國立交通大學

建築研究所

碩士論文

in-Between the multidimensional connection of architecture

間/介 建築的多向性連結

研究生 刁國緯指導教授 張基義

中華民國一百年二月

ABSTRACT

協同學 (Synergetics),是研究不同事物共同特徵及其協同機理的新興學科。它著重探討各種系統從無序變為有序時的相似性。在客觀世界存在著各式各樣的系統;社會的或自然界的,有生命或無生命的,宏觀的或微觀的系統等等,這些看起來完全不同的系統,卻都具有深刻的相似性。每個設計案的初始階段,不管是從物件原理的觀察,透過科學方法的研究,或是從文化現象,環境紋理開始,試圖去發現這些現象和建築之間背後隱藏的關係,建構一種設計創作的手法,透過抽象概念的連結關係,和真實的建築空間相互指涉。

帕拉迪歐曾說:「美是源於形式,以及整體與幾個部門之間的配合。各部門之間和彼此之間的聯繫,以及這些部分又和整體產生一致性。」小至一個物件,大至一個量體,它的存在不單單只是一個獨立的個體,因為很多外在的條件和因素造就個體形式和機能的產生。因為兩者之間存在的某種連結,個體也便賦予了意義。

In-Between 是一種設計的過程,也是試圖重新建構和理解建築空間的手段。從不同的系統和架構(物件/文化/過程/基地紋理/行為)來從新定義理解建築空間並賦予新意。



Synergetics an emerging interdisciplinary field, deals with material or immaterial systems, composed of, in general, many individual parts. It focuses its attention on the spontaneous j e. self-organized emergence of new qualities which may be structures processes or functions. The basic question dealt with by Synergetics is are there general principles of self-organization irrespective of the nature of the individual parts of a system?

Every design project seeks to entangle the relations between the architecture and the phenomenon behind in the first place, irrespective of via observation, scientific research, cultural observation or environment. The purpose of this method aims to create a design concept through the relations between the abstract, or the concept and the reality, or the architecture space.

As Andrea Palladio ,the most influential Italian Renaissance architecture said ,beauty originated from forms and the coordination between the individual and the whole sectors As result ,the consistency will then be created out of this formula .

In addition, Palladio also believes the existence of any material, no matter it being small as object or massive as architecture is not just an independent object. However its appearance and functions are created by many inter related conditions. And this is what makes this piece of object meaningful.

In-Between is not just a design process but more of a means seeking to re-construct and re-comprehend the space. This means aims to redefine the space via different system and structures which include object, culture, process, context and action.



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Fabrication

The reading room

Bibliothèque

05LIGHTER

A lighter is a portable device The reading room is a used to create a flame. It consists of a metal or plastic weight of the book case container filled with lighter fluid (usually naphtha or liquid butane under pressure), as well as a means of ignition and some provision for extinguishing the flame, by depriving it of either air or fuel.

07WIND CATCHER

A lighter and a tag gun are to combine to form one new function. This writing machine is used to record the intensity of wind.

11METRO CATCHER

This device is used to put between the earth's surface and subway. the wind pressure which bring with the metro would start the device. It will reflect the situation that the metro gets to the station or not to the surface. Lattempt to link up and doww by this writing machine.

15UNDERSKY

mechanism to chang the though fetching and showing interpersonal relationship. the book. This reading room How do we re-define in the would be put between two the estrangement betwween beings and books, or each floor by using this reading room.

25NETLIBRARY

Starting with the loan form on the back of the book, each of them implies some implicit present libraries the buildings. I attempt to break relationship between human between human beings themselves? As far as I am concerned, books are not lasting only for knowledge preservation and information communication.Instead, they are as highly important tools to connect people, even as an instrument to break the gap between different spaces. Library is just like mass architecture network, combining spaces, and connecting souls.



NCTU Fall&Winter Design Studio 2008 March I 2ed years Advisor: David Tseng

Bibliothèque / in between object

In French, the term "biblio" was defined as "booked" or "biblical", whereas "theca" was interpreted as membrane, shell, bag, or box. Nowadays library is an indicator of access to unlimited sources and information with a wide variety. It not only provides resources but professionals and librarians to help find information and explain information needed. In recent years people's understanding of library has changed to an extent that transcends "the wall of architecture". Readers get resources via electronic tools; librarians guide readers and analyze huge knowledge by using various mathematic calculators. Therefore, what exactly is a library? What can people read? This is the subject we delve into.

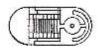


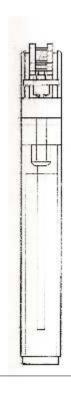
Fabrication 1

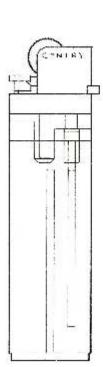
Object

LIGHTER

A lighter is a portable device used to create a flame. It consists of a metal or plastic container filled with lighter fluid (usually naphtha or liquid butane under pressure), as well as a means of ignition and some provision for extinguishing the flame, by depriving it of either air or fuel.

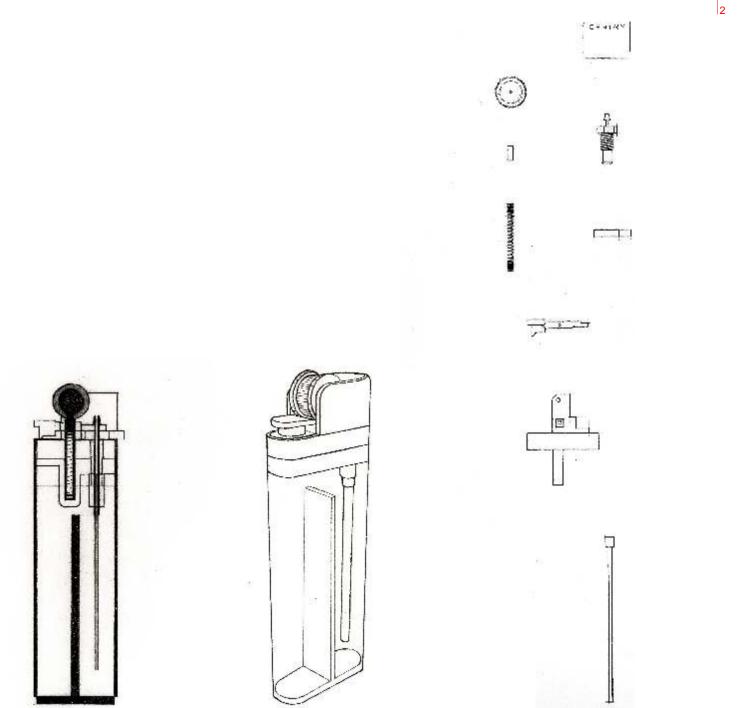






Plan/Section/Decompose





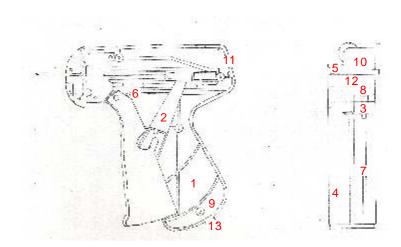


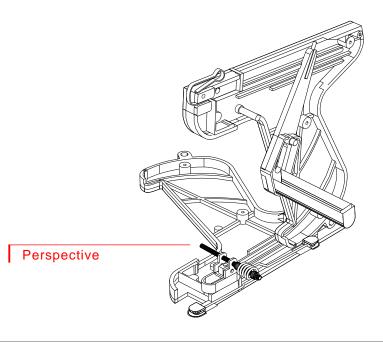
Fabrication 3

Writing machine

WIND CATCHER

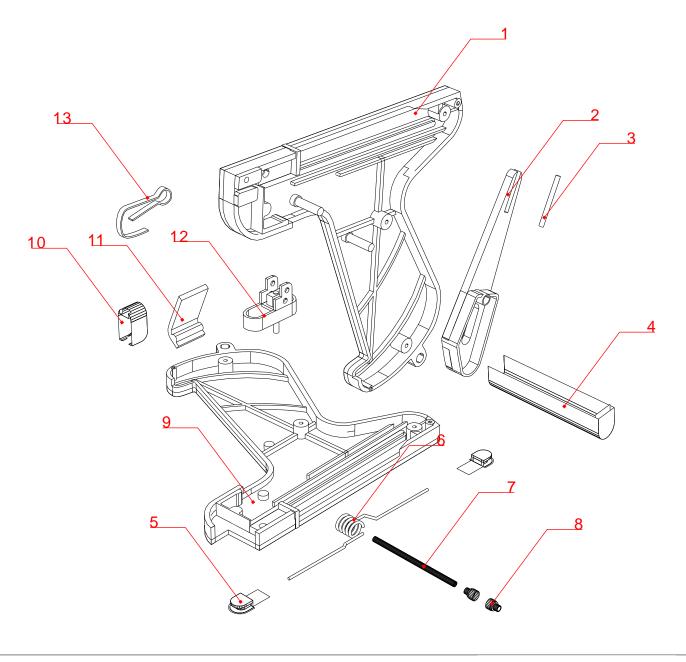
A lighter and a tag gun are to combine to form one new function. This writing machine is used to record the intensity of wind.



