Mediatheque in Manhattan
from high density of skyscrapers

Border Conditions in NYC
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contents

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New York
Brainstorming
Why Manhattan

Manhattan in New York City, one of biggest cities all over the world, is a symbol to indicate huge capital and economic system. We can investigate diverse phenomena of contemporary city in Manhattan where there is high density.
Office Buildings in Manhattan

Source: http://www.skyscraper.org
Office Buildings in Manhattan

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Office Buildings in Manhattan

Source: http://www.skyscraper.org
Office Buildings in Midtown

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Before NYC
Skyscrapers
Sky = white
Skyscrapers = black
Before New York

Before New York
Before New York
Before New York

Central Station

Rotterdam 20th. Oct. 2007
Before New York

Rotterdam  20th. Oct. 2007
Before New York

Rotterdam 20th. Oct. 2007
Before New York

Rotterdam 20th. Oct. 2007
Before New York
Borders in Contemporary Architecture and City
: High Density of Skyscrapers

+ Introduction

+ Midtown in Manhattan

+ Skyscraper

+ Skyscrapers in Manhattan

+ 3 Borders
  Cognitive border
  Changeable border
  Vague border

+ 5 Maps
03 Mapping
Research Site

Midtown

Lower Manhattan
- The number of Floors
- Entrance
- Open to Public (through block connection regarding time)
- Public Space
- Facade Pattern, Material
How to see skyscrapers

Birdeyes view

People can see skyscrapers just on an airplane or a balloon.

VS.

Pedestrians view

People can always see skyscrapers walking or going by car on the street. This is the real way to express skyscrapers.
How to see skyscrapers

Figure & Ground Map
We see a city by a superficial observation.

Skyscraper & Sky Map
We see a city, especially skyscrapers by a real view.
How to take pictures

NIKON COOLPIX 5000
F 7.1 ~ 21.4 (35mm film: 28mm ~ 85mm)

20m: 48~58th street
30m: 57th street, 5~8th Avenue
Figure-Sky Map
Figure-Sky Map
Figure-Sky Map
Skyline Map
Based on the Research map and Acad map
Skyline Map - wireframe mapping
command: Sweep 1 rail & Loft in RHINO
Skyline Map - shaded mapping
command: Sweep 1 rail & Loft in RHINO
Skyline Map - curvature analysis mapping

command: Sweep 1 rail & Loft in RHINO
Skyline Map - rendering mapping
command: Sweep 1 rail & Loft in RHINO
Skyline Map

Extracting by SPLINE command of Acad
Skyline Map

Extracting by SPLINE command of Acad
Skyline Map - wireframe mapping
command: Sweep 1 rail & Loft in RHINO
Cross-section curve rebuilt by XX control points.

Skyline Map - shaded mapping
command: Sweep 1 rail & Loft in RHINO
Skyline Map - curvature analysis mapping
command: Sweep 1 rail & Loft in RHINO
Skyline Map - rendering mapping
command: Sweep 1 rail & Loft in RHINO
Figure-Ground Map
Every 10 Floor
Shadow Map
the summer solstice at noon
$72.7^\circ = 90^\circ - 40.8^\circ + 23.5^\circ$
Shadow Map
the winter solstice at noon
25.7° = 90°-40.8°-23.5°
Shadow Map
the winter solstice
9am~5pm 21st. December
Entrance Map
10 stories buildings or over
04 Concept from Mapping
Program

I ♥ NY

New York City has a wide range of culture such as films, concerts, plays, exhibits, lectures, and sports events.

Midtown

Although there are a lot of people at skyscrapers in Midtown for residence or working, NY Public library has no big information, and too small space. MoMA and other museums require high entrance fee. There are no places for relaxing except for Starbucks. Midtown is the private city which has very limitation, not open to public.

Mediatheque

Mediatheque is a starting point to solve those problems in Midtown.

= knowledge and culture for New Yorkers
  relaxation and meditation for workers
  information for tourists
  events for everybody
Program

**Mediatheque**, new urban facility, collects and offers mediums (films, video) of another form including the functions of art works and books (aesthetic or intelligent mediums). This helps to make and spread metropolitan’s own information.

Arata Isozaki, For selecting process: Sendai Mediatheque competition Brief, August. 1994

Centre Pompidou, 1977, Paris, France
Renzo Piano, Richard Rogers

Media Library, 2001, Venissieux, France
Dominique Perrault

Carre d’Art, 1993, Nimes, France
Norman foster

Sendai Mediatheque, 2001, Sendai, Japan
Toyo Ito
Categorizing Program

private
- multipurpose room
- office
- private garden

research
- library for book
- studio
- library for audio/video
- library for audio/video
- public garden

display
- media museum
- museum for contemporary arts
- theater
- public passage

public
- public passage

<table>
<thead>
<tr>
<th>Building Height</th>
<th>Urban Void</th>
<th>Activity</th>
<th>Vertical limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Close</td>
<td>Private</td>
<td></td>
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- Low
- Open
- Public
- Horizontal free movement
Selection from mapping

Figure-Sky Map
Skyline Map - rendering mapping
command: Sweep 1 rail & Loft in RHINO
Contour Map

step 01

step 02

step 03

step 04

step 05

step 06
Contour Map
The rule of selection

- Decide L, M, H areas according to the color of the chart from White(H) to Blue(L)
  - The Priority: 1. Center point of each color
  - 2. The areas including high portion of each color
  - 3. The colored areas with Figure-Sky map inside Block area, not Street
- Make frames for all possibilities
- Apply for the figures within those frames in terms of trial and error
- Choose the figures which are suitable for the floor plans

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</tr>
</tbody>
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Flow of activity
Flow of high rise space

Selection of figures
Selection of 'M' figures
Selection of 'H' figures
The possible area to design and figures
Mediatheque in Manhattan
Front View
Envelope by Zoning Regulations of NYC
Study Models
Study Models
Study Models
1. site
2. Envelope
3. Stack – figure No.1
3. Stack – figure No.2
3. Stack – figure No.3

Design Process
3. Stack – figure No.4
3. Stack – figure No.5
3. Stack – figure No.6
3. Stack – figure No.7
3. Stack – figure No.8
3. Stack – figure No.9
3. Stack – figure No.10
3. Stack – figure No.11
3. Stack – figure No.12
3. Stack – figure No.13
4-Applying to envelope
5-Grouping of programs

Design Process
6- Folding slab
7-Transformation

Design Process
Design Process

8-Skin

1. Solar screen
Design Process

8-Skin

2. Emphasis of group
1- Emergency stairs
2- Main stairs

Circulation
3- Elevators

1. For Private area (staff) - 12F~14F
2. For Research area - 07F~11F
3. For Display area - 01F~06F
Structure
Steel structure

Steel structure + Open web joist

Structure
Pompidou Center in Paris
Pompidou Center in Paris
Pompidou Center in Paris
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Pompidou Center in Paris
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Pompidou Center in Paris
Pompidou Center in Paris

No Column Space
Open Joist Web
Air Conditioning Convector
Multipurpose room

HVAC
central conditioning system

HVAC
central conditioning system
Materialization
Thank you