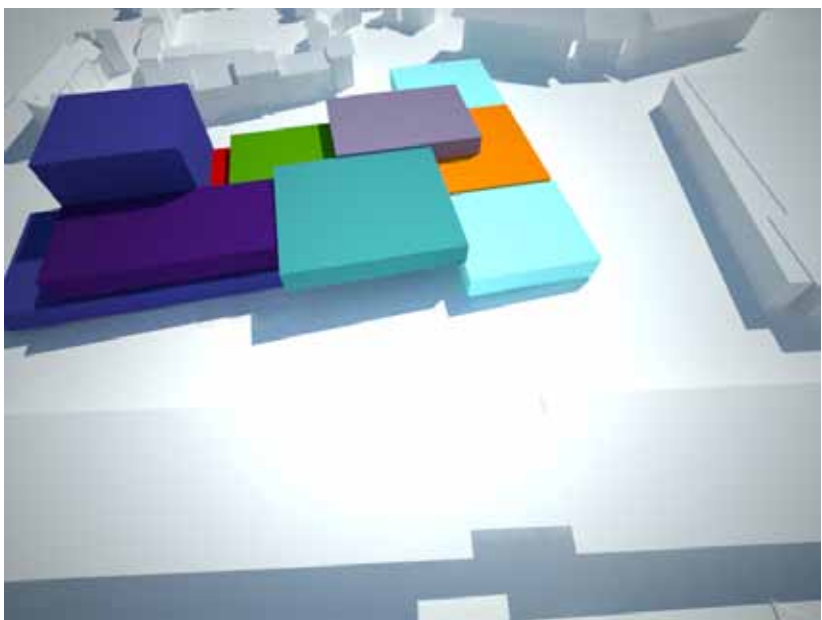
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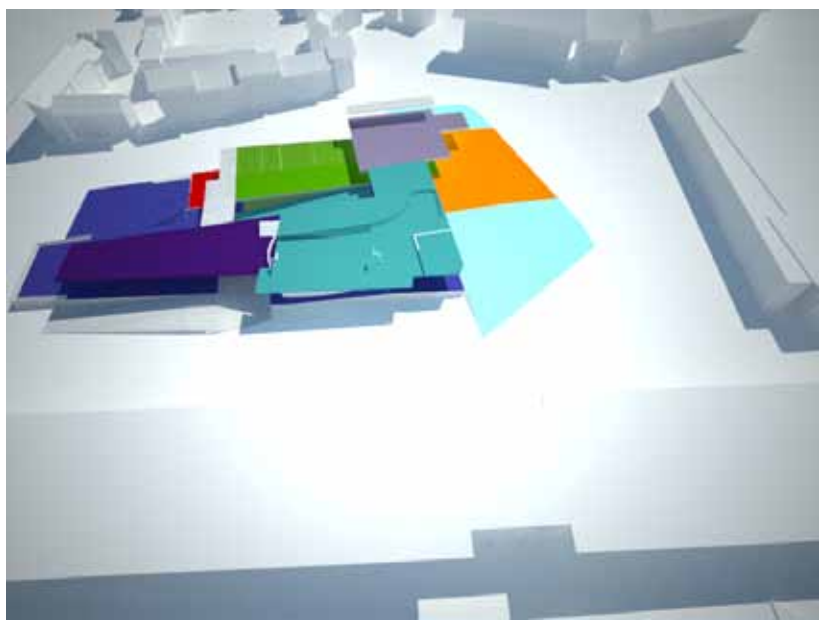
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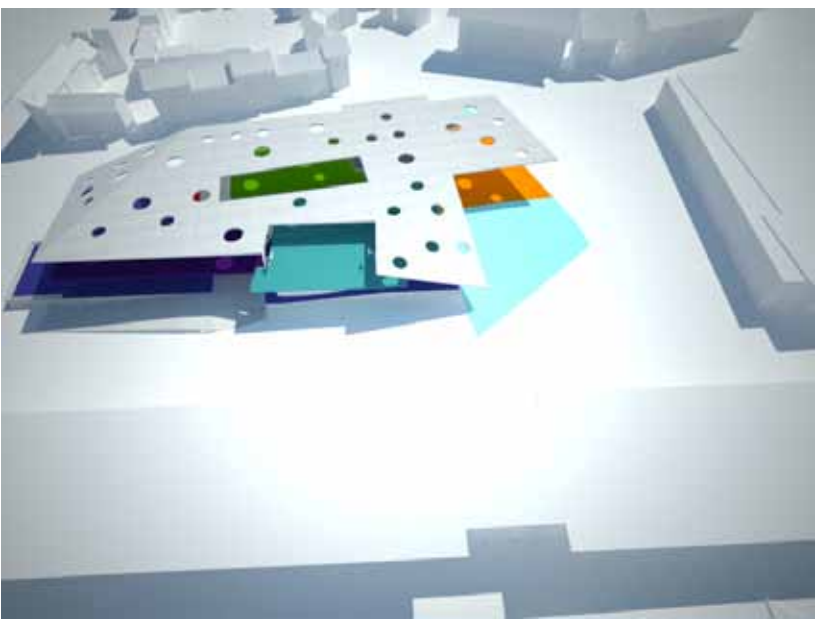
A4



B3



B4



MASSING THE PROGRAM

The various program massing is placed on the site model to establish a basic system of connections and relationships.

(A1) First the lower level of the site receives the Information crèche on the residential side together with the BOH services and offices which are tucked underneath the building with access from the north (Main road). The Knowledge incubator's first level is laid down.
(A2) The Accidental ramps are placed on either side of the taxi rank side of the site meeting facing the housing and WSSD. In the centre of them is the Sharing ramp that defines the entrance into the building. The Business ramp connects to the entrance and marks the stretch of the general building circulation.

SHAPING THE MASSING

(A3) Moving up a level the study ramp is introduced at the end of the Business ramp and stretches toward the end of the building facing into the knowledge incubator volume. The leisure ramp extends back toward the public arrival (Accidental ramp) from the Study ramp into the noisy half of the building and connects to the animated space of the Remix ramp. The remix ramp sits above building entrance and defines the entrance doorway.
(A4) Finally the 4 story Knowledge ramp (book stack) slots into the rear of the building connecting to all of the ramps.
(B1, B2, B3, B4) The massing is then carved and shaped into the terracing ramps then roofed. The roof corners are tilted and a piece on the south side it cut out providing space for the basketball court in the youth recreation space of the leisure ramp.

COMPAR- ATIVE SCALE STUDY

Relating Scale and Massing

The existing scale of the building is compared to local and international contemporary public libraries to acquire a sense of scale relative to the context and the a buildings of similar but not exact programming. The Delft University Library by Mecanoo architects reads the closest match in terms of scale and design thinking. The library transforms its roof into a public park while its programming was designed in large flexible spaces with an impetus on social spaces of both study and recreation which include the park.



SEATTLE LIBRARY, USA



SANDTON LIBRARY, RSA



**PHEONIX ARIZONA
LIBRARY,** AUS



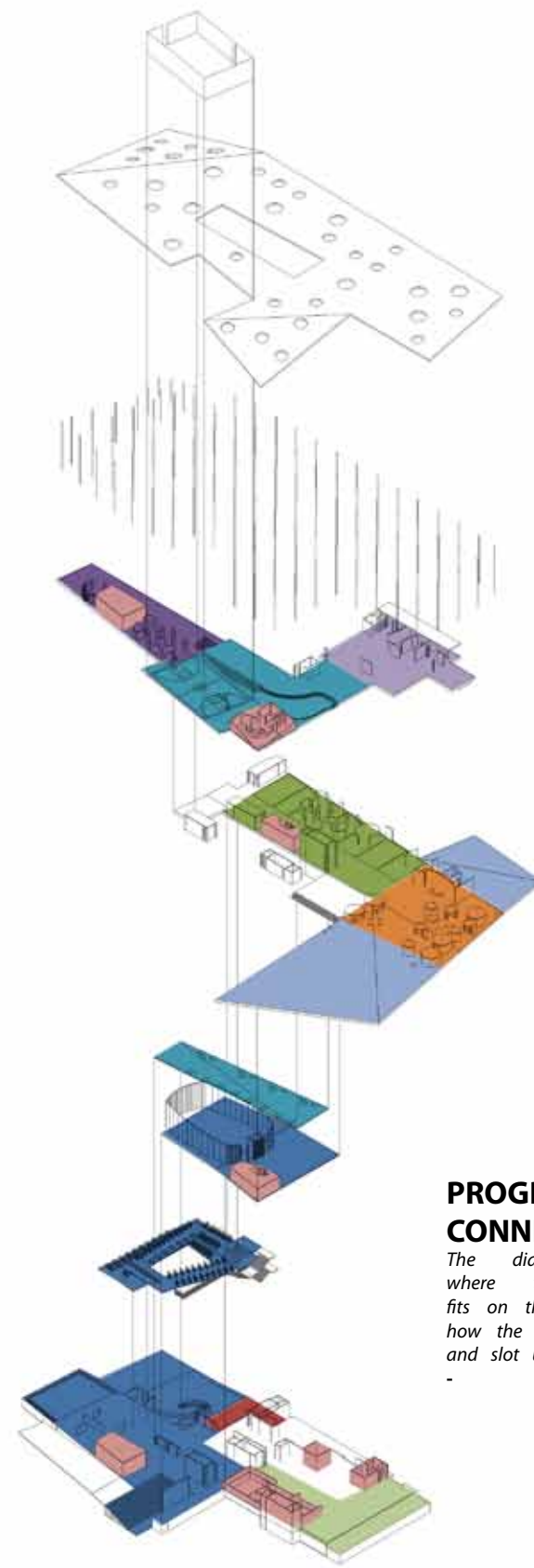
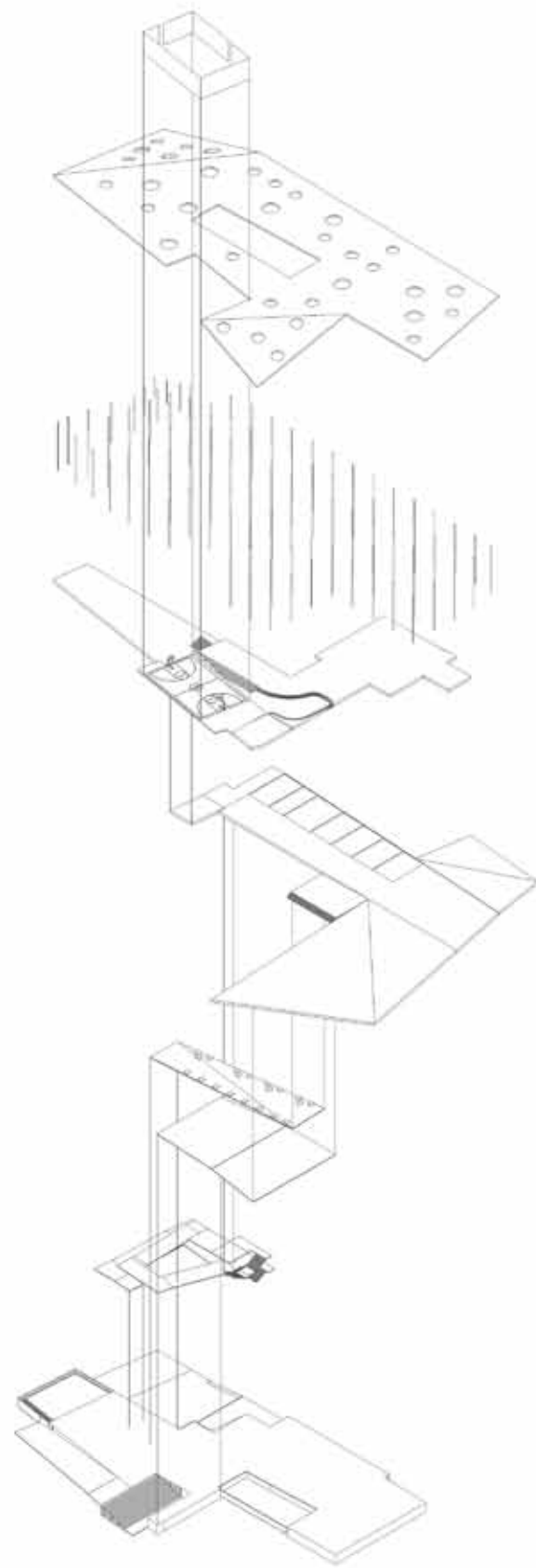
**DELFT UNIVERSITY
LIBRARY,** NTH



VANCOUVER LIBRARY, CAN

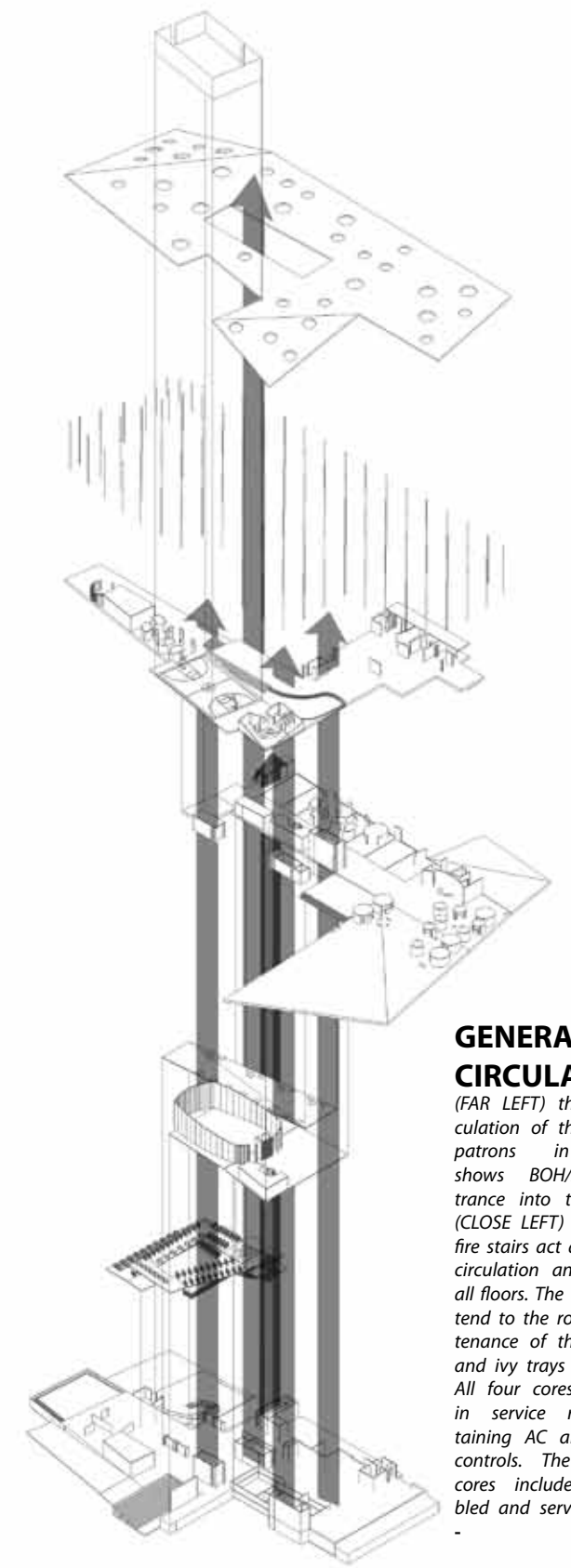
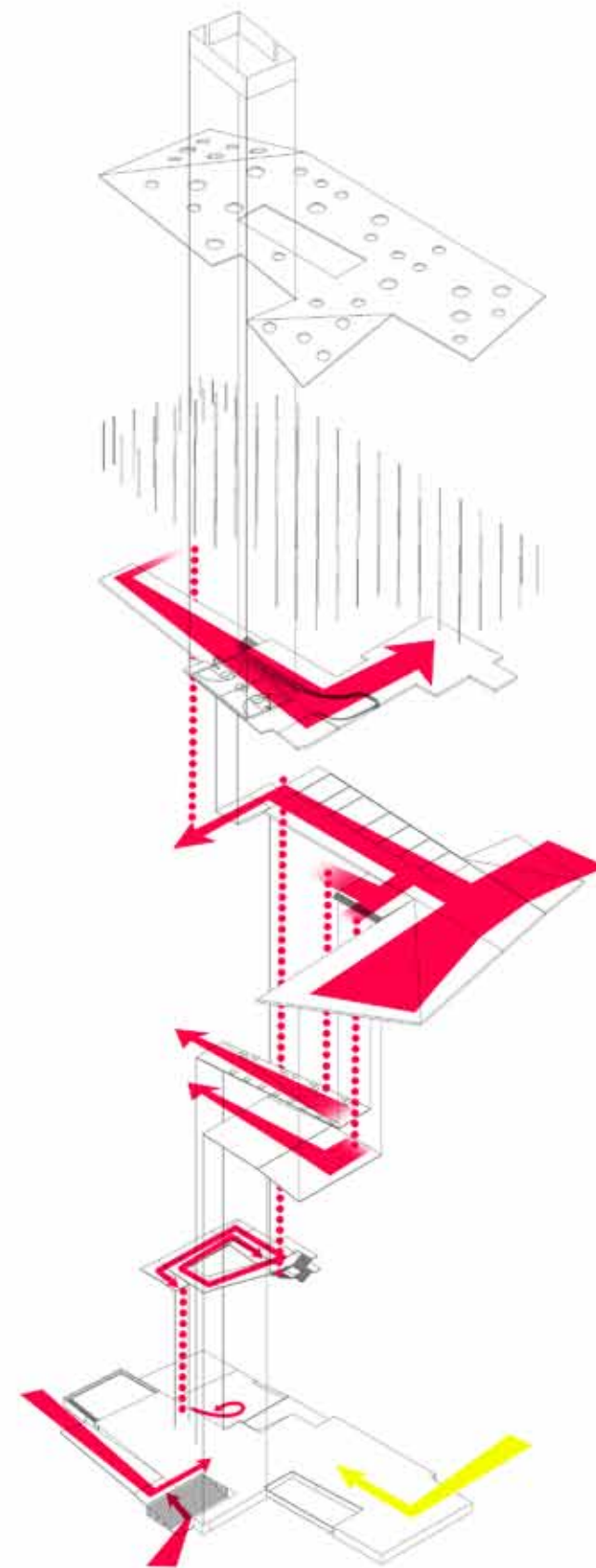