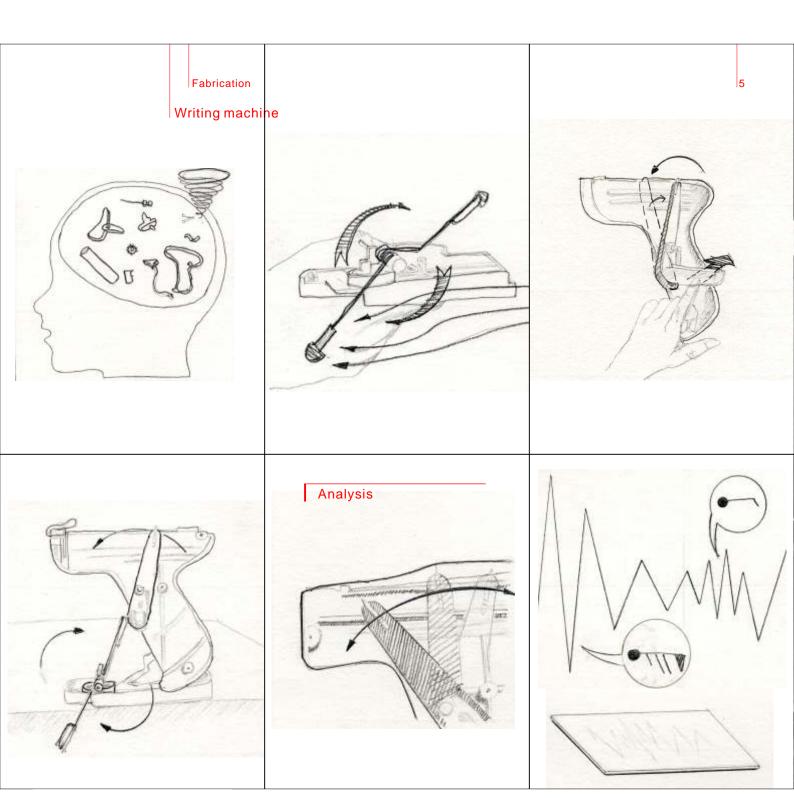


Explosion

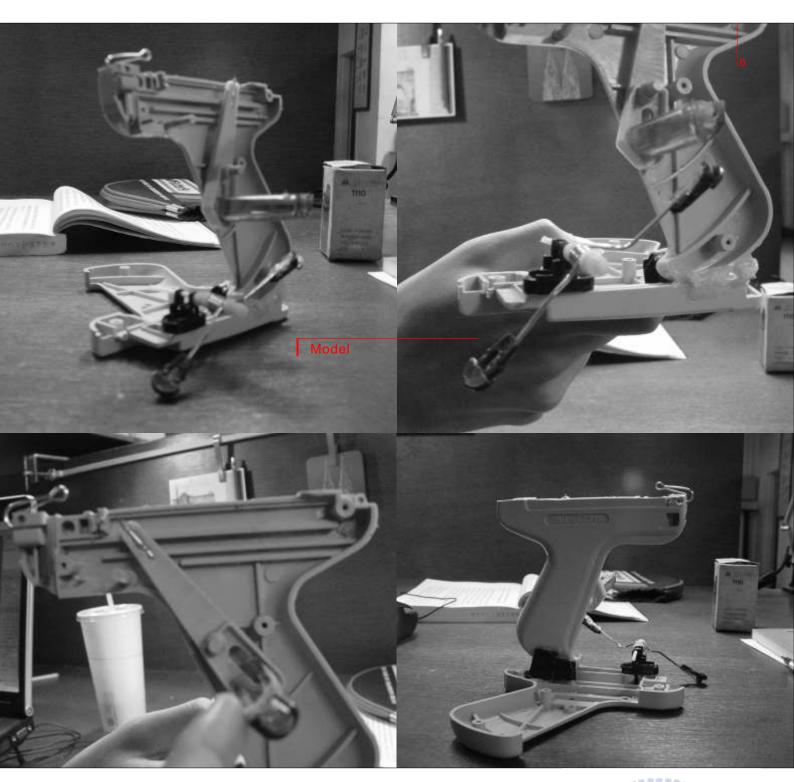




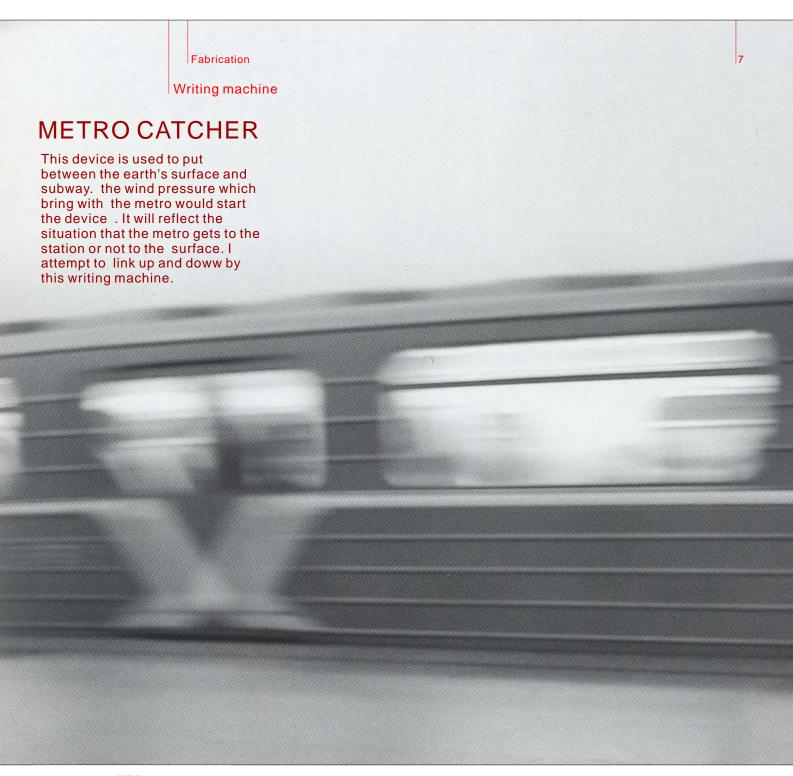








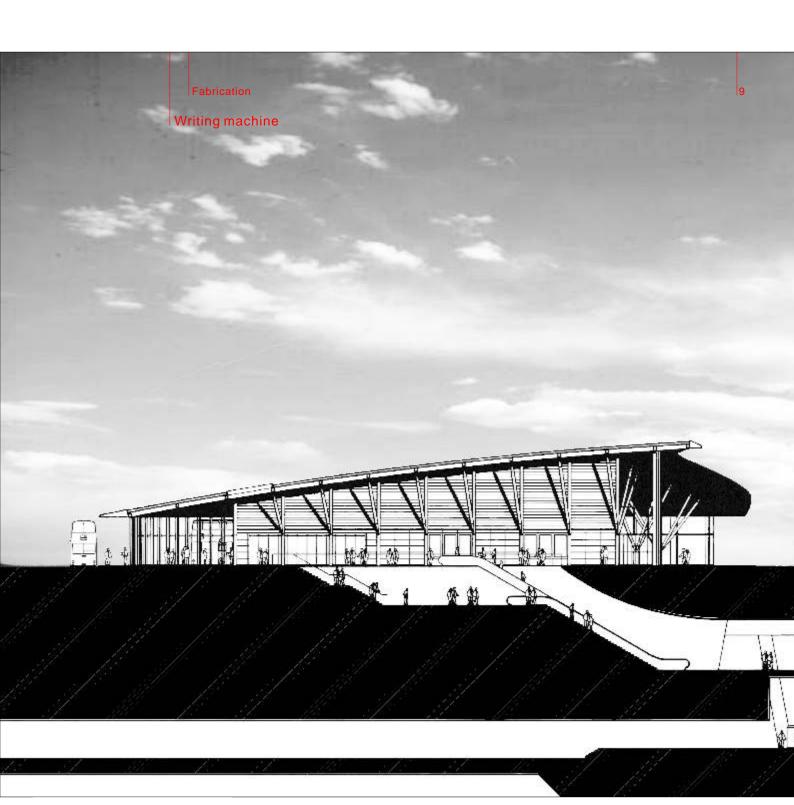




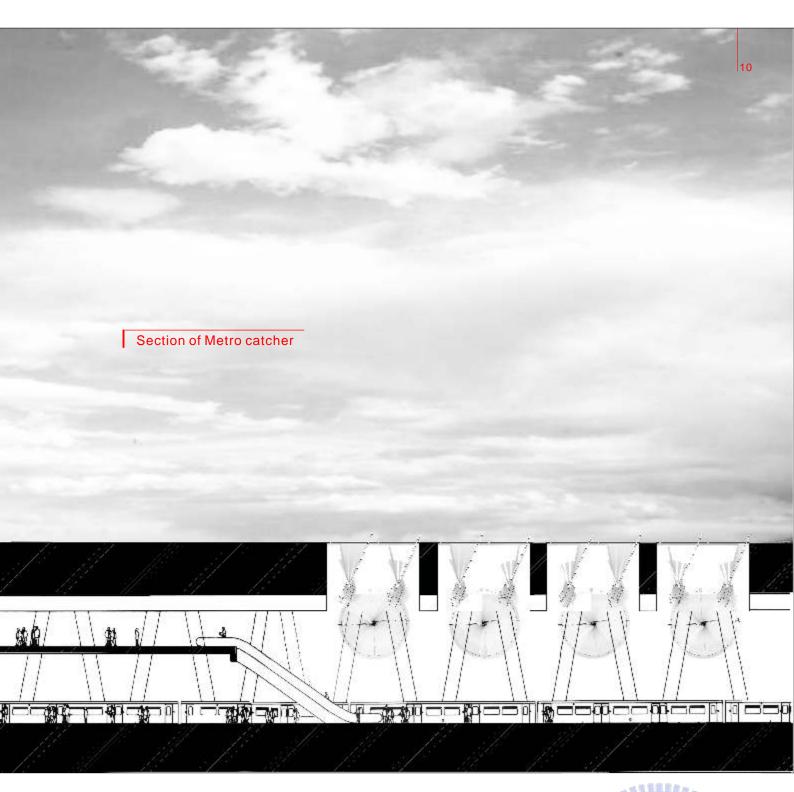














The reading room

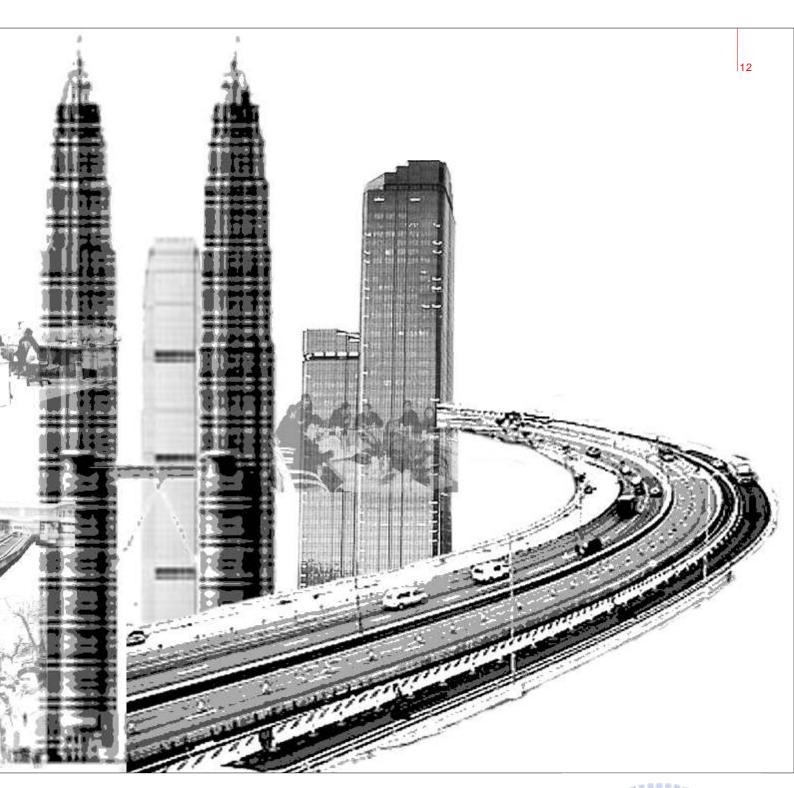
3x3 reading space

UNDERSKY

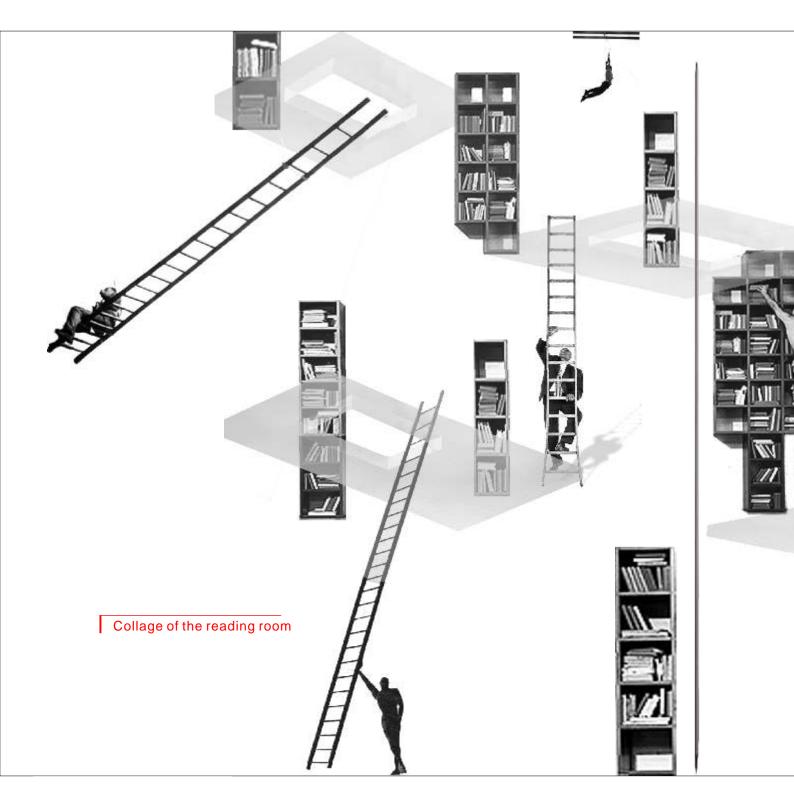
The reading room is a mechanism to chang the weight of the book case though fetching and showing the book. This reading room would be put between two buildings. I attempt to break the estrangement between each floor by using this reading room.

Collage of the site

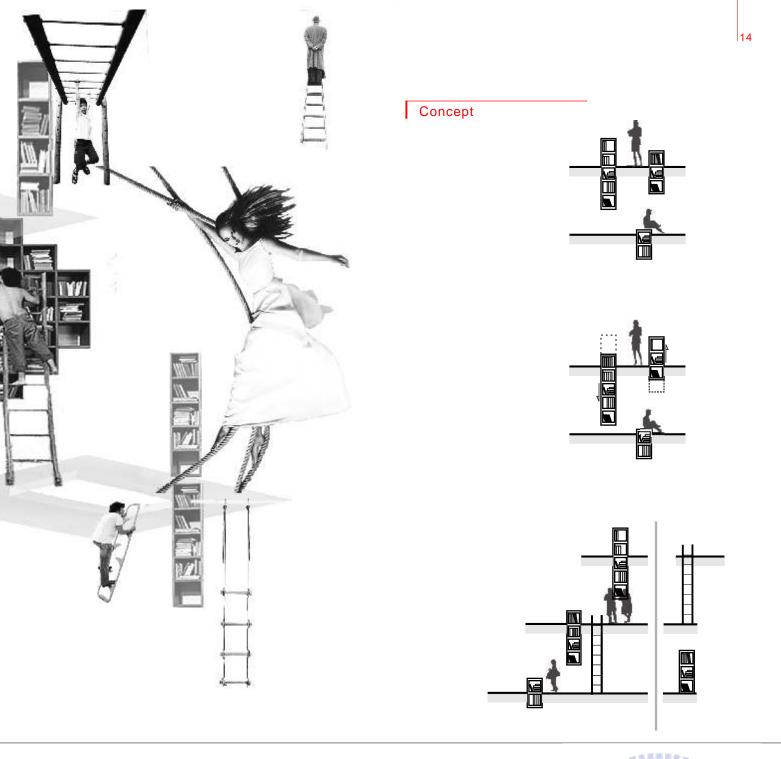




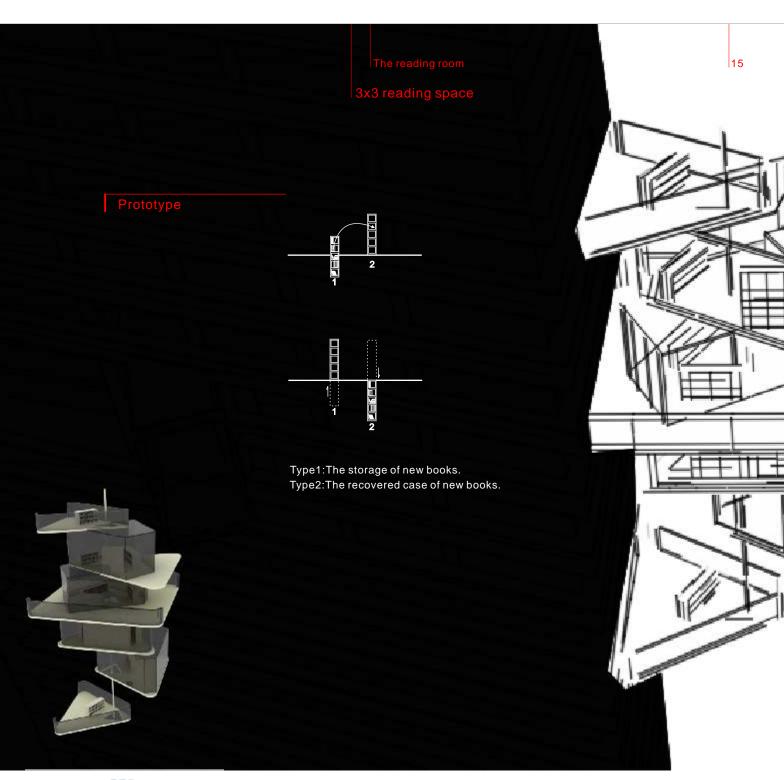






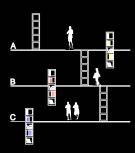




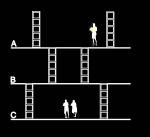


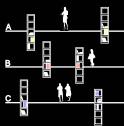






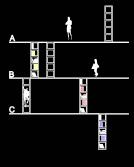
The floor of A,B,C all have one type 1 and one type 2.





There will be the most channel when all books are taken.

There will be no channel when books become balance between type1 and type2.

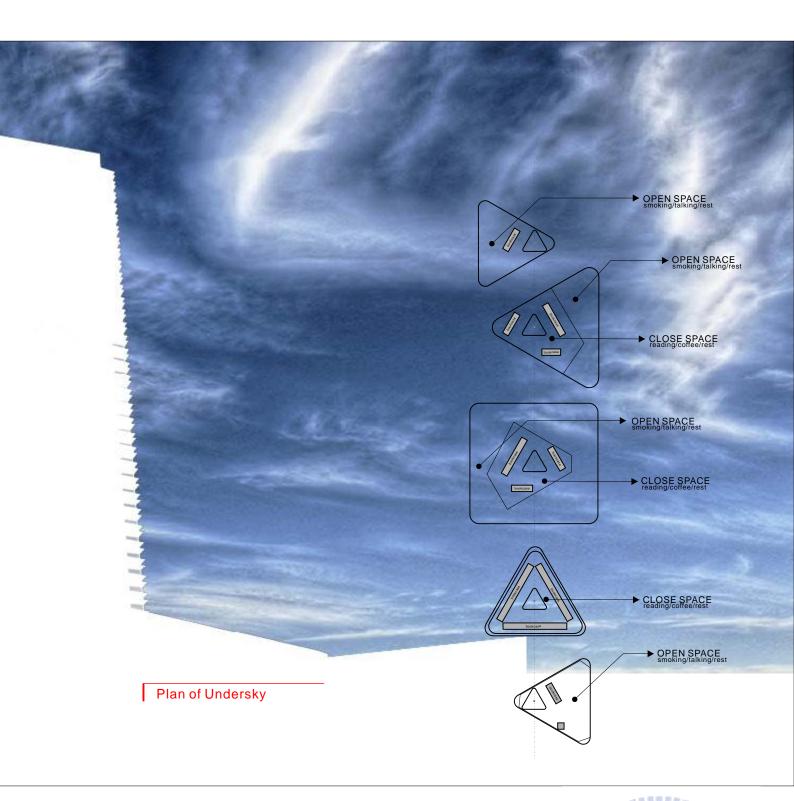


New books change from upper floor to lower floor when books in type1 change to type2.

