

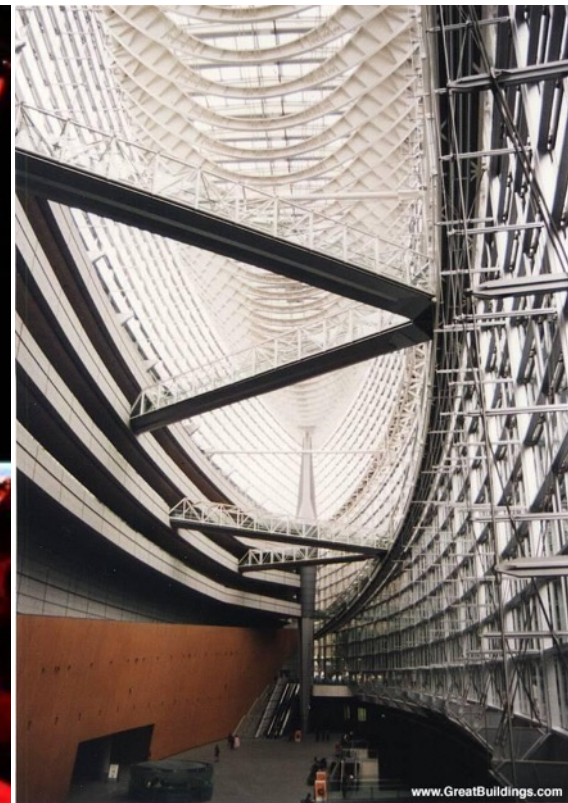


IT Complex PF Competition

DAEWOO CONSTRUCTION CONSORTIUM

WORK SESSION NO. 1, 11.03.08

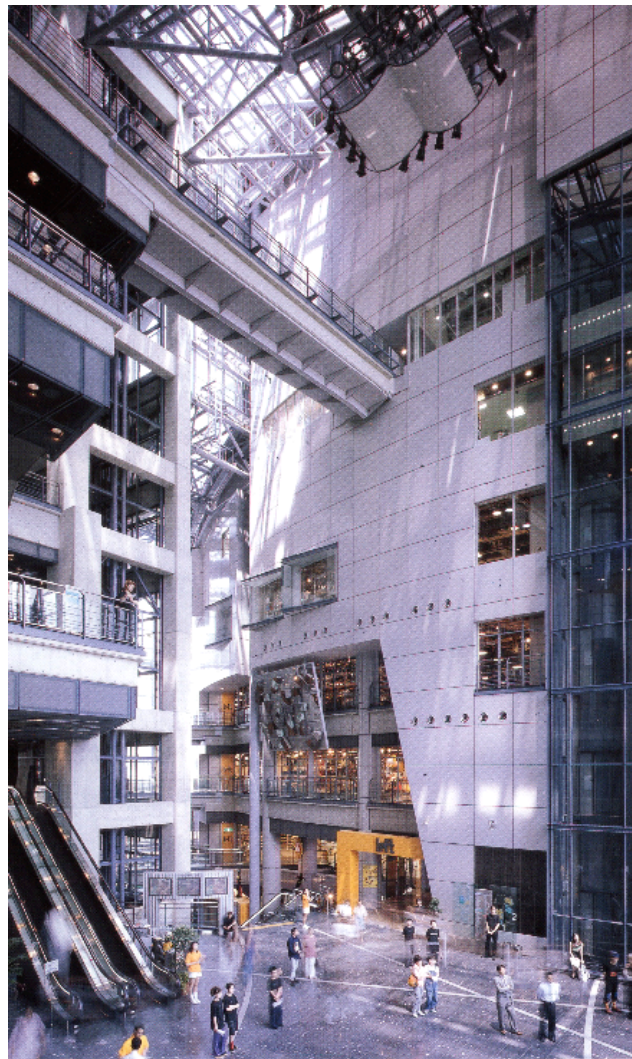
Information Technology, Broadcasting, Entertainment + Culture



d r d s

Experiences

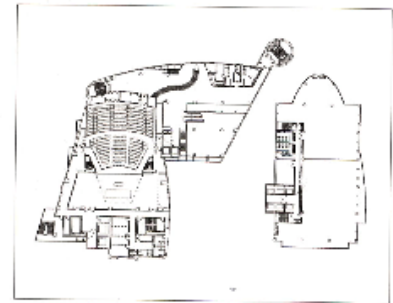
d r d s



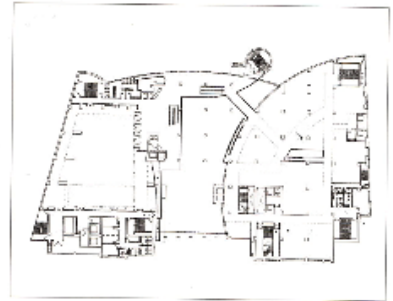
Lessons Learned: Nadya Park, Nagoya, Japan

- 1 Efficient Stacking of Program while creating synergies between program elements with energetic soaring atrium
- 2 Elevator pedestrians to top with destination and descend via escalators to activate retail
- 3 Locating theater at the top provided cost savings on building systemes

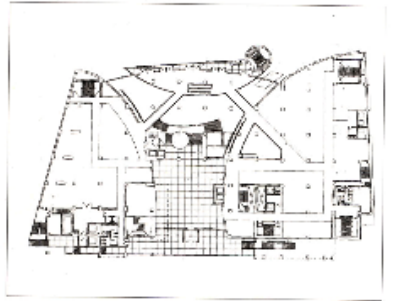
10th floor plan



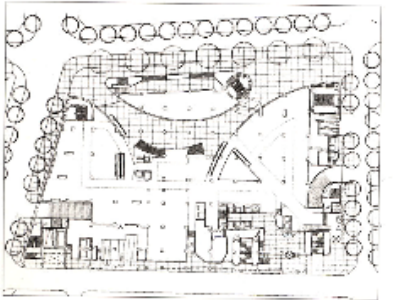
3rd floor plan



2nd floor plan



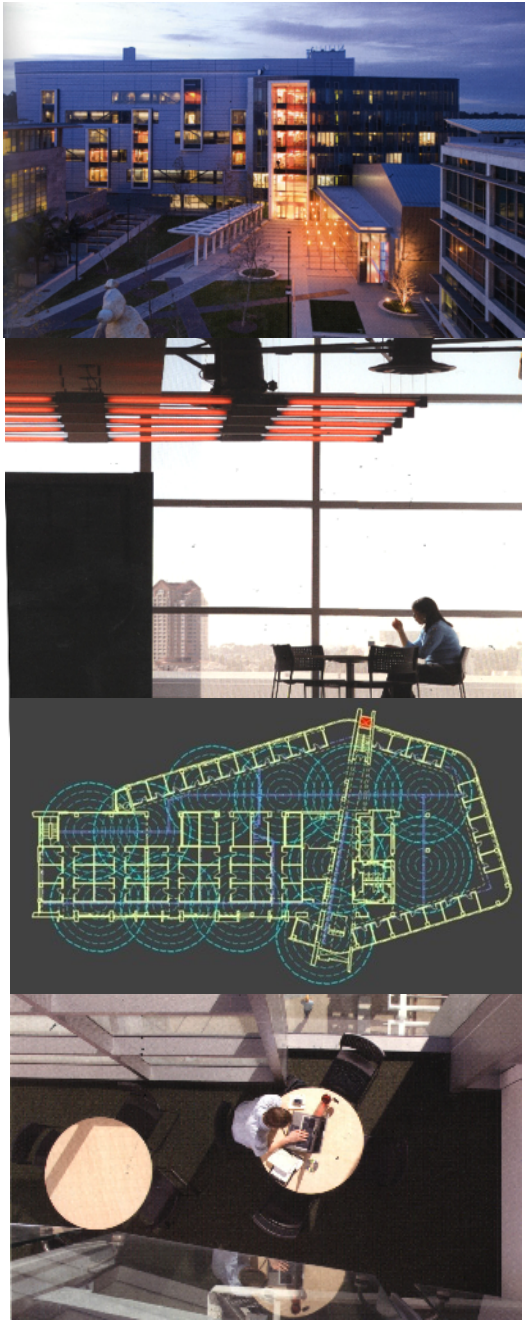
Ground floor plan





Lessons Learned: Asia World Expo

- 1 Long span structures to optimize venue flexibility
- 2 Building systems infrastructure to optimize venue flexibility
- 3 Clear pedestrian flow to optimize venue flexibility
- 4 Cost effective design to optimize construction cost



Lessons Learned: CIT 2, UCSD, California

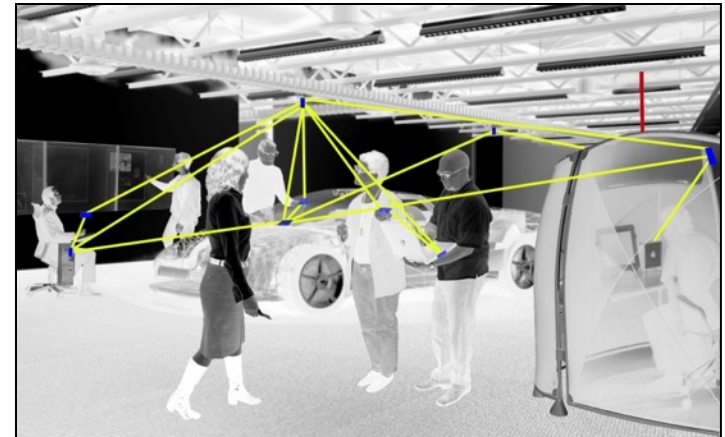
- 1 Bldg systems compatibility for ubiquitous environments
- 2 Creation of "Smart Barn" to maximize flexibility and future adaptations
- 3 Community of Discovery
- 4 High design with tight budget parameters

d r d s



Technology Design Innovation

- Flexible Building Infrastructure
Data / Power / Mechanical
- Spatial Units: Individual / Group
Flexibility of Options
Interaction & Human Element
- Material Technology
Enablers
Disablers
- Wireless-ness
Extent = Approach
Define Parameters
Establish Zones





Technology Design Flexible Environments

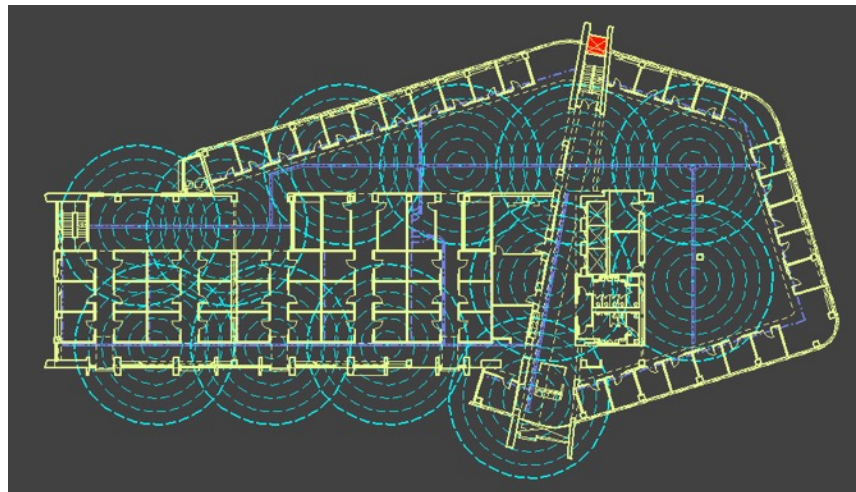
- **Structural**
 - Column free floors
 - Steel
- **Mechanical**
 - Design to accommodate program changes
 - Non-metallic ductwork is plus
- **Lighting Layouts**
 - Uniform coverage
 - Wireless controls in future
- **Fire Suppression**
 - Keep it out of the wireless zone
 - Concealed heads



Technology Design Wireless Material Transmissivity

Attenuation Through Materials (900MHz)

• Glass Wall (<i>no film/coat</i>)	0 to 2dB
• Brick Wall	2 to 4dB
• Cinder Block	3 to 4dB
• Office Wall	4 to 9dB
• Metal Door	9 to 12dB
• Floor Construction	10 to 15 dB





Intelligent Building Systems & Sustainability

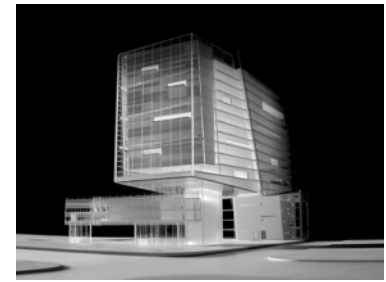
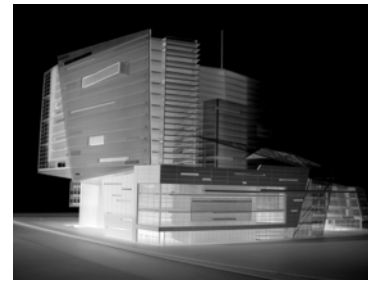
- Structural
 - Column Efficiency/ Lateral Design
- Exterior Skin
 - Solar Gain Control
 - Insulation
- Mechanical
 - Energy Management System
 - Design to accommodate change
- Lighting
 - Natural Light/ Uniform coverage
 - Wireless controls in future
- Green Roof
- Landscape Micro-climates
- Interior Non-toxic Materials
- Security



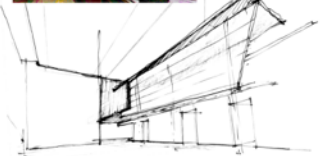
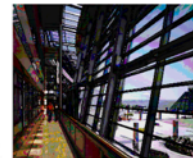
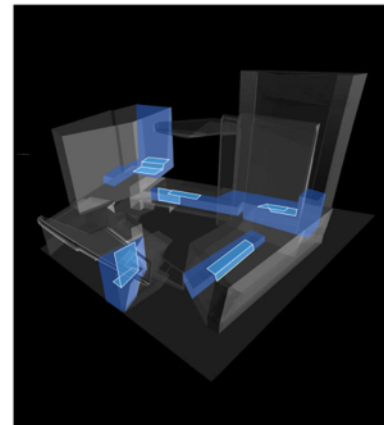


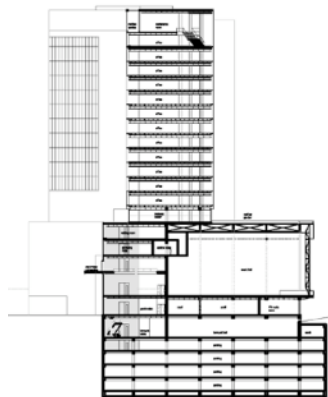
Lessons Learned: IT COMPLEX, DMC, Seoul

- 1 DMC Zoning Impact to Building Massing
- 2 Net to Gross Challenge for Efficiency while Creating Connective Public Spaces
- 2 Turnkey Budget Quality Compromises
- 3 Importance of Project Icon Identity