**KLIPTOWN OPEN
INFORMATION CAMPUS,** RSA



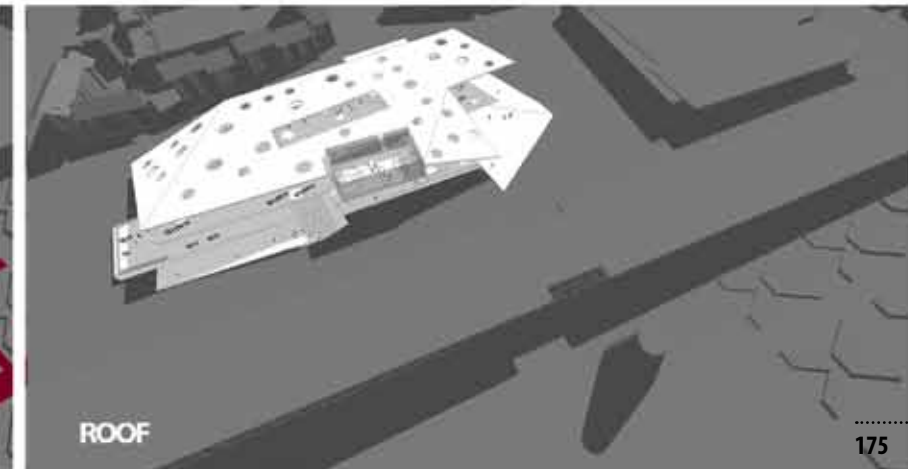
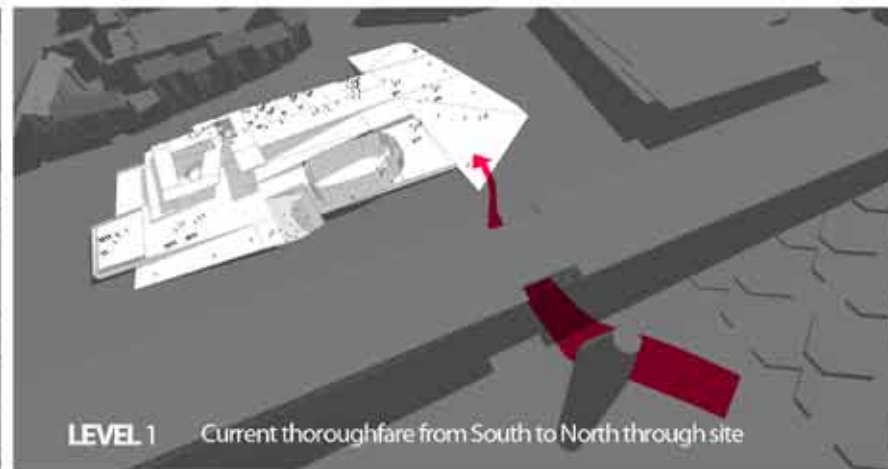
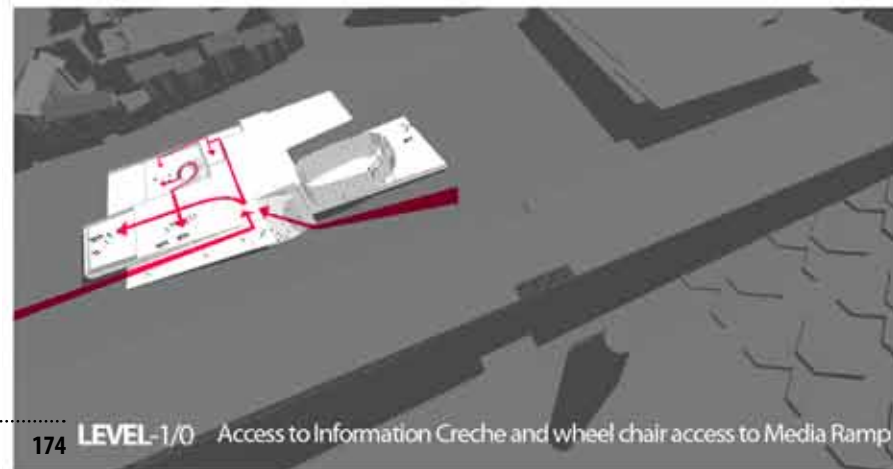
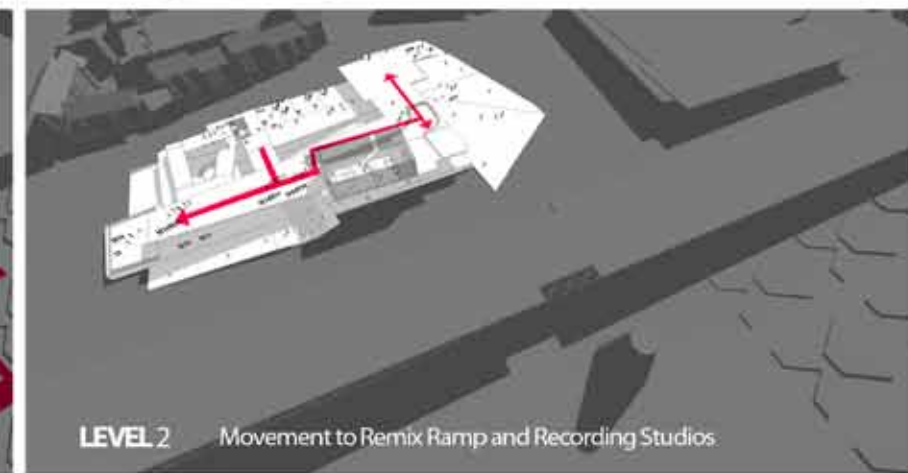
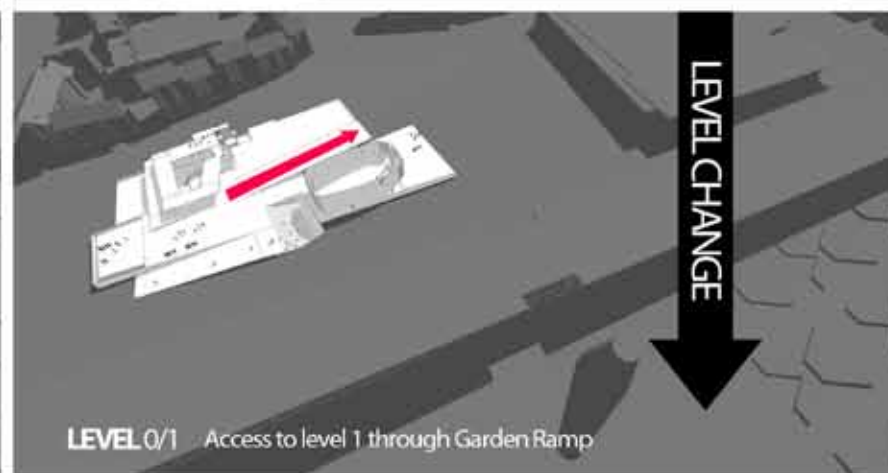
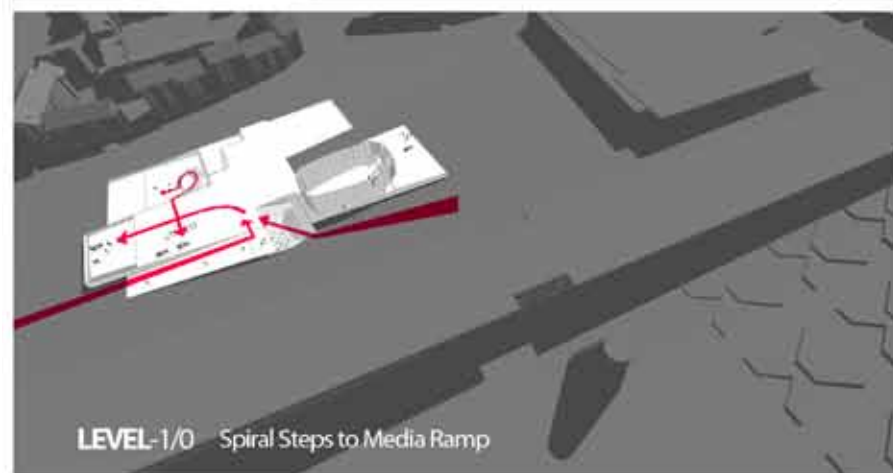
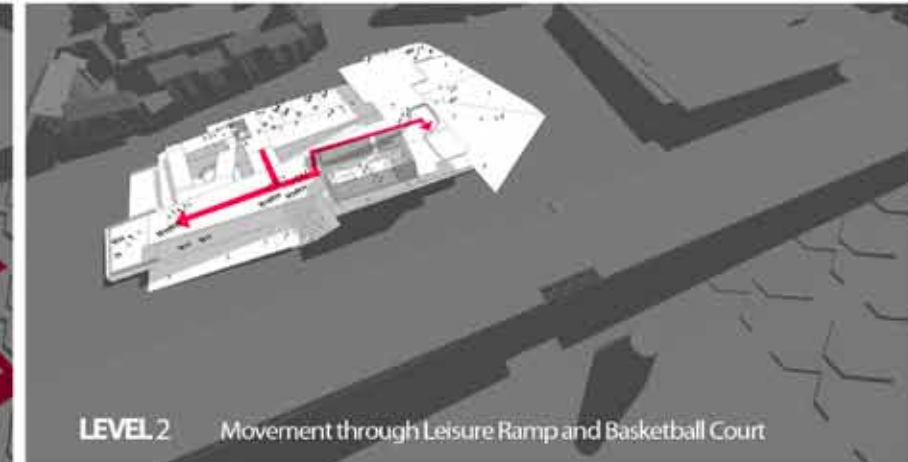
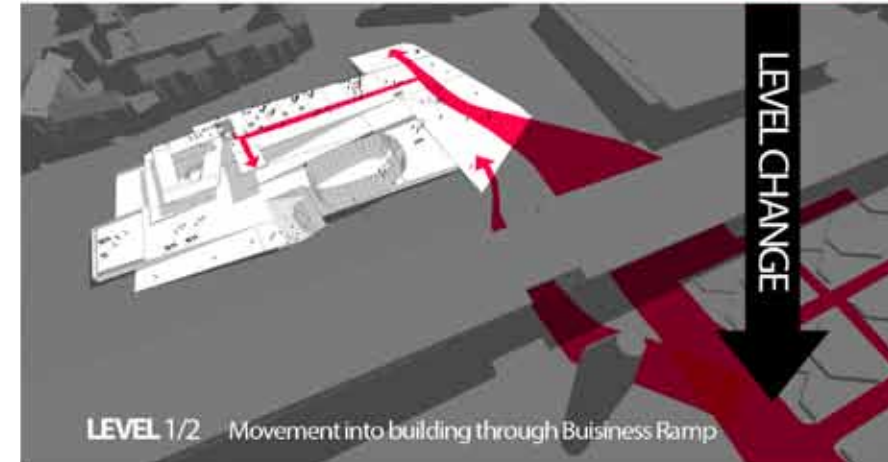
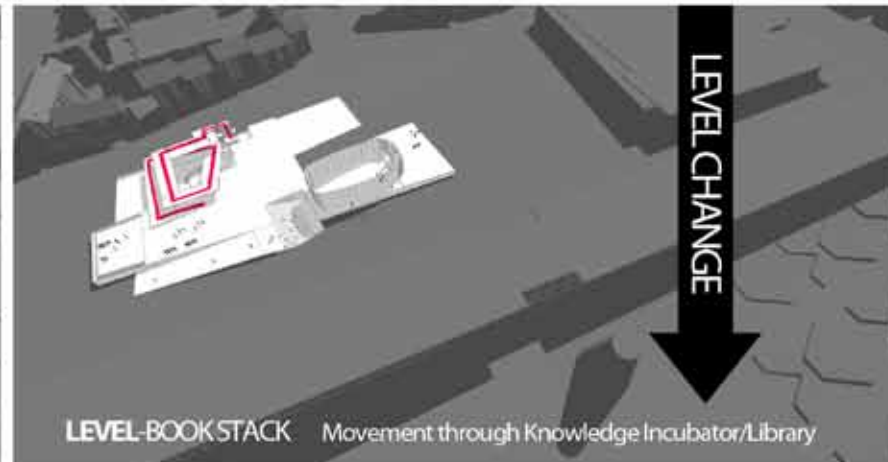
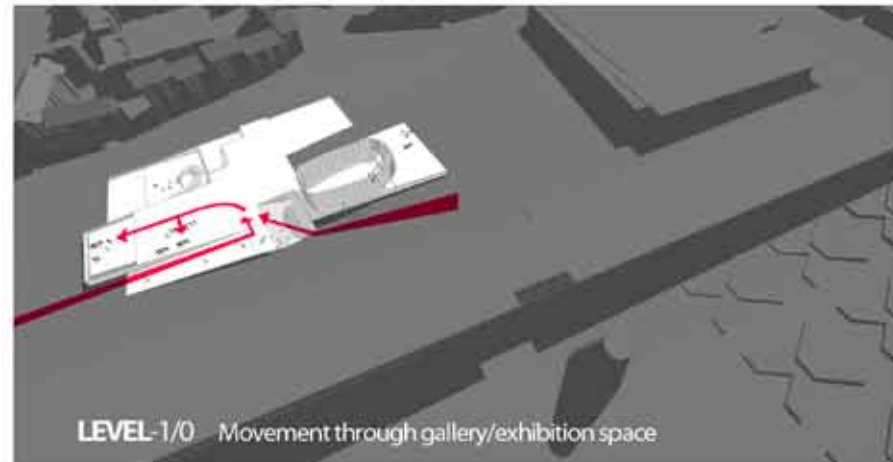
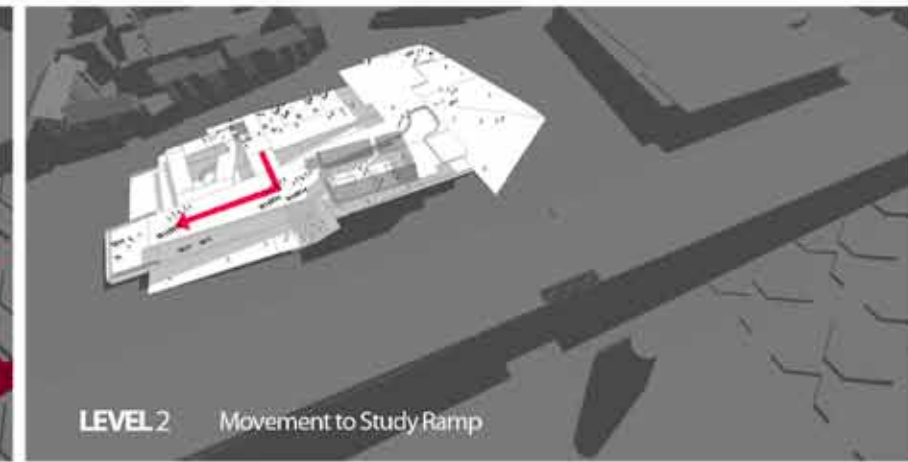
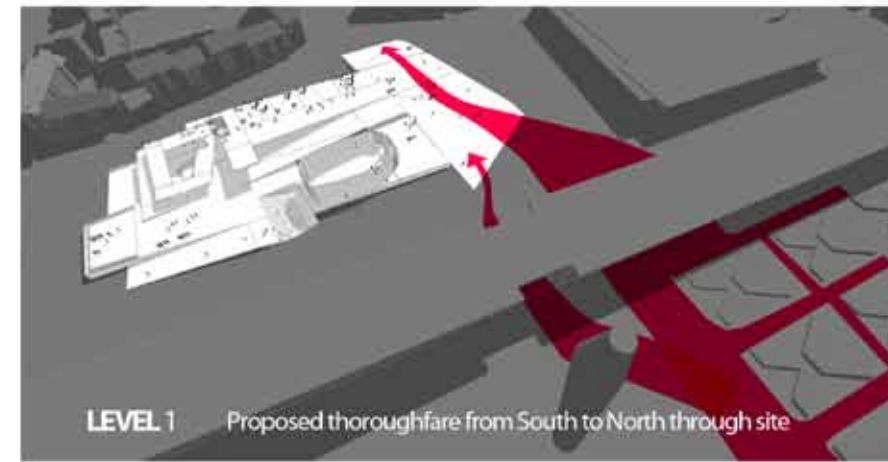
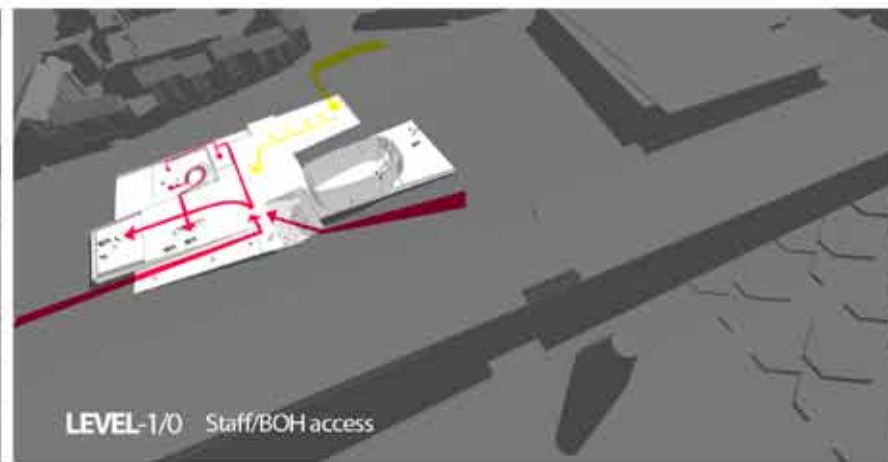
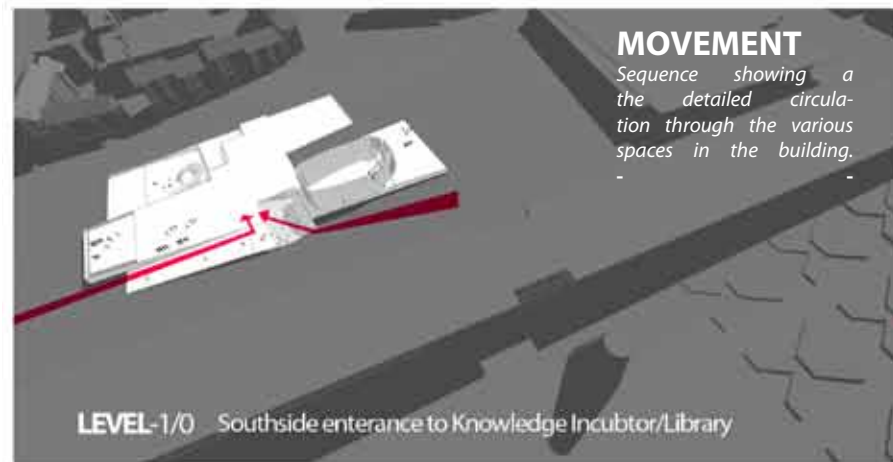
PROGRAM CONNECTIONS

The diagram shows where the program fits on the ramps and how the ramps connect and slot under the roof.