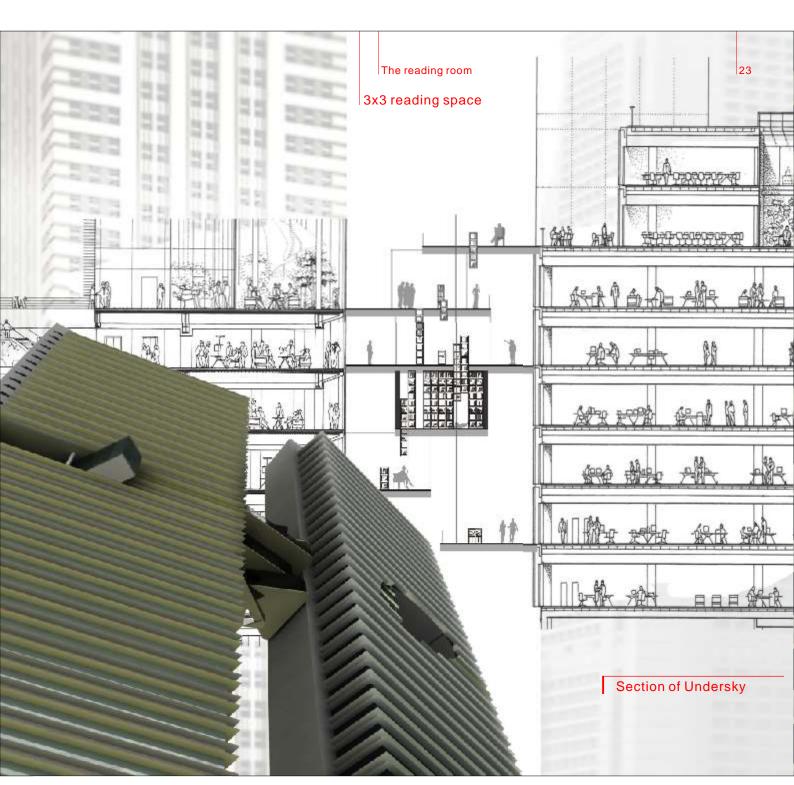




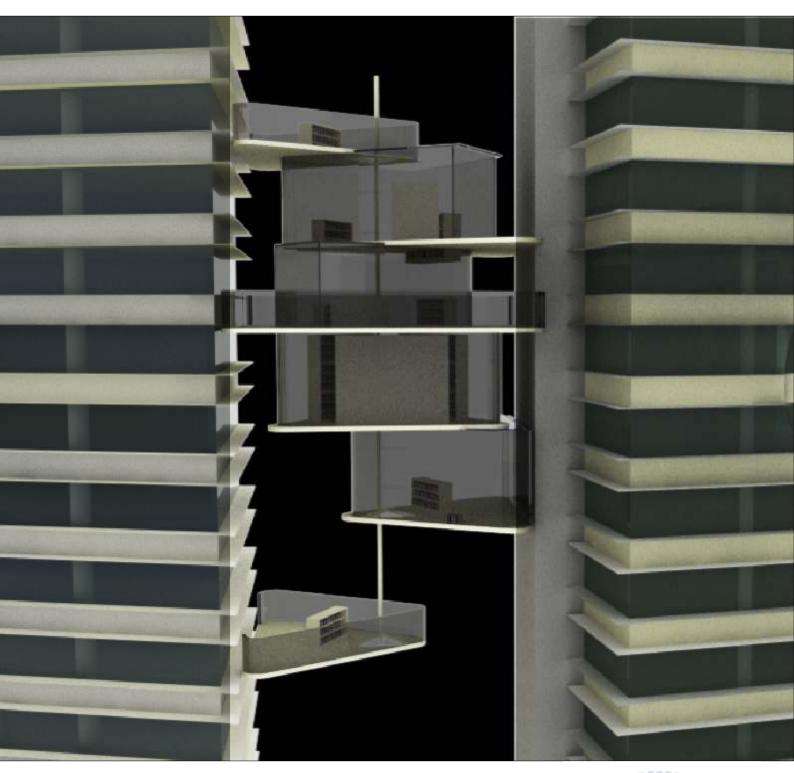




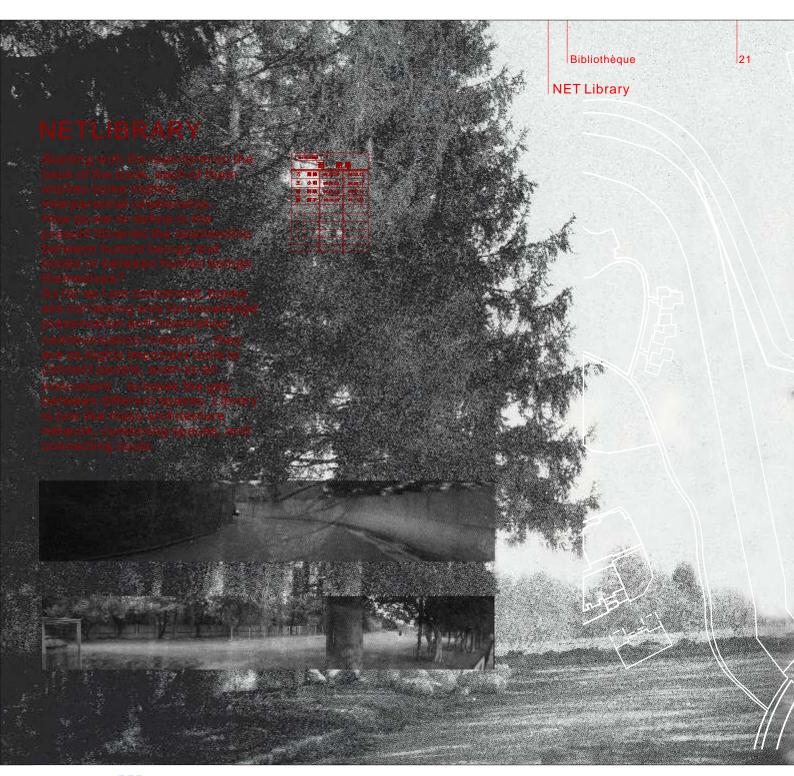




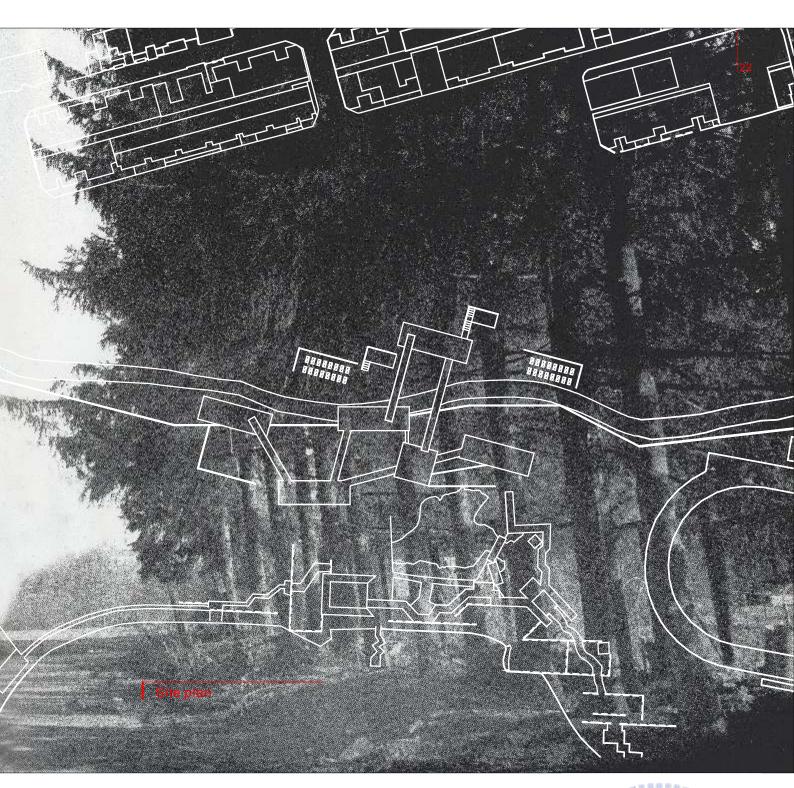














Bibliothèque

123

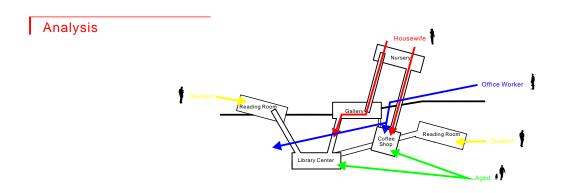
NET Library

Concept

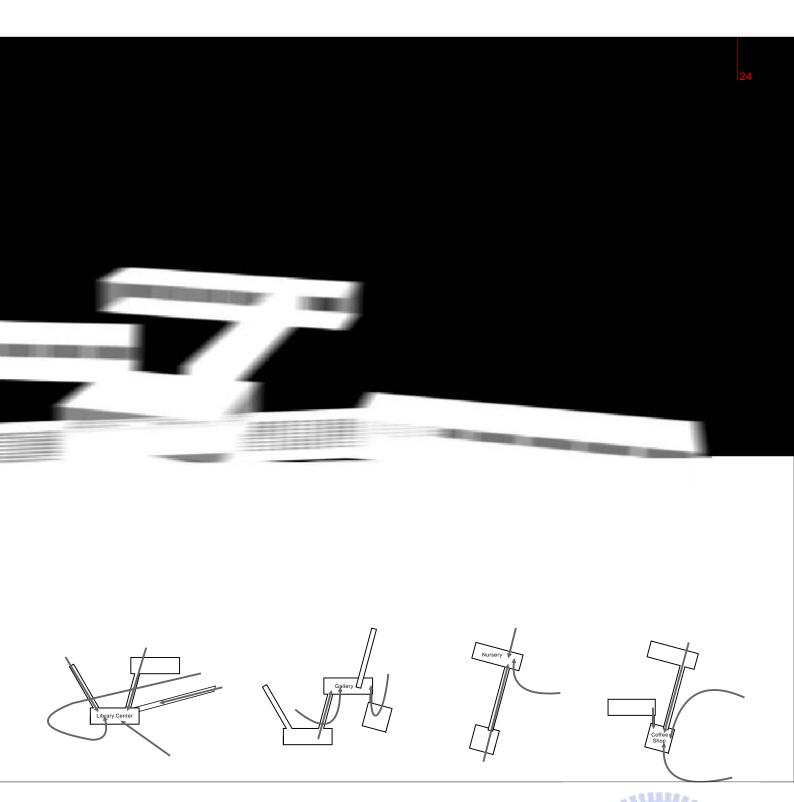




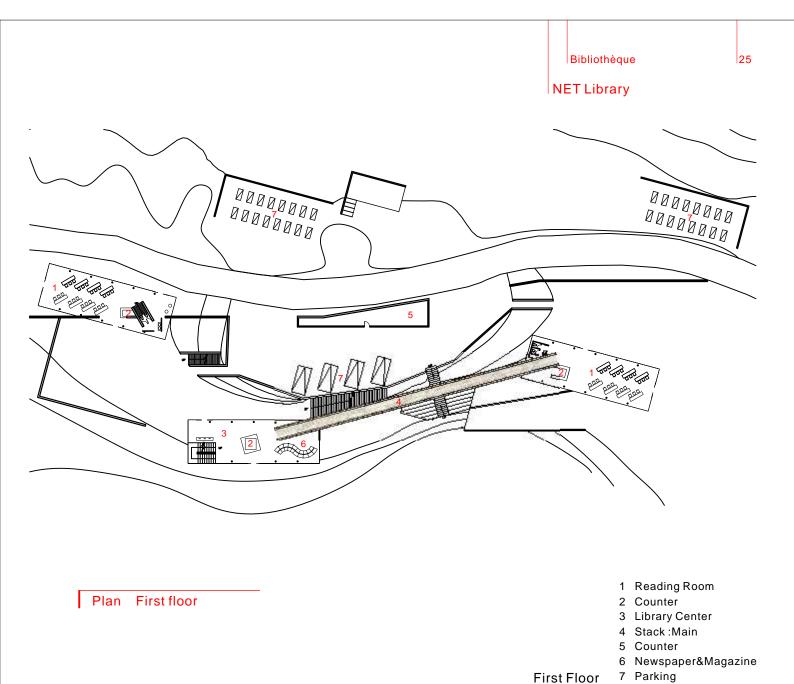
Books are a kind of tool to connect PEOPLE and SPACE.





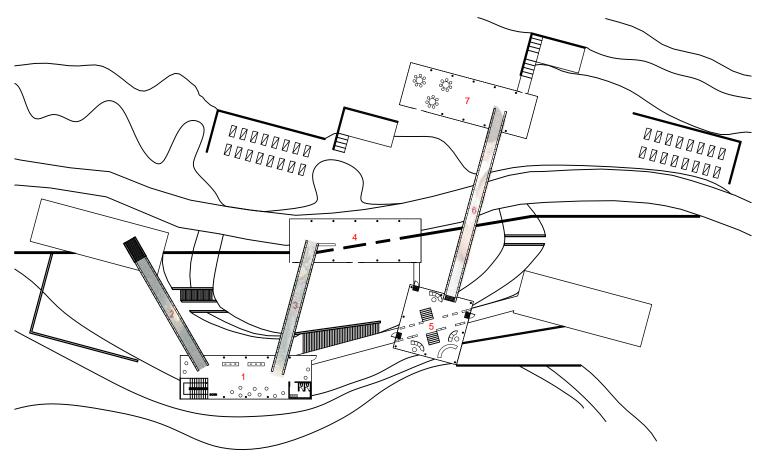






First Floor





Plan Second floor

- 1 Information
- 2 Stack:Science
- 3 Stack:Art
- 4 Gallery
- 5 Coffee Shop
- 6 Stack:Woman,Family,Cooking

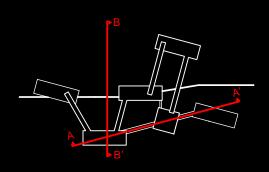
Second Floor

7 Nursery





Reading Room

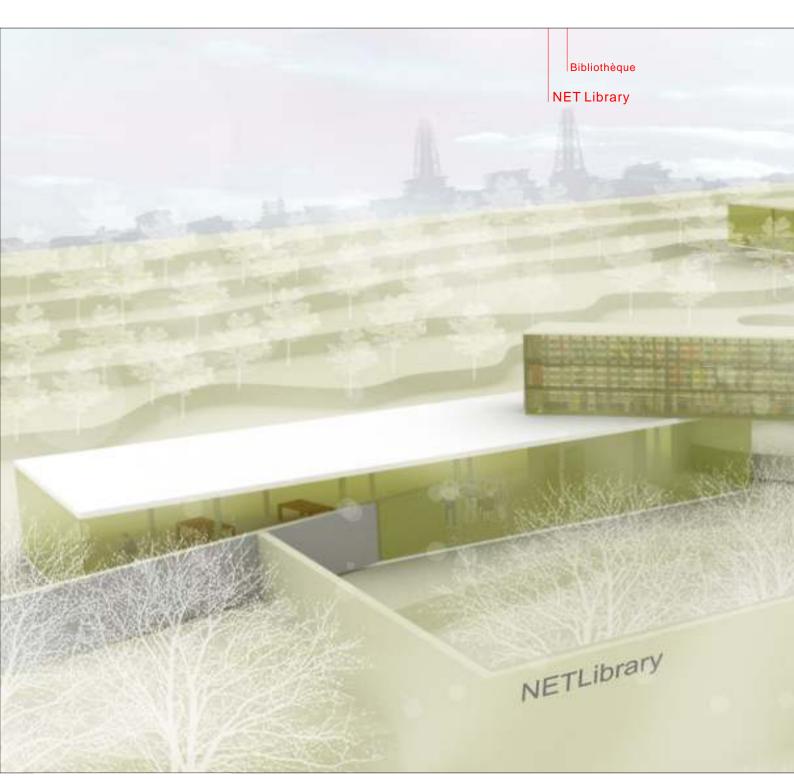


Section Scale:1/400















Tamshui Stage

3C Mall

37TURNIP STRIP

Turnip strip, a common local The posted notice or graffiti cuisine offered in the end of winter or early spring, is a symbol of prosperity in aims at presenting the structural display of turnip strip via grashopper research.

47A SYMBOL:3C

on the streets can be seen as a means of communication in urban dwelling. For instance, Taiwanese culture. The case the promotion notice posted outside a 3c mall always provides useful information for consumers. In this project, the case seeks to link the design layout and post-modernity. What the approach seeks to stress is that space image comes before space form, namely, employing the symbolic signs to communicate with the public. Taking 3c symbols as examples, such information can only be read via certain direction. From this perspective, information would be understood only when it is needed.



NCTU Spring& Summer Design Studio 2010 March I 3rd years Advisor: Ying-Chao Kuo

Reappearance / in between culture

What is so-called 'Taiwan culture?" The so-called 'Taiwan culture,' I believe, can be found in forgotten things or those we are familiar with, whether in a city or countryside via photo-taking during traveling. Through computer technology, these forgotten things can reappear or even revitalize. In this way, there is no denying that computer technology plays a essential role when it comes to architectural design.



Taiwan image

TURNIP STRIP

Turnip strip, a common local cuisine offered in the end of winter or early spring, is a symbol of prosperity in Taiwanese culture. The case aims at presenting the structural display of turnip strip via grashopper research.