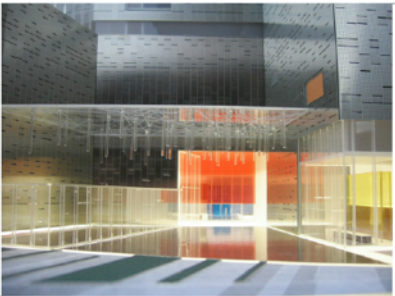


IT COMPLEX, DIGITAL MEDIA CITY, SEOUL, KOREA



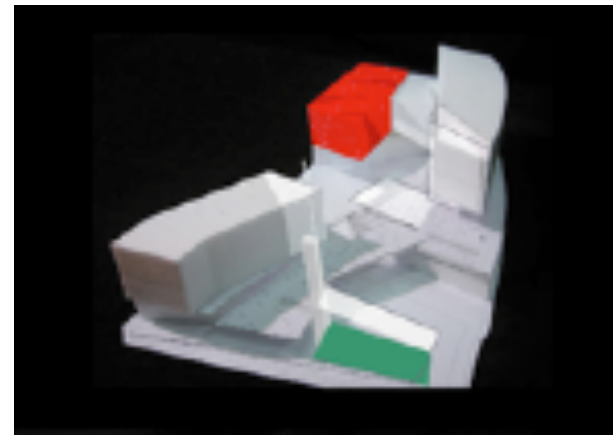


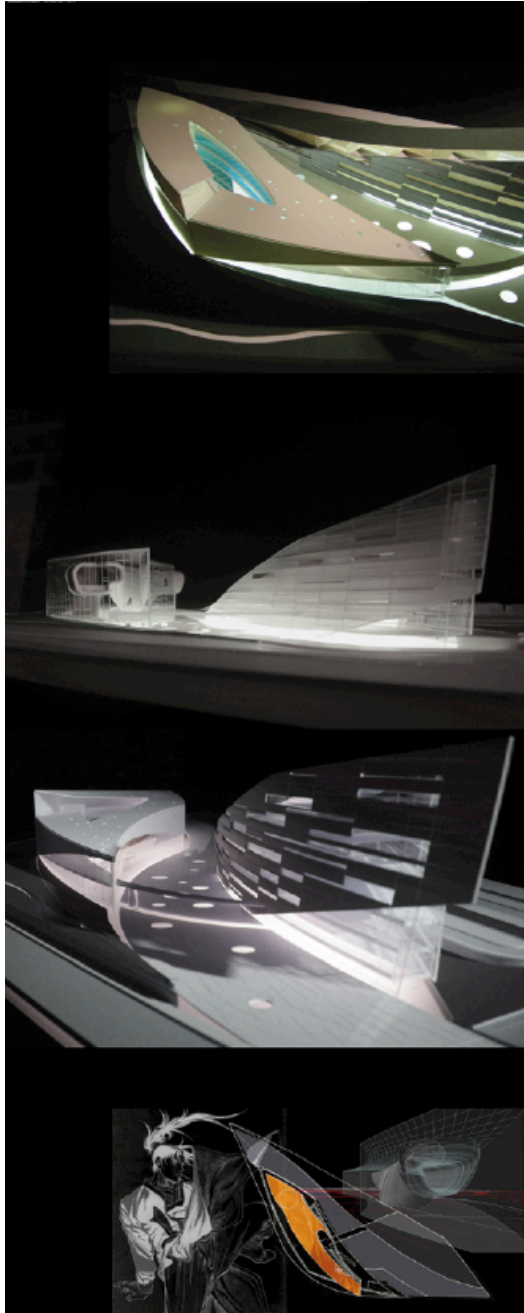
CJ HEADQUARTERS & BROADCASTING STUDIOS, SEOUL, KOREA



Lessons Learned: CJ MEDIA & ENTERTAINMENT HQ

- 1 Innovate design beyond normal program requirements.
- 2 Efficient Programming and Planning for Broadcast Needs
- 3 Innovation to create unique Identity
- 4 Design Public Plaza as Symbol of CJ Corporate Brand





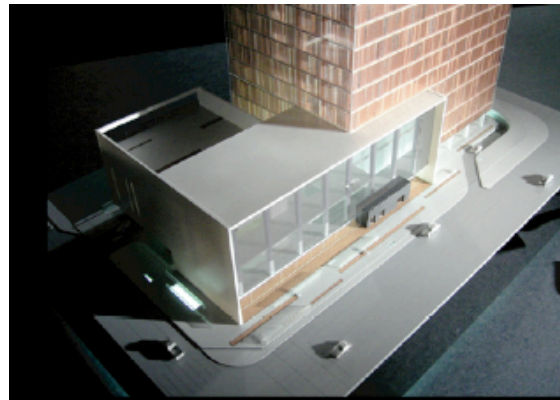
Lessons Learned: Animation Museum

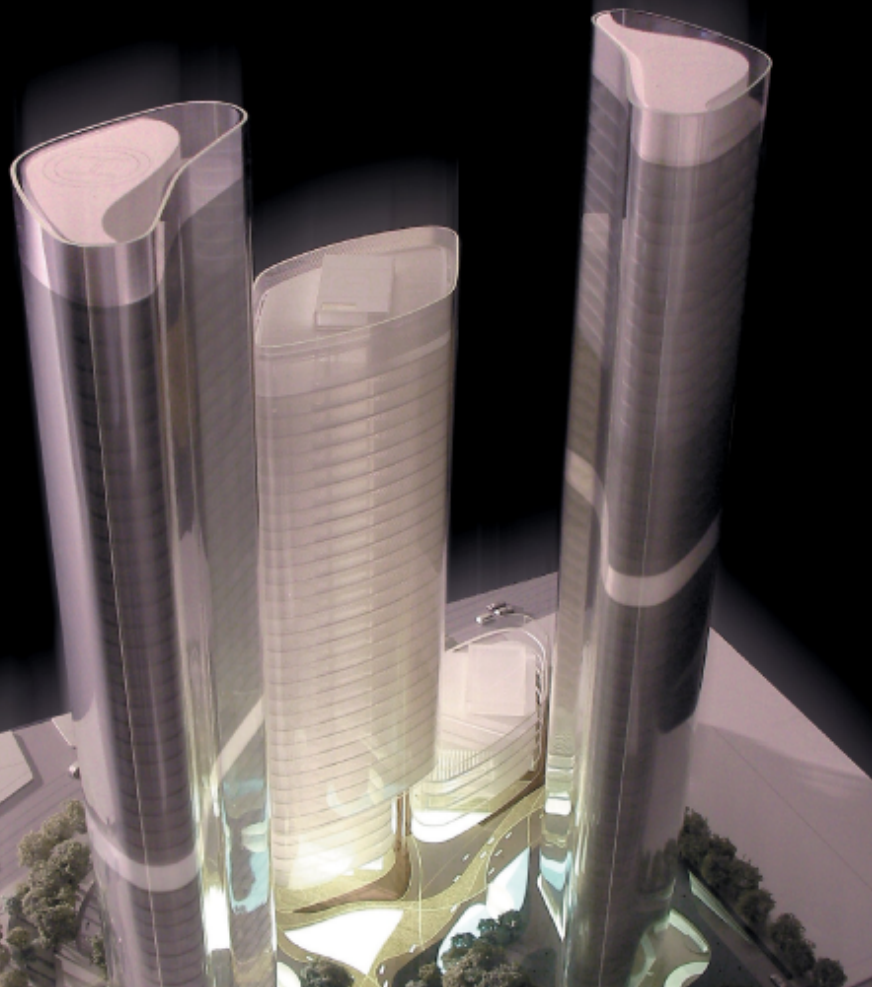
- 1 Exhibition Specialist Driven Planning assist Final Design configuration for Functional Needs
- 2 Exhibit Spaces Flexibility and Code Requirements
- 3 Construction Cost vs. Dynamics of Exhibition Spaces



Lessons Learned: NHN Headquarters

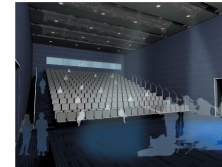
- 1 Simplicity, Sophistication, and Cultural Identity
- 2 Importance of Vertical Circulation + Efficiency
- 3 Increased Floor-to-floors to create atypical environment
- 4 Unique Exhibit Hall Design with Unknown Uses



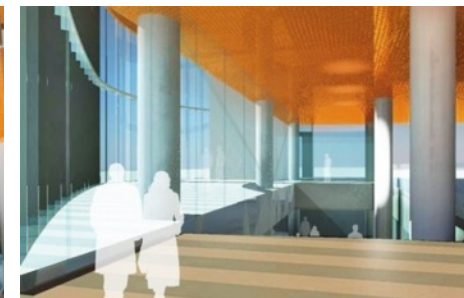
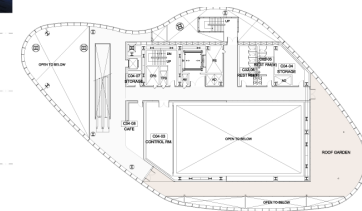


Lessons Learned: TTUKSEOM PERFORMING ARTS

- 1 Performance Flexibility for Small Venue including retractable stadium seating
- 2 Pedestrian Flow for Venue Controls
- 3 Civic Venue as Signature to Leverage Brand
- 4 Innovate Architectural Materials



Performing Arts Center



IT Project Goals

d r d s

IT Complex Client Goals



- ***Civic Image- "IT SEOUL"***
- ***IT Experiences***
 - Zones for Variety of Experiences
 - Exhibition
 - Performance Facility (E-Sports major attraction)
 - Central Common Space
- ***Functional Facilities***
 - Infra Facility (Separation of Public + Private)
 - Broadcast Facility
 - Animation Center
- ***General Goals***
 - *Strong Independence by Sector + Characteristics*
 - *Improve Efficiency through Shared Common Spaces*
 - *Connectivity + Activation of DMC Pedestrian Street*
 - *Planned Flexibility + Adaptability*
 - *Eco-Friendly, Energy Efficient (Natural Light + Ventilation)*

Program

d r d s

Seoul IT Center (SITC)

6,600 SM

- *U-City Management Center*
- *GIS Center*
- *Second Data Center*
- *U-Integrated Security Center*
- *WeGA*

Seoul Cultural Contents Center (SCC) 3,770 SM

- *Digital Contents Creation Zone*

Seoul Media Center

13,646 SM

- *Broadcasting Support Zone*
- *Broadcasting Production Zone*

Subtotal 24,016 SM



Seoul IT World:

Ubi-Seoul Experience Info. Center 1,500 SM

- *U-Business*
- *U-Government*
- *U-Transport, U-Fun*
- *U-Green, U-Care, U-GIS*
- *WeGA*

U-EXPO 1,200 SM

- *Convention Center*
- *Digital Show Room*

Digital Theater 1,050 SM

- *Digital Theater (200 Seats)*
- *4D Theater (50 Seats)*
- *Subsidiary Room*



Seoul IT World: Digital Amusement Place

5,060 SM

- *E-Sport Stadium*
 - *Main Stadium 500 Seat*
 - *Auxiliary Stadium 150 Seats*
- *Joy Museum + Library*
- *Technology Bar*

Multipurpose Hall

1,800 SM

Multipurpose Hall (500 Seats)

Welfare & Convenience

1,865 SM

- *Office & Attached Facilities*
- *Restaurant*
- *Fitness Club*
- *Cafeteria*
- *Daycare Center*
- *Restrooms*
- *Storage*

Subtotal 13,275 SM



Program Analysis

d r d s

zone	division	dept/room	area	div area	sum studio	basic rm	acc flr	2x flr		
seoul media center broadcast support zone	chief	office-easy	99	99	99					
		office-easy	33							
		open office	172							
	Planning + coordination	open office	87							
		conference room	40	352	352					
		office	33							
	radio	open office	244							
		open office	290							
		conference room	50	617	617				2 rooms	
	tv	open office	33							programming and planning
		preview	33							
		operating	17							
		open office	344							
		editing	90							(15) 5.5m editing rooms adj to CG
		production	111							
		studio	20							
		equip storage	30							
		flex storage	15							
		conference room	95	964	964					2 rooms
	news	open office	221							
		4 multifunction rooms	120							
		editing	30							(5) 5.5m
	new media	anchor dept.	141							
		various generic rooms	23	568	568					conf/seminar/dressing/make-up
		director's office	33							
	consideration	open office	114							
		open office	183							
		open office	164							
	support and common	conference room	30	524	524					
		office	33							
		open office	88							
		monitoring room	99							
		conference room	33	253	253					
server room		158								
server room		600								
repair equip		100								
staff meeting room		20								
storage		100								
open office		100								
conference room		40								
conference room		30								
office		30								
open office		900							equip intensive	
storage	250	2538	2538							
storage	200									
storage	5915									
broadcast production zone	tv studio	main control room	100							
		studio1	660	760				660	5m ch min	
		studio2	480	580				480	5m ch min	
		studio3	480	580				480	5m ch min	
		conference room	30							
		editing	100							
		editing	50						2 rooms	
		editing	20							
		generic	60							
		CG room	30							
		mobile tv prod	12							
		generic	30							
		generic	20							
		generic	30							
		generic	12							
storage large equip	40						adj to freight elev			
main control room	40									
open office	12									
open office	30									
open office	30	2786	2786							
broadcast production zone	fm studio	FM MCR	200							
		studio live	230							
		studio live/mc	110							
		studio rec	110							
		studio live standby	170	620						
		studio multi	500	500				500	app floor	
		generic	60							
		generic	140							
		editing	70							
		generic	80							
		generic	80	1720	600					
		studio 2 live	165							
		PTV MCR live	80							
		editing	20							
		control room	50	575	575					
broadcast production zone	synthesis news room	studio	200							
		control room	110							
		studio	20							
		editing	100	430	210					
		open office	450							
		working rooms	800							
		studio	120						7m ht req	
		reporter room	100							
		event observing area	200							
		computer equip	250							
		control center	100							
		conference room	40							
		generic	20							
		generic	20	2100	1980					
		chief participation zone	broadcasting plaza	studio	230					
editing	60									
editing	20									
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editing	20			400	170					
converting	20									
studio	230									
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editing	20	400	170							
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SEOUL IT PROGRAM DESIGN OPPORTUNITIES

Seoul IT Center (SITC)	6,600 SM
<ul style="list-style-type: none"> • <i>U-City Management Center (U-Seoul Exhibition)</i> • <i>GIS Center</i> • <i>Second Data Center</i> • <i>U-Integrated Security Center</i> • <i>WeGA</i> 	
Seoul Cultural Contents Center (SCC)	3,770 SM
<ul style="list-style-type: none"> • <i>Digital Contents Creation Zone (Two Open Studios)</i> 	
Seoul Media Center	13,646 SM
<ul style="list-style-type: none"> • <i>Broadcasting Support Zone</i> • <i>Broadcasting Production Zone</i> 	
Ubi-Seoul Experience Info. Center	1,500 SM
<ul style="list-style-type: none"> • <i>U-Business</i> • <i>U-Government</i> • <i>U-Transport, U-Fun</i> • <i>U-Green, U-Care, U-GIS</i> • <i>WeGA</i> 	
U-EXPO	1,200 SM
<ul style="list-style-type: none"> • <i>Convention Center</i> • <i>Digital Show Room</i> 	
Digital Theater	1,050 SM
<ul style="list-style-type: none"> • <i>Digital Theater (200 Seats)</i> • <i>4D Theater (50 Seats)</i> • <i>Subsidiary Room</i> 	
Digital Amusement Place	5,060 SM
<ul style="list-style-type: none"> • <i>E-Sport Stadium</i> <ul style="list-style-type: none"> – <i>Main Stadium 500 Seat</i> – <i>Auxiliary Stadium 150 Seats</i> • <i>Joy Museum</i> • <i>Technology Bar</i> 	
Multipurpose Hall	1,800 SM
<ul style="list-style-type: none"> • <i>Multipurpose Hall (500 Seats)</i> 	
Welfare & Convenience	1,865 SM
<ul style="list-style-type: none"> • <i>Office & Attached Facilities</i> • <i>Restaurant</i> • <i>Fitness Club</i> • <i>Cafeteria</i> • <i>Daycare Center</i> • <i>Restrooms</i> • <i>Storage</i> 	



Urban Context

d r d s

Digital Media City Vision

On the last undeveloped expanse of land in Seoul - the world's most wired city - a gateway to tomorrow is under construction: Digital Media City. Our vision for this project is threefold. It is designed to be:

- The world's foremost production center for digital media content*
- A world-class industrial-academic research center*
- The best business city in North East Asia.”*