GENERAL CIRCULATION

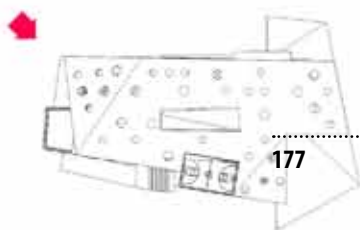
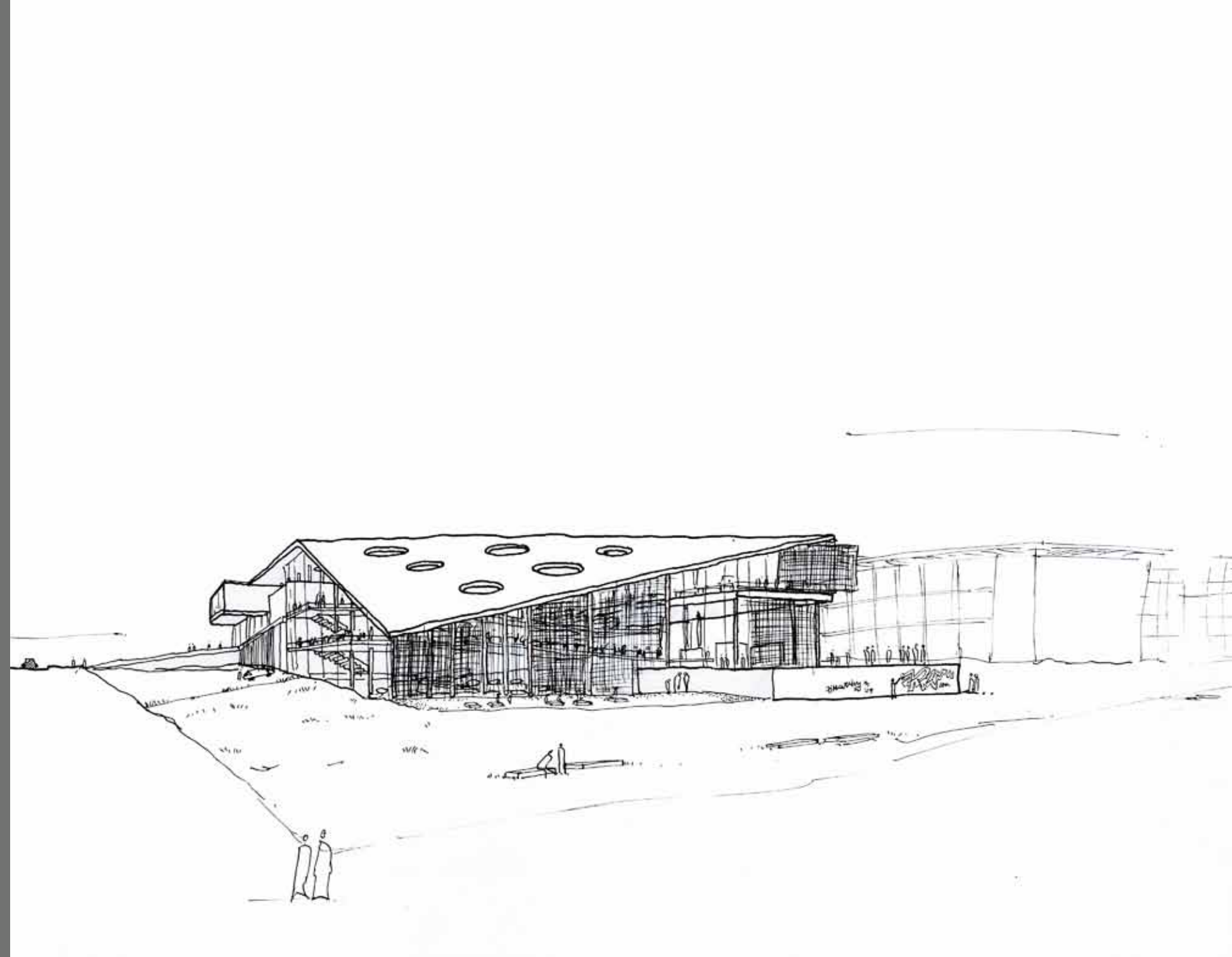
(FAR LEFT) the basic circulation of the ramps by patrons in red. Yellow shows BOH/Admin entrance into the building. (CLOSE LEFT) The internal fire stairs act as secondary circulation and run from all floors. The NW core extend to the roof for maintenance of the sky lights and ivy trays on the roof. All four cores have walk in service rooms containing AC and electrical controls. The two west cores include the disabled and service elevators.



THE OPEN INFOR- MATION CAMPUS

VIEW SOUTH EAST

The west end of the building showing the four story Knowledge incubator as experienced by the passing trains and the informal settlement west of the railway tracks



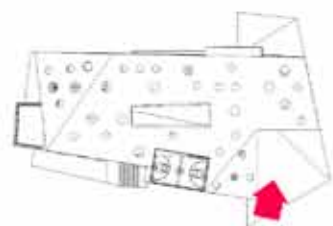


VIEW SOUTH

Facing south the perspective shows the south side of the entrance, sharing ramp and staff office tucked under the business ramp.

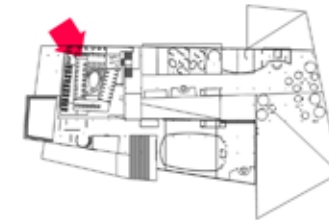
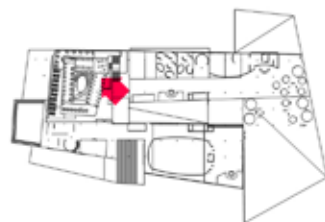
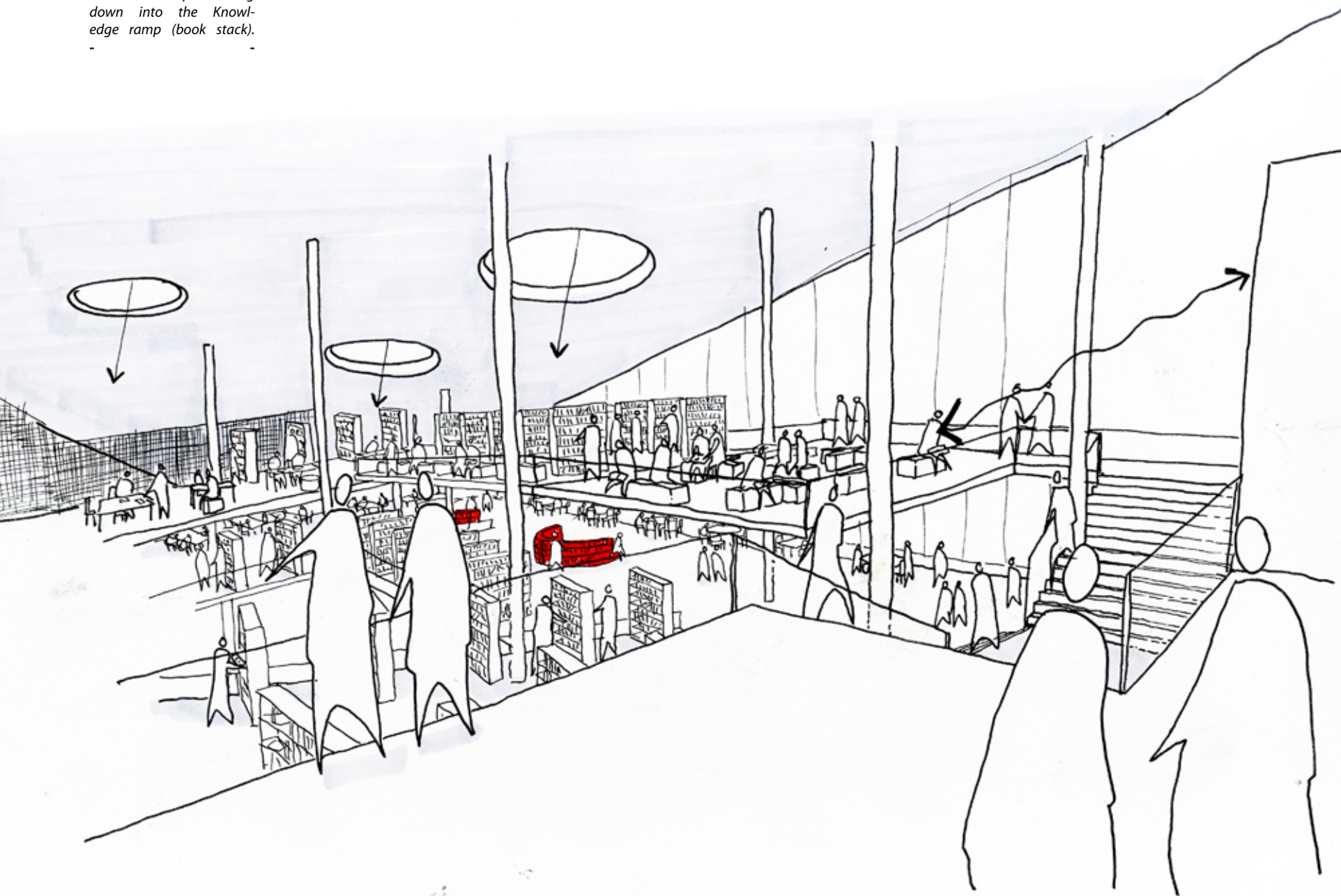
THE ENTRANCE

The down scaled and un-intimidating entrance of the Open Information Campus is bustling with the trade and bartering of electronic goods. The shaded market entrance is wrapped with a media mesh of steel and LED lights. The media mesh animates analog texts and images that describe events, free lectures, and services offered. The youth orientated Remix ramp sits on the second floor above the entrance.



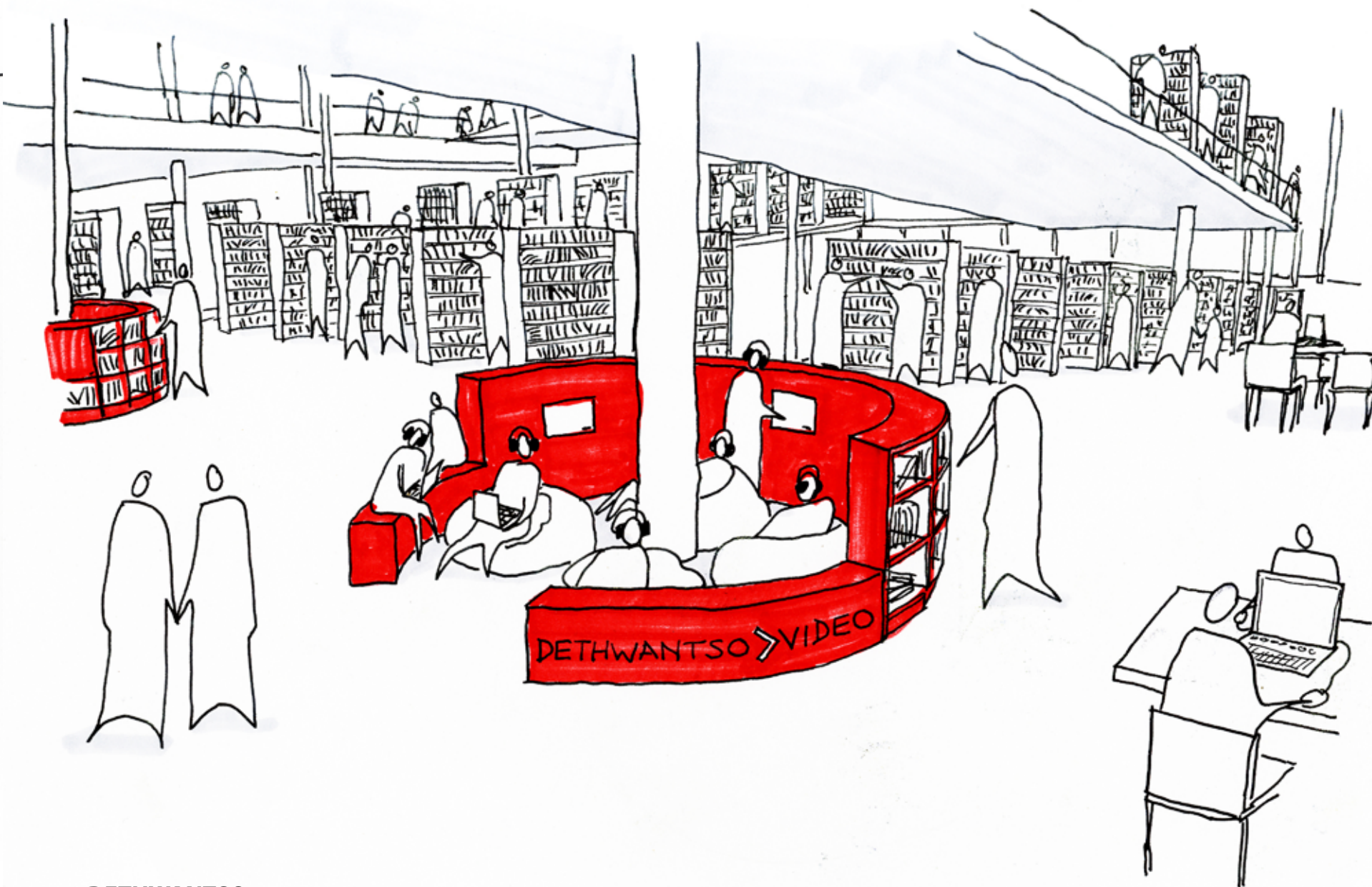
CLIMAX

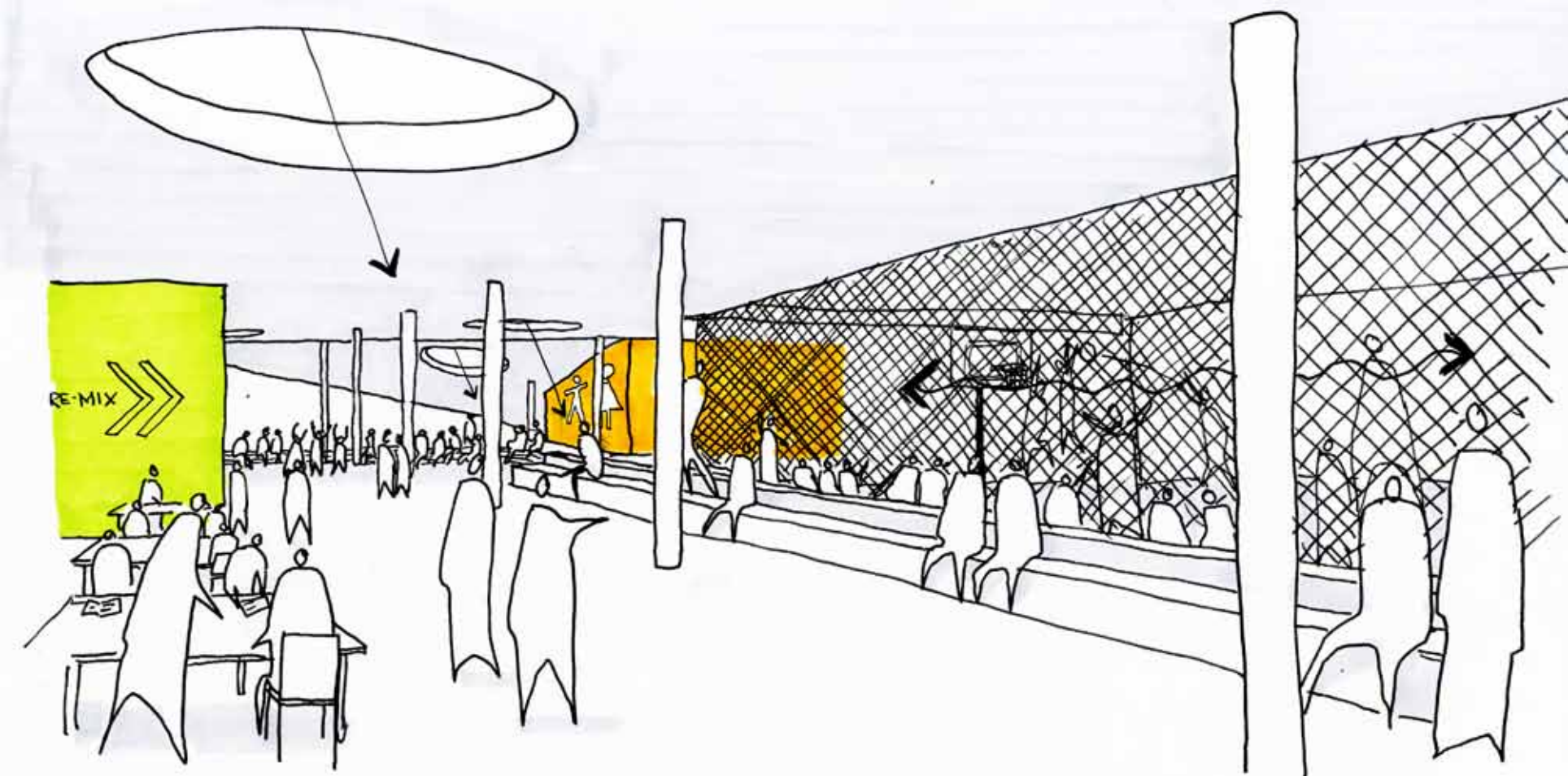
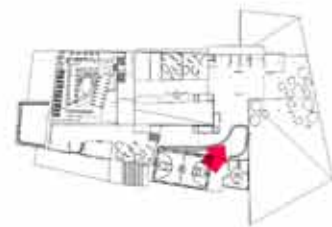
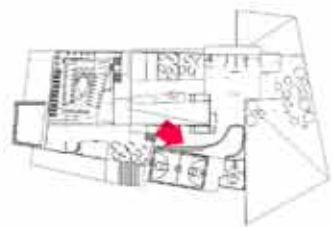
View from the end of the Business ramp looking down into the Knowledge ramp (book stack).