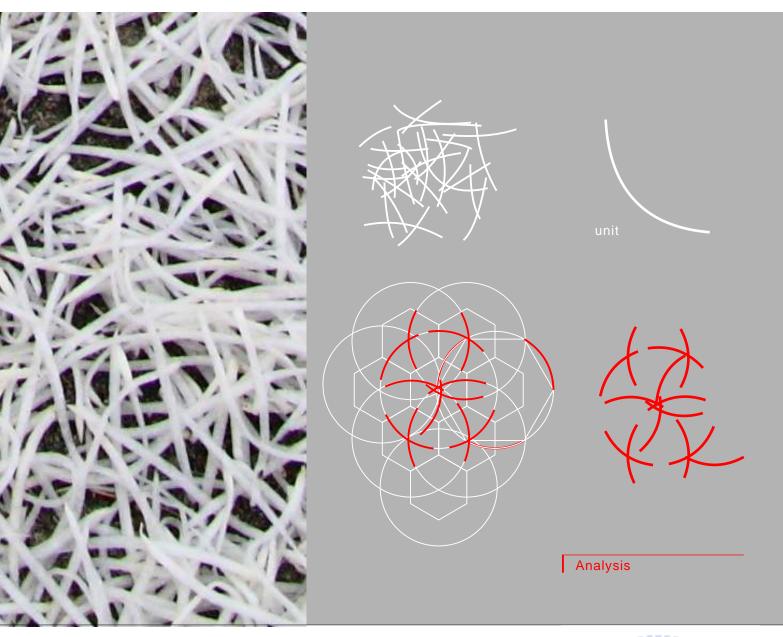




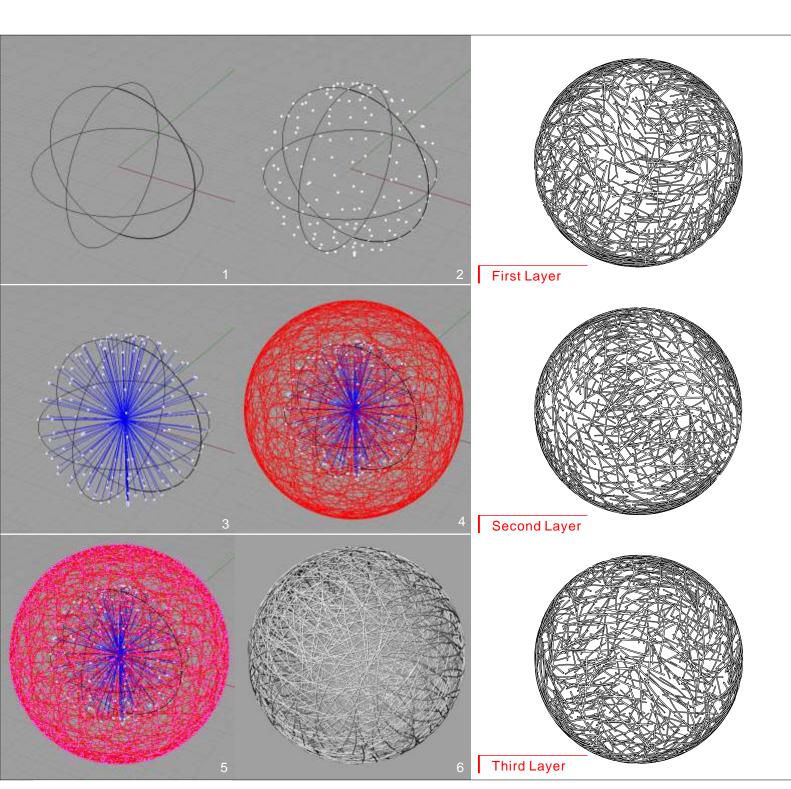




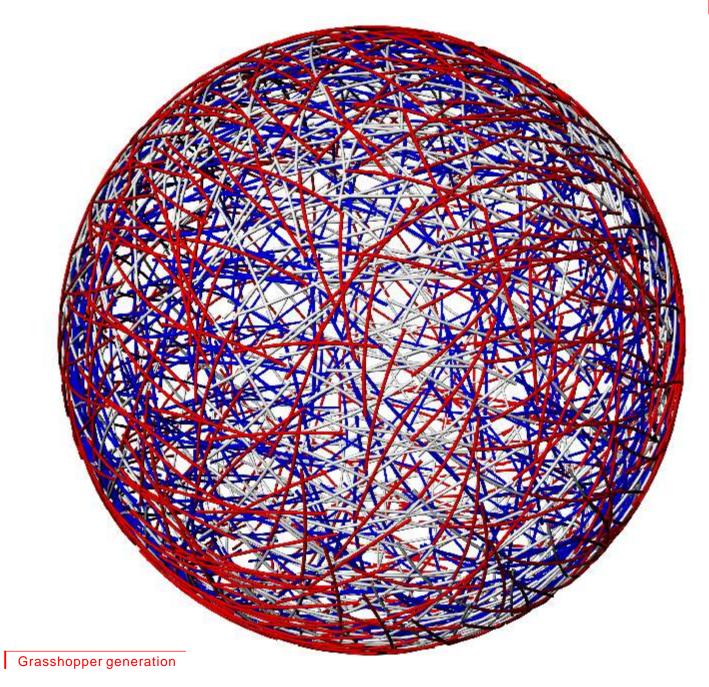




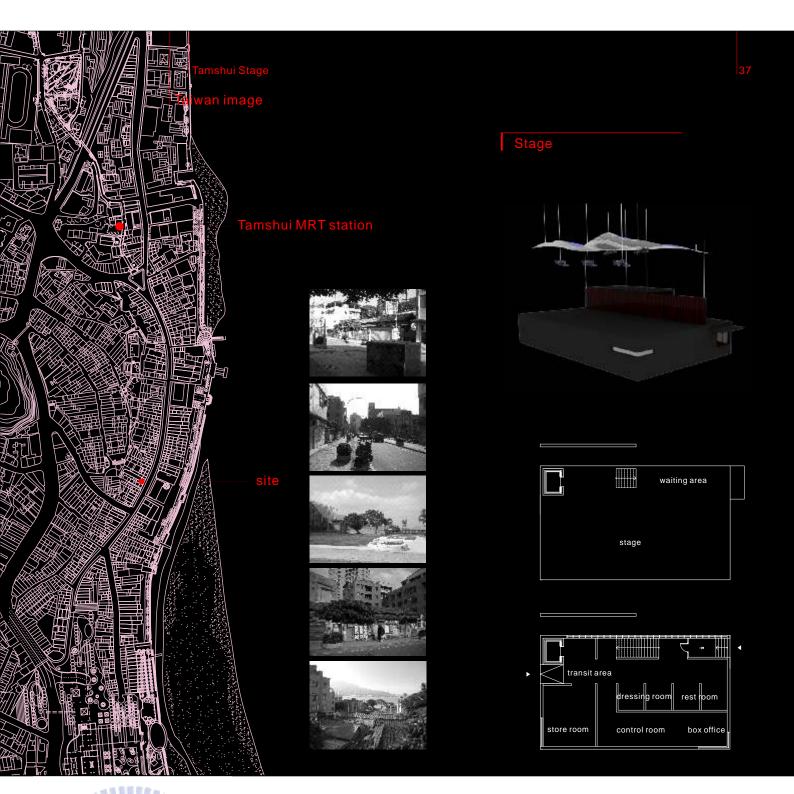




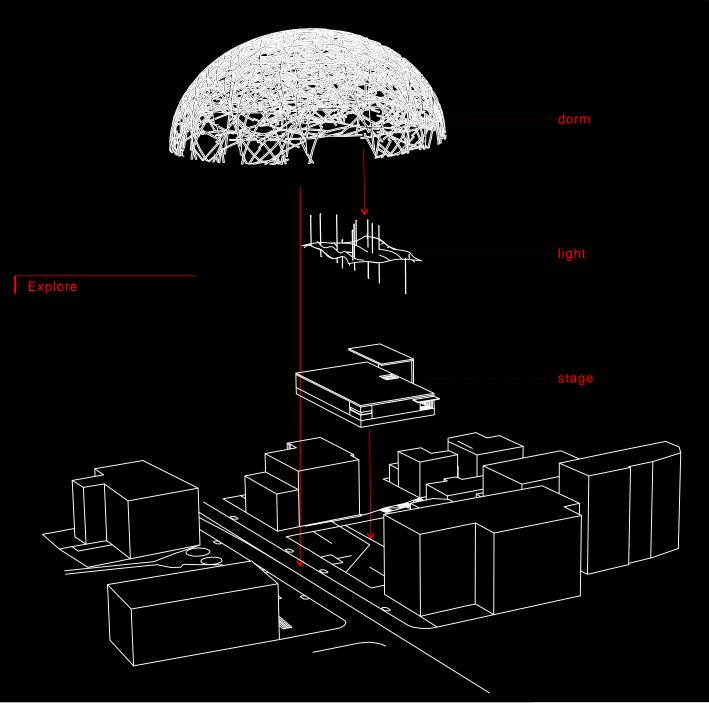




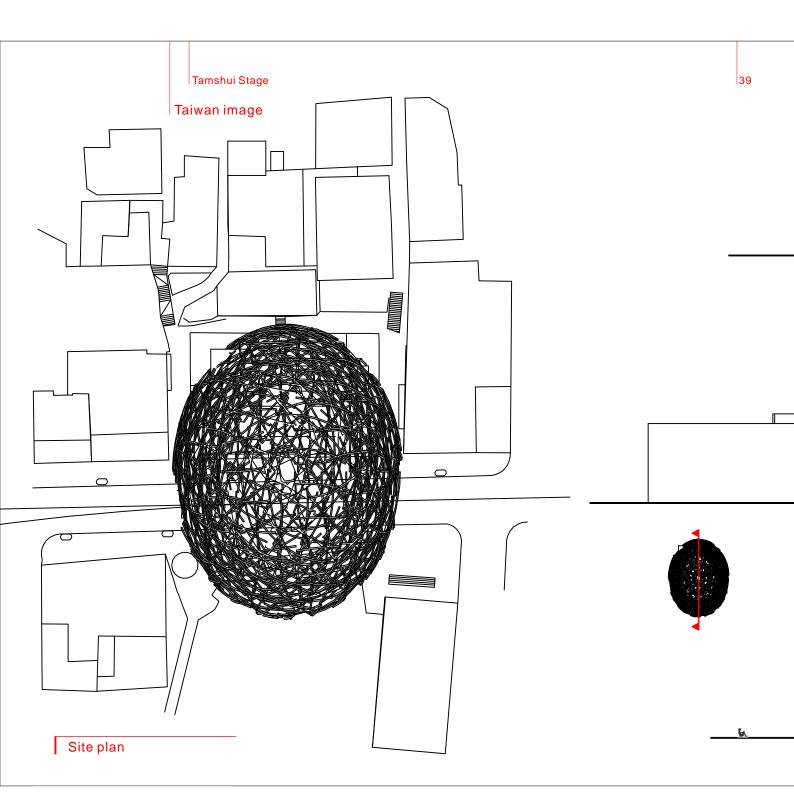




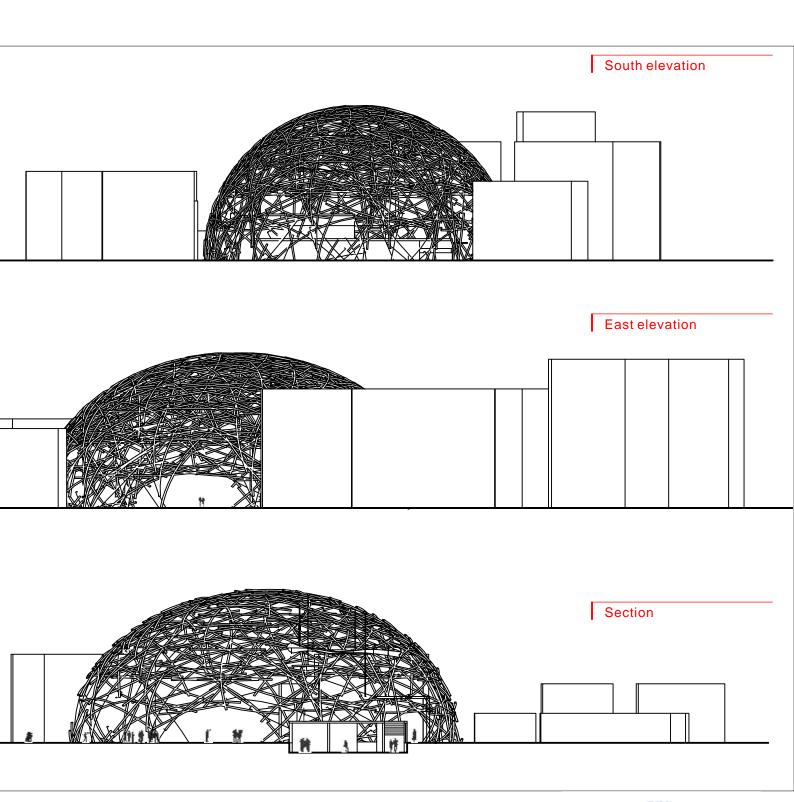








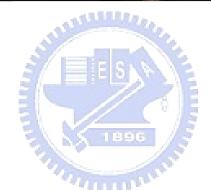






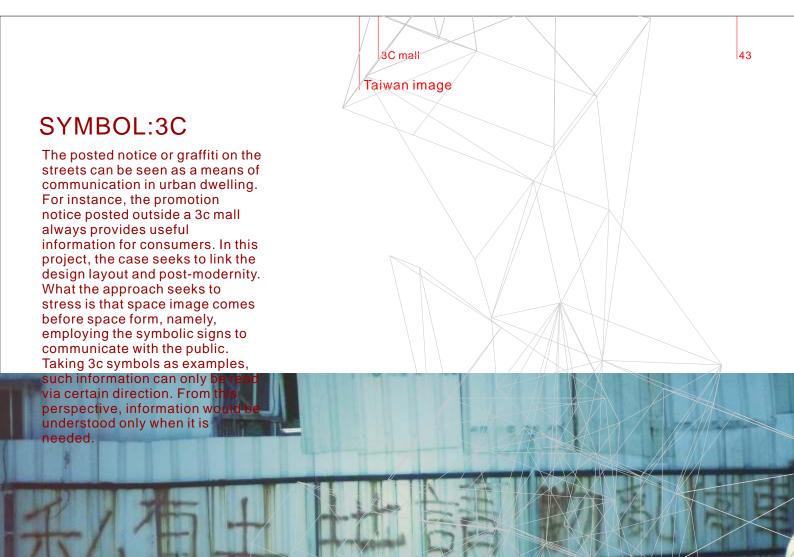






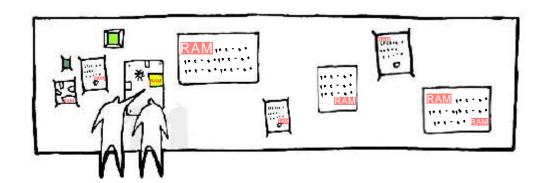








Information



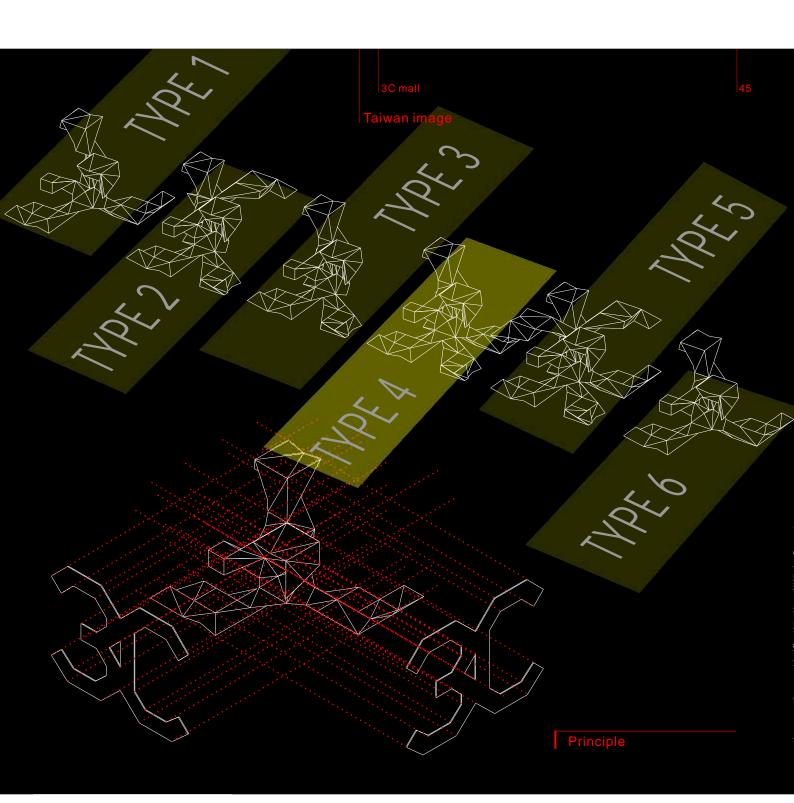


3c malls

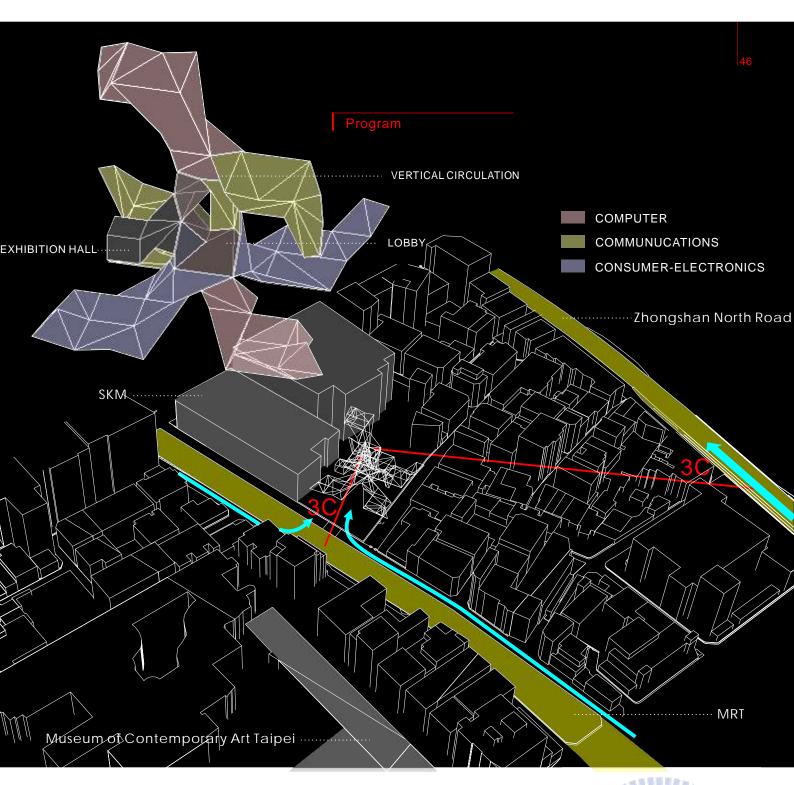


urban language

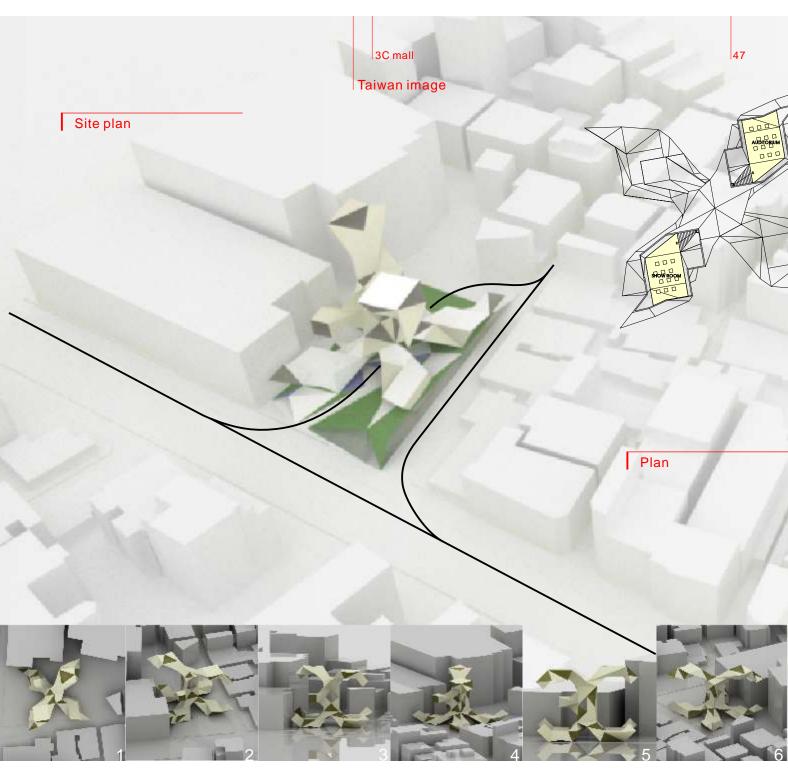




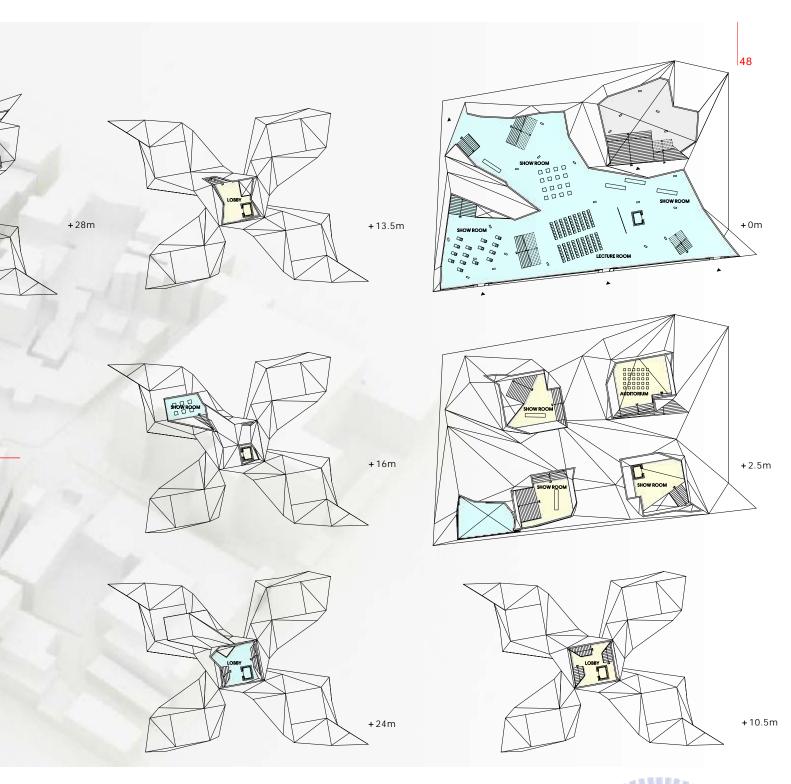




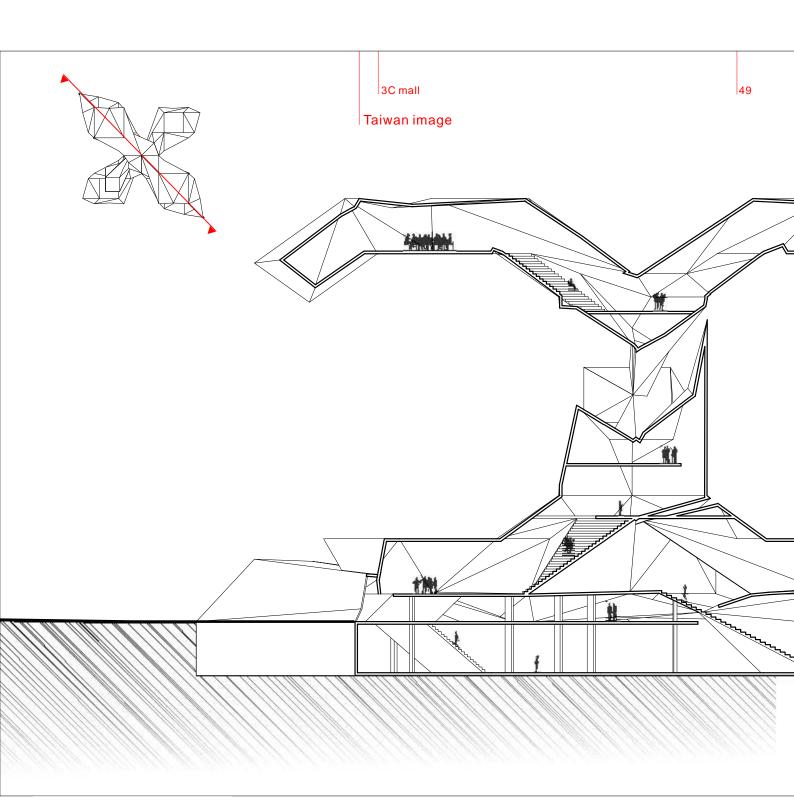




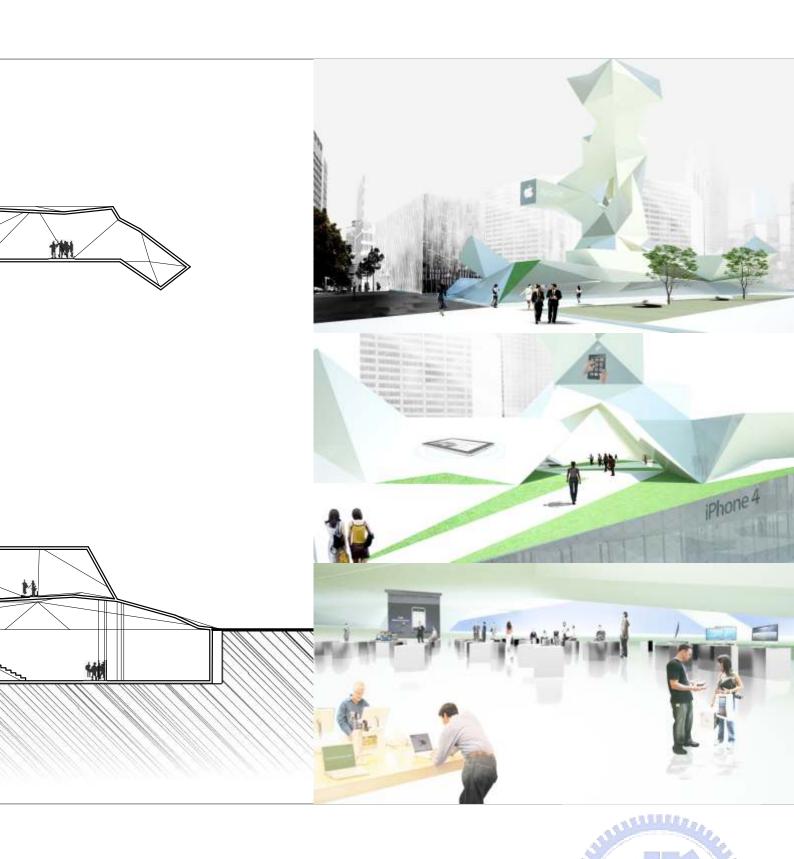


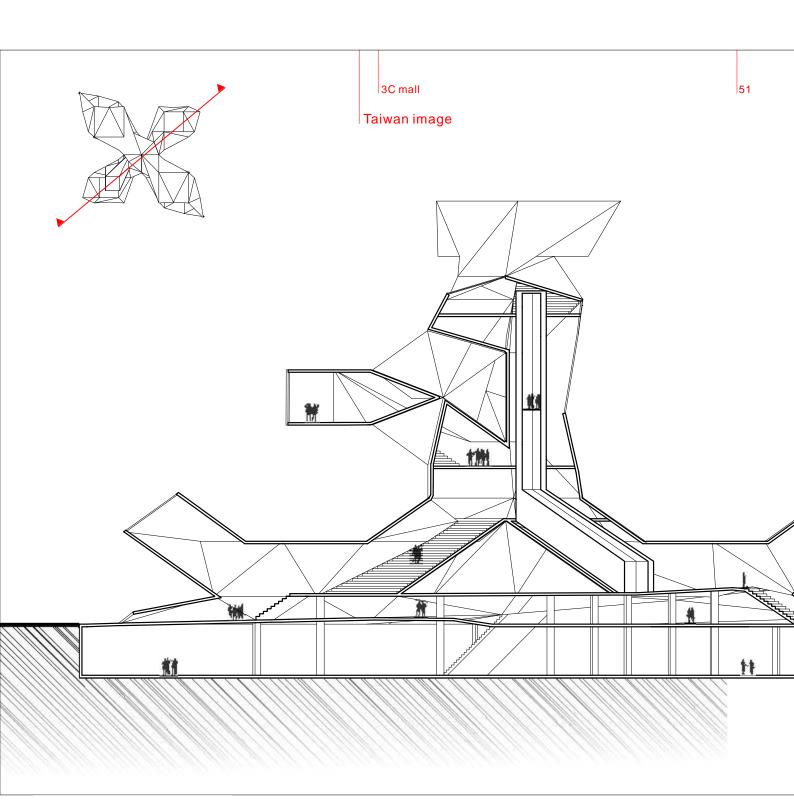




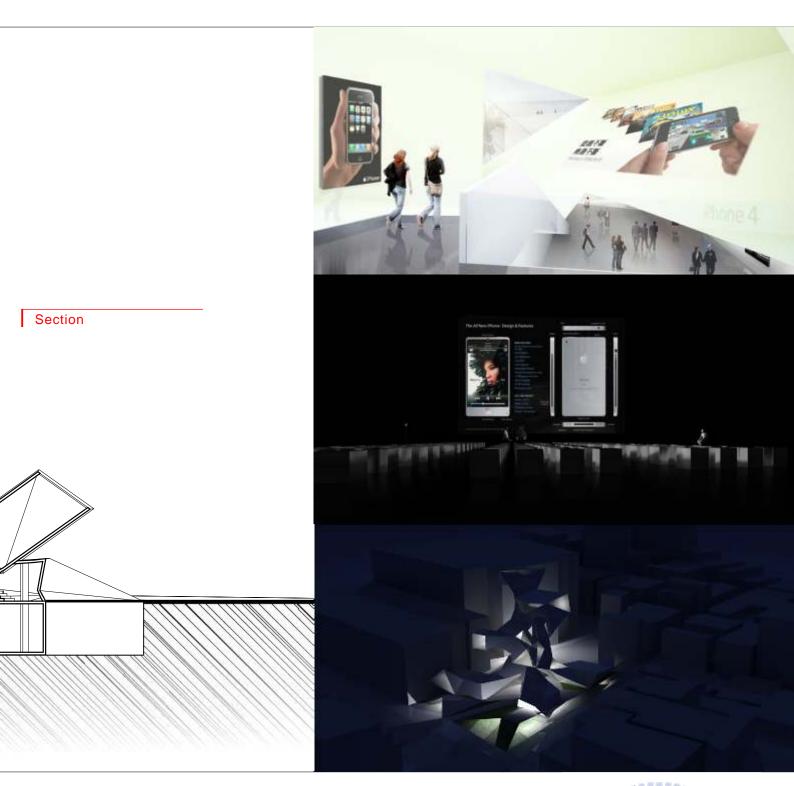




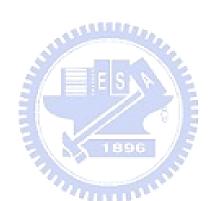












Experiment

Site

Pavilion

59FIBER

composed by two types of fibers—flat and circular fibers respectively. The flat fiber is the source of the paper's physical properties while the circular one decides whether it is waterproof.