Lee Myung Bak, Mayor of Seoul



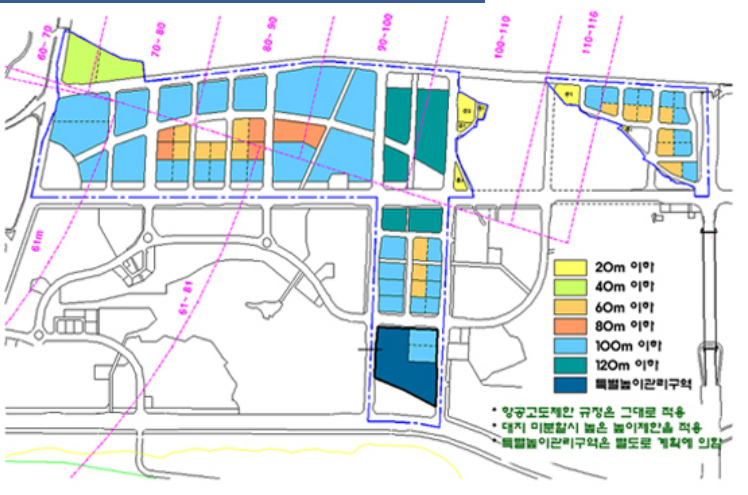
Scope Limit



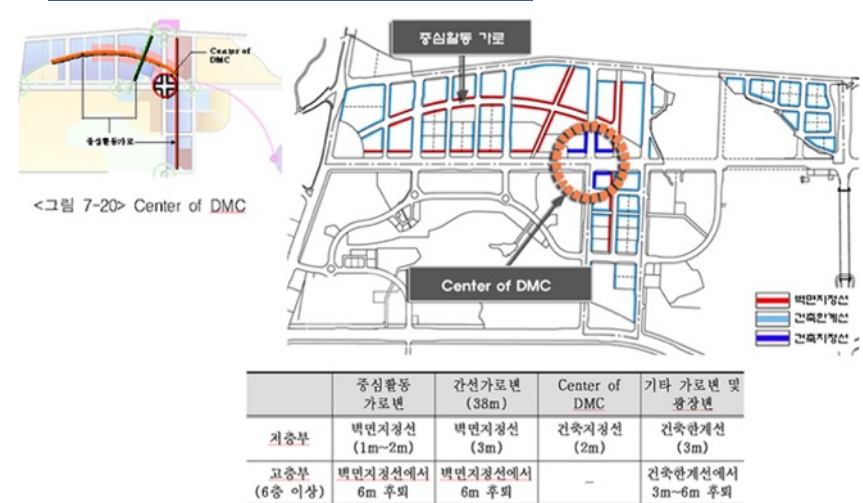
Street Design



Height



Density





d r d s



d r d s



d r d s

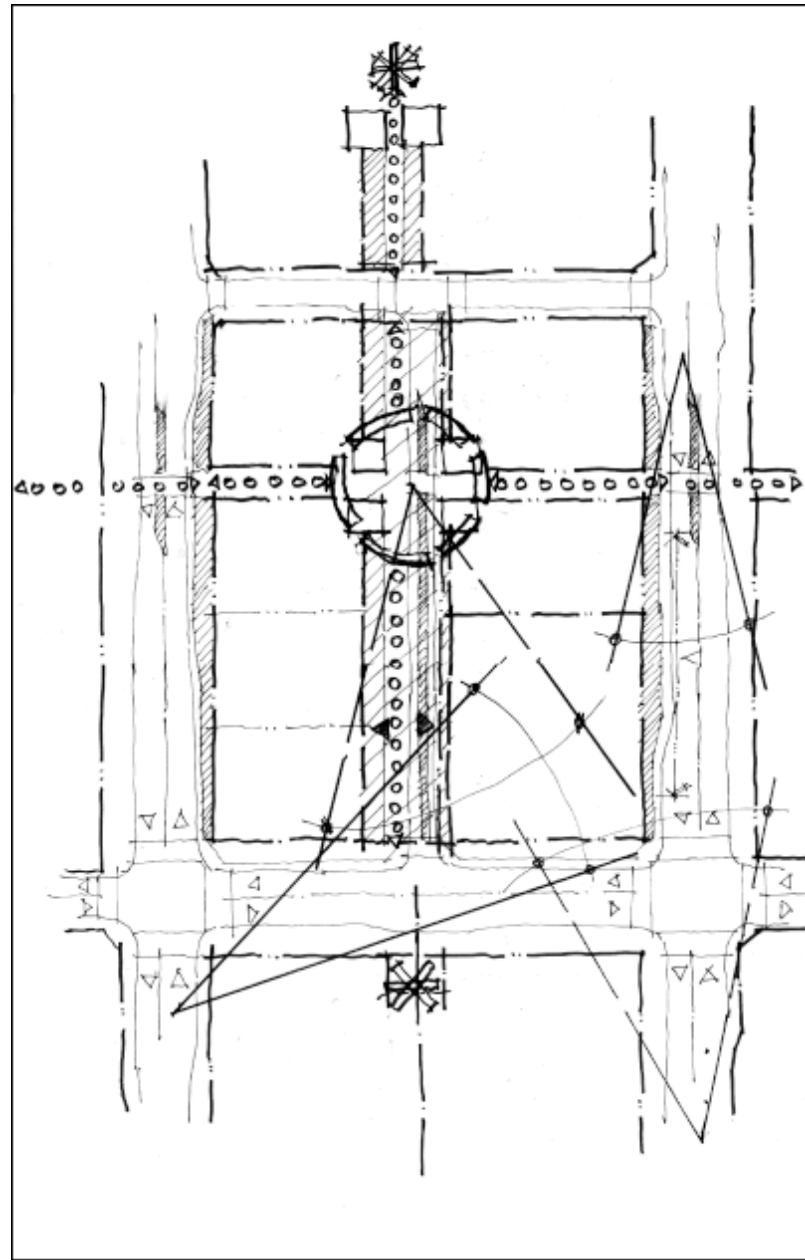
Site Analysis

d r d s



Site Constraints

- Site Area: 6,621 SM
- Site Coverage: 60%
- Allowable FAR: 700 %
- Height Limit: 100 M
- Setbacks
 - 3 Meter Tower Setback
 - 3 Frontal Open Space (West)
 - No Setback at North

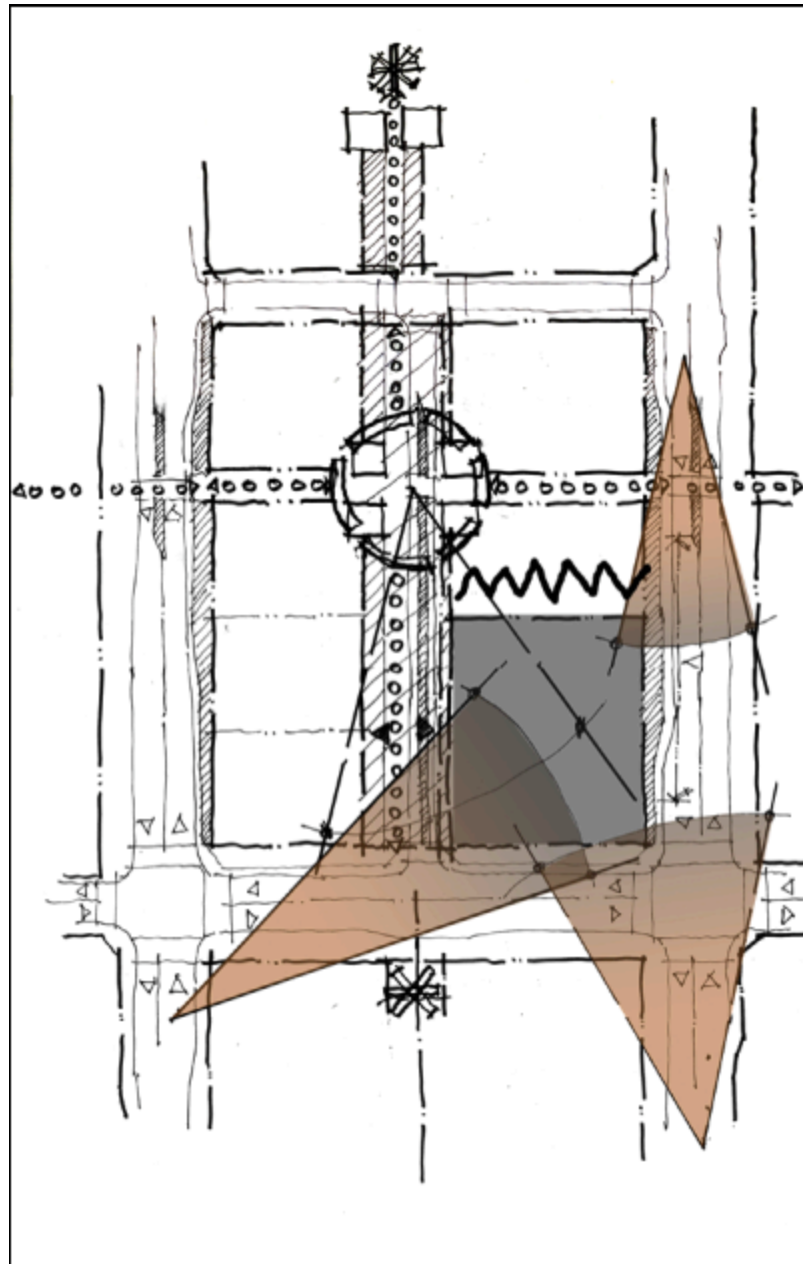


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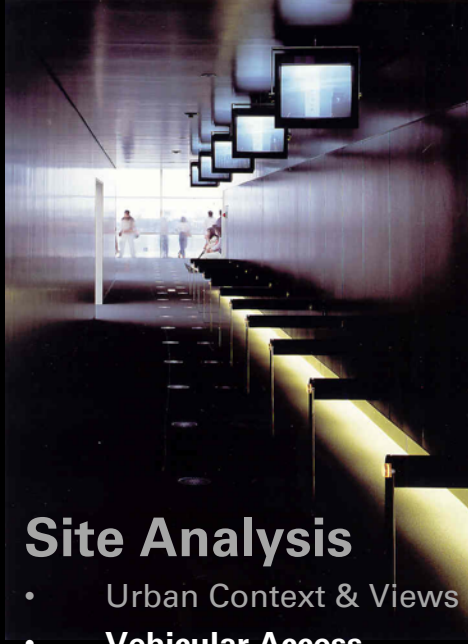


Site Analysis

- **Urban Context & Views**
- Vehicular Access
 - Public
 - Support
 - Service
- Pedestrian Access + Flow
- Connectivity & Integration
 - DMC
 - IT Complex Program Components
- Building Location

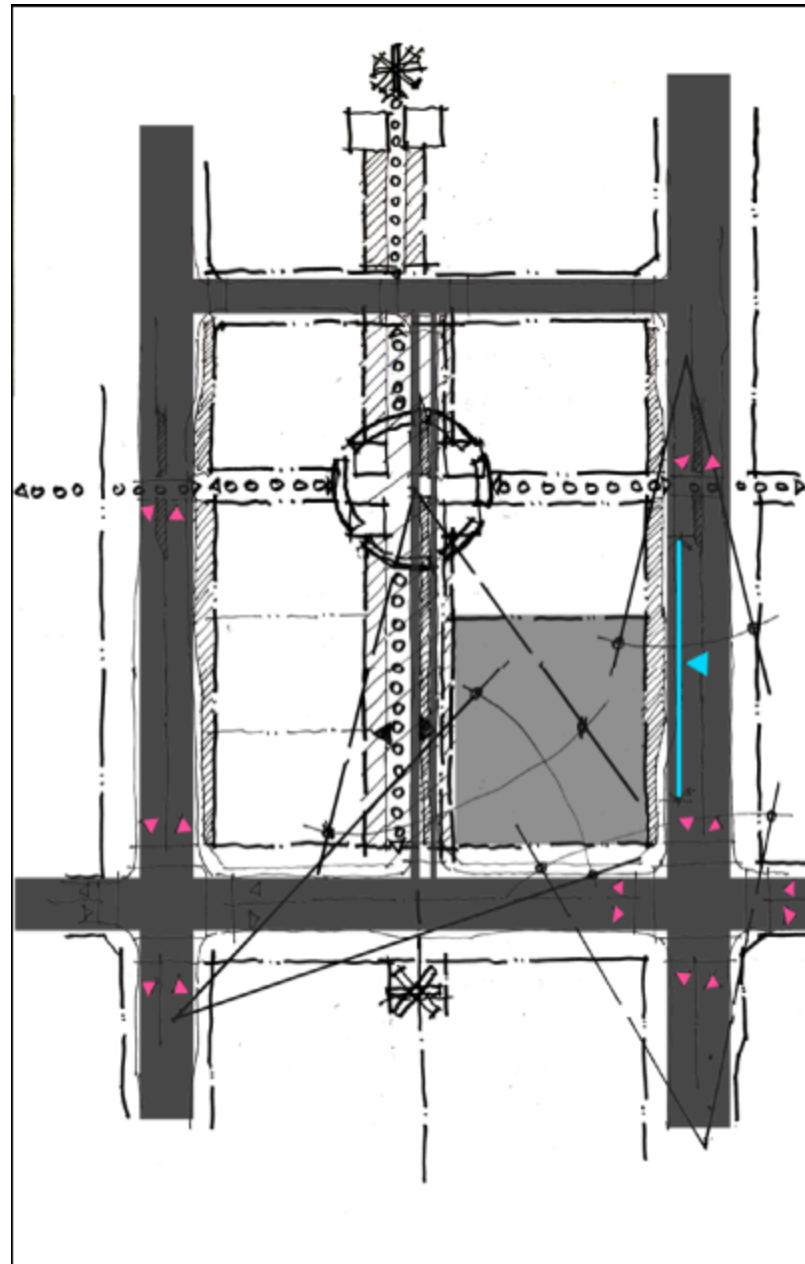


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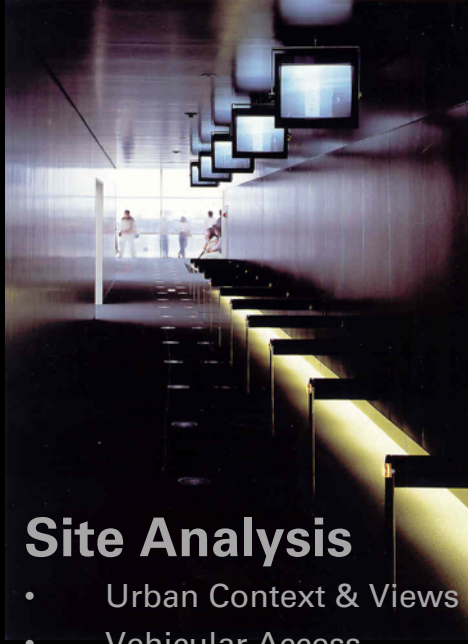


Site Analysis

- Urban Context & Views
- **Vehicular Access**
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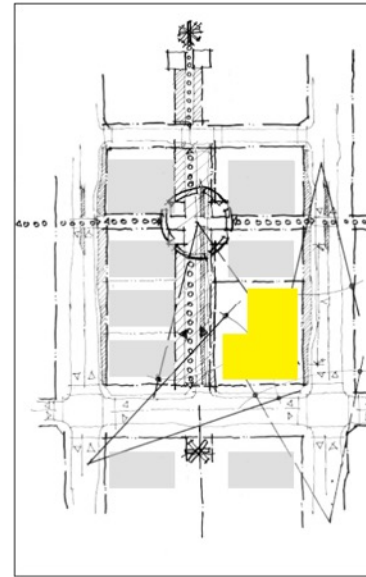
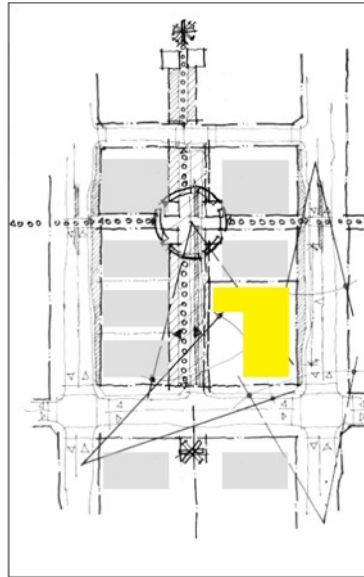
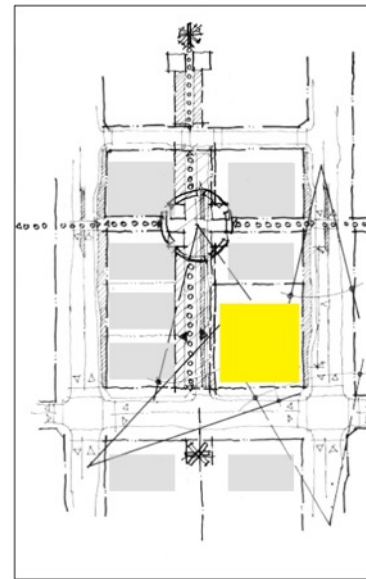
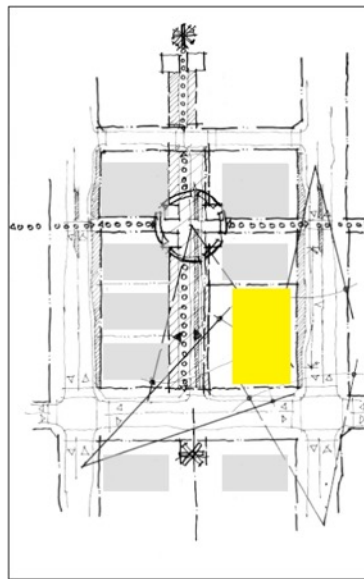


d r d s



Site Analysis

- Urban Context & Views
- Vehicular Access
 - Public
 - Support
 - Service
- Pedestrian Access + Flow
- Connectivity & Integration
 - DMC
 - IT Complex Program Components
- **Building Location**



d r d s

Approach

d r d s

IT Complex Design Goals



- ***ARCHITECTURAL IMAGE***
 - *Celebrate and Communicate the Program Functions*
 - *Placemaking: IT Complex as Memorable Experience*
- ***IT/ U-Experiences***
 - Zones provide variety of EXPERIENCES both public, guests, and staff
 - Unexpected– sense of DISCOVERY + INNOVATION
 - Cybrids: Interaction of “Space” and “Technology”
 - Pedestrian Destination at DMC Street
- ***Program Technical Efficiencies***
 - Broadcast Facilities
 - Exhibition and Cultural Venues
 - Building Systems

