INTRODUCTION
- background

RESEARCH
-public space in New York
- ambition

MASTER PLAN
- new master plan
- urban design

BUILDING DESIGN
- building layout
- routing
- a normal day of delegate

BUILDING TECHNOLOGY
- structure
- facade materlization
- installtion
- conclusion
INTRODUCTION

UN BACKGROUND
Grid System

High-Rise Building/ High Denity

Traffic
Environment Council in UN
Perspective
Security Issue - One of The Main Challenge
PUBLIC SPACE IN NEW YORK
AMBITION
example 1. Monumental Square
example 2. Rooftop Lawn
example 3. Garden
example 4. Pavement
"Software" of public space: all the removable thing likes trees, water, chair, steps
- space-"software" influent public activity
- when space is small, "software" can easily be added, then more people are attracted to the space
- when space is large and less "software" are added, then few people will be attracted to the space

how to use space to organize people's behavior in UN?
The rise of the modern atrium

Efficient land use

The first signs of constructive reaction came in that significant period for the atrium, the mid-1960s. Whilst Puryear was designing the first Regency Hyatt and St John Wilson the Liverpool Civic Centre, Wilson’s colleagues at Cambridge University were making some interesting studies. Professor for Leslie Martin and Lionel March published Land Use and Built Form in April 1966 (Cambridge University Press). It set out the relative efficiency of courtyards forms of development compared to tower and slab forms. Using the example of a Freerel square where each ring is equal in area to the others they demonstrated clearly that land and energy had been wasted in piling up space set back from plot boundaries. The same floor space could be delivered in relatively low buildings by arranging them around the perimeter of a site. The question of western thought – the free standing solid pavilion or tower – versus eastern – the hollow court – was resolved as a case of mathematical alternatives.

It is a fact of perception that the eye cannot read the rings on a Fresnel square as equal. A quadrangle seen such as that in a Cambridge college cannot be conceived of as being perhaps no larger in area than the footpath around the outside of the college. The generous set-backs, verges and plazas of the mid-century town-planner were shown to be the mathematical complement to high building; build on the verges and you would have generous courts in return, and lower buildings as well. The thesis amounted to a posthumous vindication of the form of development supplanted by the Villa Redeuse: street-following frontages could deliver space, sunlight and greenery, just as well as towers, and with less expense and discomfort.

The ‘land use and built form’ theory allowed the reaction in Britain and Europe against high-rise to blossom for housing and city-centre development. The designers who made first use of it for large sites were also the ones to see its potentiality on a tighter scale for skiis. Fruge Gibberd built the Arundel Great Court in London of six storeys where previously he would have had 15-storey towers. Gibberd then went on to the Court building on the Strand. Richard MacCormac laid out public housing on a grand scale at Newport, South Wales, and then developed the multi-atrium office building concept as an urban design and energy-conservation device.
Corridor around Courtyard used in old time
MASTER PLAN

NEW MASTER PLAN
URBAN DESIGN
Perspective
MASTER PLAN

NEW MASTER PLAN
URBAN DESIGN
Existing situation
- good quality trees disappear
- closed boundary
- axis
Follow the line of 47th street
Courtyard
2 parts
Passage connect old and new
Different public space a creat
Different public space
Pavement
Parkland
Above FDR
Green Land
Square/Plaza
Square/Plaza
UN to Parkland
Give back the green to the city
Extend 47th street
Axis between UN and the Tower
UN at the Highest Part
Facing to the Assembly Hall
BUILDING DESIGN

- BUILDING DEVELOPMENT
- FUNCTION DISPLAY
- ROUTING
- A NORMAL DAY OF DELEGATE
Function organized around the patio

P - Patio
Enclose Plaza the Strong Volumn
P- Patio
Rising the Ground Floor

P- Patio
Different Atriums

P - Patio        A - Atrium
Roof Gardens
P - Patio        A - Atrium
BUILDING DESIGN

- BUILDING DEVELOPMENT
- FUNCTION LAYOUT
- ROUTING
- A NORMAL DAY OF DELEGATE
Urban Setting of the Plan
Overall View of the plan
In the Ground Floor (F0)
LIBRARY
LOBBY
DELEGATE LOUNGE
CONFERENCE HALL
READING ROOM
AUDITORIUM
EXPOSITION
ENTRANCE HALL
WARDRODE
AUDITORIUM
BAR
WARDRODE
LOCKERS
TOILETS
PRODUCT SHOP
TOILETS
PRESS ROOM
AUDITORIUM
BUFFET
BRAINSTORM
OFFICE FOR BRAINSTORM
OFFICE FOR LIBRARY
ARCHIVE
STORAGE
SAFETY CONTROL
INFODESK
STORAGE
STORAGE
CLEANING
STORAGE
CARD DISTRIBUTION WORKSHOP
WORKSHOP
MEETING ROOM
MEETING ROOM
MEETING ROOM
MEETING ROOM
MEETING ROOM
MEETING ROOM
VIRDO ROOM
VIRDO ROOM
VIRDO ROOM
PRODUCTION KITCHEN
KITCHEN
FACILITY MANAGEMENT
ICT
EXPEDITION
TOILET
OFFICE
OFFICE FOR AUDITORIUM
OFFICE FOR CONFERENCE HALL