61DIFFUSION

To define the hardness degree in the paper, an experiment using ink diffusion to observe the connection between paper fibers and diffusion can be employed.

69HUASHAN PARK

Paper, generally speaking, is Site, located nearby Citizen Viaduct and Xinsheng Overpass, is the old Huashan freight terminal. Observing the site, irrespective it being structuralized by surface railway or underground railway system, the layout of old boundaries. the Taipei city seems to be dominated by the traffic system. And there is a strong likelihood that this system can be compared to the fibers, which are the main components of the paper. The research seeks to look for another fiber to replace the old functions to as to make the fibers diffuse.

71D-PAVILION

Through linking the functions which were cut for long, a new interweaved system will then be presented. The case seeks to examine the Huashan Creative Park to see how to construct a new fiber network by breaking the



NCTU Fall&Winter Design Studio 2009 March I 3rd years Advisor: Chia-Kai Yang

Soft and Hard / in between process

The studio extends the exploration of concept of "soft" in architecture design and urbanism that me and Mr.Lu had taught before. The concept of a soft is been defined as a relative condition that exists in a flux mode, i.e. ever changing state. Dynamic and kinetic phenomenon is more example. Raban's soft city shows that there are two cities co-exist within one geological location, one hard and one soft.

Our studio this semester is aiming at exploring the state of "Softness" in depth in architecture design and urbanism. We will design a small pavilion on Hashan rail yard as a virtual entrance to the city.



Experiment 55

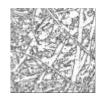
Paper

FIBER

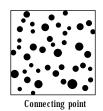
Paper, generally speaking, is composed by two types of fibers—flat and circular fibers respectively. The flat fiber is the source of the paper's physical properties while the circular one decides whether it is waterproof.







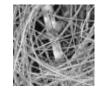






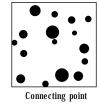








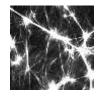






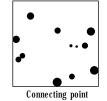










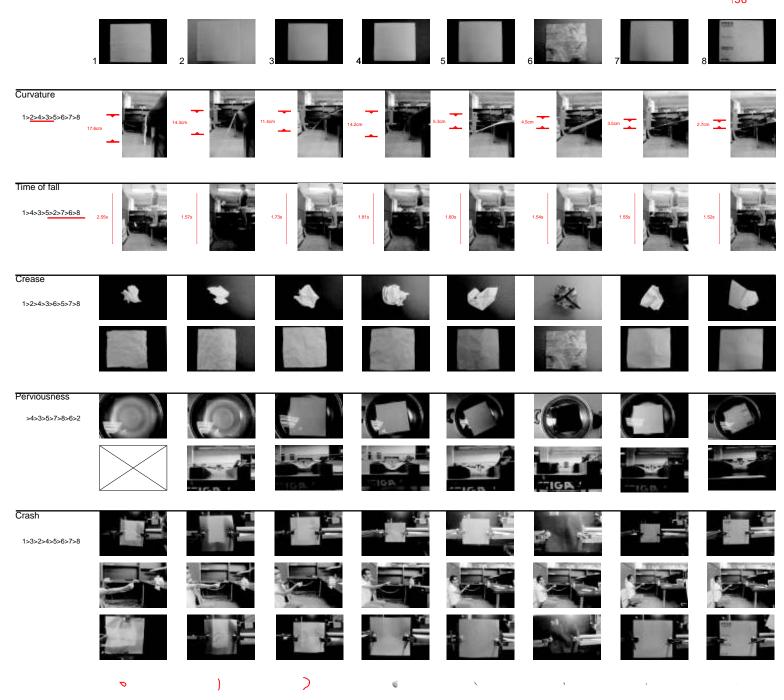






ll opening Second structure







obvious fiber ,surface is more smooth obscure fiber ,surface is more rough

2:於印紙 2:白報紙 3:骨紋紙 4:描圖級 5:一般 6:洋蔥紙

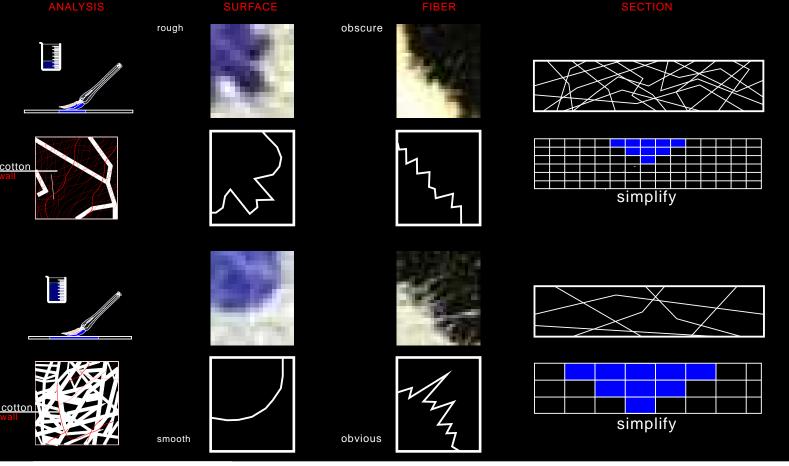
1:影印紙



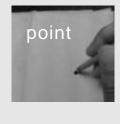
白報紙 fiber of

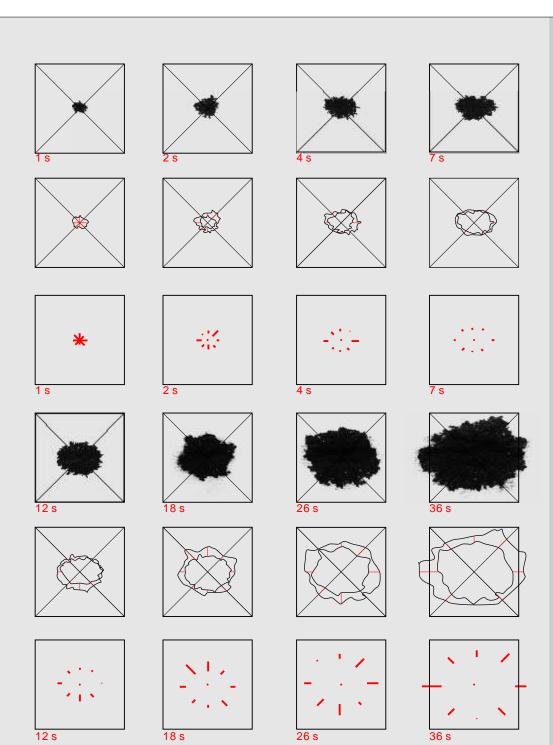
洋蔥紙 fiber of



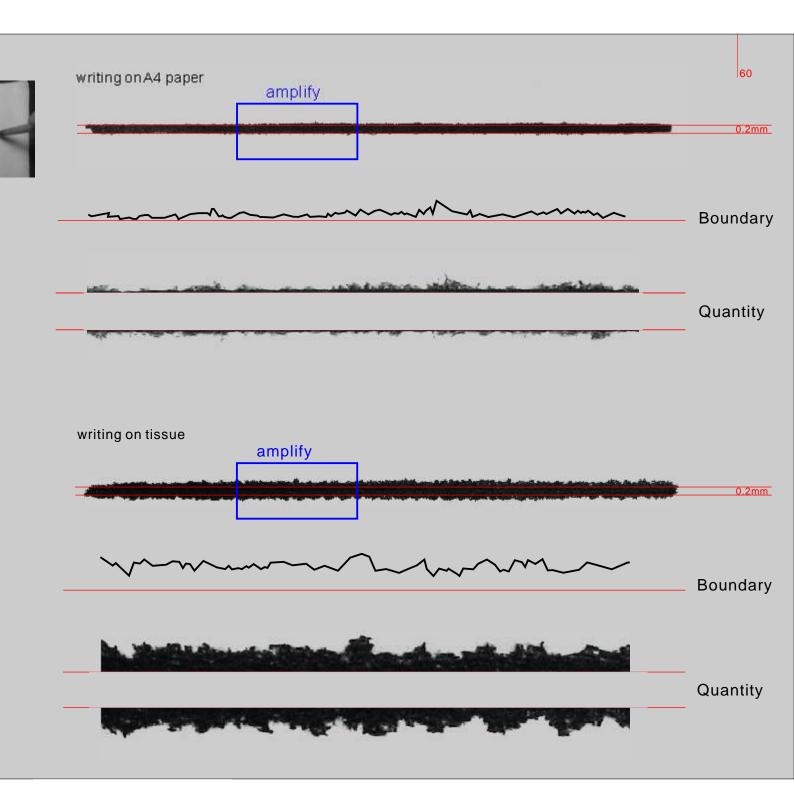








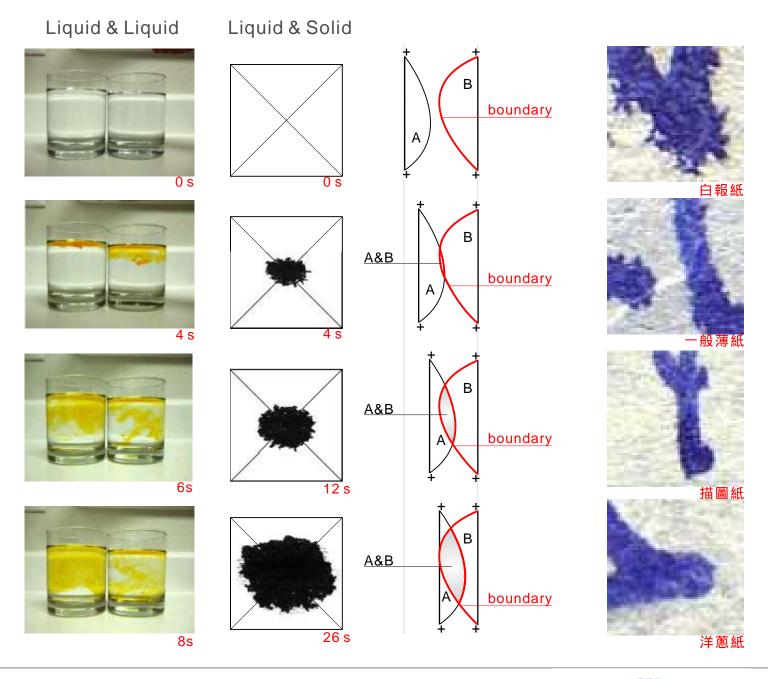






Experiment 61

Paper

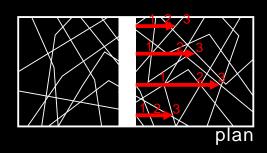


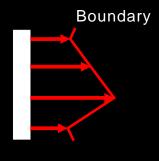


B

What is SOFT? What is HARD?

Definition





boundary depend on the density of fiber

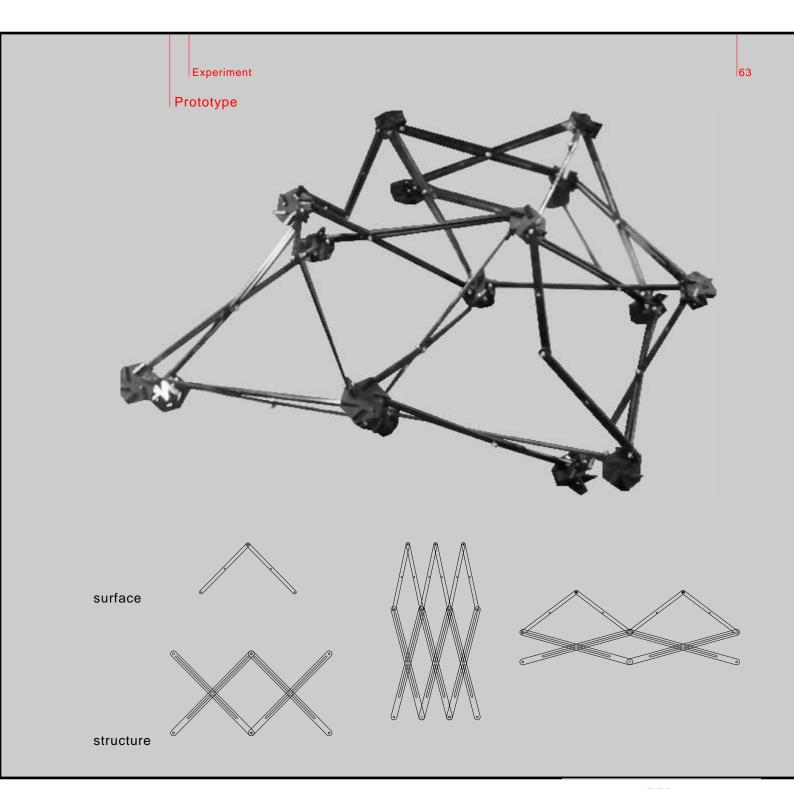
- d M Easy diffusion SOFT

 Boundary rough & blurred

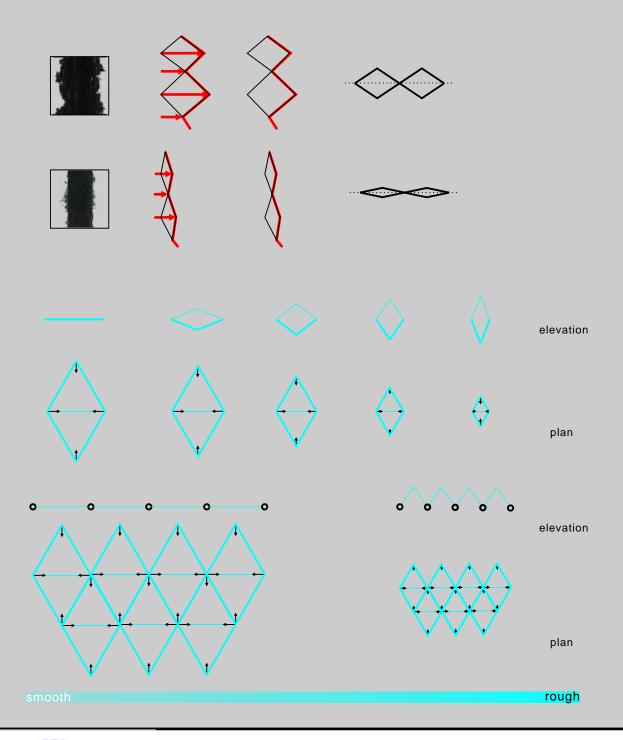
 space is easy to occupy or mix
- d M Difficult diffusion HARD

Boundary smooth & obvious space is difficult to occupy or mix











Site 65

Huashan park

HUASHAN PARK Site, located nearby Citizen Viaduct and Xinsheng Overpass, is the old Huashan freight terminal. Observing the site, irrespective it being structuralized by surface railway or underground railway system, the SITE AREA layout of the Taipei city seems to be dominated by the PUBLIC AREA traffic system. And there is a strong likelihood that this SCHOOL system can be compared to the fibers, which are the main components of the paper. The research seeks to look for another fiber to replace the old functions to as to PUBLIC make the fibers diffuse. PRIVATE First layer Second layer 1920 - 1984 Third layer 1984 - 1990