*What is the Ubiquitous Environment
that will define IT Seoul?*

d r d s

u-Exhibition Interaction

- * U-GAMES
- * LIBRARY / MUSEUM
- * EXHIBITION INFO-CONTROL

Ubiquitous Network

u-Public Services

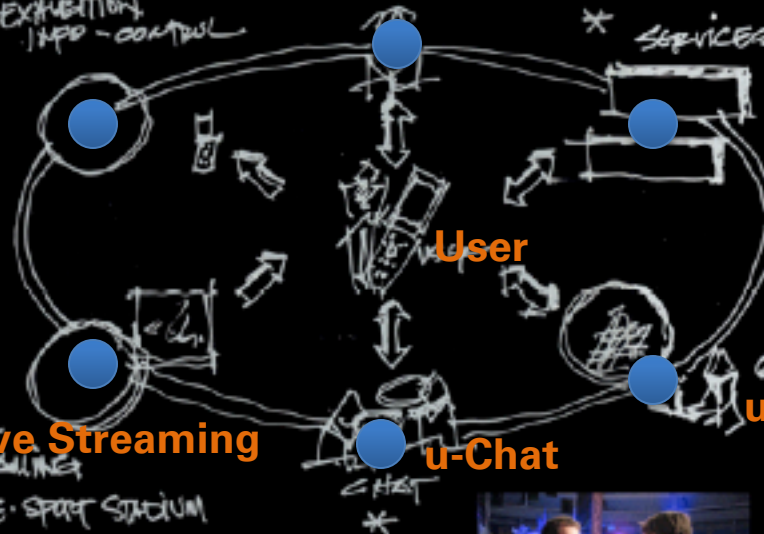
- * SERVICES
- TRAFFIC CTRL. S
- FOOD / REST.
- EXHIBIT / T
- EVENT / T
- * GALLERY / INTERACTIVE

u-Live Streaming

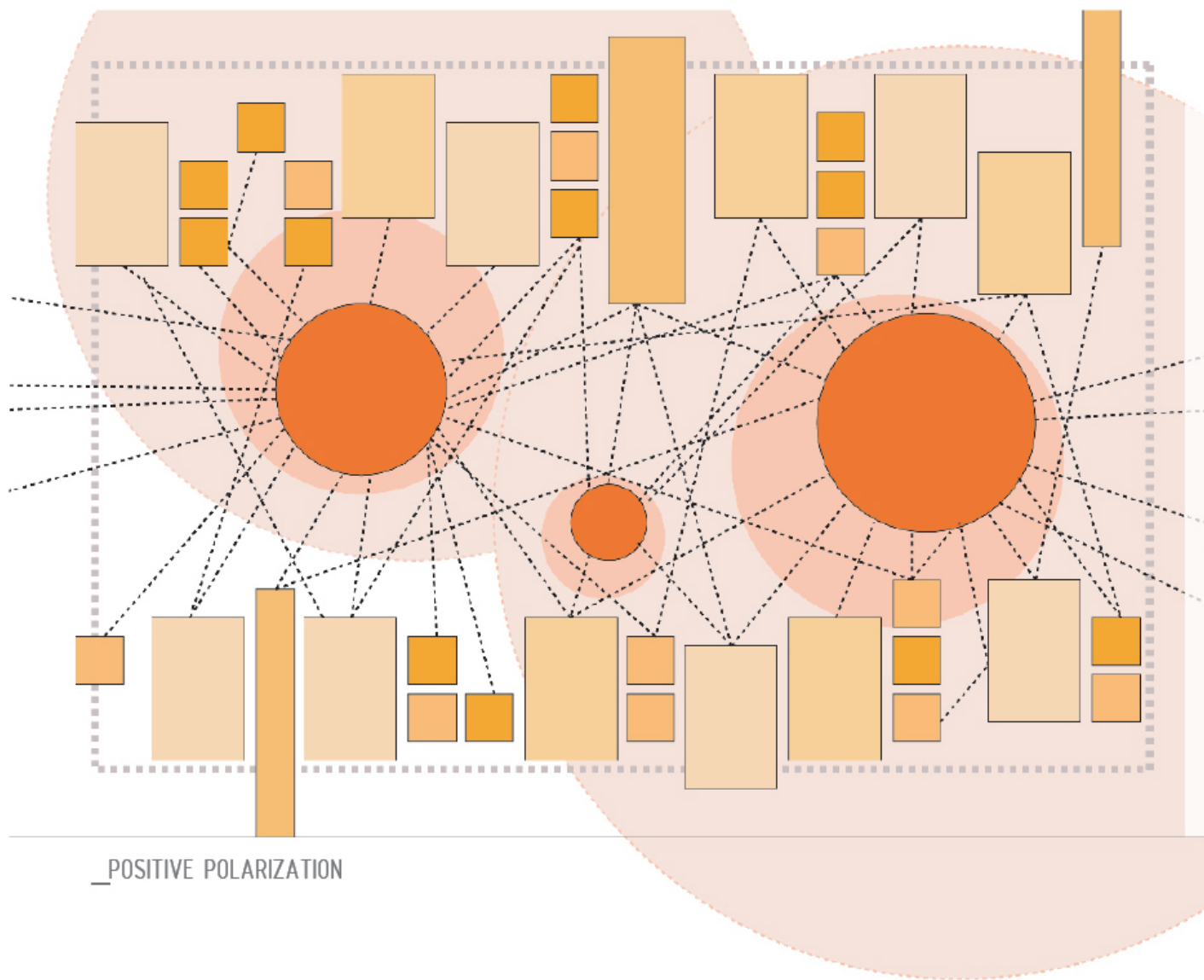
- E-SPORT STADIUM
- REGIONAL EVENTS
- INT. EVENTS
- BROADCASTING
- CREATION ZONE
- TV, FM, CMPS, NEWS.
- PLAZA

u-Chat

u-Gaming Interactive



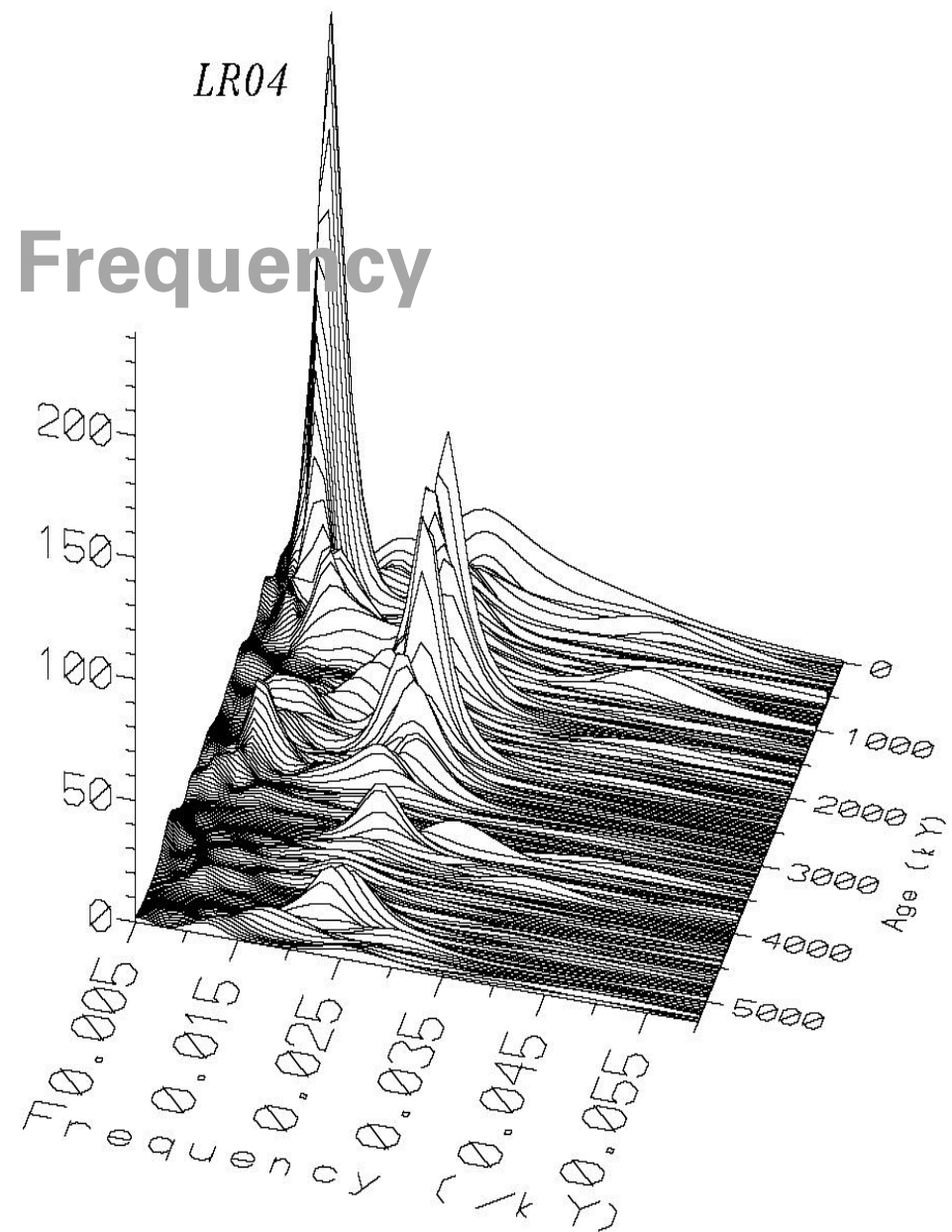
*How can IT Seoul provide numerous
Memorable Experiences?*



d r d s

*What is the architectural response
to enable the ubiquitous nature
of IT Seoul?*