DETHWANTSO BOOTHS

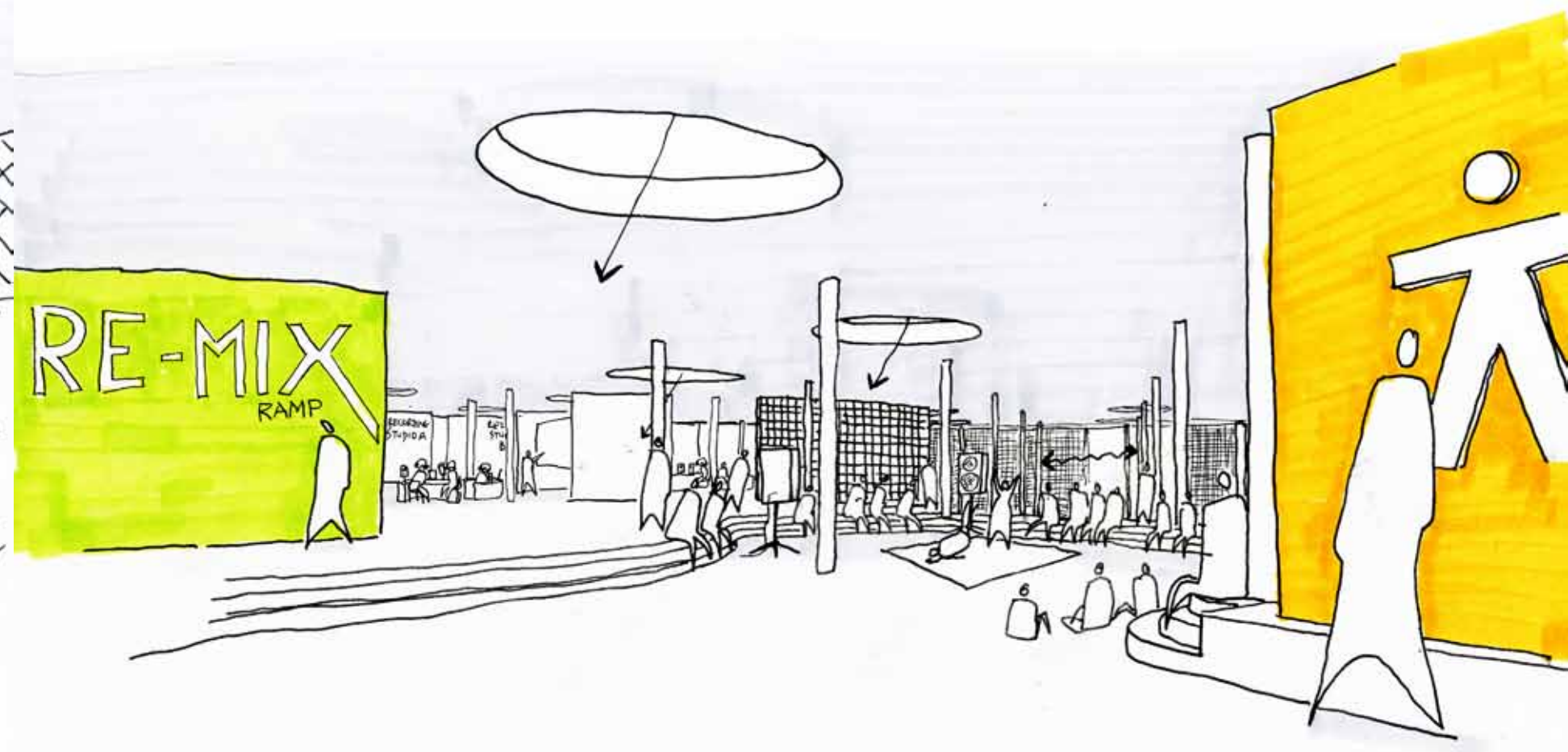
View from the second level of the Knowledge ramp showing the video booths where users stream and watch media content with headphones.





LEISURE RAMP

Looking east into the recreational Leisure ramp with view of the basketball court and presentation amphitheatre enclosed by the tilting roof at the end of the ramp.

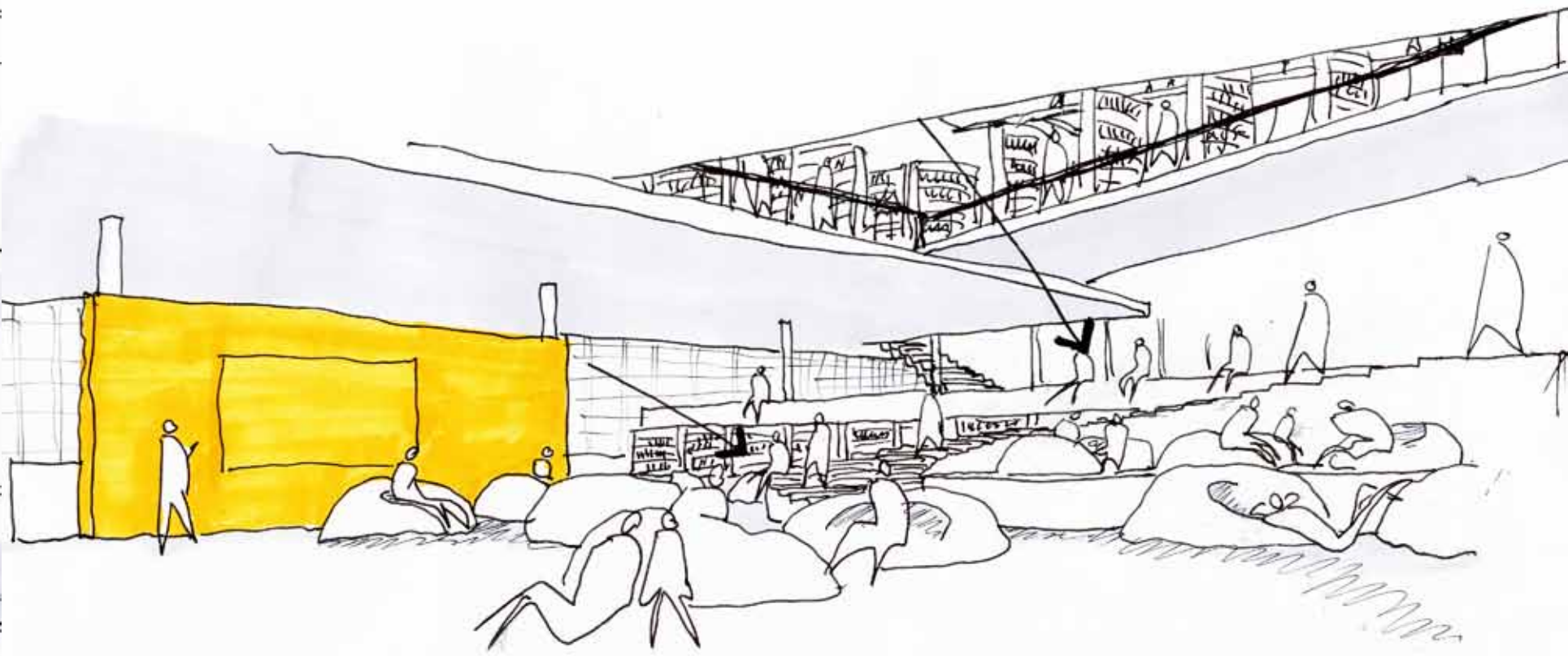
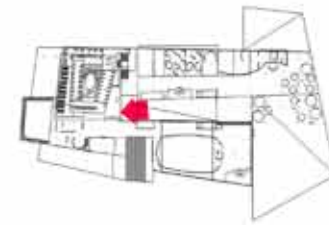
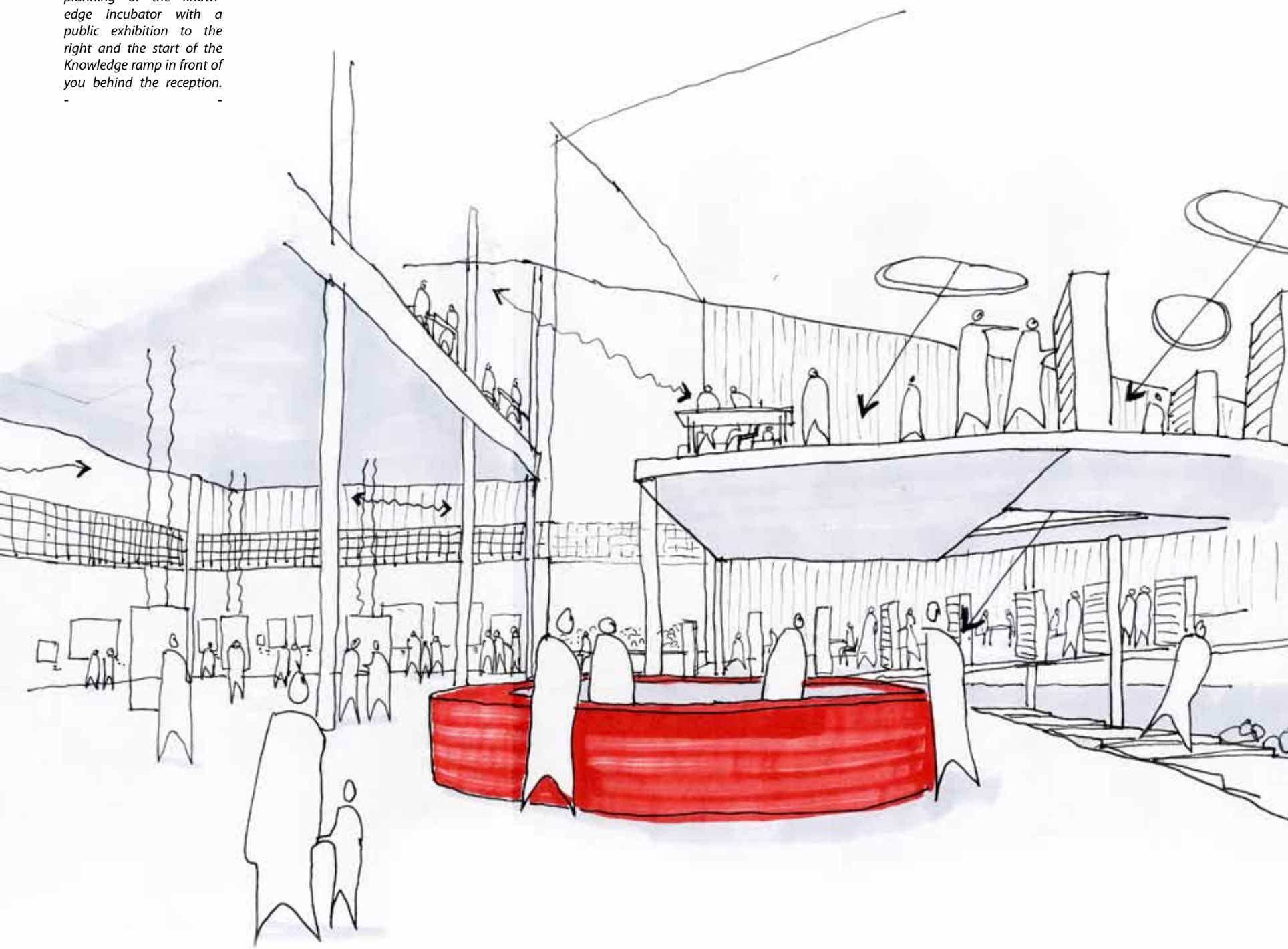


AMPHI- THEATRE AND REMIX RAMP

Looking North from the back of the basketball court students watch break dancers performing in the Leisure ramp amphitheatre. Further down in the Remix ramp a lesson in music mixing and video editing is taking place.

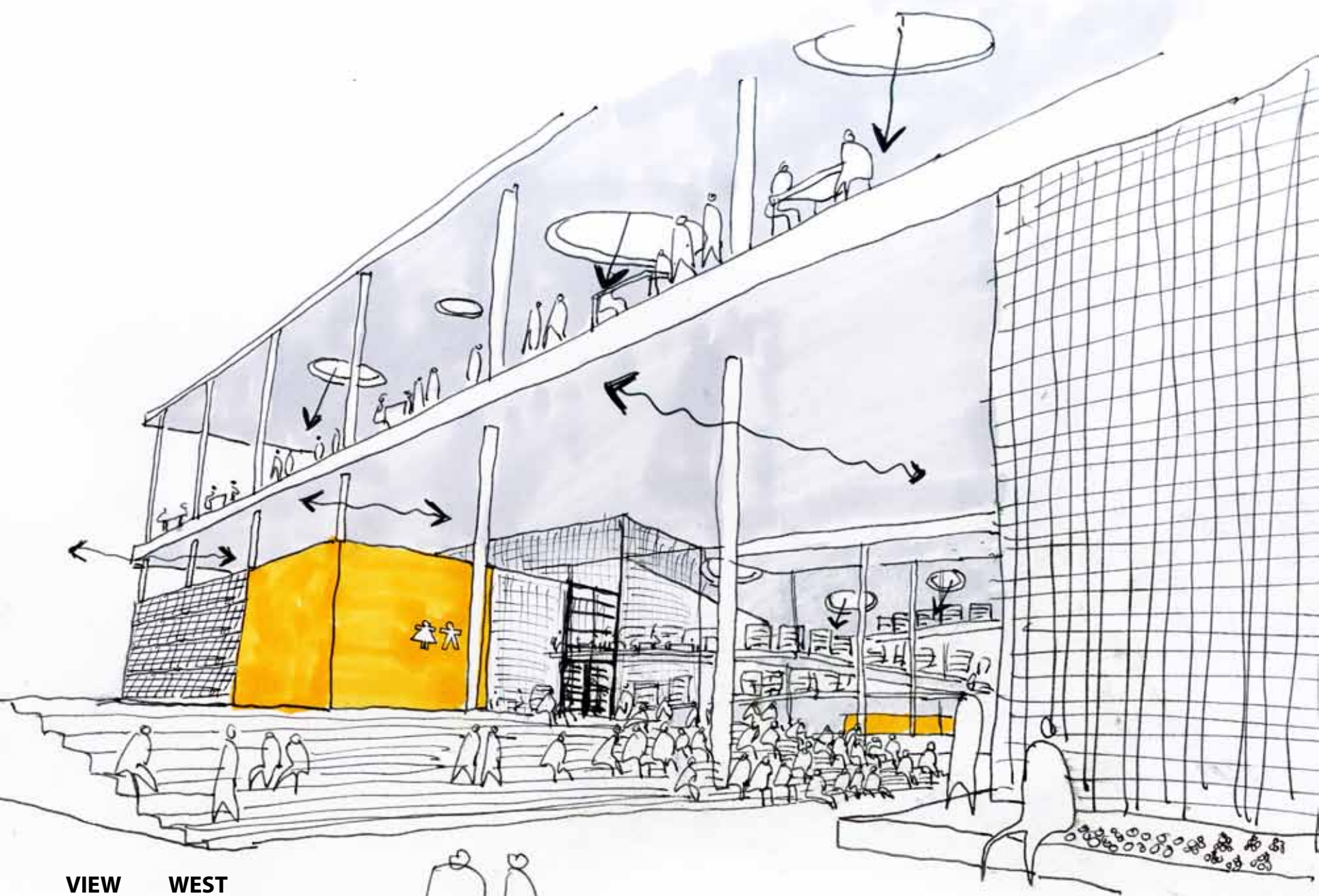
**KNOWLEDGE
INCUBATOR**

Facing west and with the Garden ramp behind you are received by the open planning of the knowledge incubator with a public exhibition to the right and the start of the Knowledge ramp in front of you behind the reception.