1990 -

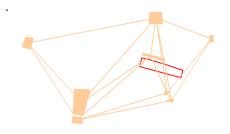


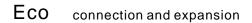
BETWEEN

AND

PRE-EXISTING CONDITION

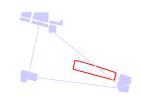
FUTURE DEMAND



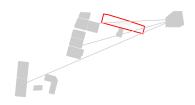




Culture spatial linking by mediate zone

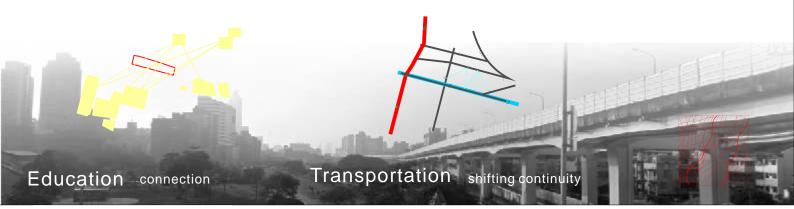


Business mutual infiltration

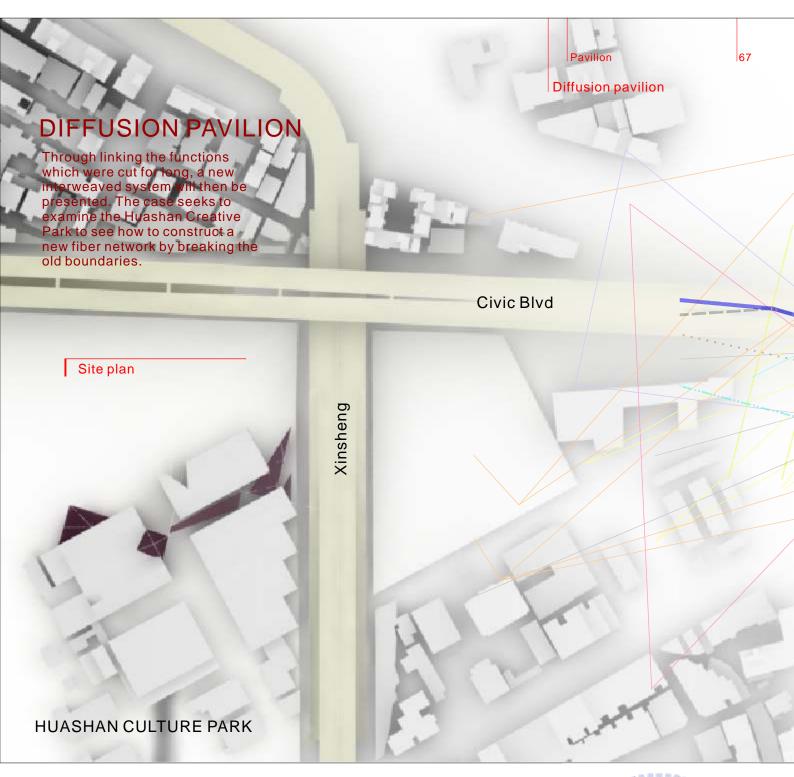


Public open public sapce

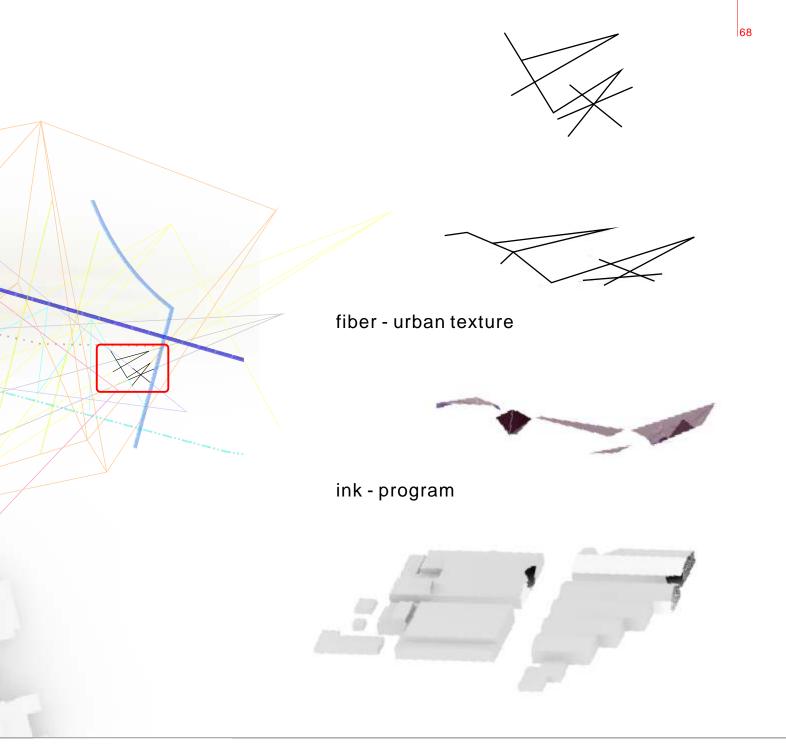
Site analysis



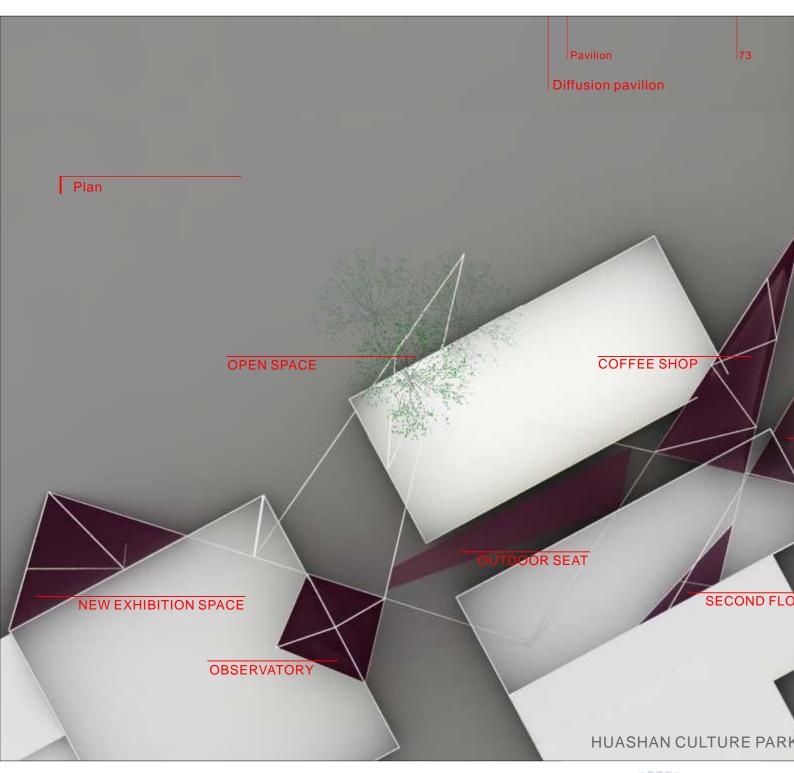








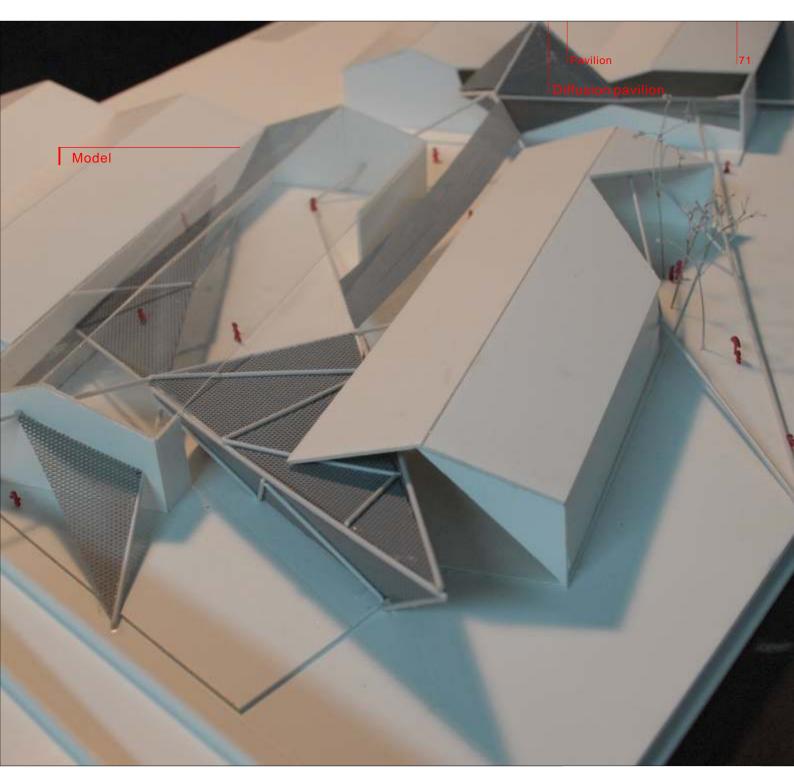




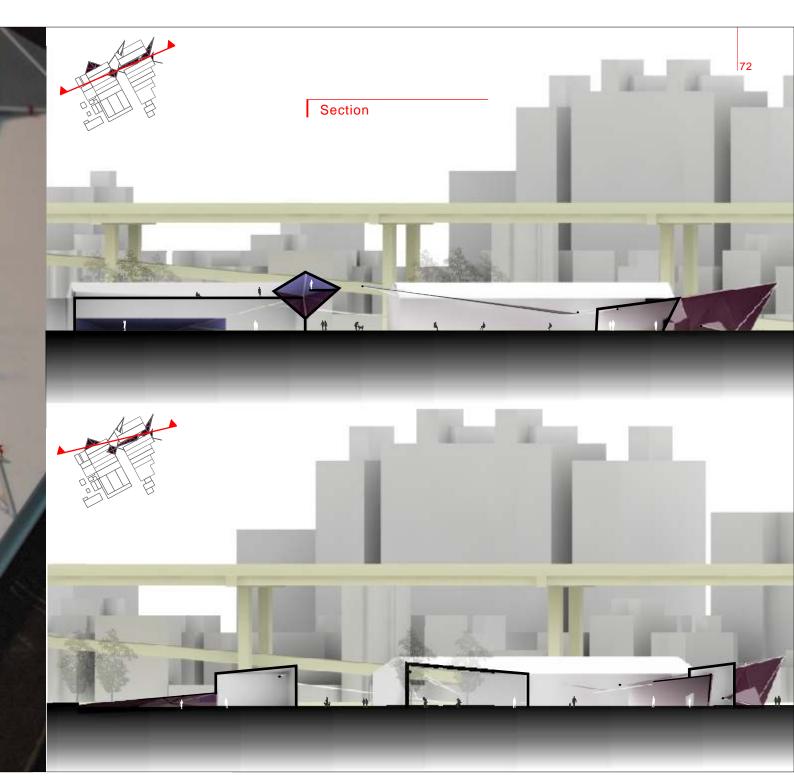














Administrative center | Sculptor's House

CommunityLibrary

79COOLER PAD

National Chiao Tung **University Administration** center, located in the University's main gate, was aimed at handling international affairs. Based on the cooler pad design concept, the project embedded the cooler pad space image into the site, using liner system to connect intention of bringing the the site nearby in order to construct a landmark with new functions.

85SCULPTURE

A project of living and working space designed for the sculptor Po-Lin Yang, the park on the one side but is site is located on Mt. refurbished as a new building Yang Ming near the National the other side. The design Palace Museum, with a breath-taking view over WaiShuang river. The concept is derived from the relationship between user and the site. a. With the forest into the interior, the designer create space with trunk-like structure in the way that sculptors create positive and negative space.

89FOLDDING

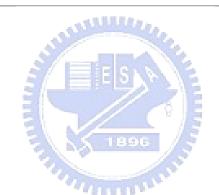
The site, located in the residential area, overlooks a surrounded by buildings on concept seeks to introduce the green belt and the public to the site's community library. In using strip-shaped foldding concept—green belt, movement line and light belt, along with changing the library's space layout, a new space with three different atmospheres is thus created.

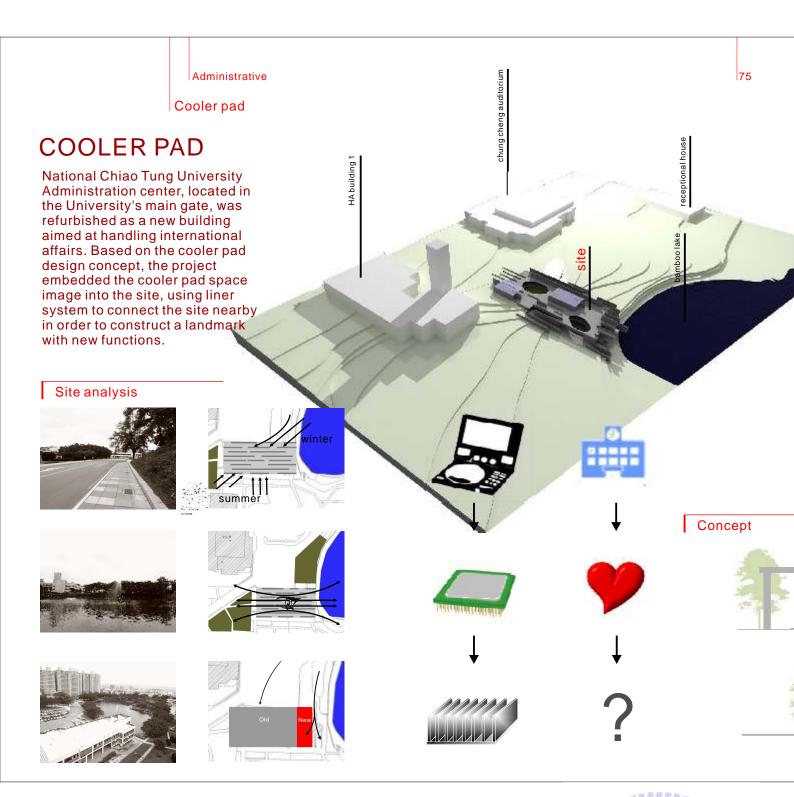


NCTU Spring& Summer Design Studio 2008 March I 1st years Advisor: Chi-yi Chang

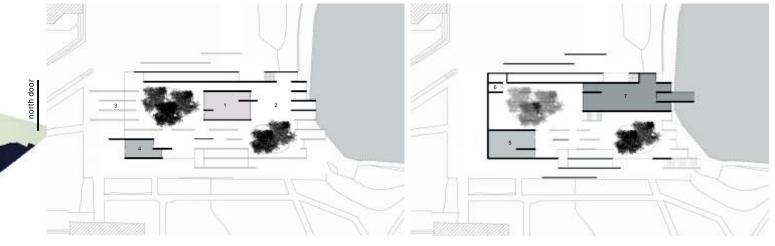
Basic design / in between context

This course continues the design studio in the first term with greater emphasis on functional requirement in a diverse scale. Students will be able to explore their own interests about space, form, structure, representation, materiality, etc and acquire the necessary technical and critical skills in the production of design. Each of the projects will stress link between intentions and process of making, form and meaning.



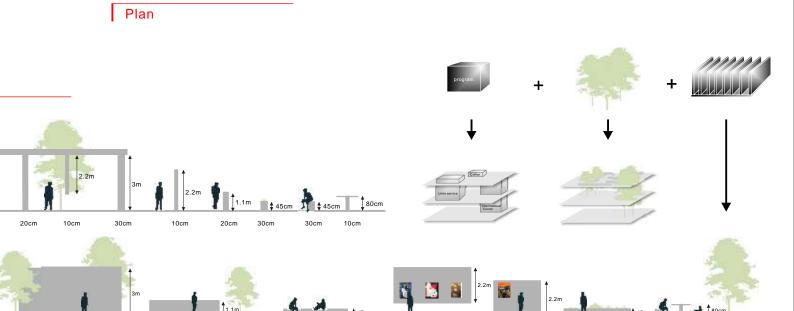






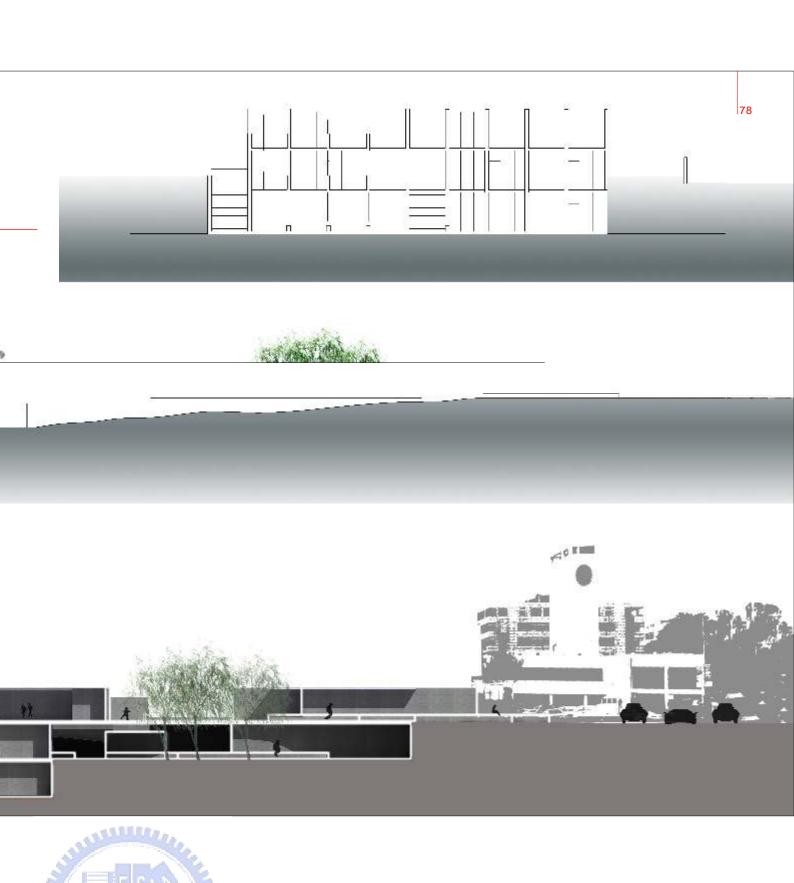
Upper Floor

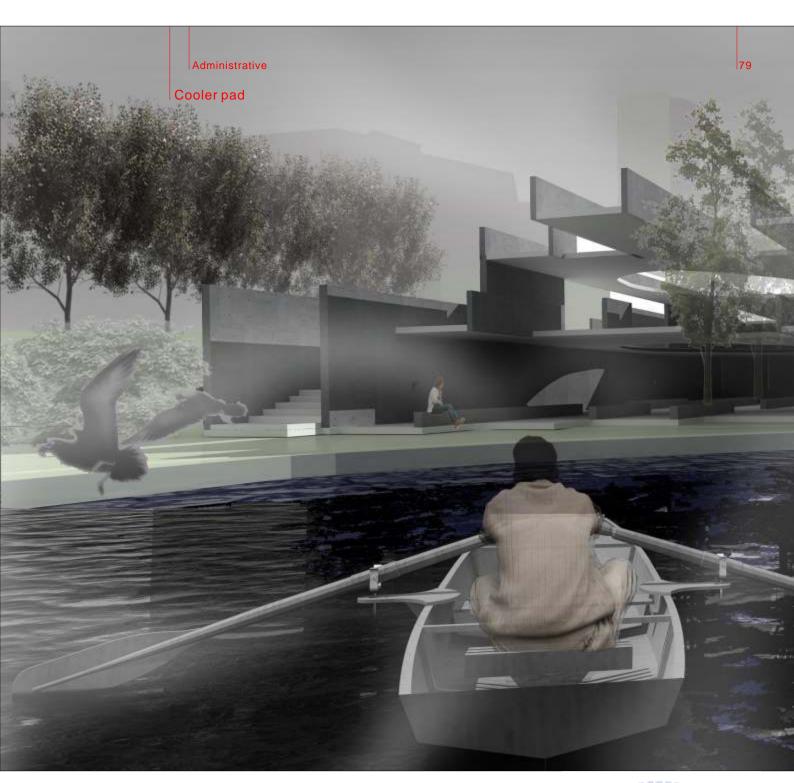
Middle Floor



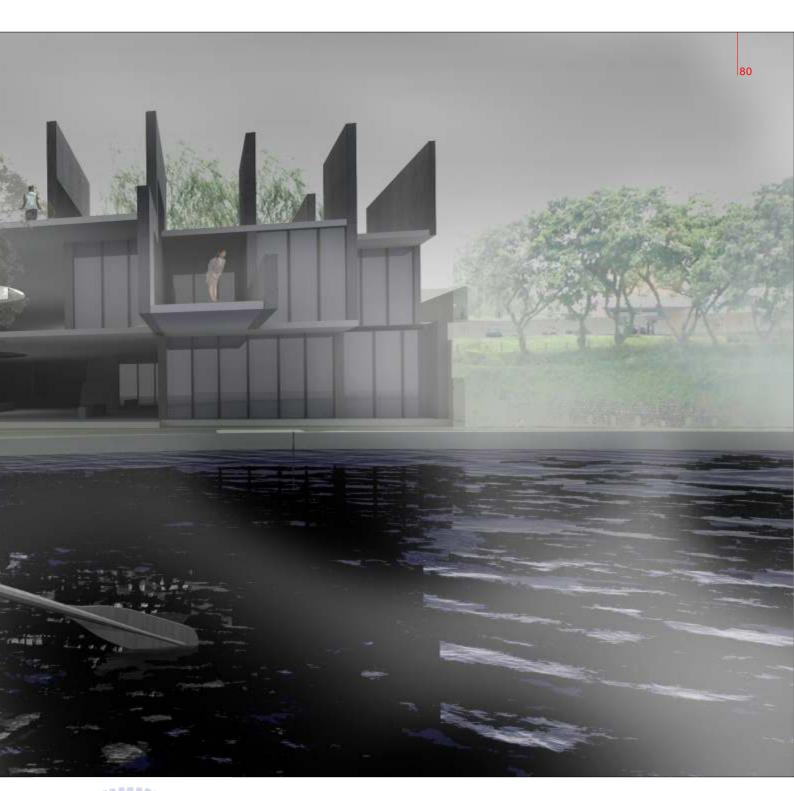


Administrative Cooler pad 1.Coffee Shop 2.Outside Coffee Area 3.Rest Area 4. Unite Service Center 5. Administrative Center Elevation 6.Toilet 7.International Center 8.Lecture Room 9.Exhibition 10.Outdoor Concert Lower Floor Section









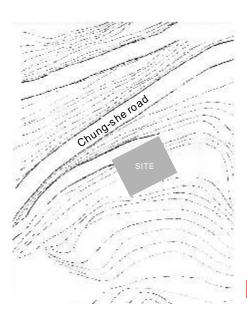


Sculptor's house

Sculpture

SCULPTURE

A project of living and working space designed for the sculptor Po-Lin Yang. the site is located on Mt. YangMing near the National Palace Museum, with a breathtaking view over WaiShuang river. The concept is derived from the relationship between user and the site. a. With the intention of bringing the forest into the interior, the designer create space with trunk-like structure in the way that sculptors create positive and negative space.