Transmission



d r d s



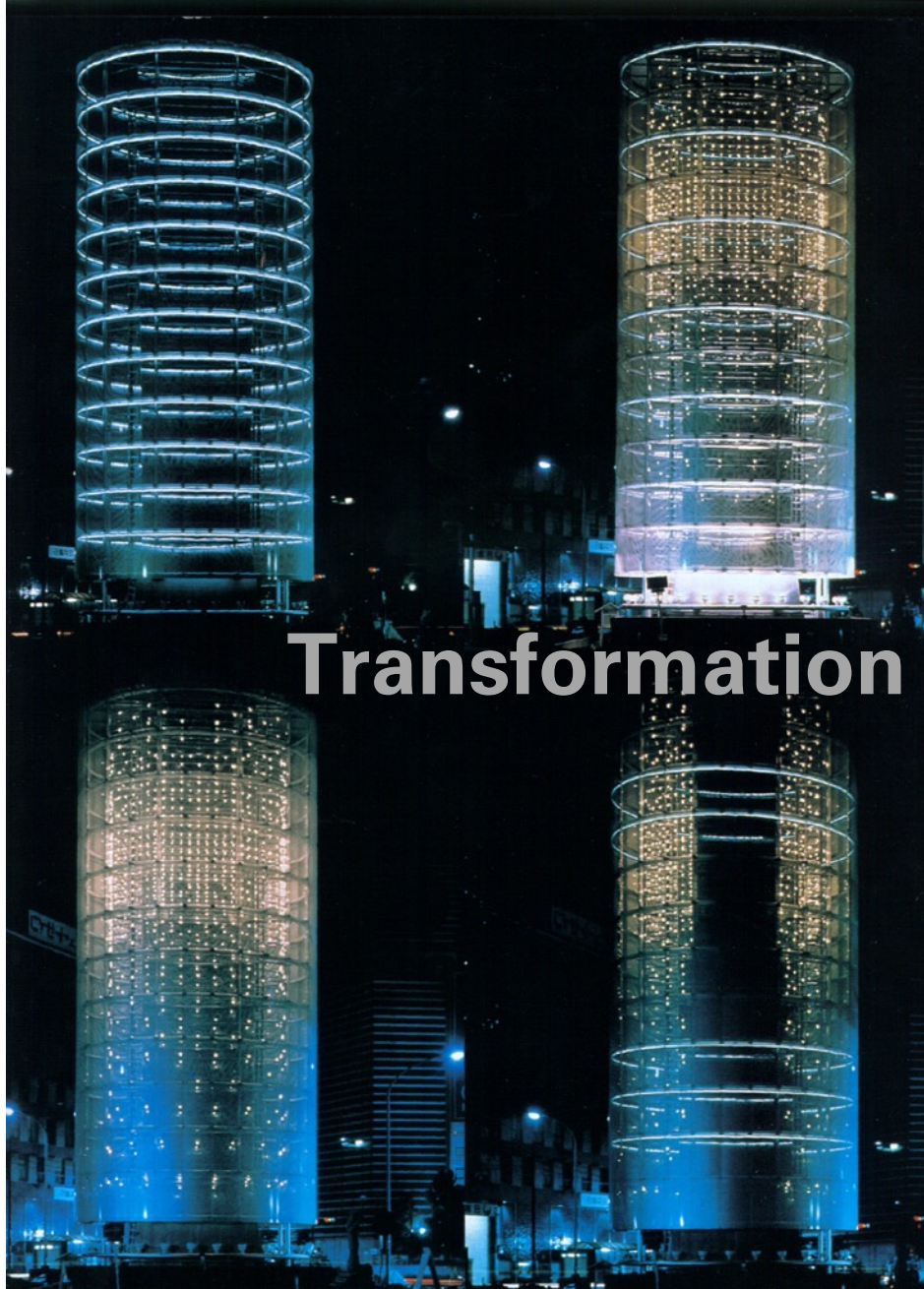
Digital Language

1517



Question Boundries

d r d s

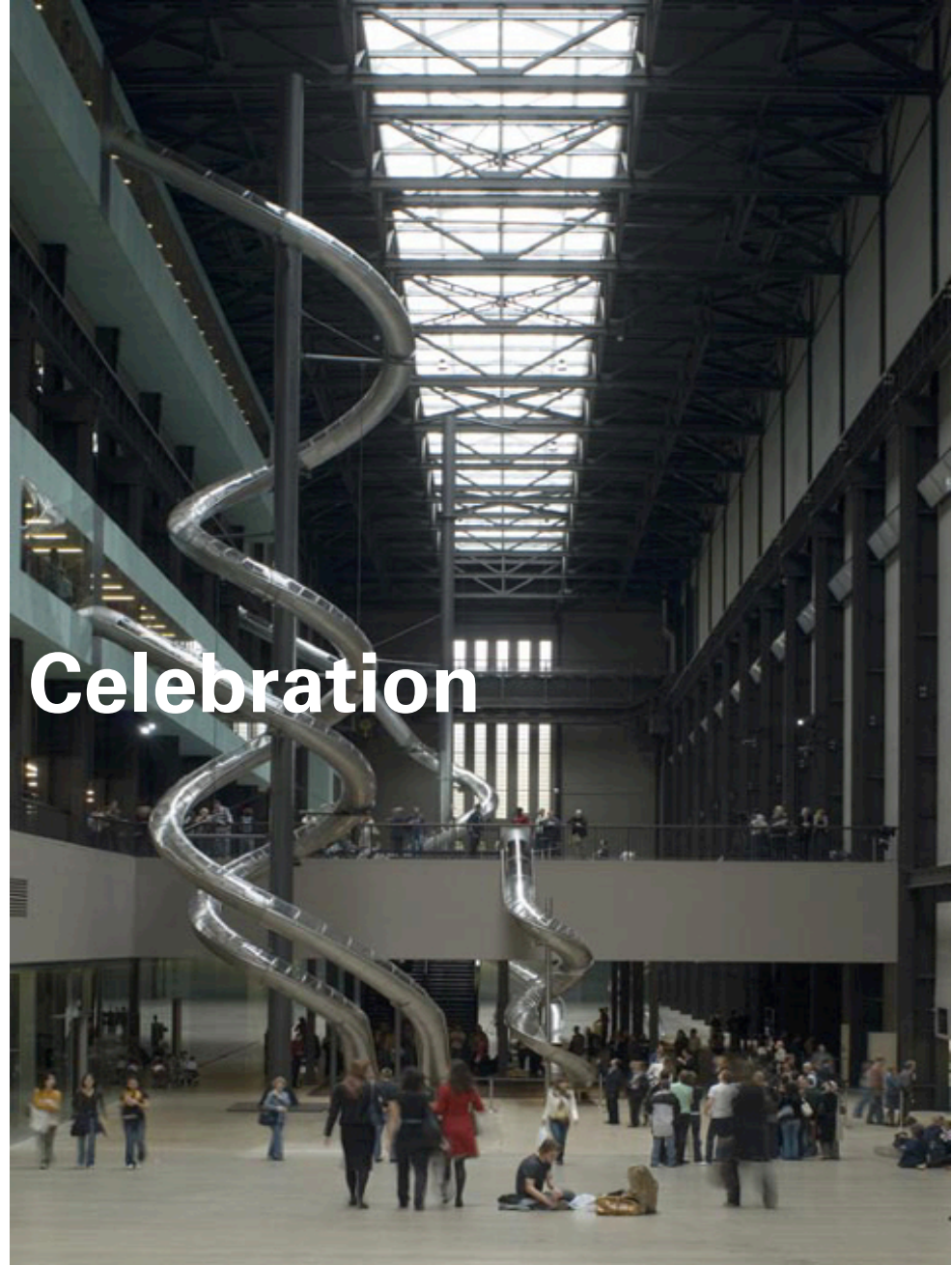
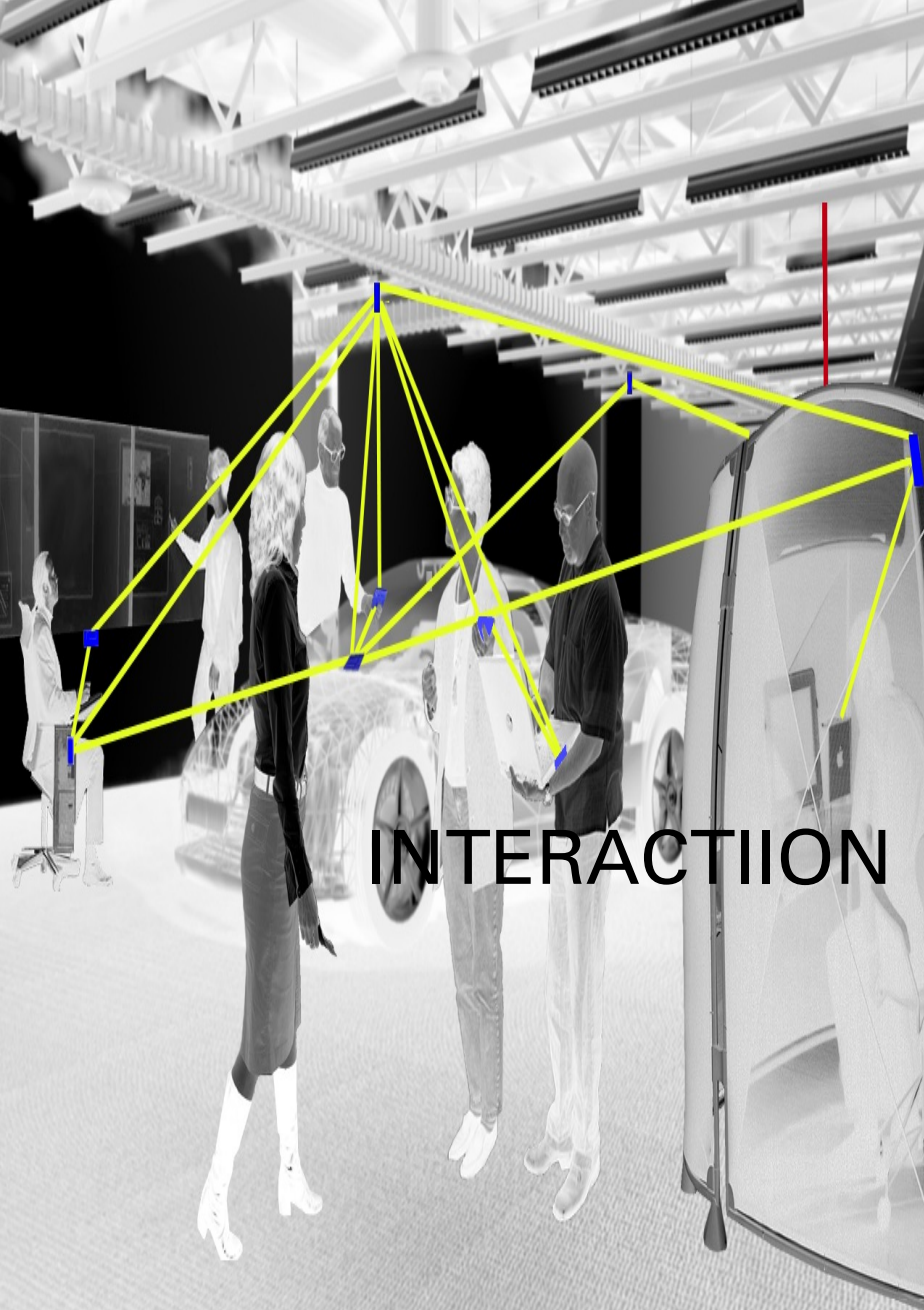


Transformation



Discovery

d r d s



d r d s



Technology Box

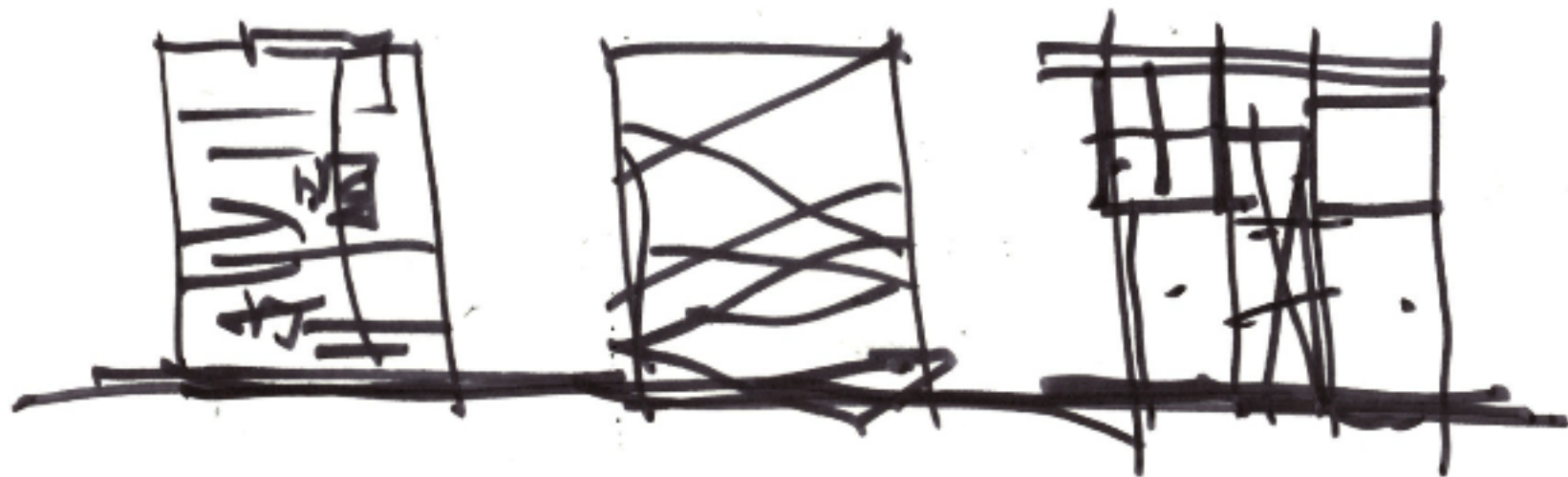


Beautiful Wrap

d r d s

Design Explorations

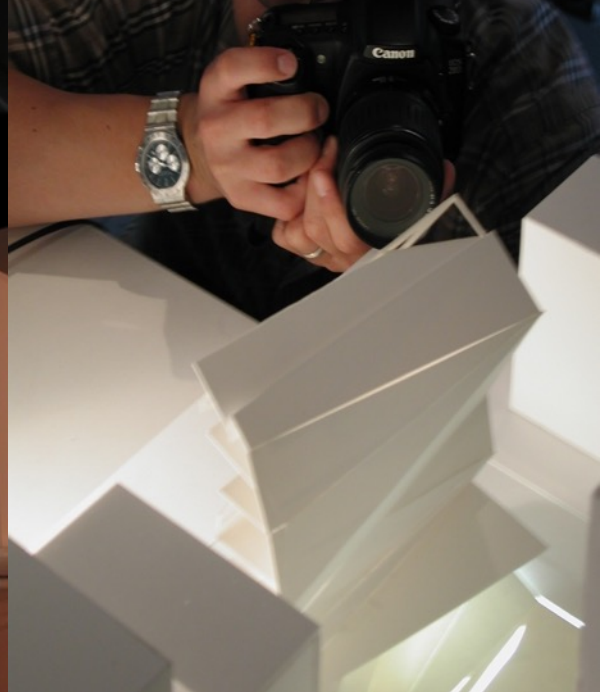
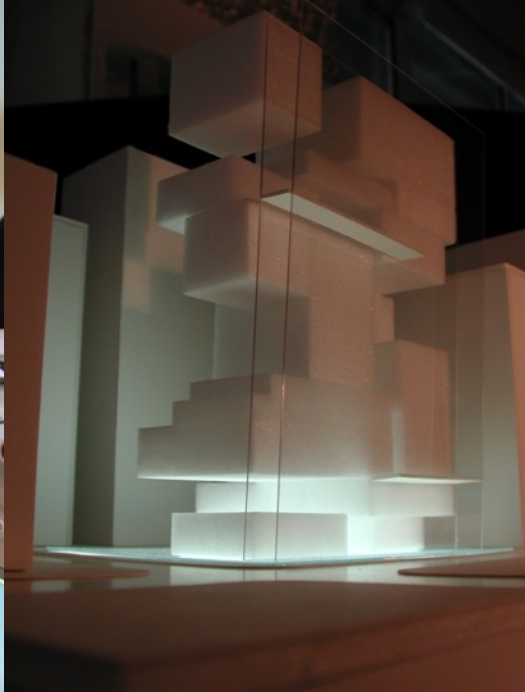
d r d s



d r d s



d r d s



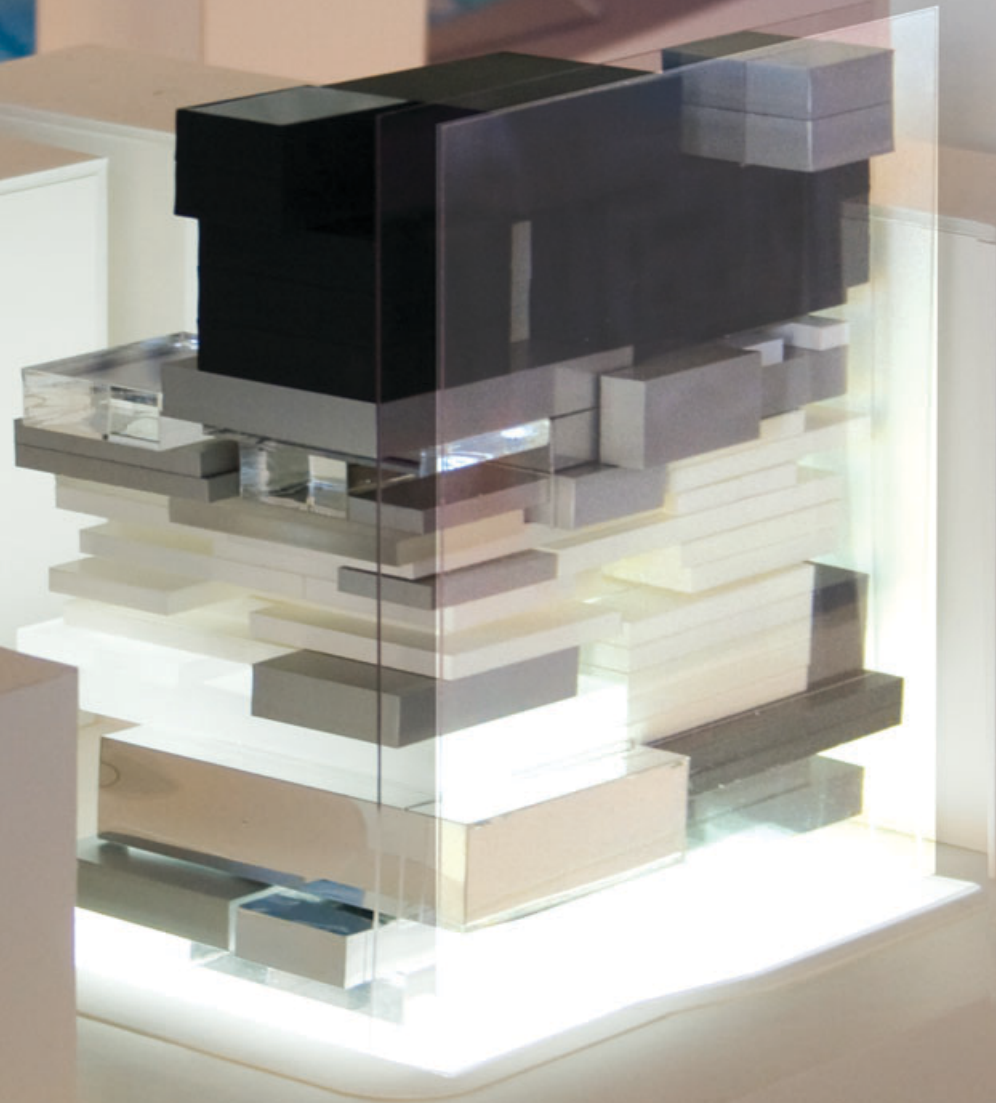
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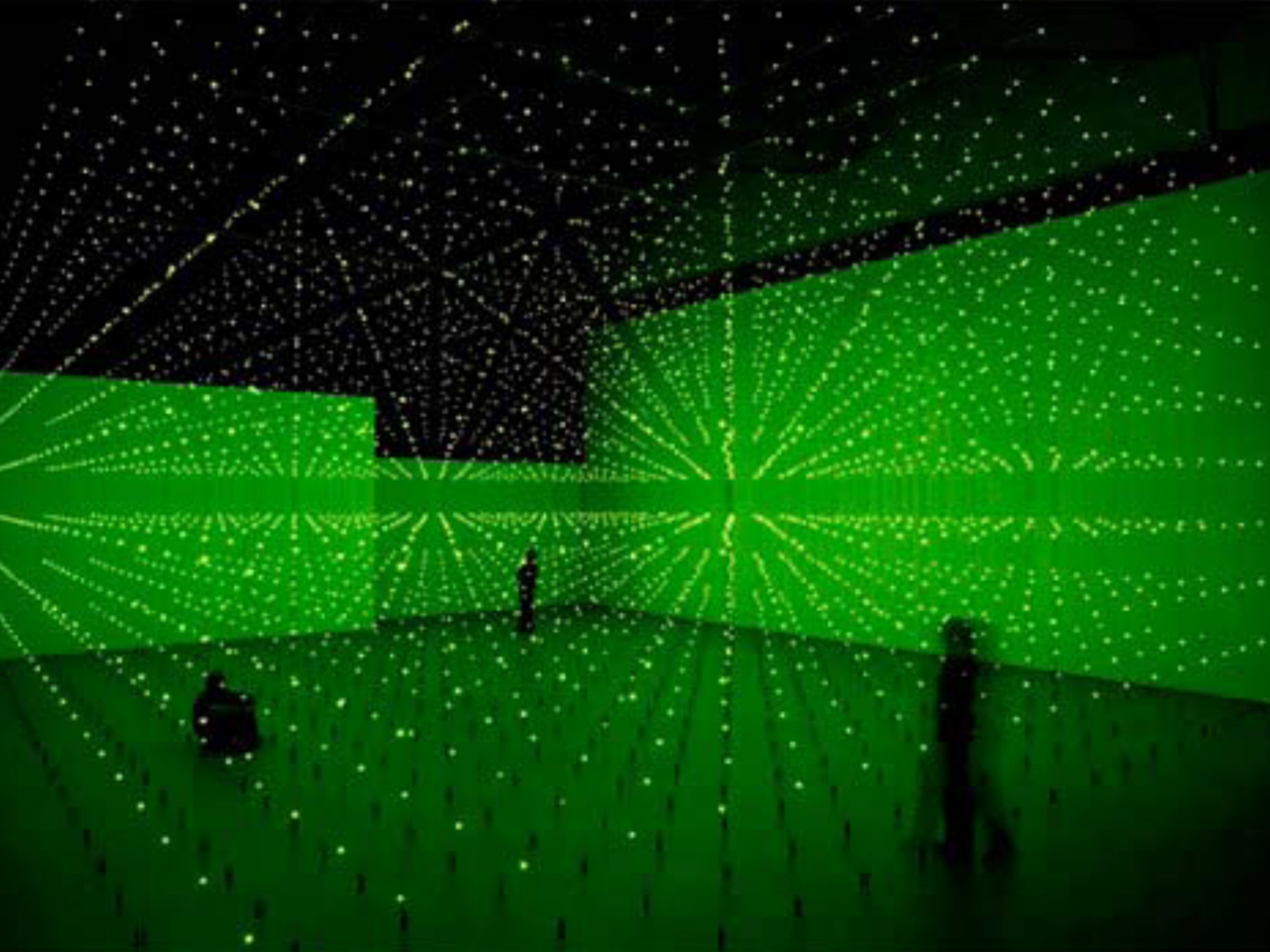
STACK