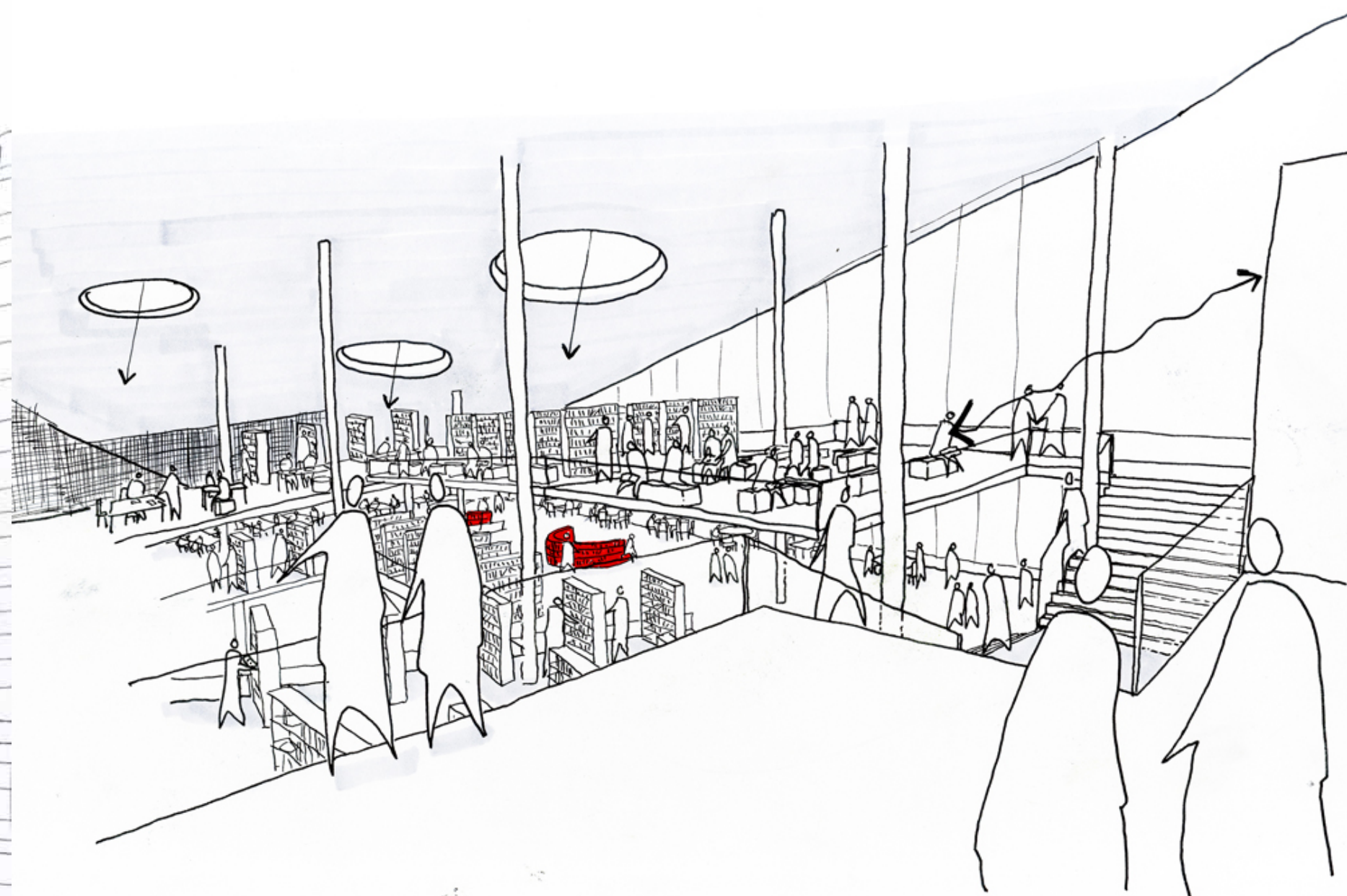
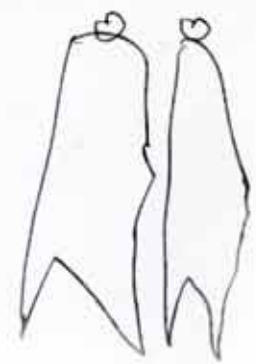
MEDIA RAMP

On the lowest level of the building you tuck into a magazine while listening to music on your head phones and ignoring a short presentation on Photoshop on the wall behind you. Views up to the book stacks and the four story high roof.



VIEW WEST

Arriving from the square you purchase an apple from the vendor and are enticed by a presentation on the steps on setting up email. Inside the transparent spaces you see through the mesh at the activities inside the Knowledge ramp and above you kids are hunched over their desks in the Study ramp.



GARDEN RAMP

Facing east looking up the Garden ramp. Ivy gravitates down the breeze blocks disguising any noise and large concrete blocks rest on a pebbled floor. This space of retreat is calming and quiet.





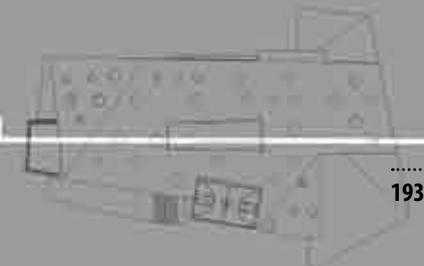
WEST
ELEVATION

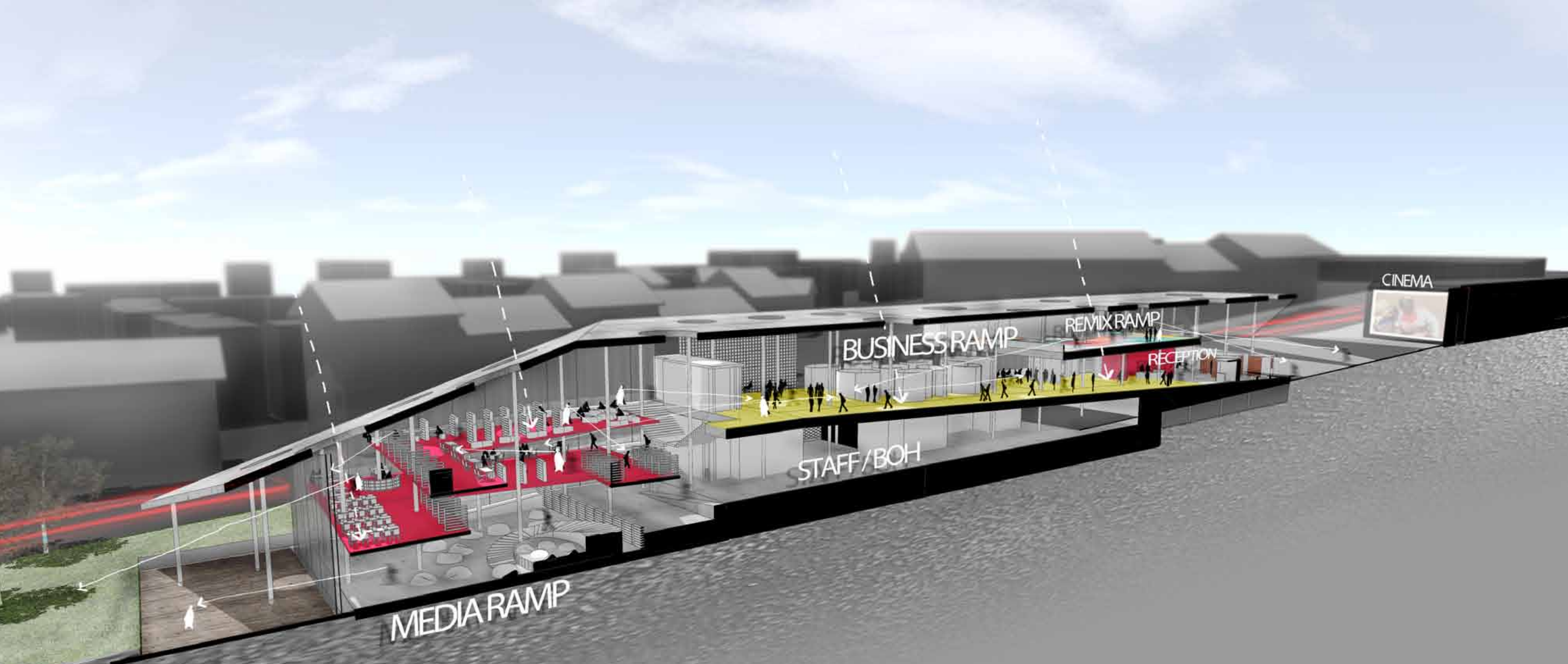


NORTH
ELEVATION



SECTIONAL PERSPECTIVE (long)





SECTIONAL PERSPECTIVE (long)



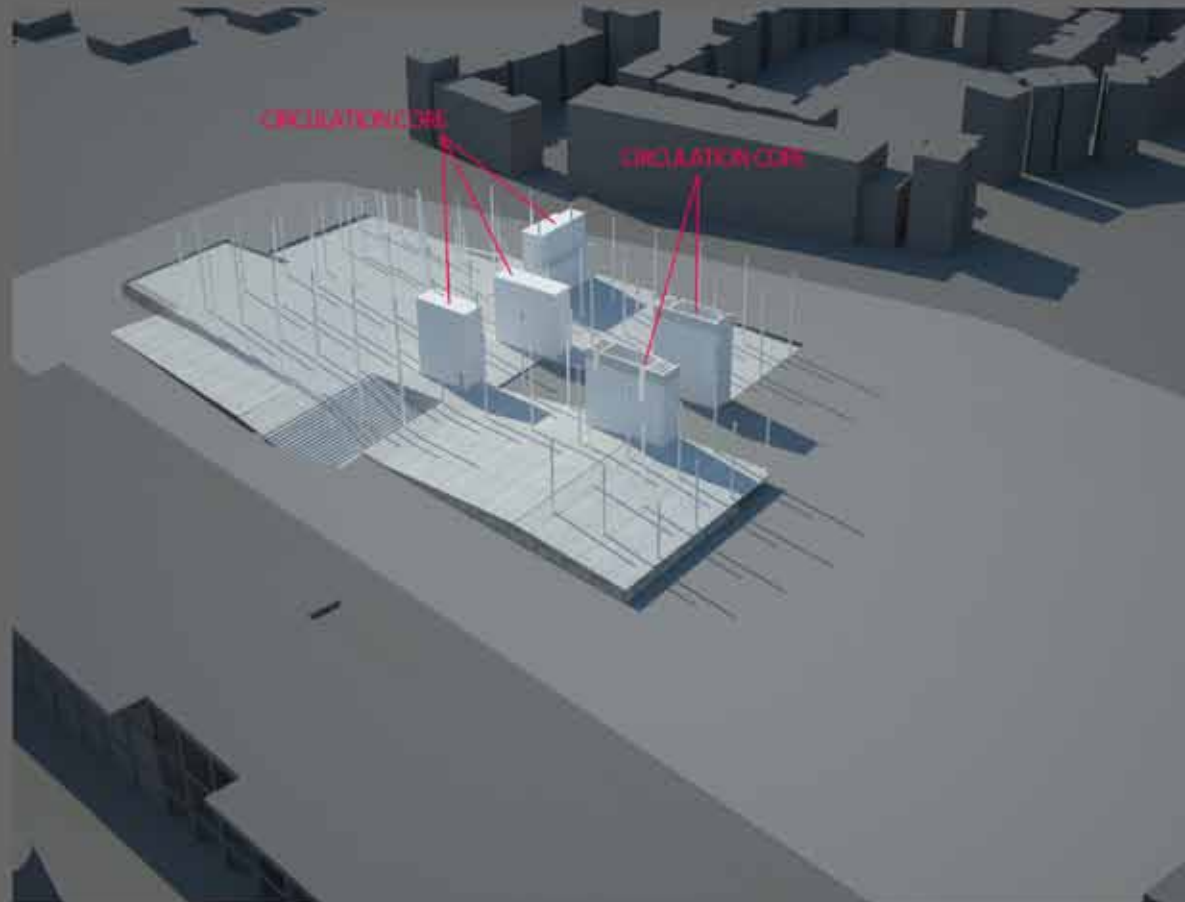
SECTIONAL PERSPECTIVES (short)





1

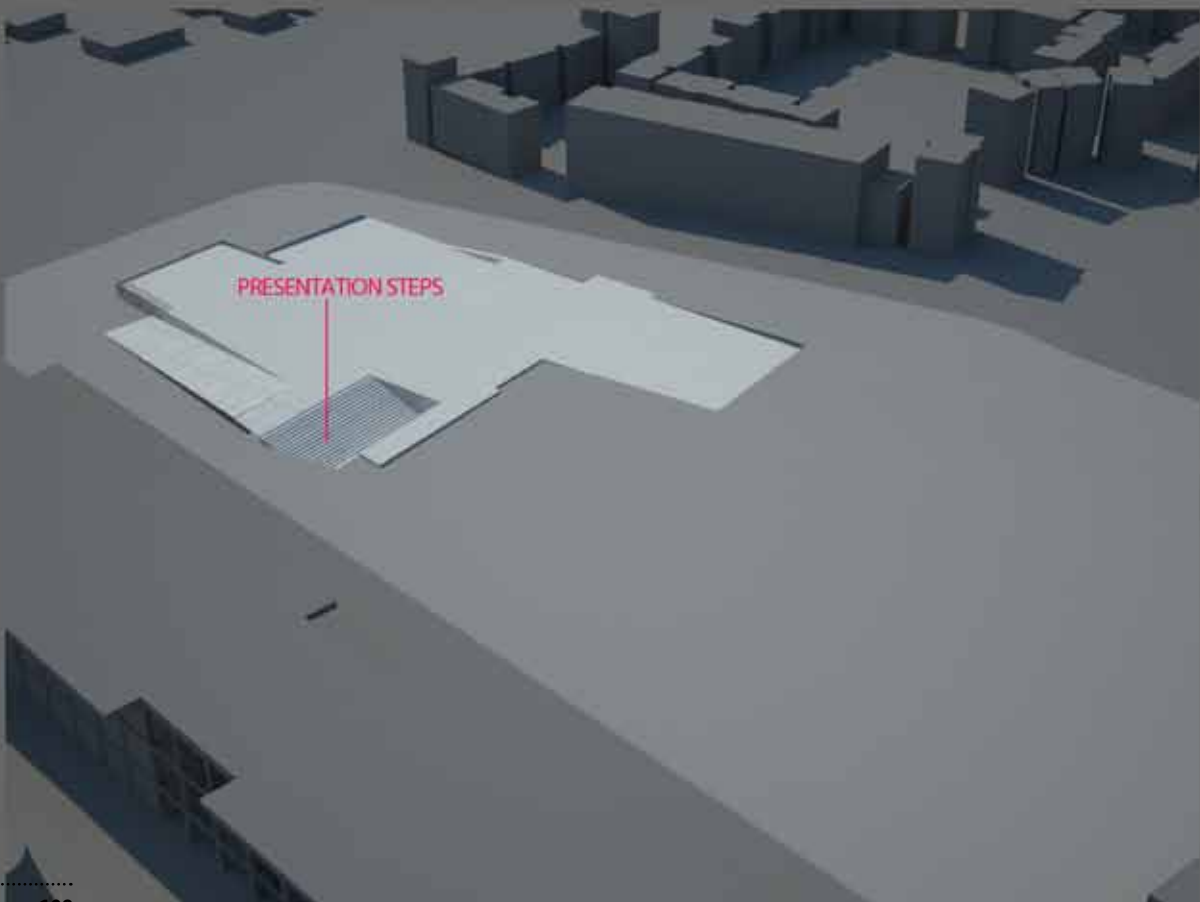
SITE



3

CIRCULATION AND SERVICE CORES

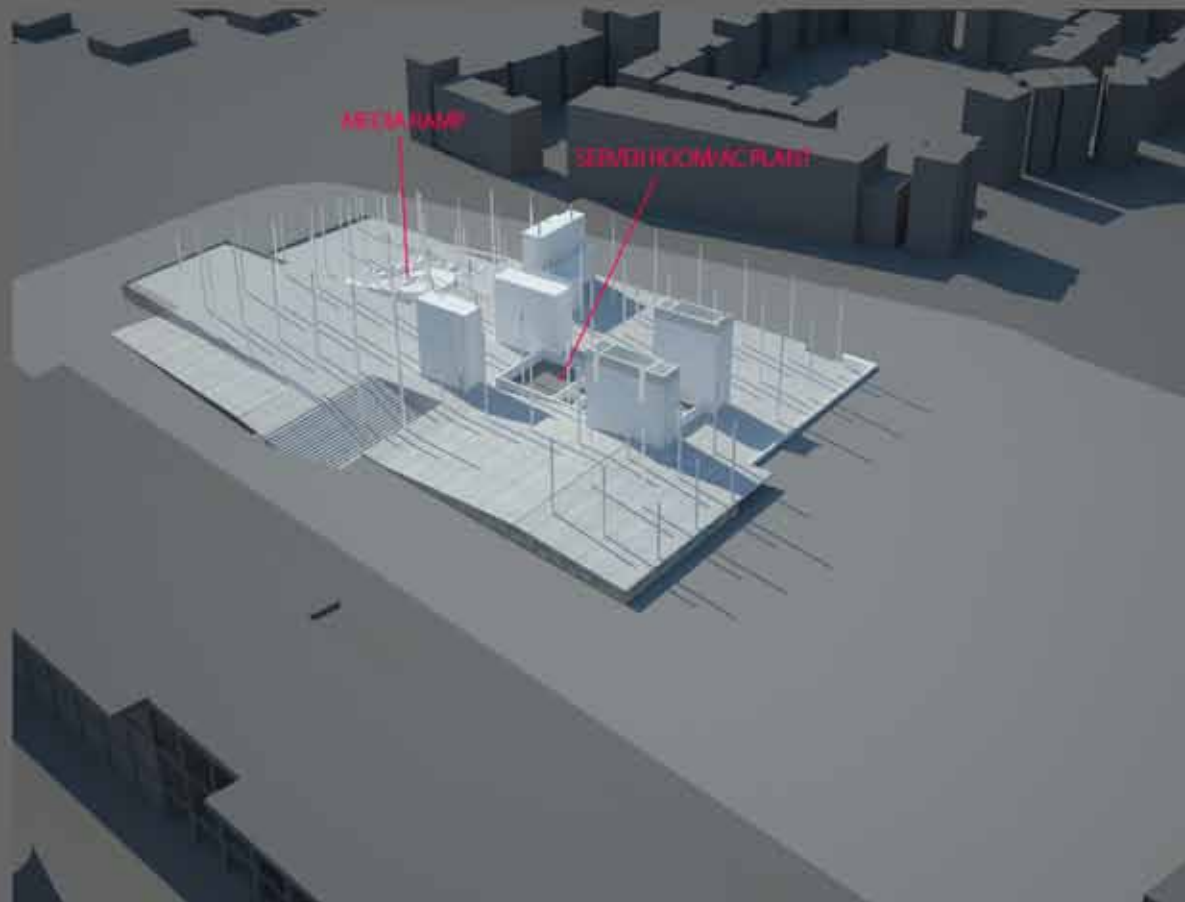
The service cores which include walk in rooms with AC, electrical boards and all fire equipment are placed in the centre of the building to allow the rest of the building to be freed for planning. This design decision also allows the edges of the building to be freed of any major massing.