Function Display
produce
propagate
propagate
exchange
library
facility
UNHQ

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Floor -2

- Green Atrium
- Stair/Toilet/Installation
- Office/Press Room/Meeting/Brain Storm
- Library/Exhibition/Cafe/Shop
- Parking
- Auditorium
Cantiliver Office on the water Side
Floor 1

Green Atrium
Stair/Toilet/Installation
Office/Press Room/Meeting/Brain Storm
Library/Exhibition/Cafe/Shop
Parking
Auditorium
Floor 2

- Green Atrium
- Stair/Toilet/Installation
- Office/Press Room/Meeting/Brain Storm
- Library/Exhibition/Cafe/Shop
- Parking
- Auditorium
Floor 2

- Green Atrium
- Stair/Toilet/Installation
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- Auditorium
SECTION PERSPECTIVE
SECTION PERSPECTIVE
BUILDING DESIGN

- BUILDING DEVELOPMENT
- FUNCTION LAYOUT
- ROUTING
- A NORMAL DAY OF DELEGATE
Corridor space
Routing for Press/Employee
Routing for Press/Tourists

- Green Atrium
- Stair/Toilet/Installation
- Office/Press Room/Meeting/Brain Storm
- Library/Exhibition/Cafe/Shop
- Parking
- Auditorium
Routing for Delegates/Researchers
BUILDING DESIGN

- BUILDING DEVELOPMENT
- FUNCTION LAYOUT
- ROUTING
- A NORMAL DAY OF USER
Personal Information of a Delegate

Name: Marry Bellows
Nationality: Dutch
Age: How can you ask a woman this question?!
Smoker or not: Smoker
Visual connection of different atrium
BUILDING TECHNOLOGY

- STRUCTURE
- FACADE MATERLIZATION
- INSTALLATION
- CONCLUSION
1. Basement
2. Static Core
3. Slabs
4. Truss
5. Auditorium
6. Insulation/Load Bearing
7. Cement Concrete
8. Glass Facade
9. Shutter
9. Truss
10. Ceiling
11. Insulation
12. Roof
BUILDING TECHNOLOGY

- STRUCTURE
- FACADE MATERLIZATION
- INSTALLATION
- CONCLUSION
Facade 1.
Characteristic of Facade 1.

ExteriorShutter

Vertical

Curved
What is Facade 1. Optimized For?
Average Temperature/Freezing days
Requirements of Heating/Cooling

A "heating degree day" (HDD) is when the average temperature for a day is one degree less than a base temperature (65 degrees for this dataset). If a day is five degrees less than the base (60 degrees), it counts as 5 degree days (65 - 60). The number of monthly HDD is the sum of the average degree days for all of the days in the month. Example: if a month had 15 days with average temperatures of 55 degrees, and all other days above 65 degrees (which generate no HDD), there would be 15 * (65 - 55) = 150 HDD for the month. *Note: for this dataset only, the graph displays the months starting with July instead of January.*

A "cooling degree day" (CDD) is when the average temperature for a day is one degree higher than a base temperature (65 degrees for this dataset). If a day is ten degrees higher than the base (75 degrees), it counts as 10 degree days (75 - 65). The number of monthly CDD is the sum of the average degree days for all of the days in the month. Example: if a month had 10 days with average temperatures of 70 degrees, and all other days under 65 degrees (which generate no CDD), there would be 10 * (70 - 65) = 50 CDD for the month.
Main Problem Statement

Winter - Heating Problem especially for Direction 1/2
Summer - Shading Problem especially for Direction 3/4
Main Problem Statement

Winter - Heating Problem especially for Direction 1/2

Summer - Shading Problem

- cooling element
- bubble
- isokorb
- steel support element
- load bearing panel
- cement concrete

-shade by shutter
- concrete column 400*400
- double layer glass
- concrete shutter
Elements Influent Facade Heating/Shading

Window top view
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Corridor
Corridor Section
Facade 2.
Characteristic of Facade 1.

Horizontal Line

3 different part

Contrallable Shutter
Shading system:

- front shading in summer
- blind shading in winter
- front shading + blind shading in spring & summer
Shading system:

- front shading in summer
- blind shading in winter
- front shading + blind shading in spring & summer
Office space
BUILDING TECHNOLOGY

- STRUCTURE
- FACADE MATERLIZATION
- INSTALLATION
- CONCLUSION
Principles of installation systems

- Ventilation system
  - office
  - corridor
  - auditorium
  - mechanical air exchange - installed on the ceiling - supplied from the roof
  - central mechanical air exchange
  - heat/cool the air supplied

- Heating system
  - Concrete core activation
  - Combine with bubble deck
  - Water media
  - Supplied from the sea-radiation

*Figures: Activation of concrete floors for temperature control in buildings.*
Concrete Core activation synery
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Entrance

Interior Climate

Spring & Fall

Summer

Winter
Operable shutter let user to control their comfort.
Flexible shading save energy
Optimisation of each facade orientation allow best possibility
Integrated functionality of facade reduce sun penetration
Skylight provide plenty of natural light
Bubble deck floor system reduce the concrete use
Concrete core activation system allows stability in interior comfort
Park garage was kept from

CONCLUSION
Thank You