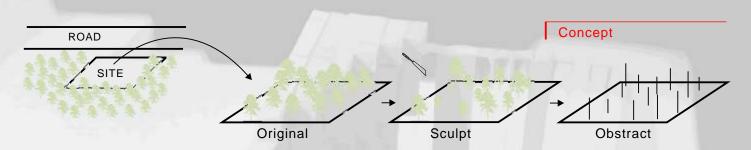
Site plan





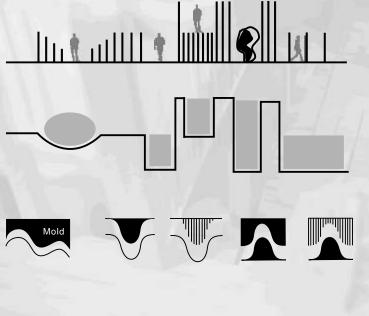


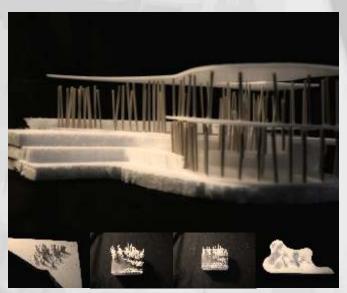


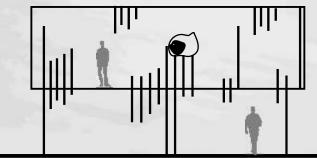


The site is located on the slope of Mt. Yangming, surrounded by trees. The original site without the building in my imagination is covered with trees, and I want to abstract it after the envisioning of the forest sculpted by graver.

The Sculptor always think about positive and negative space during the creative process. The mold is formed by the sculpted forest. The space created by the mold becomes the space for use.

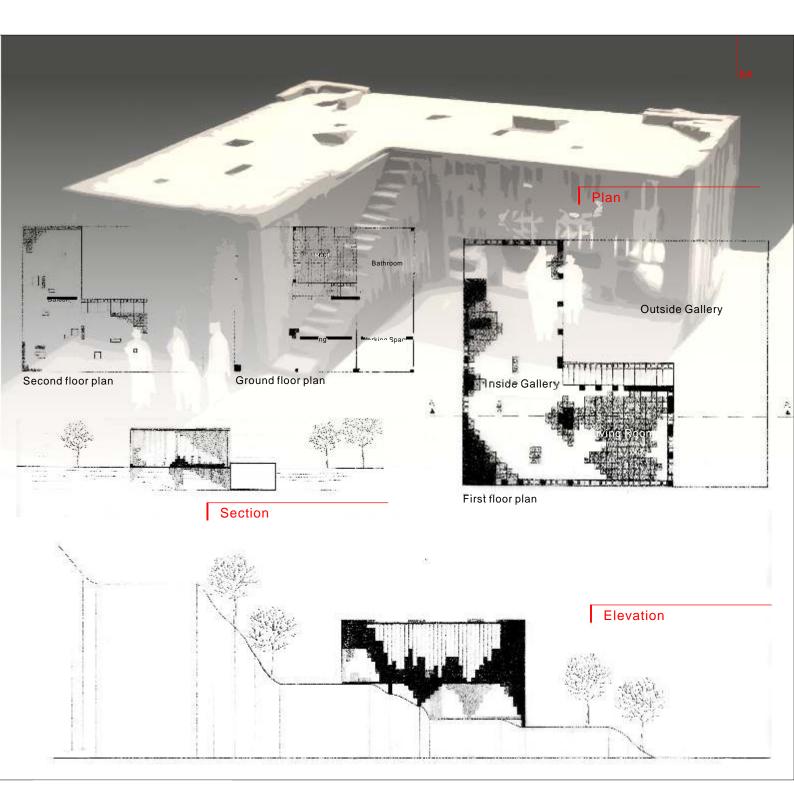












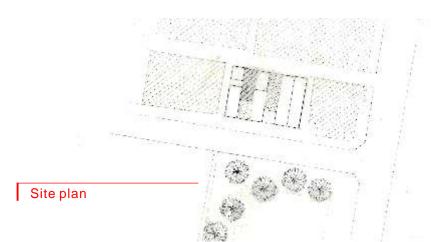


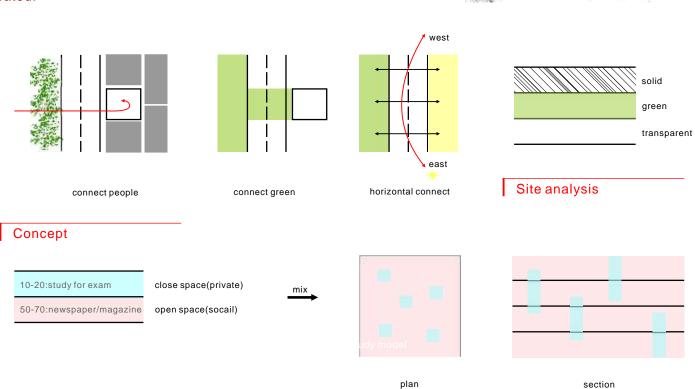
85

Foldding

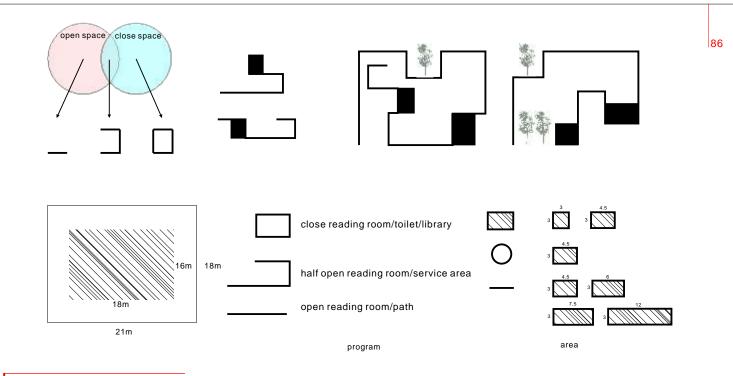
FOLDDING

The site, located in the residential area, overlooks a park on the one side but is surrounded by buildings on the other side. The design concept seeks to introduce the green belt and the public to the site's community library. In using strip-shaped foldding concept—green belt, movement line and light belt, along with changing the library's space layout, a new space with three different atmospheres is thus created.

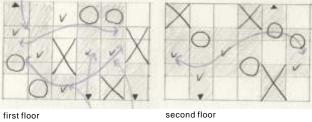




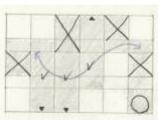




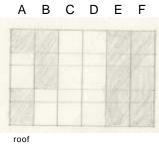






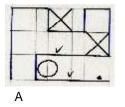


third floor

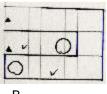


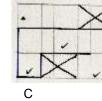
- ✓ open
- half open
- × close
- ▲ entrance

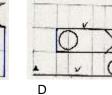
Horizontal to vertical

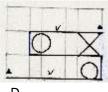


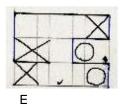


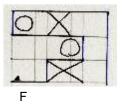




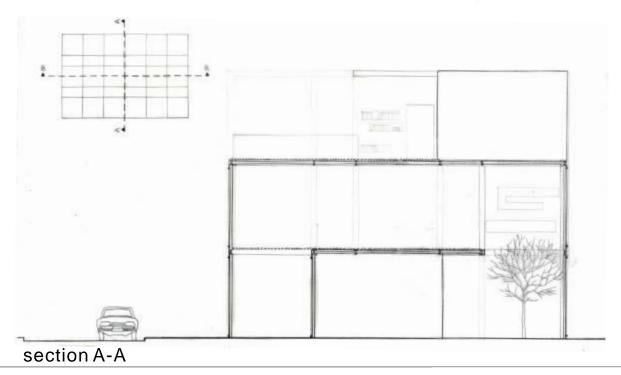




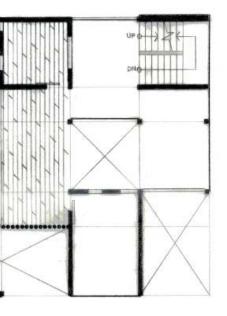


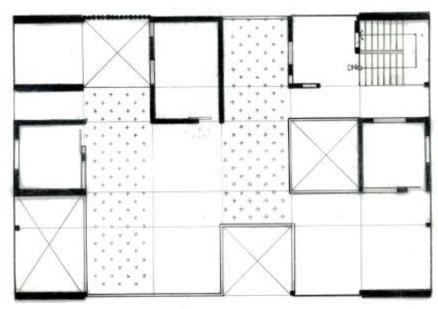






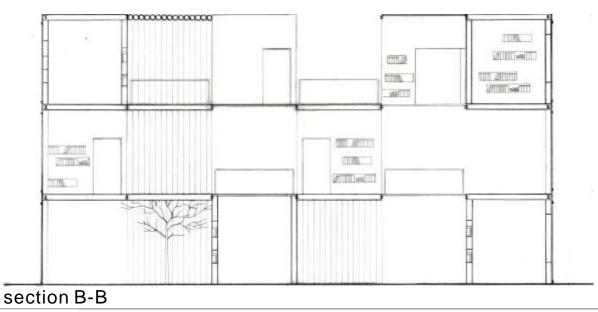






third floor

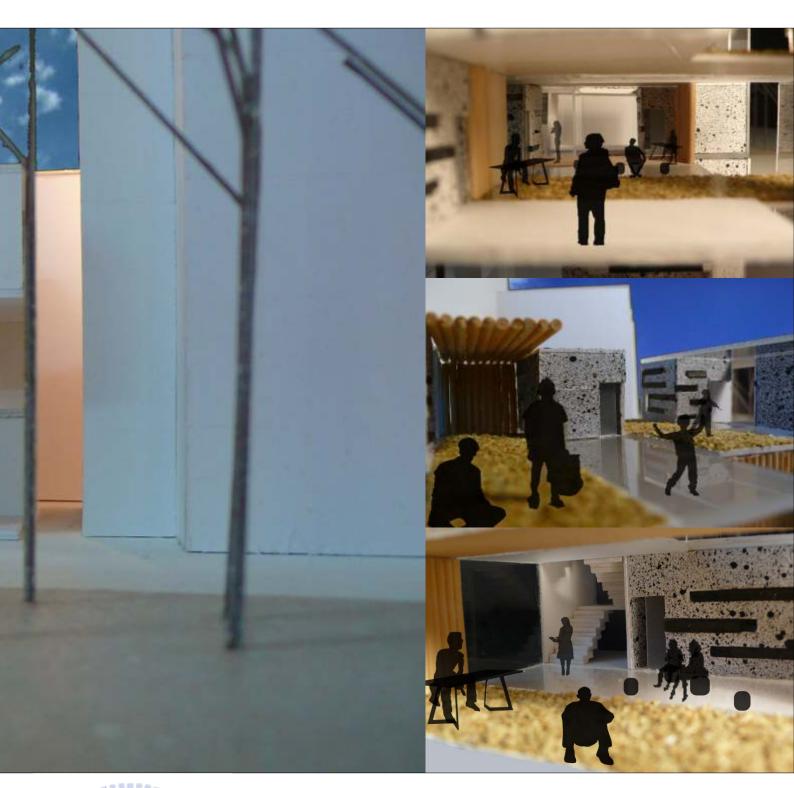
Section













Ao-Di bus design

Renewal Cijin

NCTU dorm7

97NAKED

Inhabiting the modern steel jungle, the dwellers are forced to live in the construction skinned with glass. When dweller seeks to develop as an "ocean move from indoors to outdoors, that means the environment will be switched priority for Kaohsiung city from artificial to the natural one. Such a reversion process can also well reflect impression, promoting our daily life—pursuing a solely naked heart by unloading the pressure occurred from love, career and family.

103TEXTURE STRETCH 107KIND OF BLUE

Integrate its world-class harbor facility, along with abundant marine resources, a worldwide famous artist, Kaohsiung City aims to capital" in the future. In order transformed these lines into to achieve such goal, the government will be placed on rivers, which co-exist intensifying ocean marine tourism and well utilizing the sport facilities from the World Games 2009. Chijin Island, surrounded by sea, yet is close to the Kaohsiung downtown area. As the city's The project seeks to use main window and gate, Chijinthree interweaved elements Island owns a number of historical and ocean-related revitalize the site, such as resources that make it a perfect tourist destination. From this perspective, Chijin the old trees which already Island is considered the best exist on the site. place to undertake the city transformation mission. Introducing new function but preserving the old ones at the same time, our proposal attempts to construct a 'Center for marine tourism and sports' with categorizing the area into three zones from the north to the south.

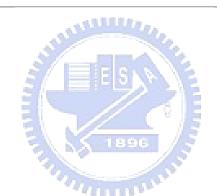
Kind of Blue, a masterpiece created by Miles Constable, used interweaved colorful lines to present his work. He three elements, namely, grass hill, slopeway and peacefully on his work. The site, located on the eastern side of the NCTU, is an open space surrounded by the residence of hall and assembly. An old-fashioned Chinese-style garden and entrance occupy the site. to re-structuralize and adding parking space and leisure space and preserving



NCTU Spring& Summer Design Studio 2008 March I 1st years Advisor: Chi-yi Chang

Project / in between action

Project involves creations produced not only in the class but automobile or even urban design. Design tends to happen everywhere in our daily lives. Only through getting in touch with every aspect of the things encountered can one realize the essence of the design. Given that every design project varies in different scale, one should think deeply over and over again so as to get a better picture of the whole project.



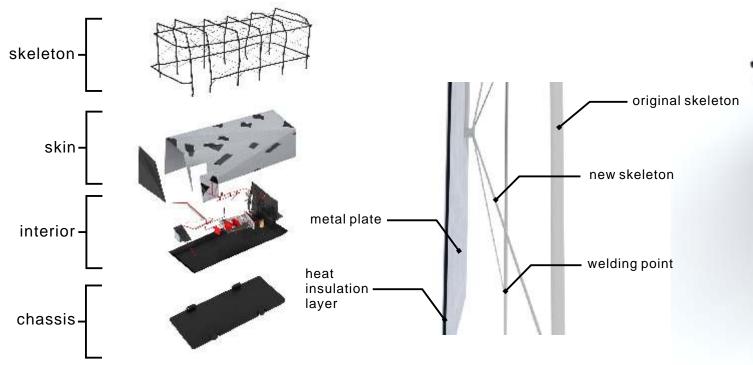
Ao-Di bus design

Naked

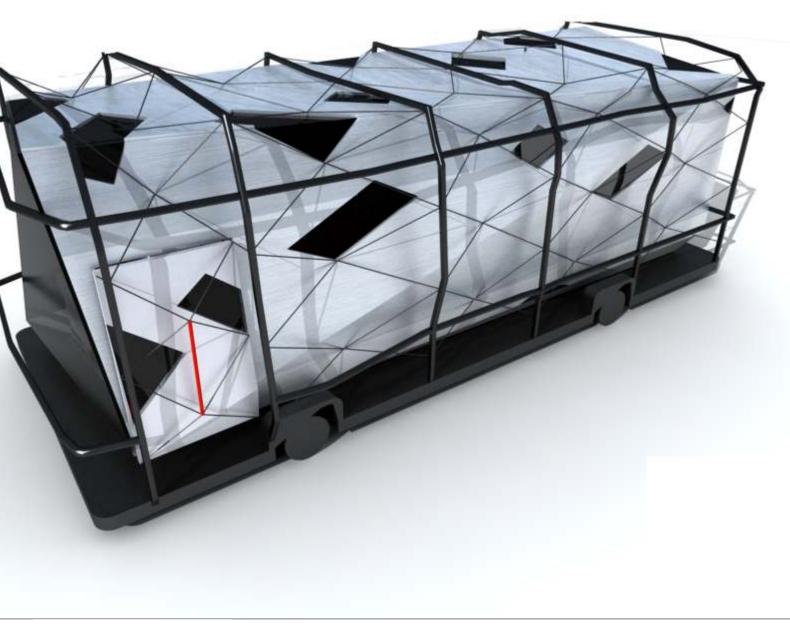
NAKED

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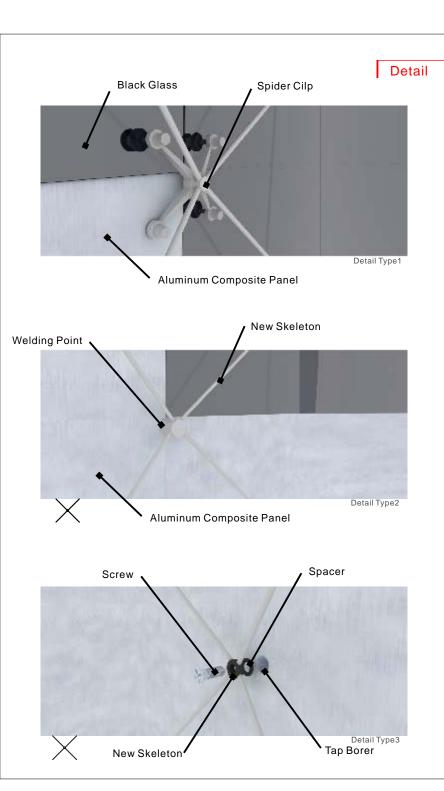