2

PUBLIC EDGE (SOUTH WEST)

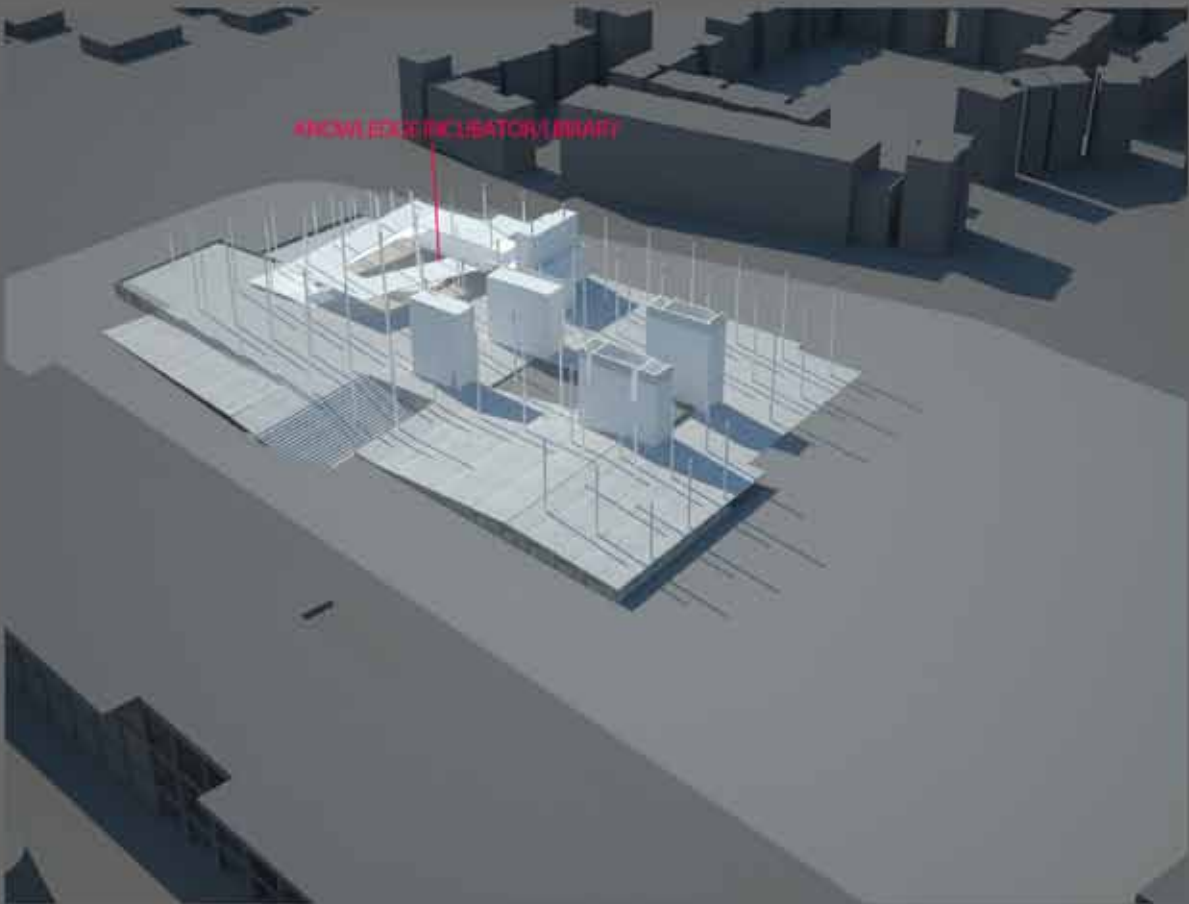
The secondary rear entrance into the presentation steps and the public floor of the Knowledge Incubator.



4

MEDIA RAMP AND SERVICE ROOM

All transformers, generators and the large server room that runs the computer networks is placed in the middle of the cores such that all wiring can connect directly to the cores and run to each floor. The service room is accessed through the BOH entrance on the North side of the building. The Media ramp is placed on the lowest level of the building with a spill out space leading outdoors.



5

THE KNOWLEDGE RAMP

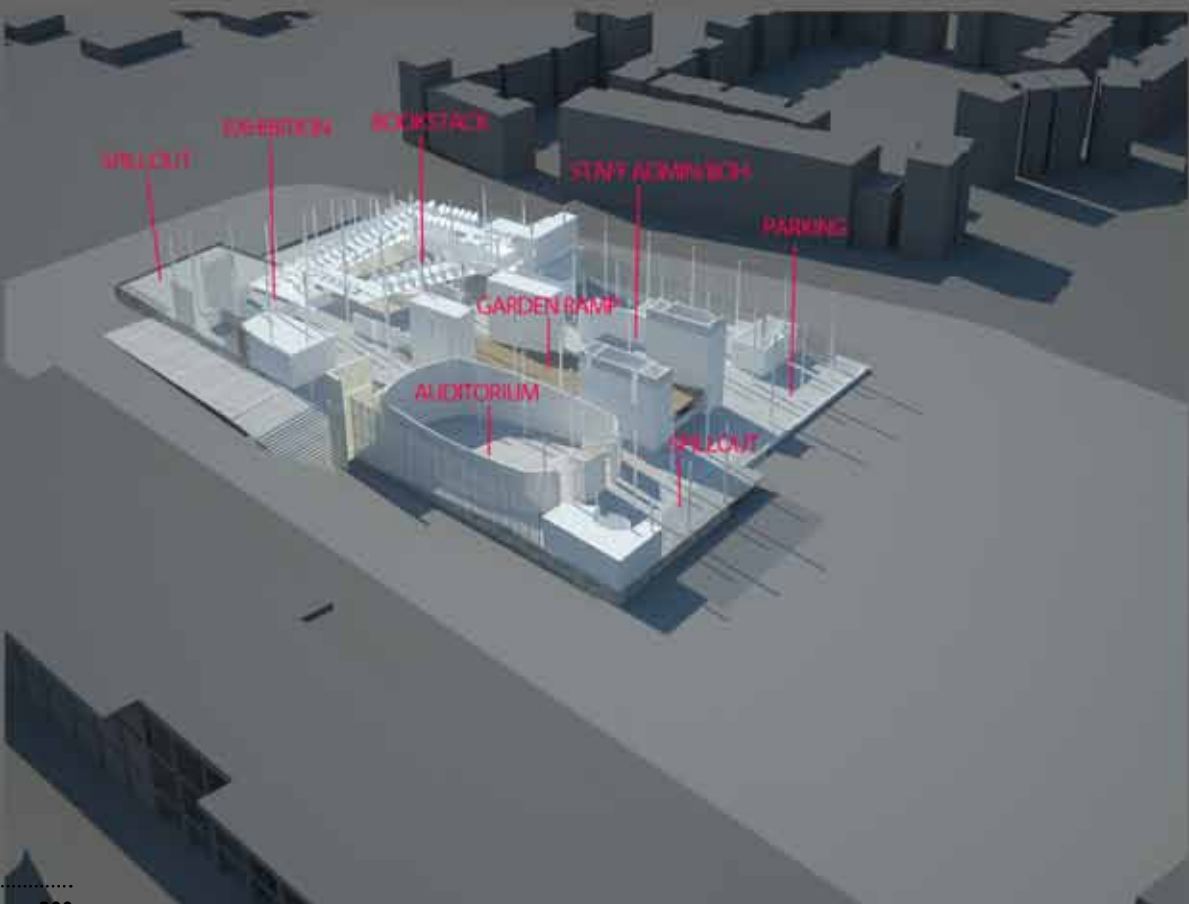
The Knowledge Incubator includes the Knowledge ramp with book stacks. This off-axis ramp is plugged into the back of the building.



7

BUILDING ENTRANCE

The Accidental ramp is placed ramping up from both edges of the site and leading into the start of the building. Structure is placed where the roof extends over the Sharing ramp market.



6

KNOWLEDGE INCUBATOR, GARDEN RAMP AND BOH PROGRAM



8

BUSINESS RAMP AND SHARING RAMP PROGRAM



9

SECOND FLOOR RAMP

Connecting to the end of the Business Ramp and facing into the Knowledge Incubator Climax is the start of the Study ramp on the second level. The Study ramp extends back toward the entrance and noisy side of the building to become the Leisure ramp and Remix ramp over the entrance and looking into the market.



10

STUDY RAMP, LEISURE RAMP AND REMIX RAMP PROGRAM

CONCRETE
CLUB ROOMS
PRESENTATION FLOOR
ADMIN
REMI FLOOR
TELEPHONE/BROADCAST
SMALL OUT
BASKETBALL COURT



11

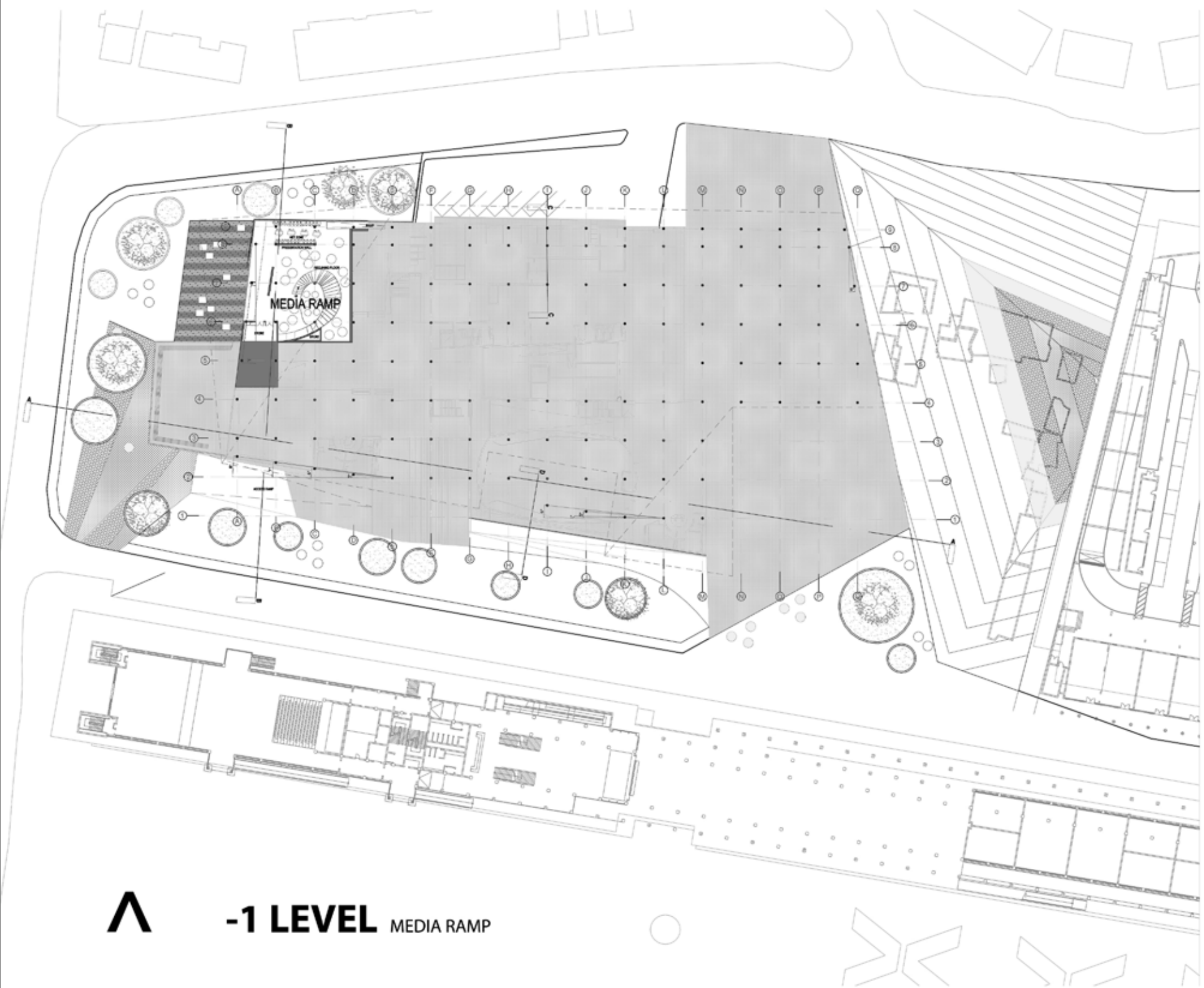
ROOF

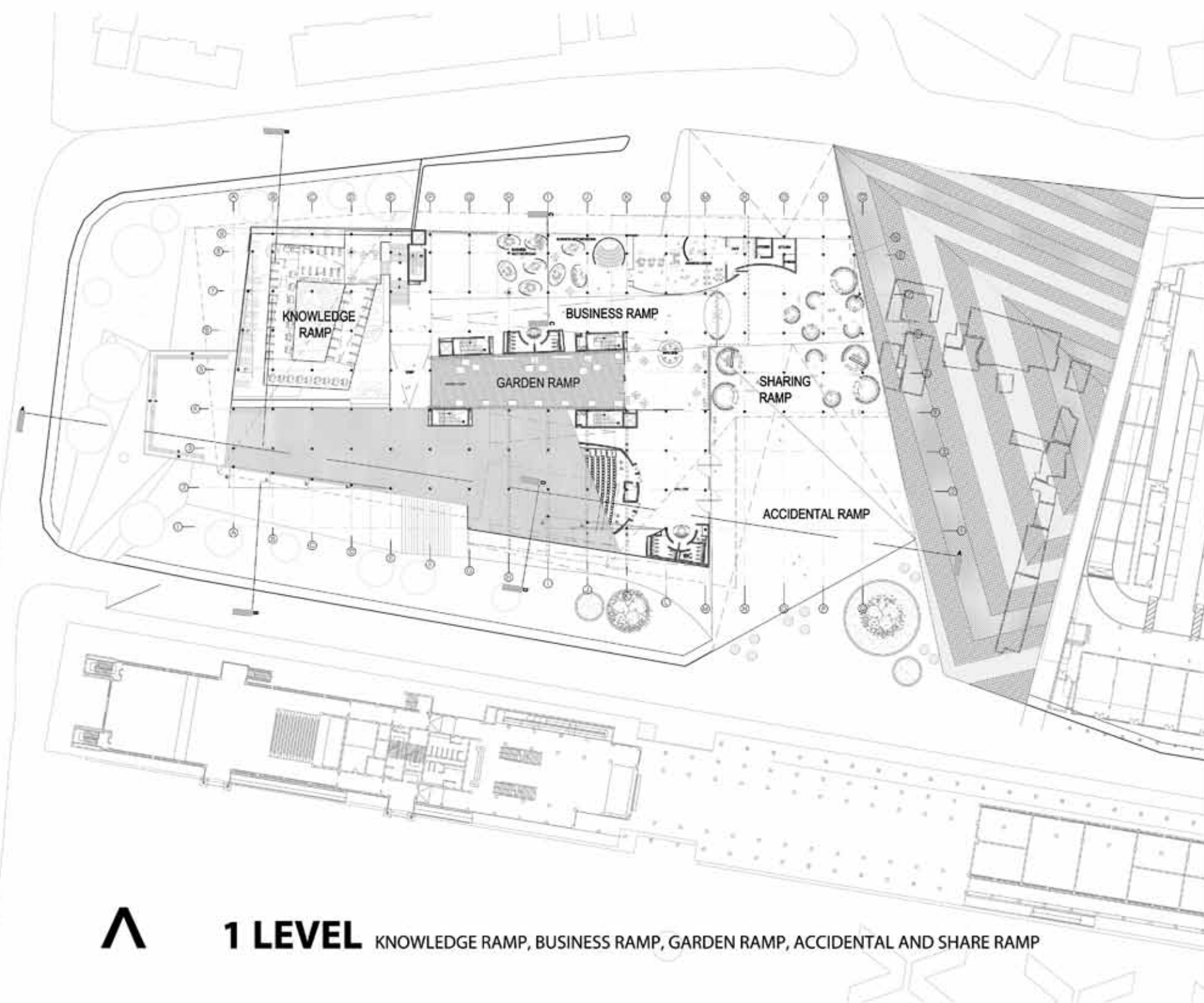
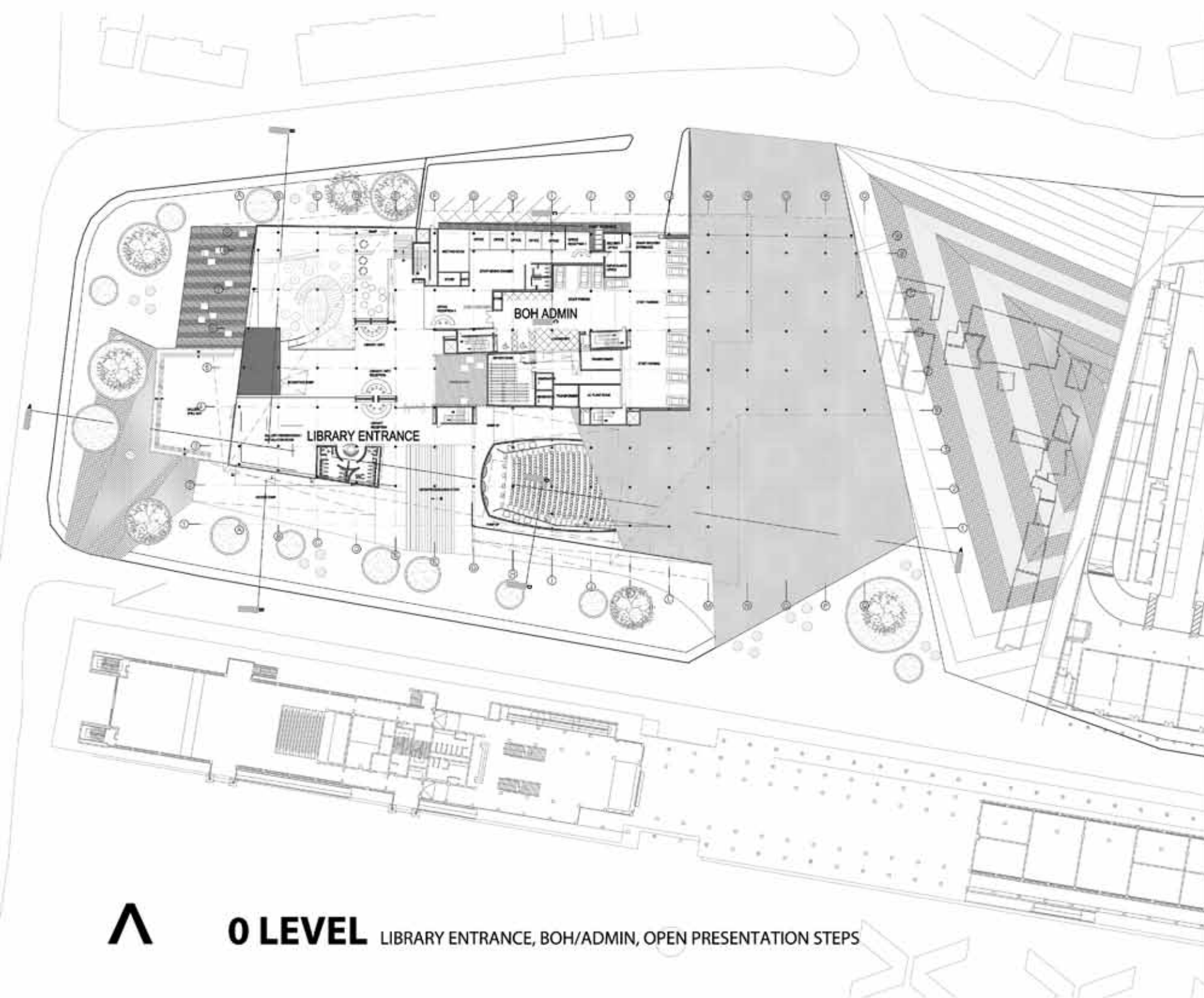
The roof is cut in the centre to allow a light well into the Garden ramp. This cut also brings sun light into the south side of the building. Another piece of the roof is removed for the basketball court.