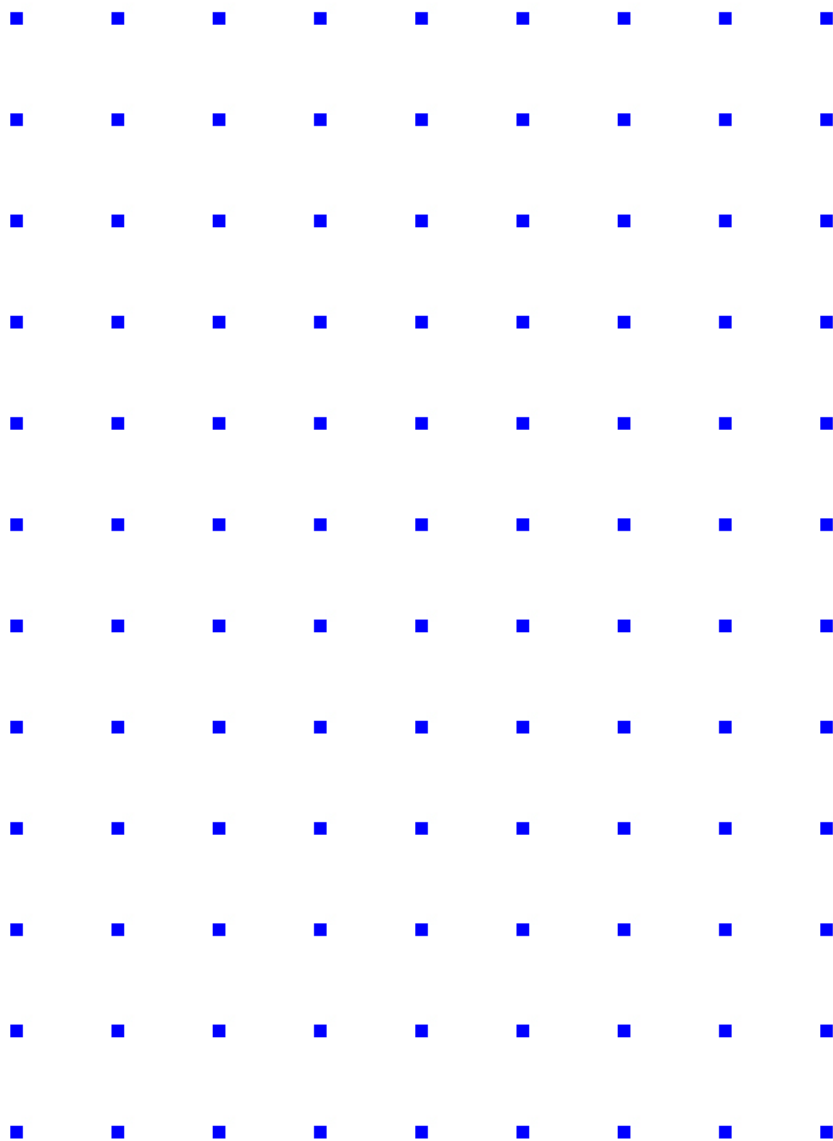
d r d s

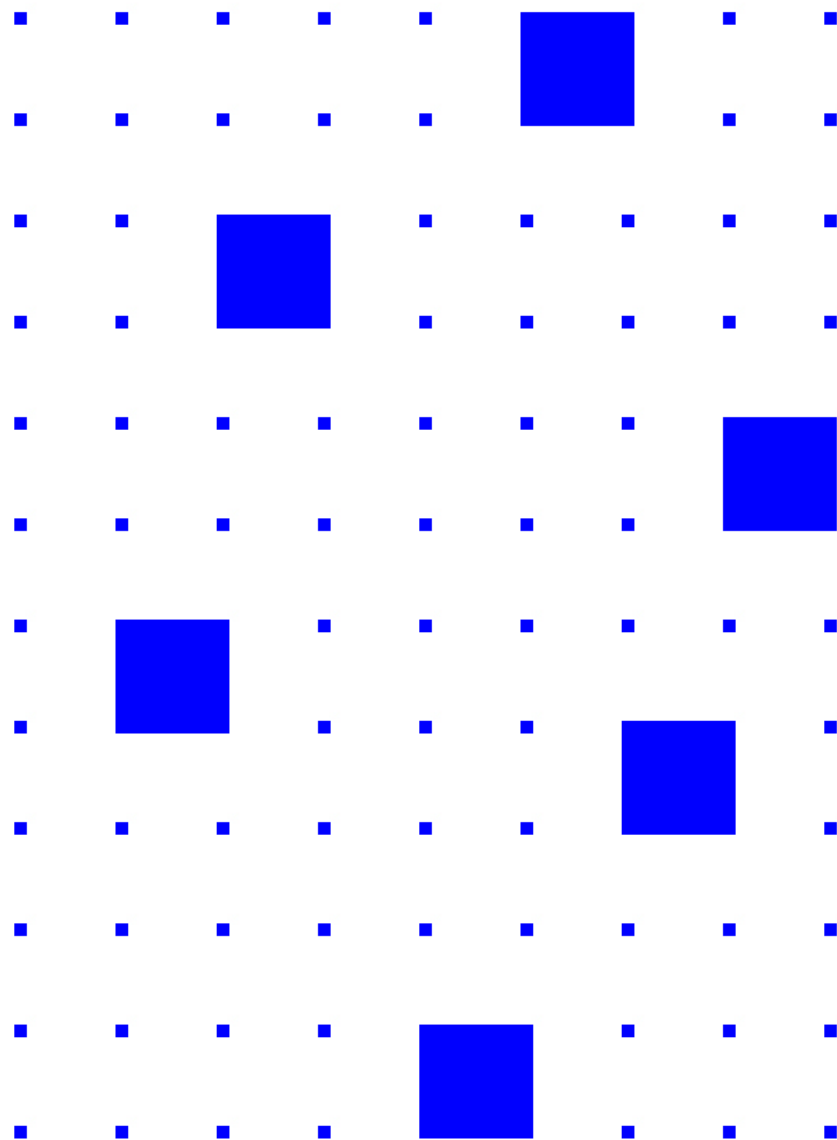


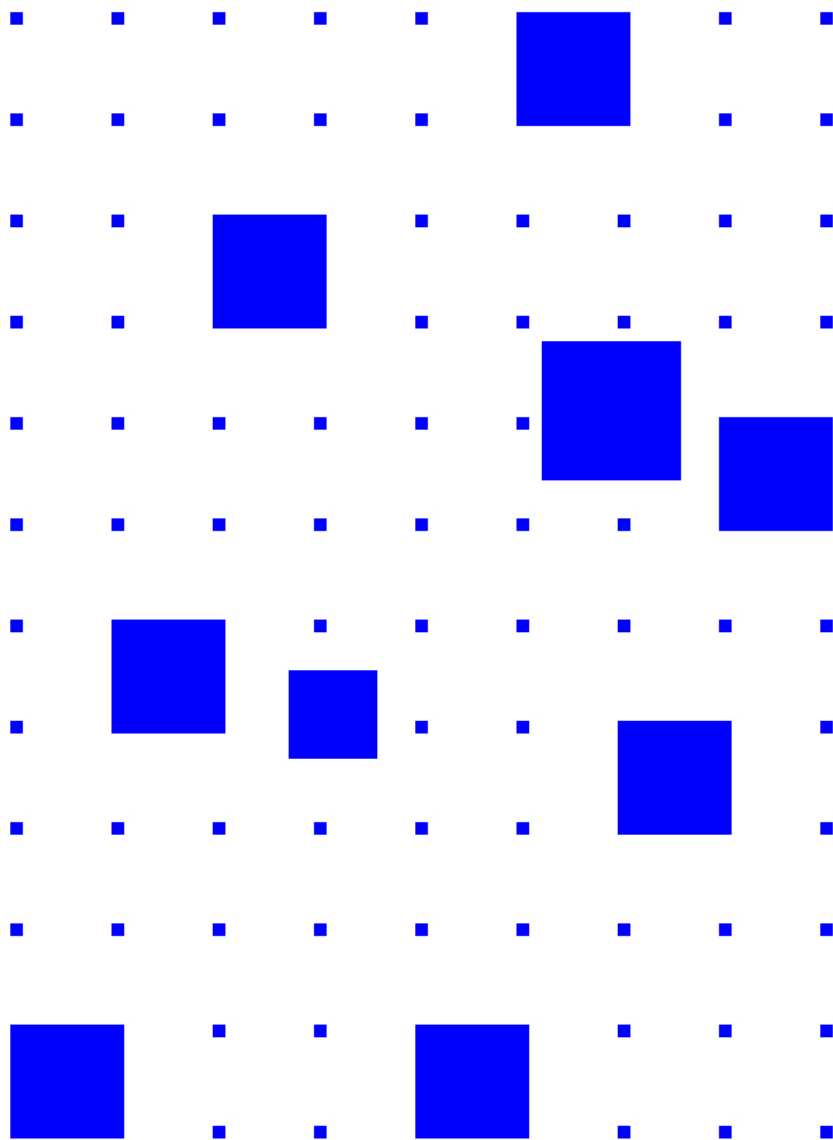
The site is located in the **Digital Media City** near Seoul, Korea. The program area is 72,000SM consisting of an IT center, cultural contents center, media center, experience information center, U-EXPO, digital theaters, digital amusement arena, multi-purpose hall and JOY museum.