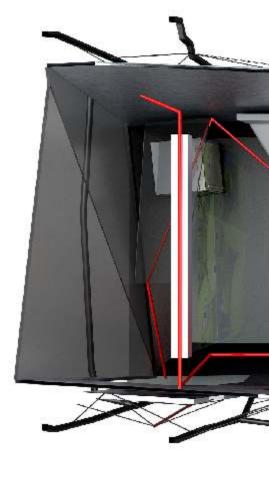






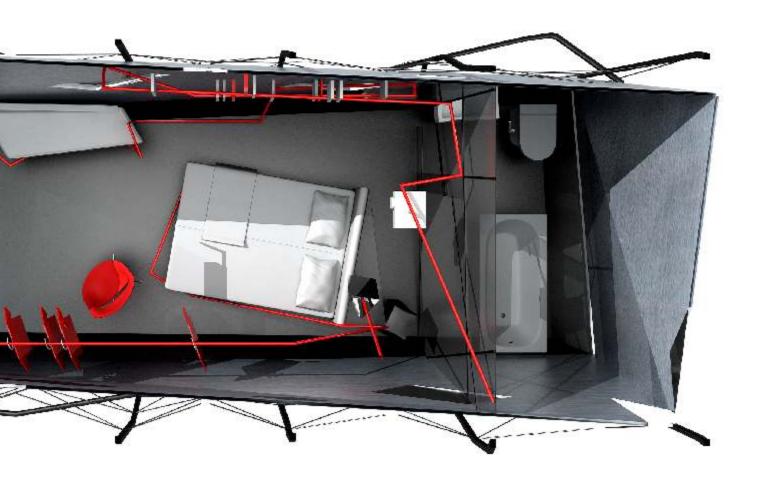








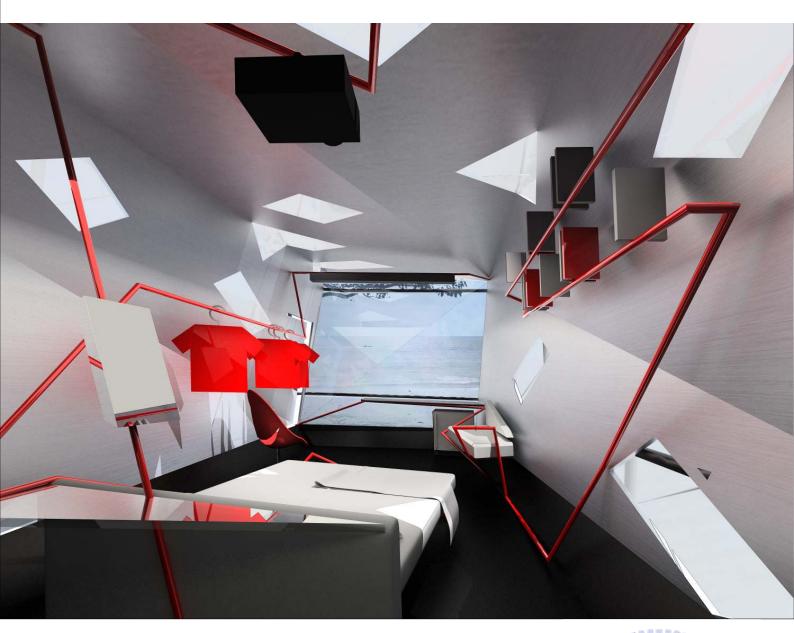
Plan



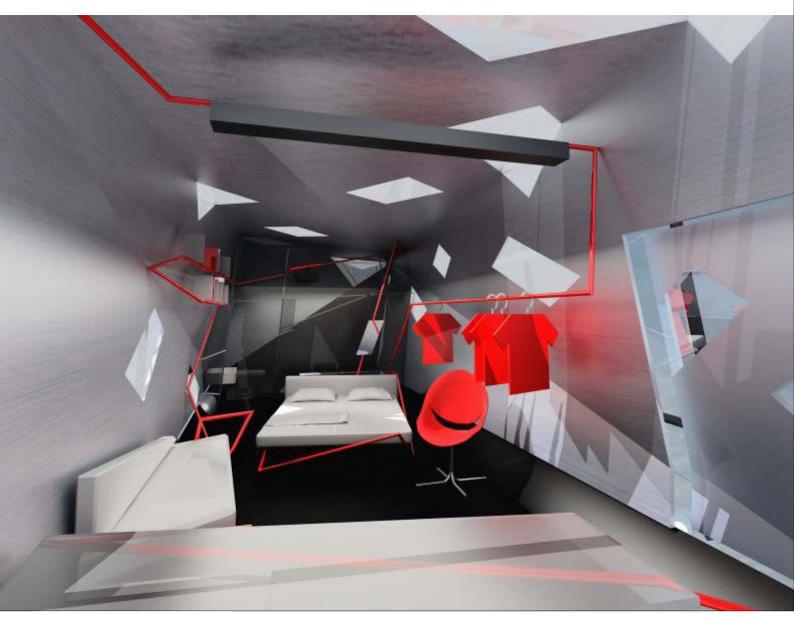


Ao-Di bus design

Naked









Renewal Cijin 99

Texture stretch

TEXTURE STRETCH

Integrate its world-class harbor facility ,along with abundant marine resources ,Kaohsiung City aims to develop as an ocean capital "in the future. In order to achieve such goal ,the priority for Kaohsiung city government will be placed on intensifying ocean impression , promoting marine tourism and well utilizing the sport facilities from the World Games 209 Chijin Island, surrounded by sea, yet is close to the Kaohsiung downtown area. As the city s main window and gate ,Chijin Island owns a number of historical and ocean-related resources that make it a perfect tourist destination. From this perspective ,Chijin Island is considered the best place to undertake the city transformation mission.

Introducing new function but preserving the old ones at the same time, our proposal attempts to construct a Center for marine tourism and sports with categorizing the area into three zones from the north to the south.

TRANSFORMATION

PAST
rise of producing efficiency

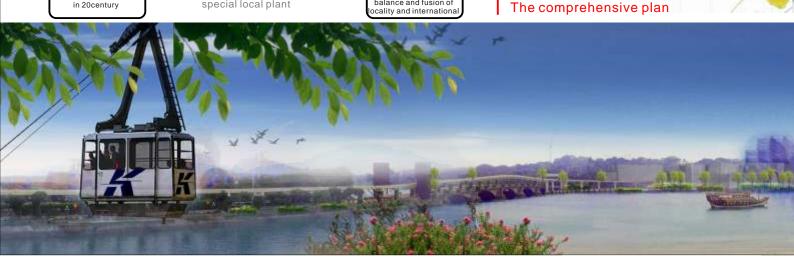
unique character industry orientation in 20century Yacht-making industrial town development of business trade park

culture and historical site of fishing village value of island tourism special local plant FUTURE

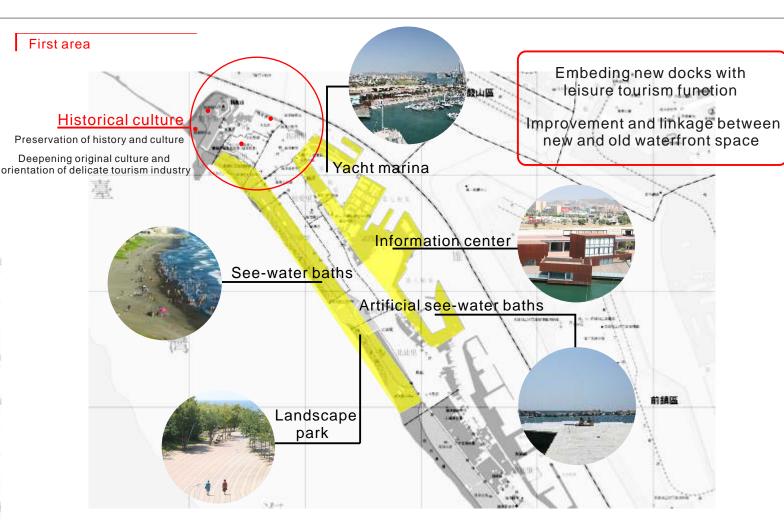
sustainable development of culture and ecology multi-function ports leisure tourism in 21st century balance and fusion of ocality and international Leisure
Recreation
First Area

Commercial
Green
Second Area

Activities
Tourism
Third Area

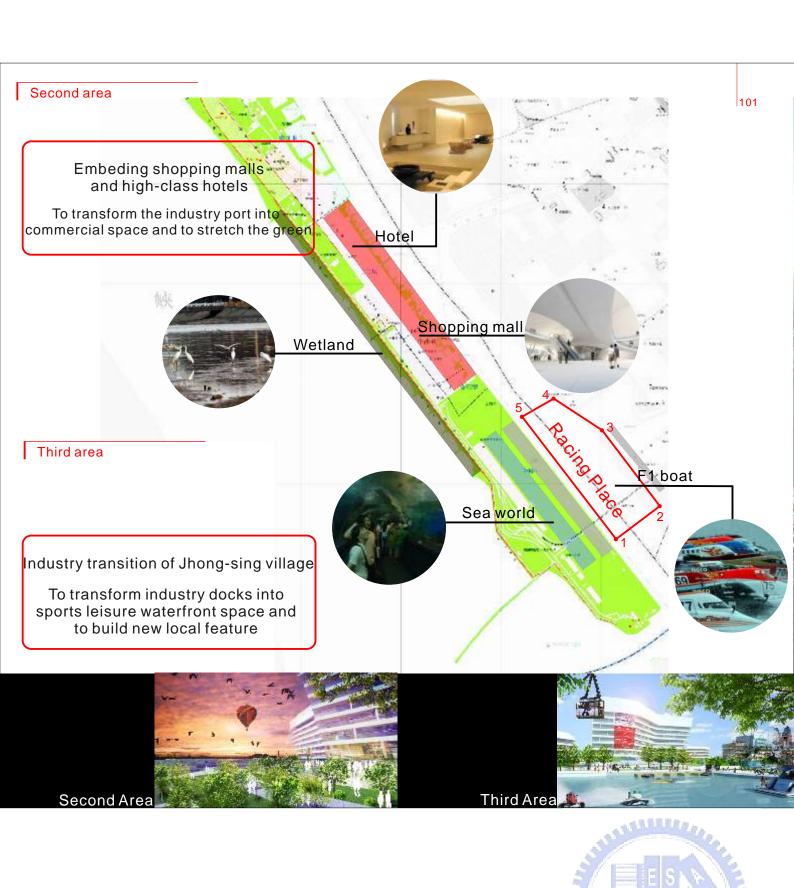


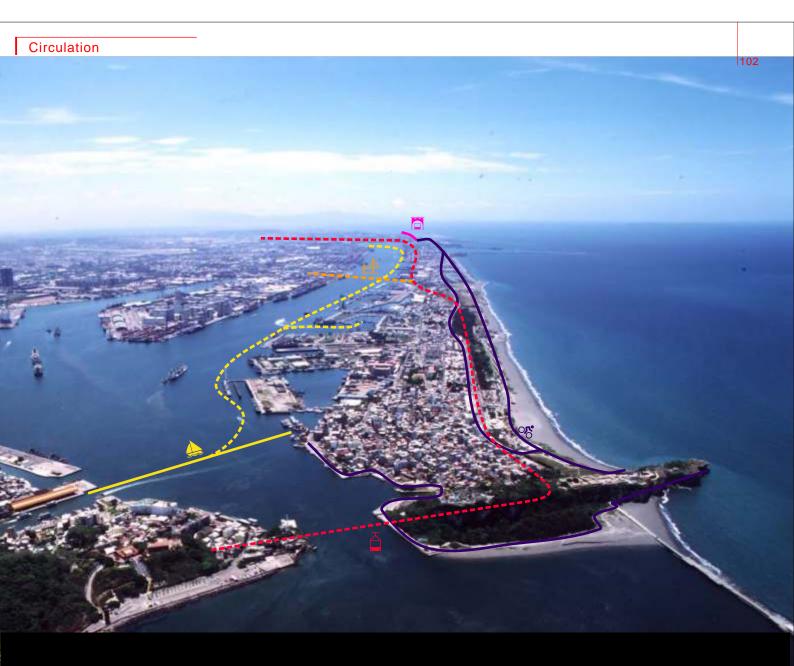














ferryboat





















Kind of blue

KIND OF BLUE

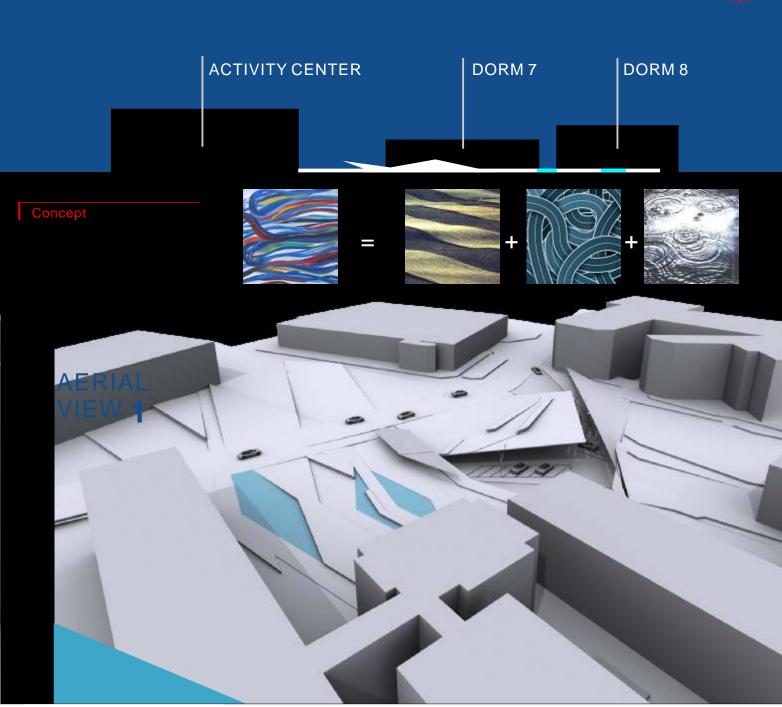
Kind of Blue, a masterpiece created by Miles Constable, a worldwide famous artist, used interweaved colorful lines to present his work. He transformed these lines into three elements, namely, grass hill, slopeway and rivers, which coexist peacefully on his work. The site, located on the eastern side of the NCTU, is an open space surrounded by the residence of hall and assembly. An old-fashioned Chinese-style garden and entrance occupy the site. The project seeks to use three interweaved elements to re-structuralize and revitalize the site, such as adding parking space and leisure space and preserving the old trees which already exist on the site.



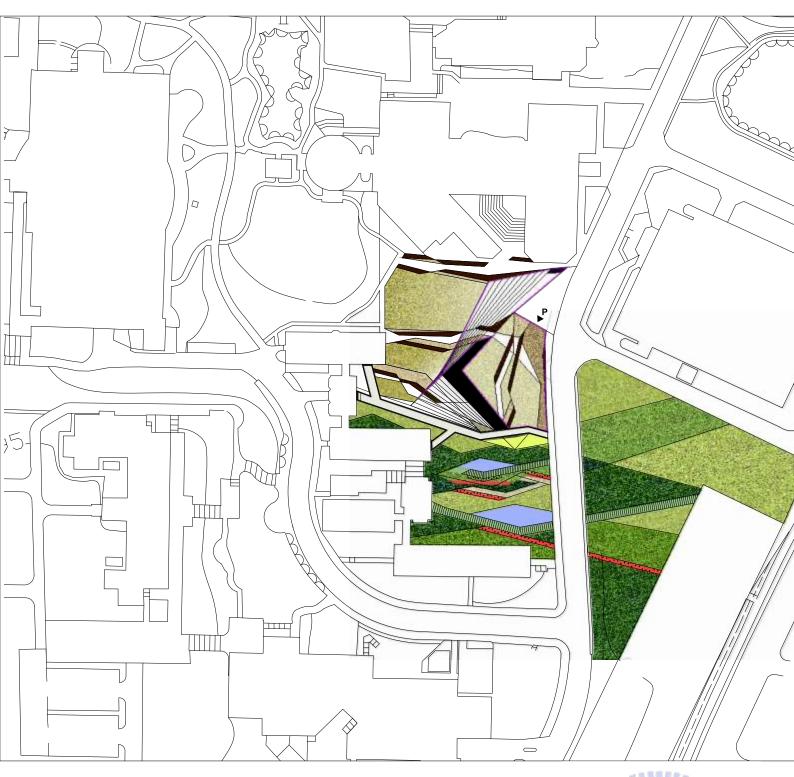












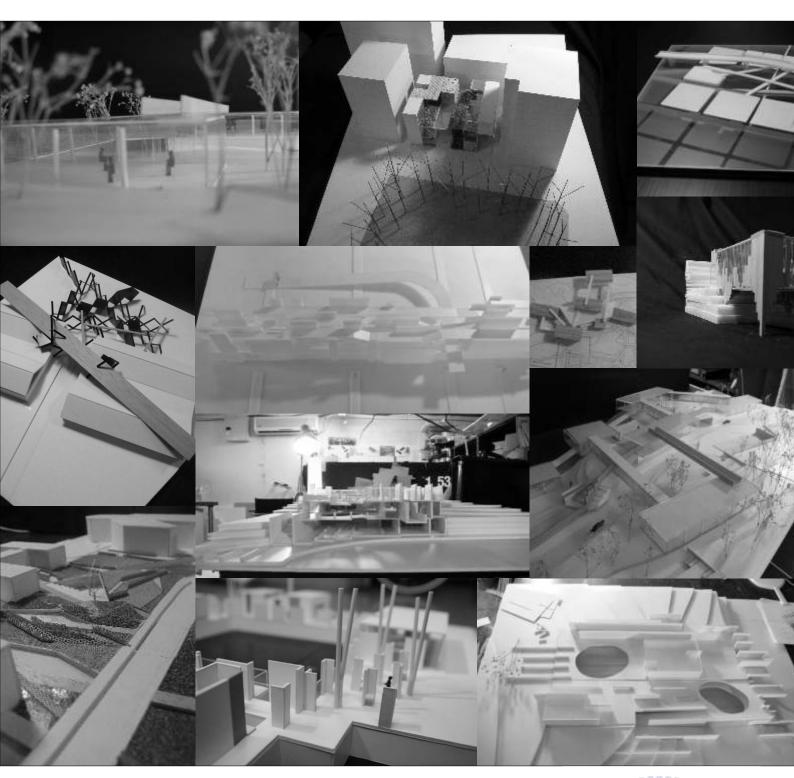






Plan











RESUME

Kuo-Wei Tiao





EDUCATION

MArchI, Graduate Institute of Architecture, National Chiao Tung University, Hsinchu, Taiwan (NCTU)

BE ,Department of Civil Engineering ,National Chiao Tung University, Hsinchu, Taiwan (NCTU)

EXPERIENCE

2009/07-12 Designer ,ECO city (June-hao Hou), Hsinchu , Taiwan

2008/09-12 **Designer** ,Next Gene II ,Aleppo Zone ,Taiwan 2008/07-08 **Intern** ,Citicrafts David Tseng),Taichung ,Taiwan

2008/04-2010/04 Manager of Printer ,Digital Media Lab ,GIA ,NCTU 2008/01-02 Intern ,A+B Architects (Jay W. Chiu),Taipei, Taiwan

2006/03-2007/07 Engineer ,Wayin Steel Structure Co., Ltd, Taipei, Taiwan

004/05-06 Web designer ,Hsing Wei Co., Ltd, Taipei, Taiwan

2003/04-06 **Chief Editor** of Yearbook ,National Chiao Tung University 2003 /02-04 **Chief Editor of Art** Qpenhouse Campus Recruit, NCTU

AWARDS

2009/08 Top30, Idea For Action Kaohsiung International Competition

WORKSHOP

2010/04 AA Workshop, Graduate Institute of Architecture, NCTU

2009/09 Carlos Arnaiz Workshop, Graduate Institute of Architecture, NCTU

2009/03 Sheng yuan Huang Workshop ,Graduate Institute of Architecture ,NCTU

2008/11 DDF Workshop ,Graduate Institute of Architecture ,NCTU

2007/11 Antonino Saggio Workshop ,Graduate Institute of Architecture ,NCTU