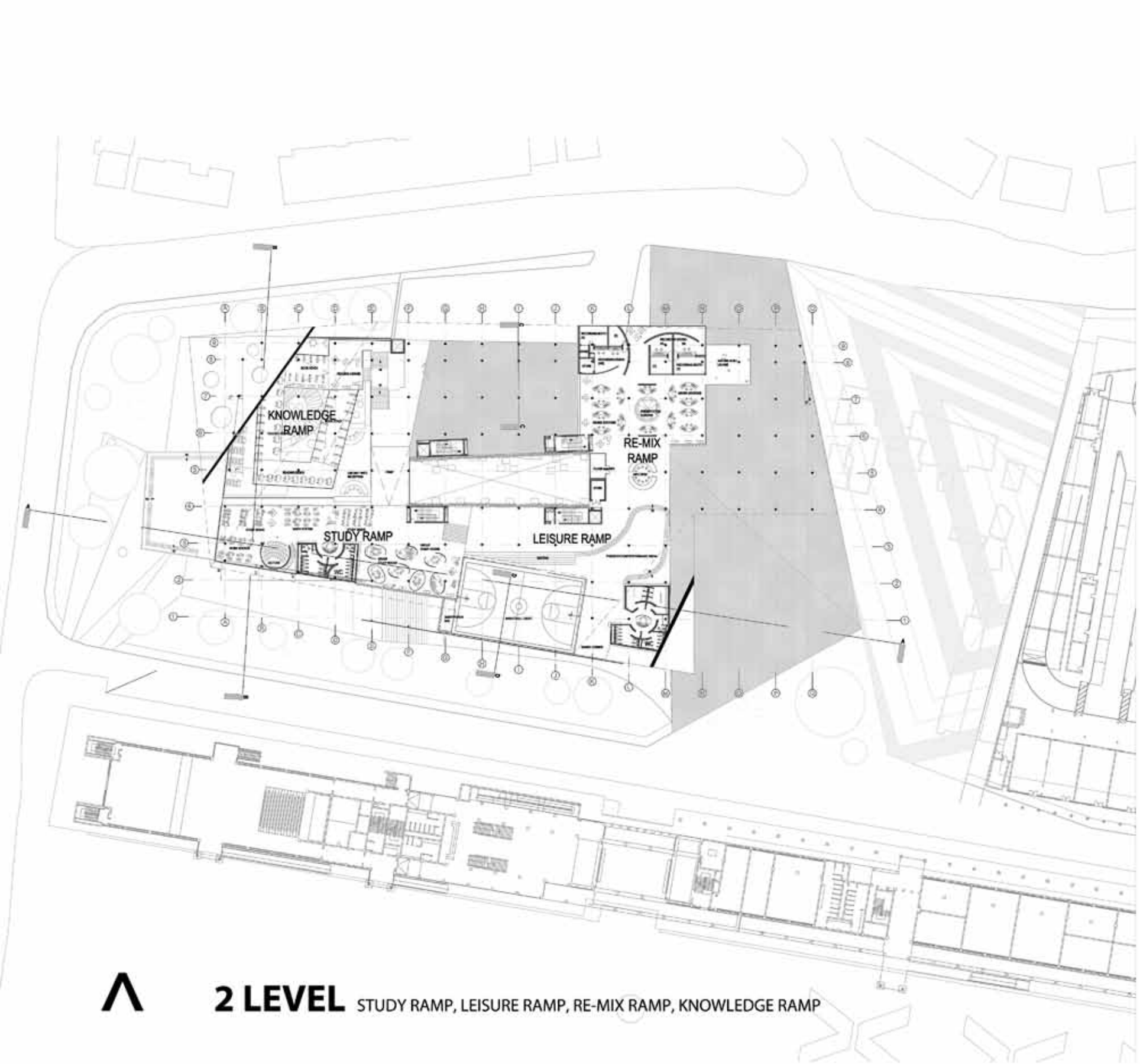


12

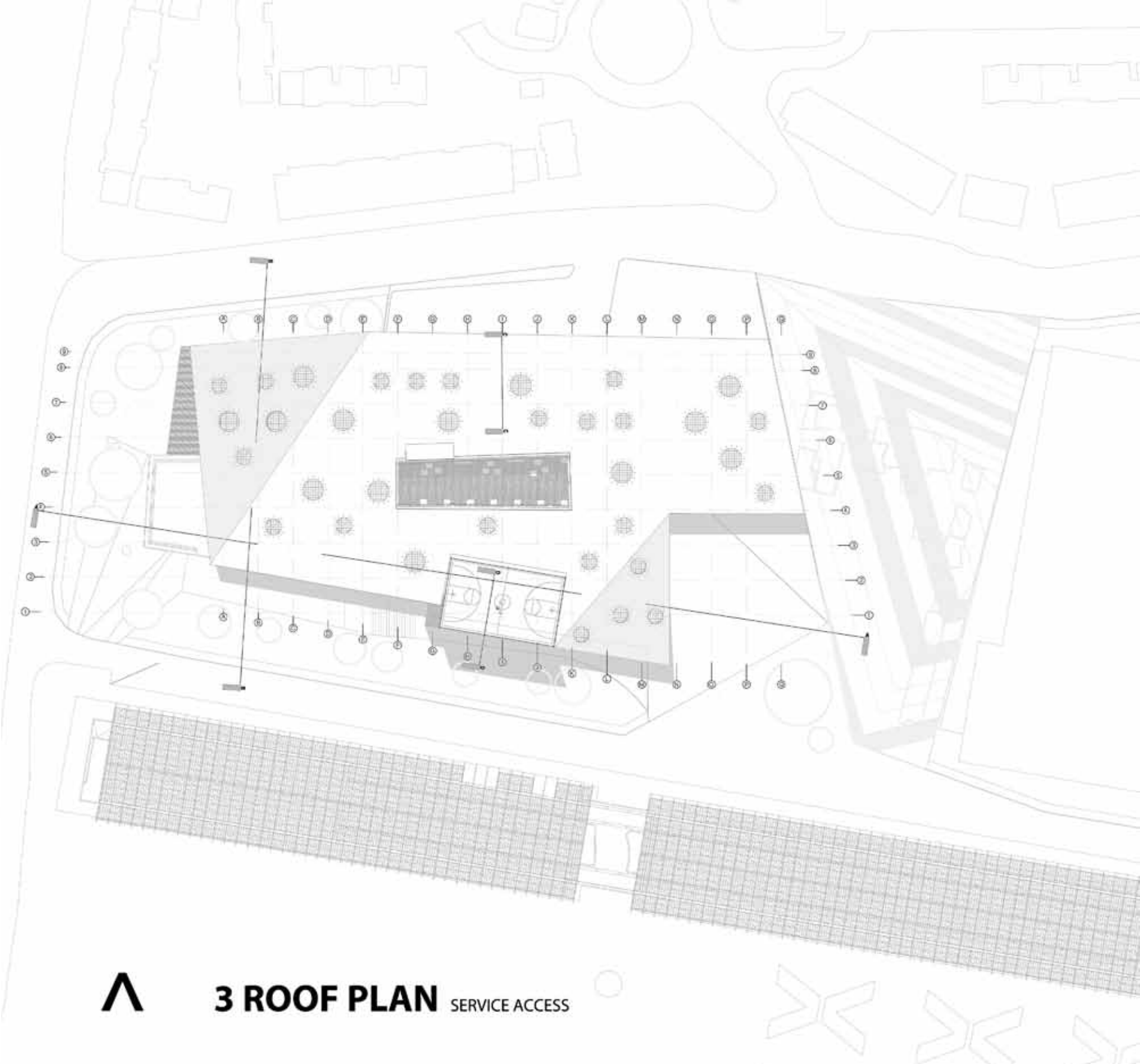
FINAL DRAWINGS



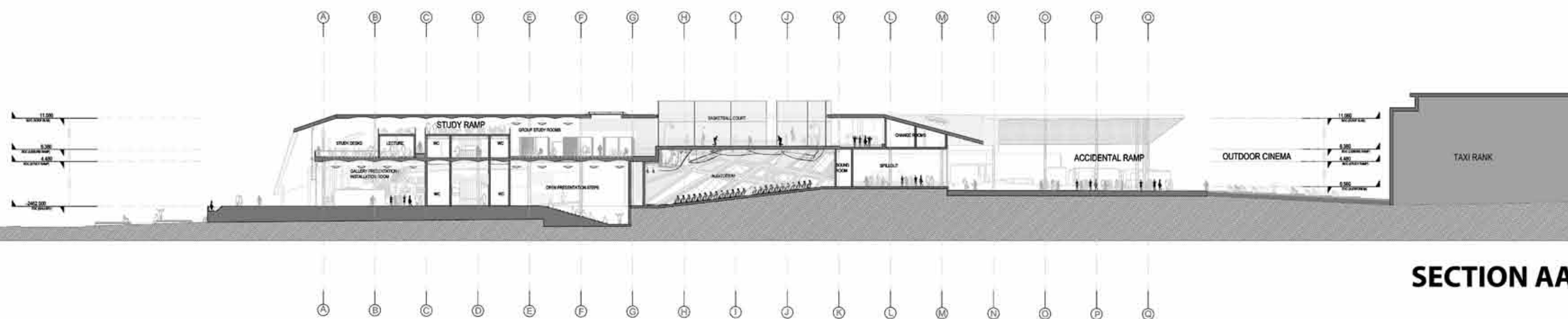
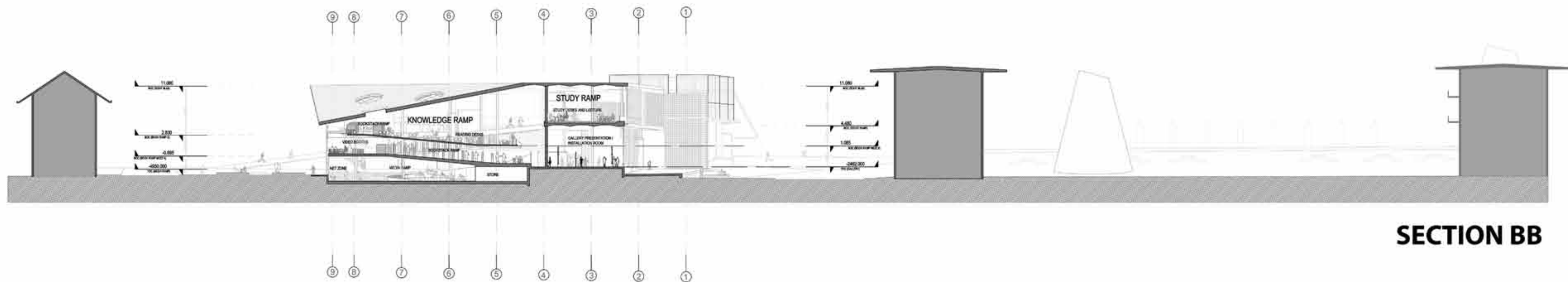


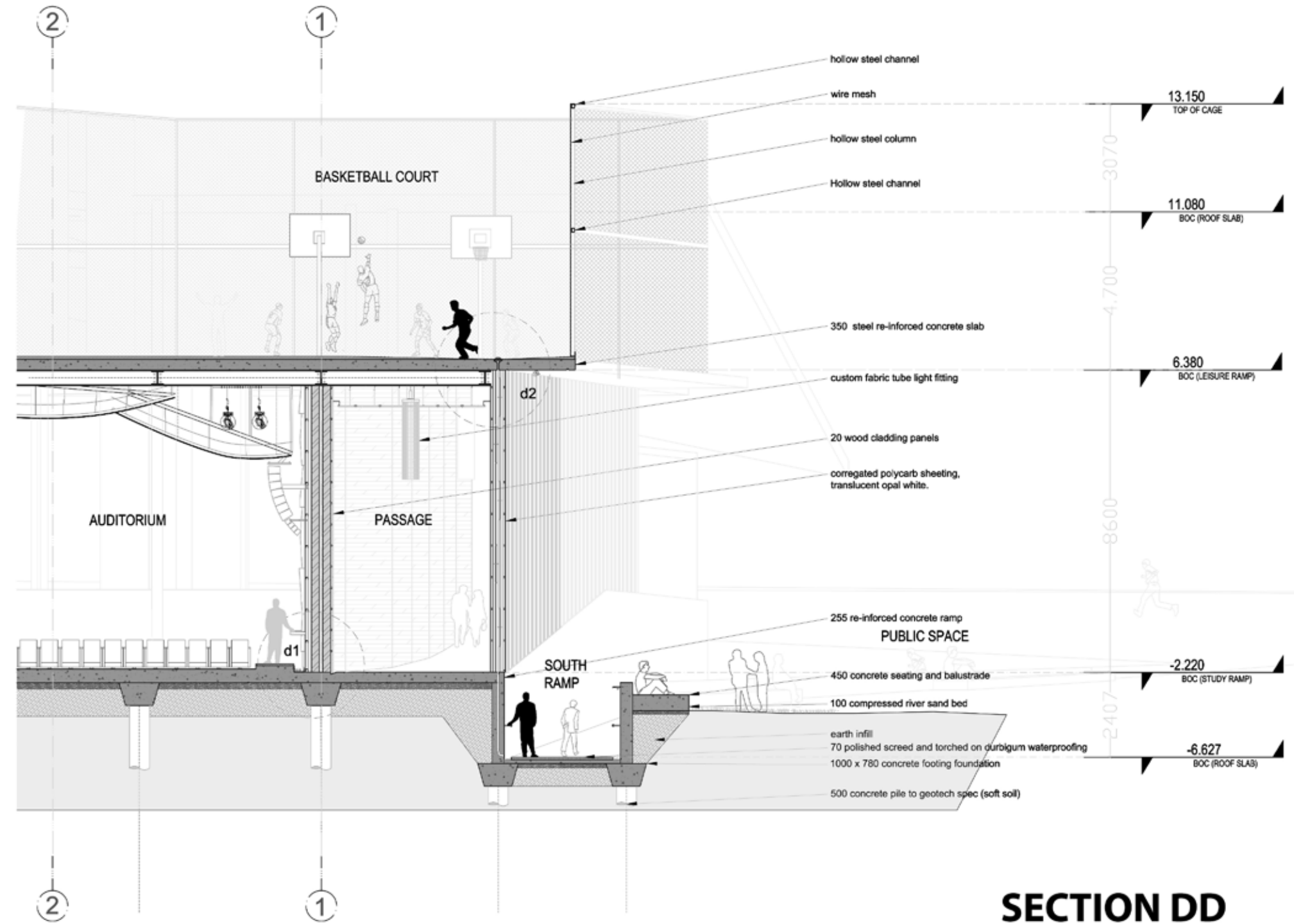
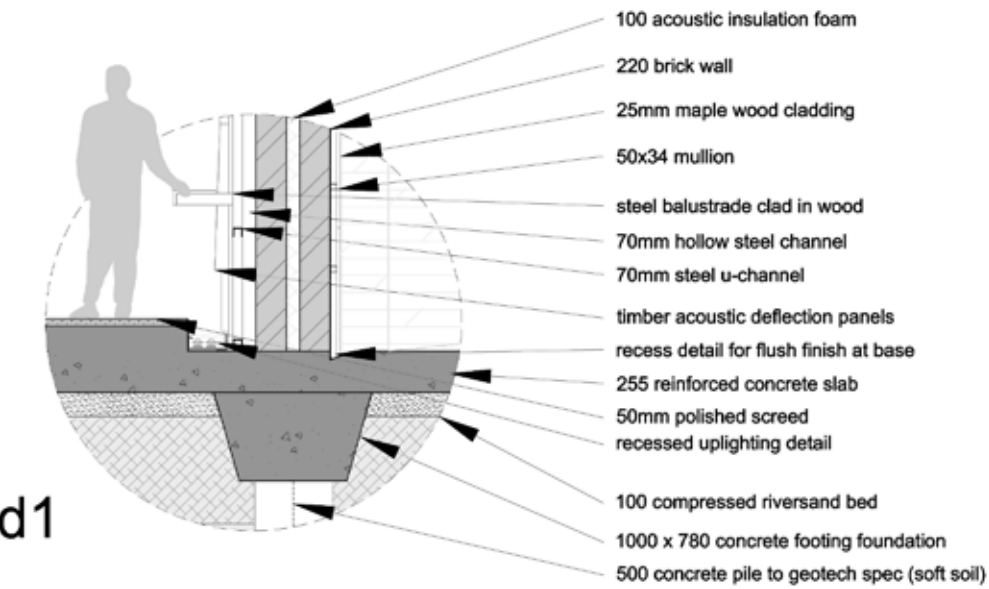
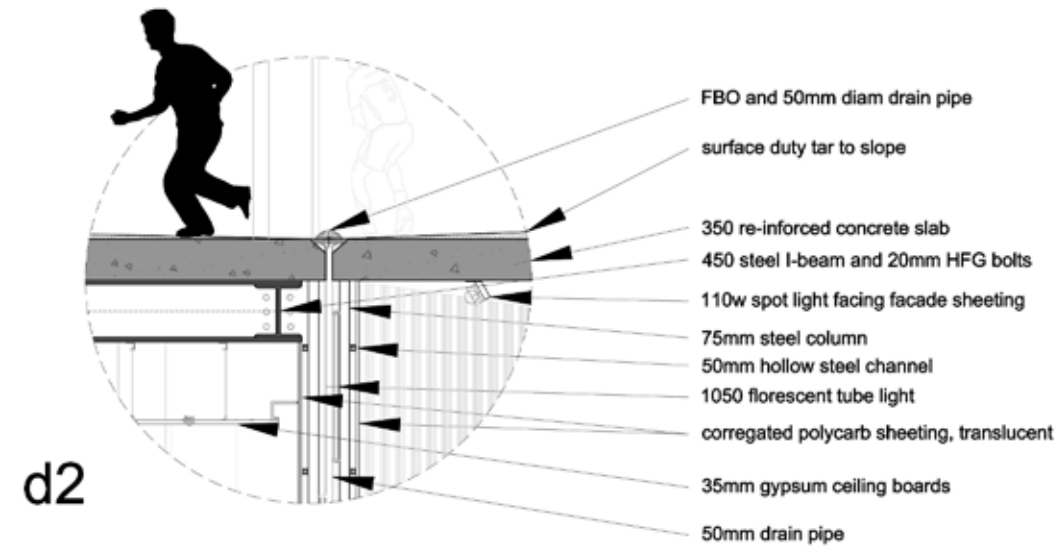