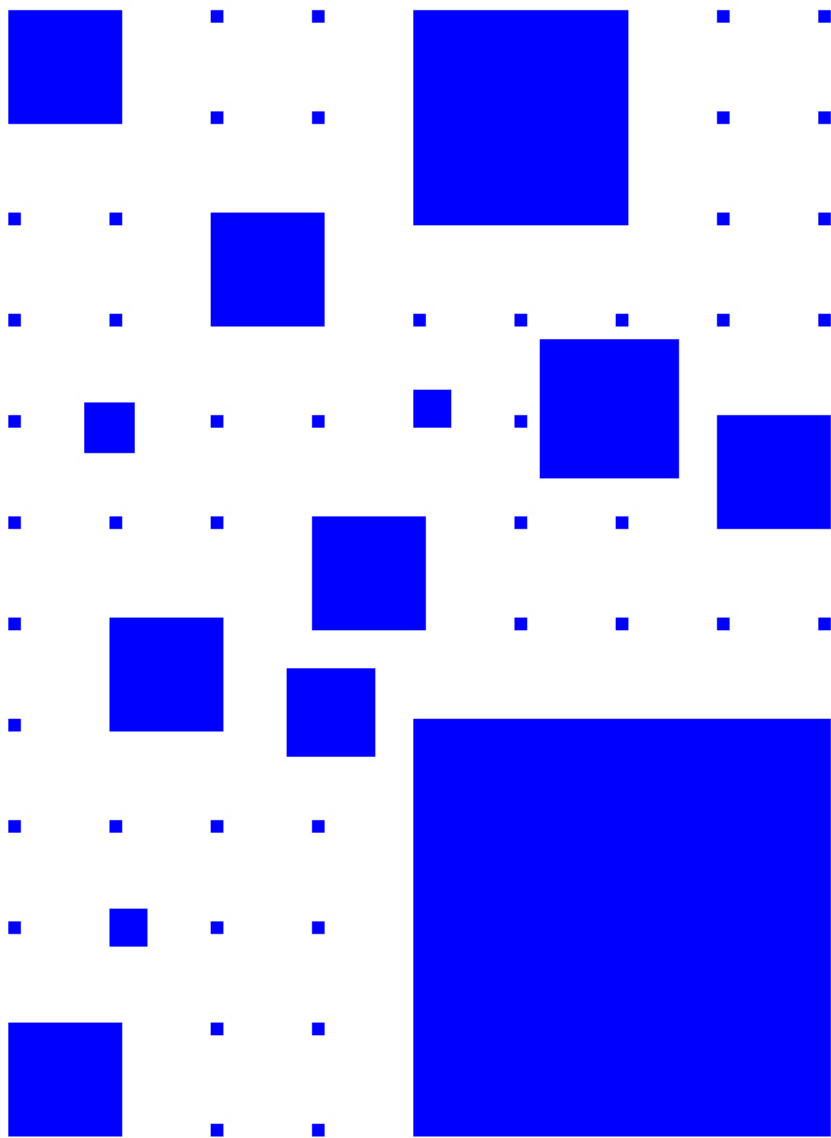


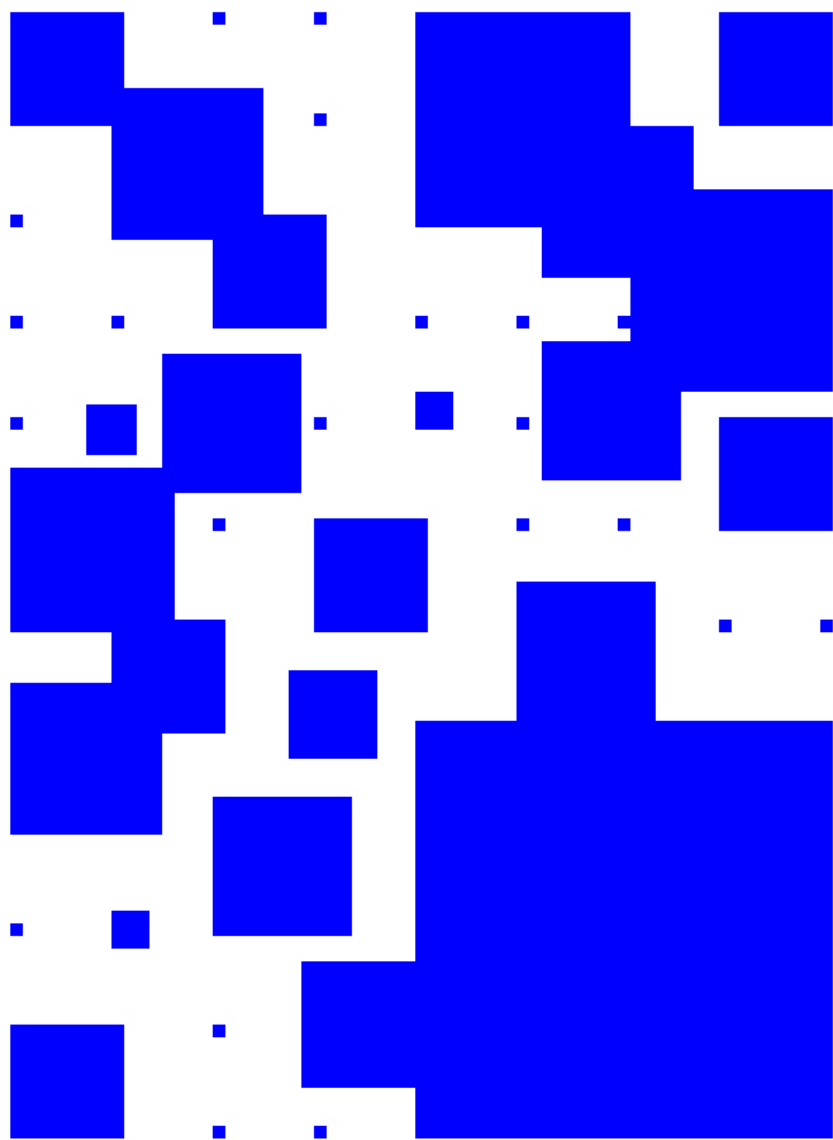


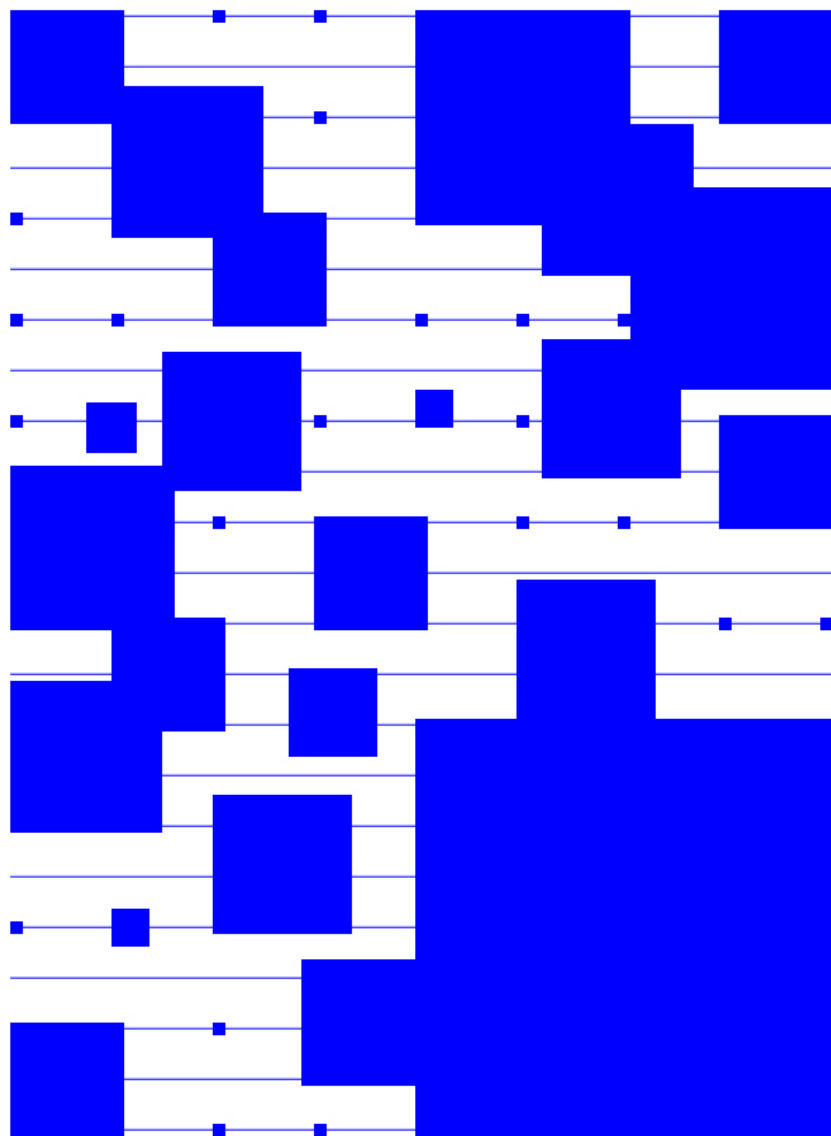




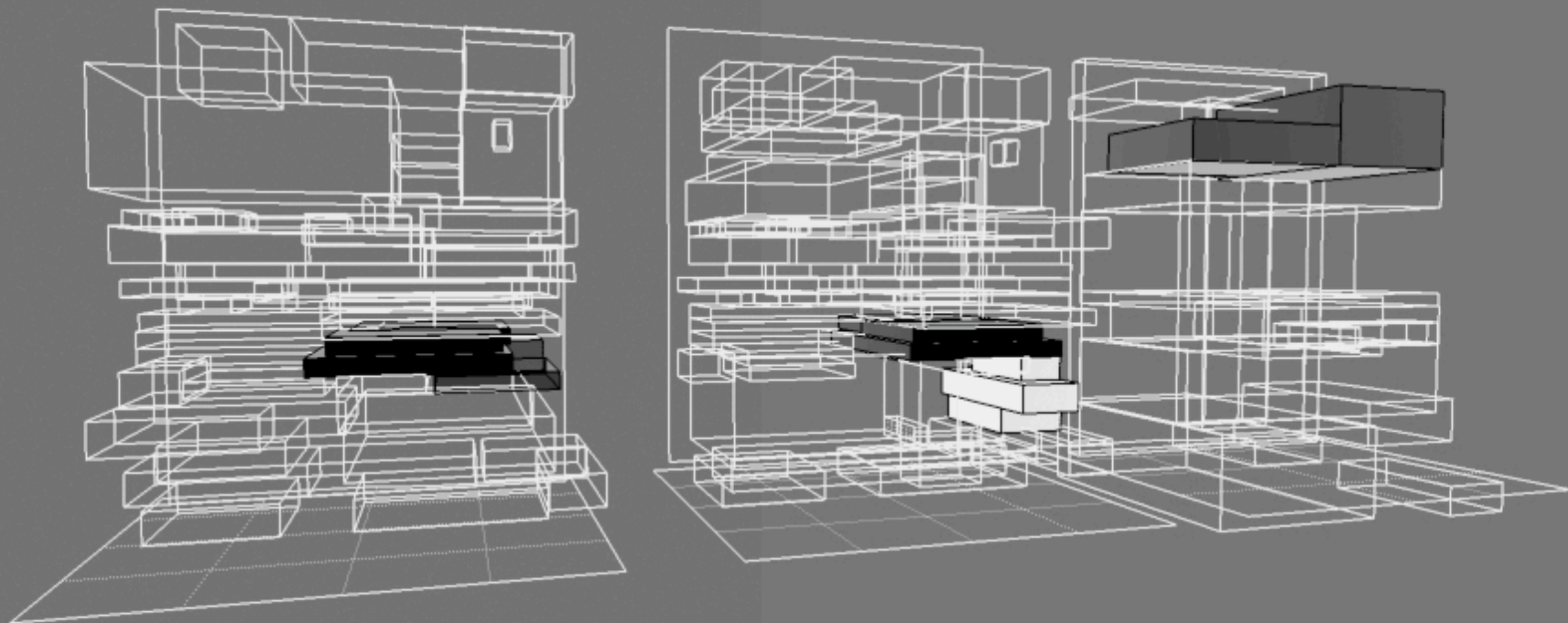






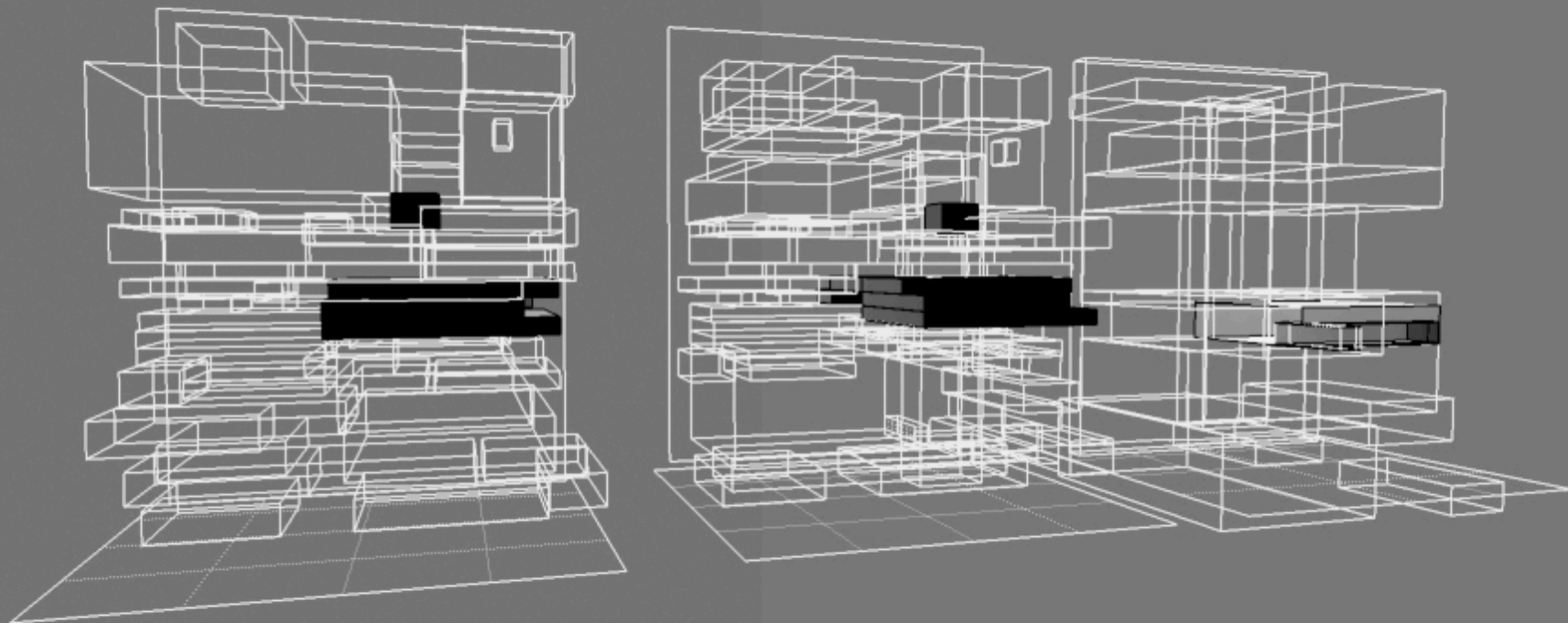






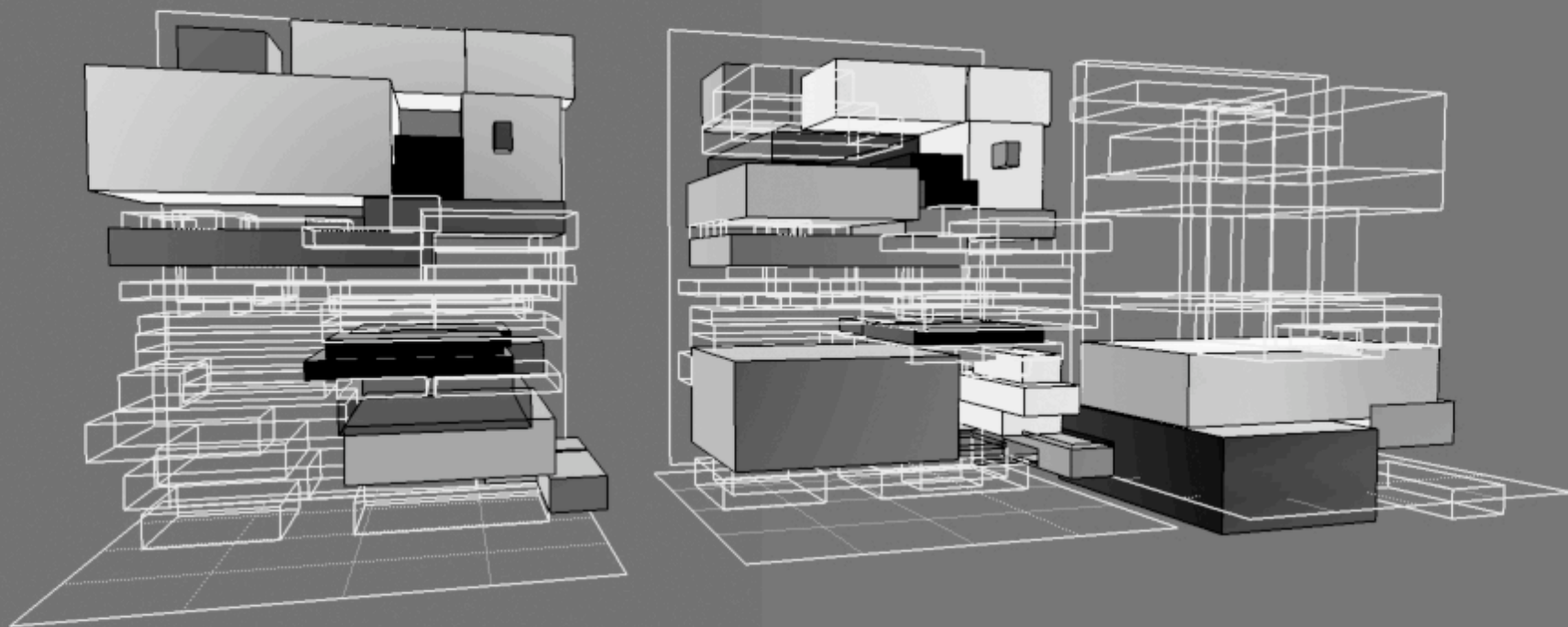
SITC

d r d s



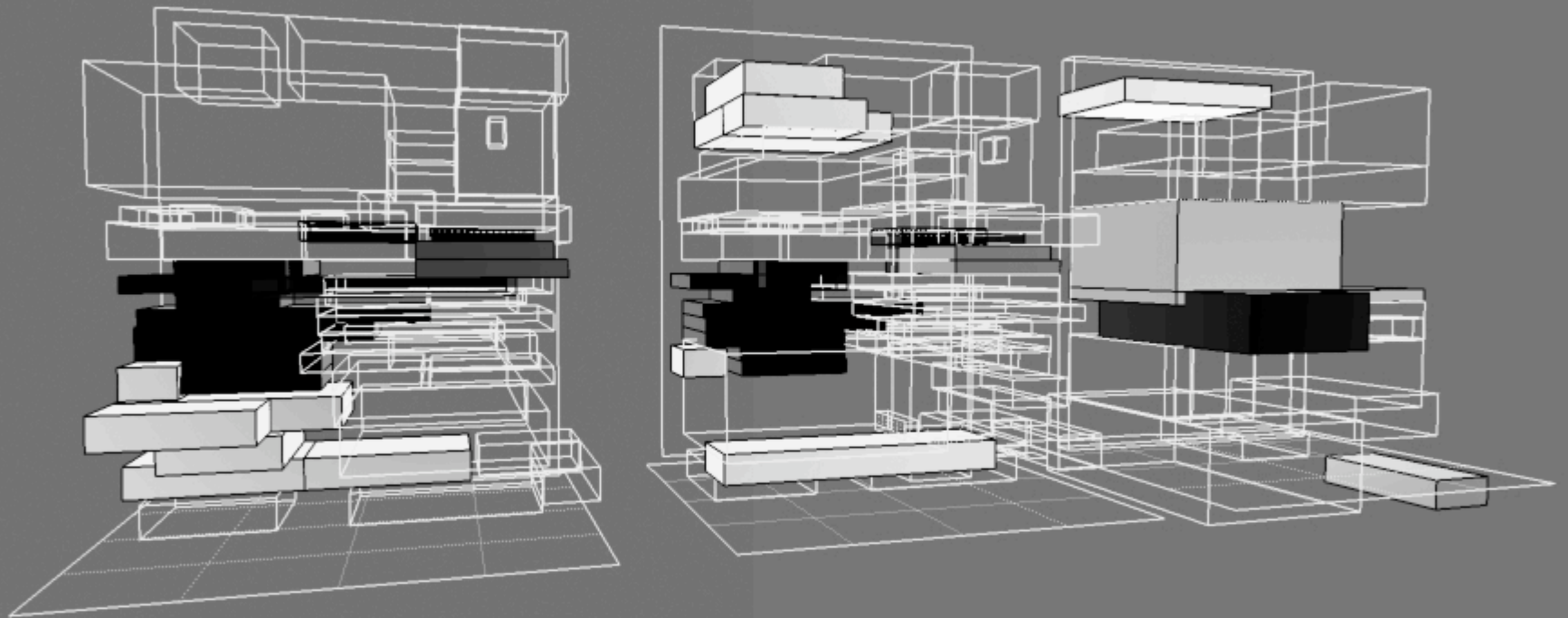