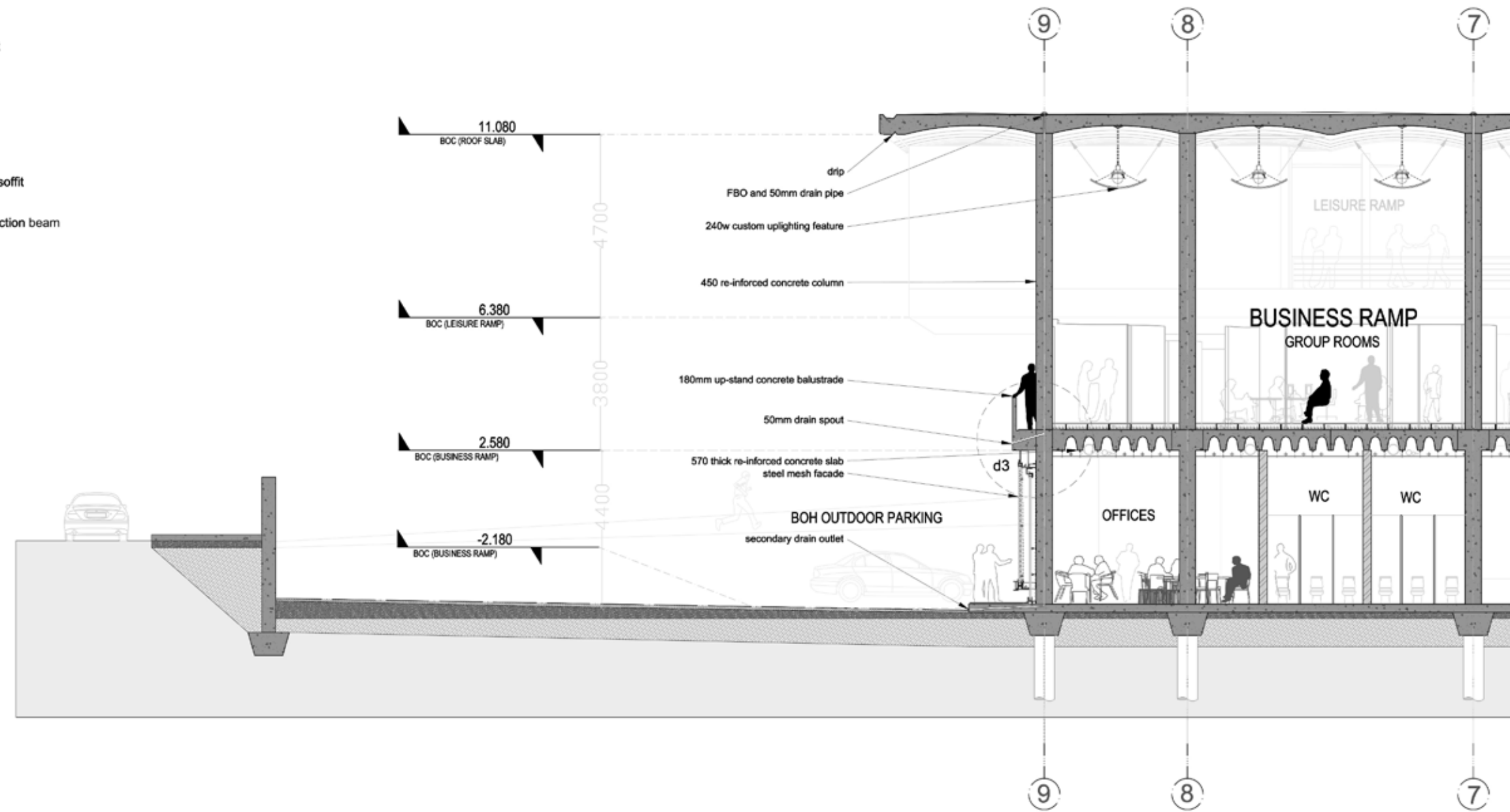
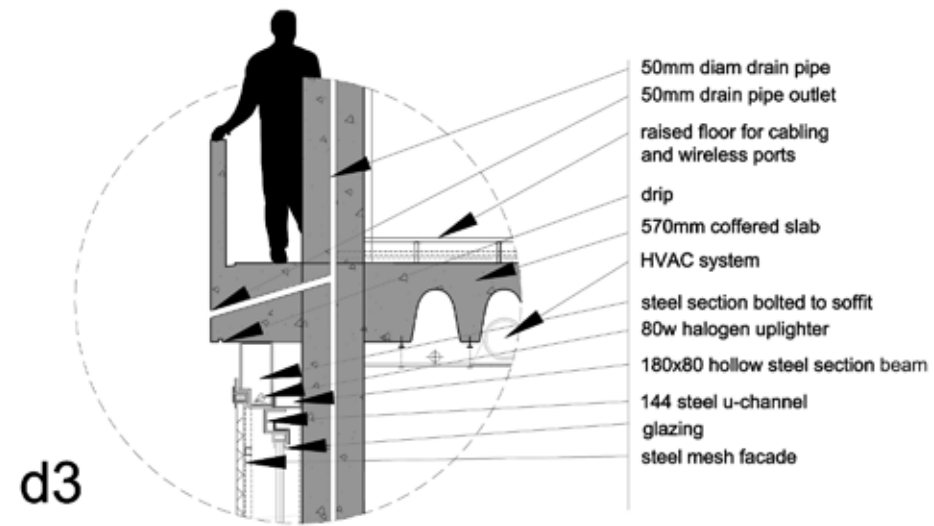
2 LEVEL STUDY RAMP, LEISURE RAMP, RE-MIX RAMP, KNOWLEDGE RAMP



3 ROOF PLAN SERVICE ACCESS







SECTION CC

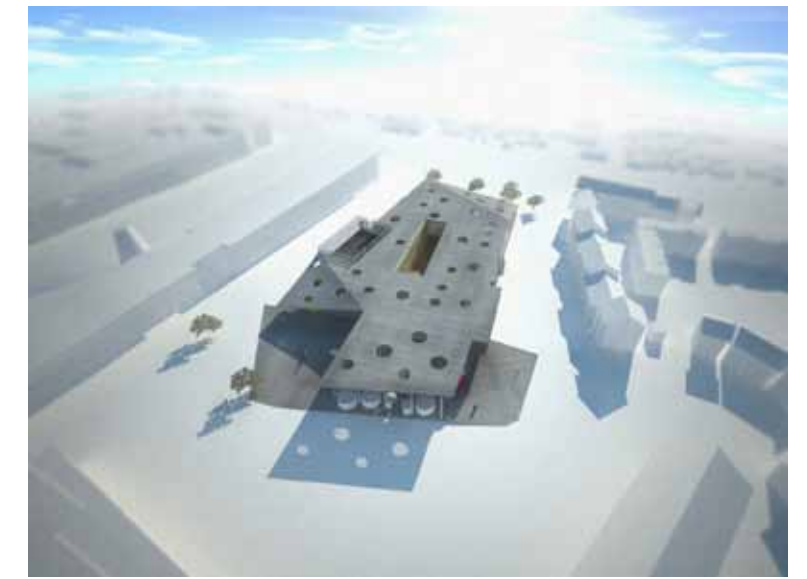
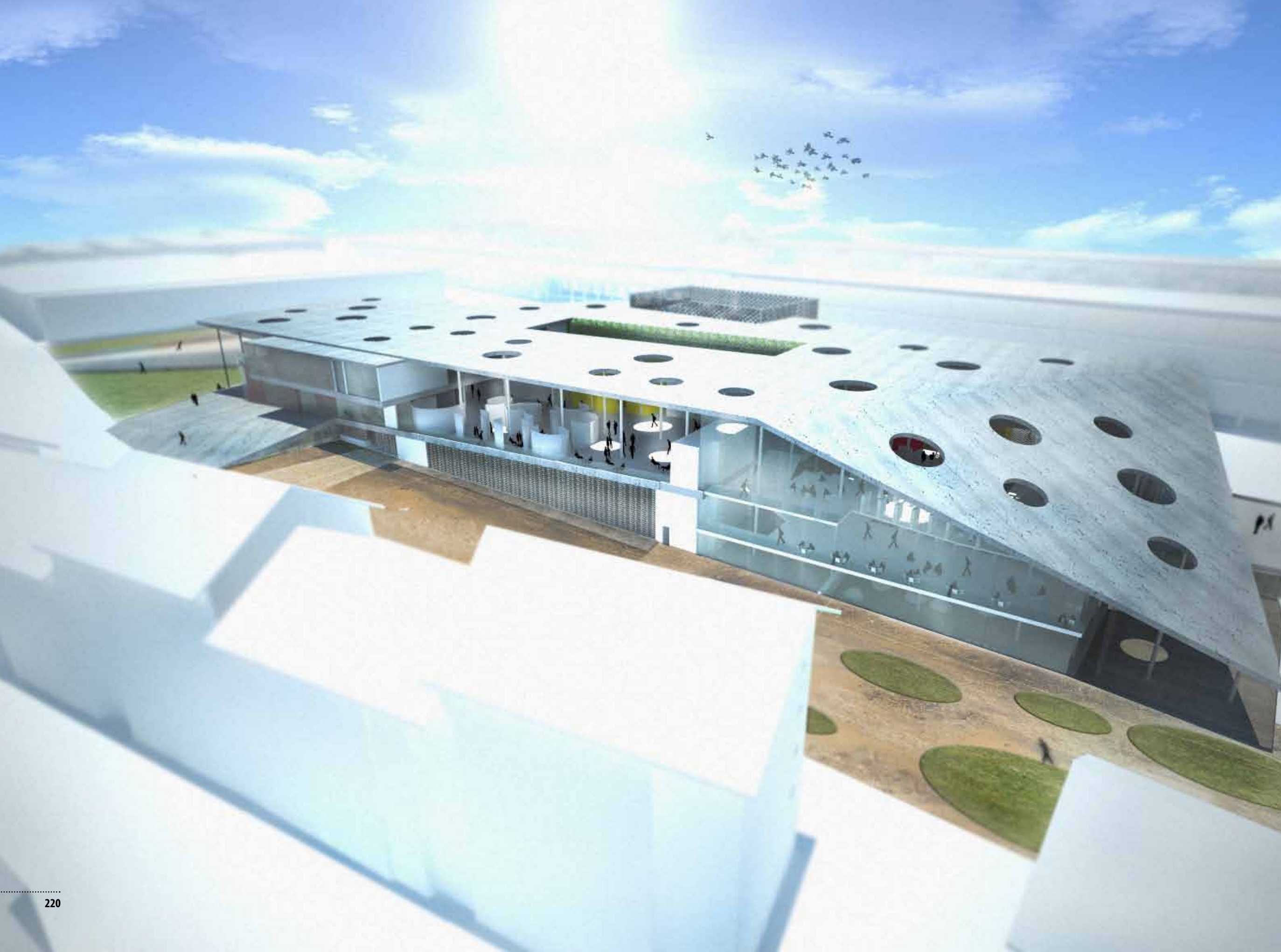


SITE PLAN





VIEW NORTH-EAST (above)
VIEW NORTH-EAST (left)



VIEW EAST (above)
VIEW SOUTH-WEST (left)



VIEW NORTH



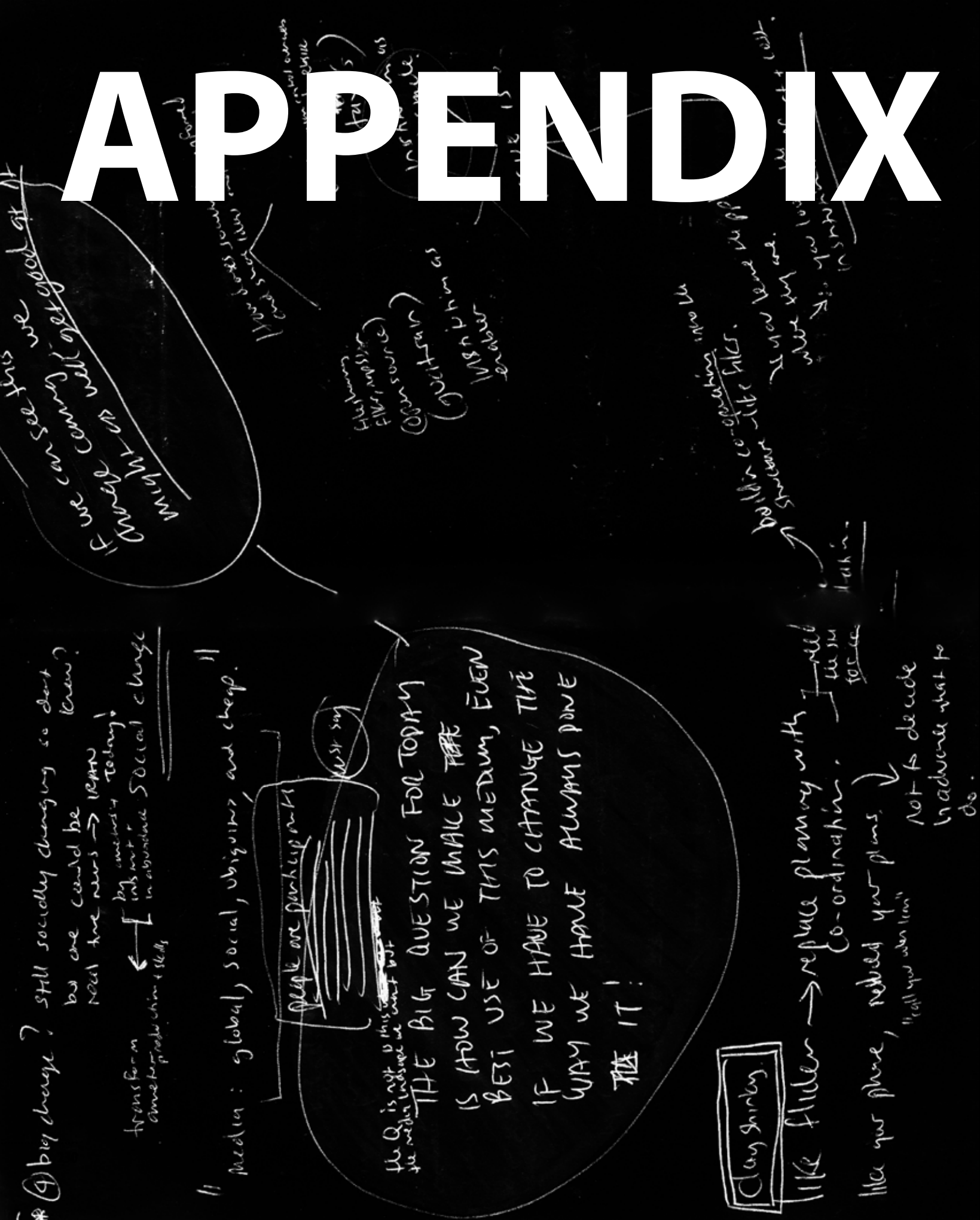
VIEW WEST (above)
VIEW EAST (left)





VIEW NORTH WEST

APPENDIX



Mike Lee never cared much for school. His true passion was drawing. He filled up notebook after notebook with sketches of cartoon characters. At age seventeen, Mike dropped out of high school; but he continued to draw on his own and to help kids at a local elementary school learn how to draw.

A year or so later, Mike's mother was participating in a teachers' workshop at the Computer Museum in downtown Boston. She mentioned to the staff that her son was artistically talented, but she was worried because he was unemployed and not using his talents. They told her about the Computer Clubhouse, a new after-school center where inner-city youth could work on computer projects. They said the Clubhouse needed volunteers and suggested that she encourage Mike to apply. Mike was skeptical. "I had never touched a computer before," he remembers now. "I didn't think of them at all." Mike's mother argued that volunteering at the Computer Clubhouse—and learning to use computers—might lead to a good job. Mike shrugged: "Whatever."

On Mike's first visit to the Clubhouse, staff member Noah Southall showed him how to use a digital camera to capture one of his comic-book drawings on the computer. Then, he learned how to use PhotoShop to color in the drawing. Noah asked Mike to become the first official Clubhouse "mentor." For the next two years, Mike came to the Clubhouse regularly. "At least four days a week," he says.

SHORT STORY
A short story about one student of the Computer Clubhouse in Boston, USA. Extracted from *High Technology and Low-Income Communities*. (Schon 1999:266)



All unreferenced photographs in this document is the work of
Guy Adam Ailion and Andrew Bell.

All unreferenced graphic work in this document is the work of
Guy Adam Ailion.

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Dirk Bahmann (conversations)
Emmanuel C. Pratt (conversations)

EVERYWHERE IS HERE
Architecture and a developing
information society.
2009

An Architectural dissertation
by Guy Adam Ailion
M.Arch(prof)
University of the Witwatersrand
Johannesburg
South Africa