SCC

d r d s



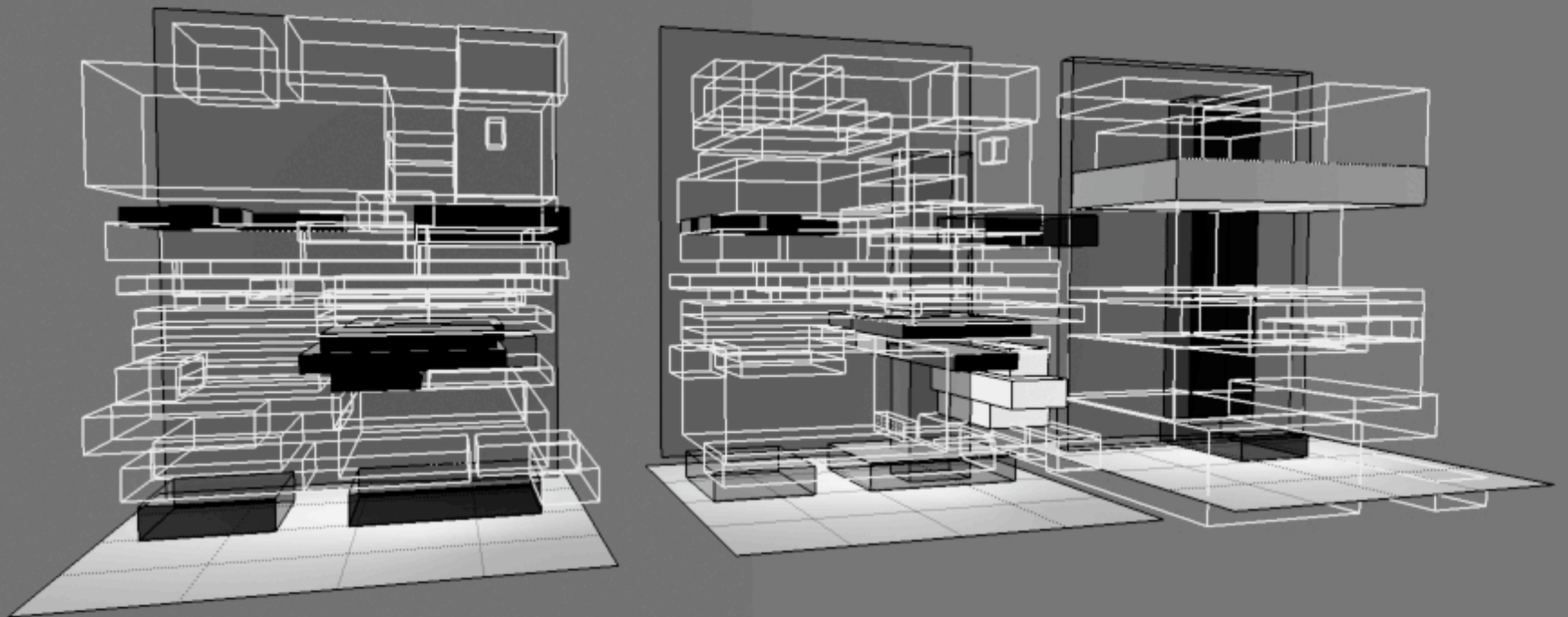
ITW

d r d s



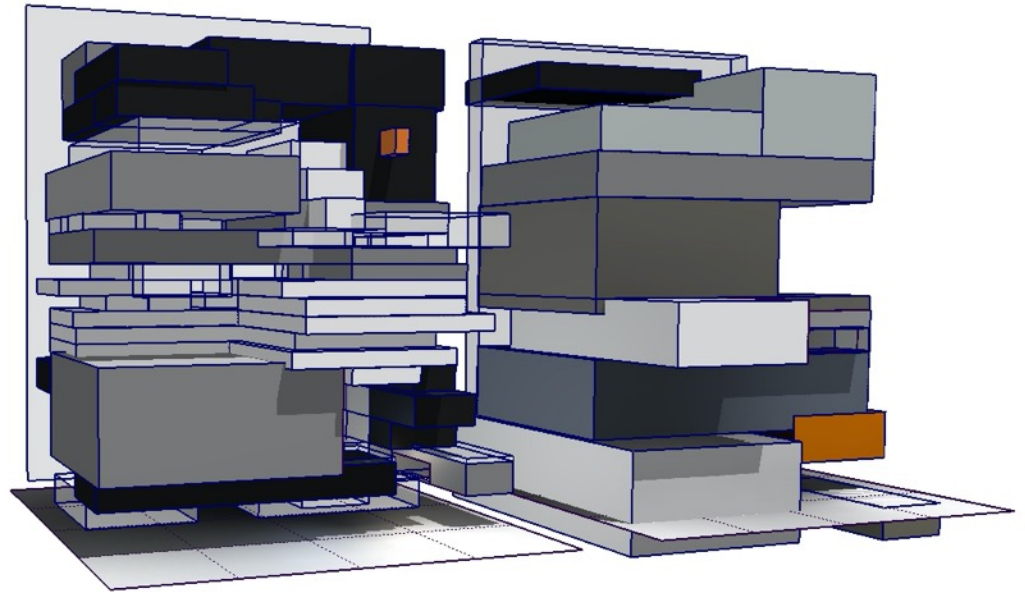
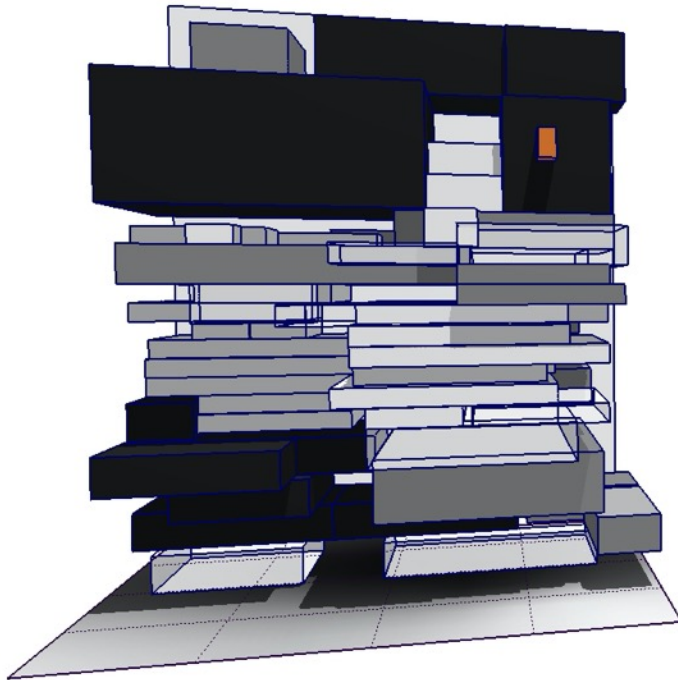
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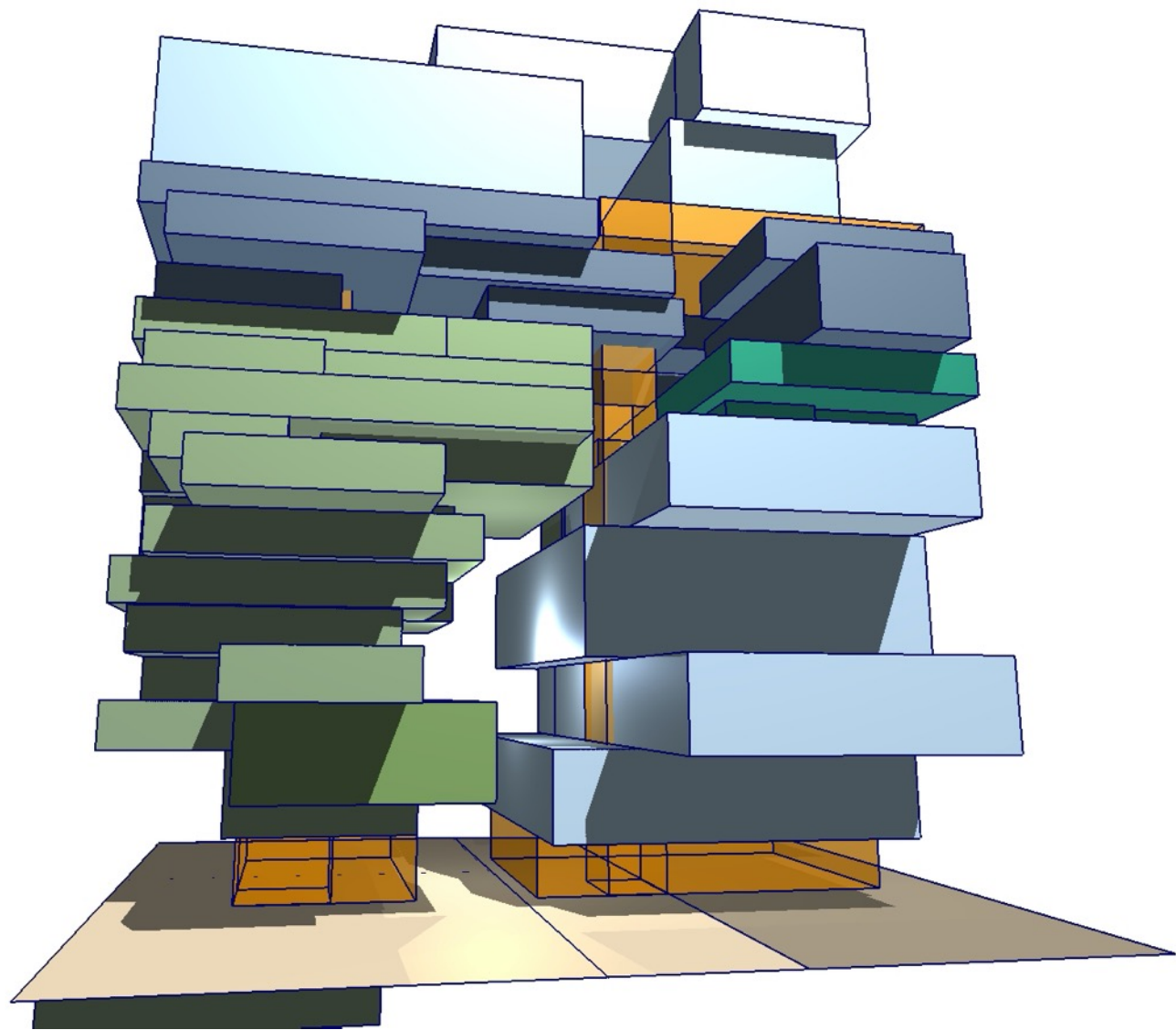
d r d s



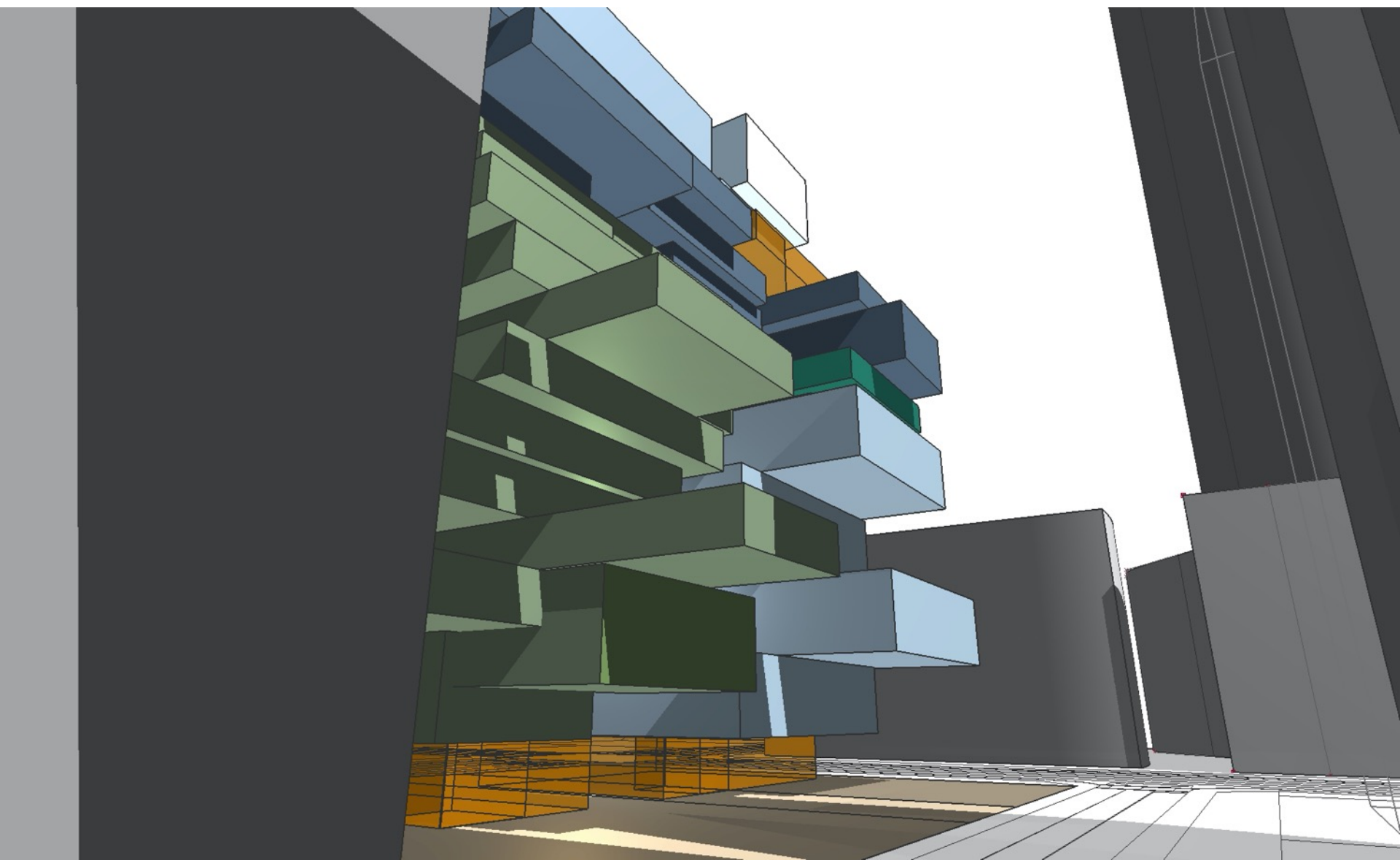
Public Zones

d r d s





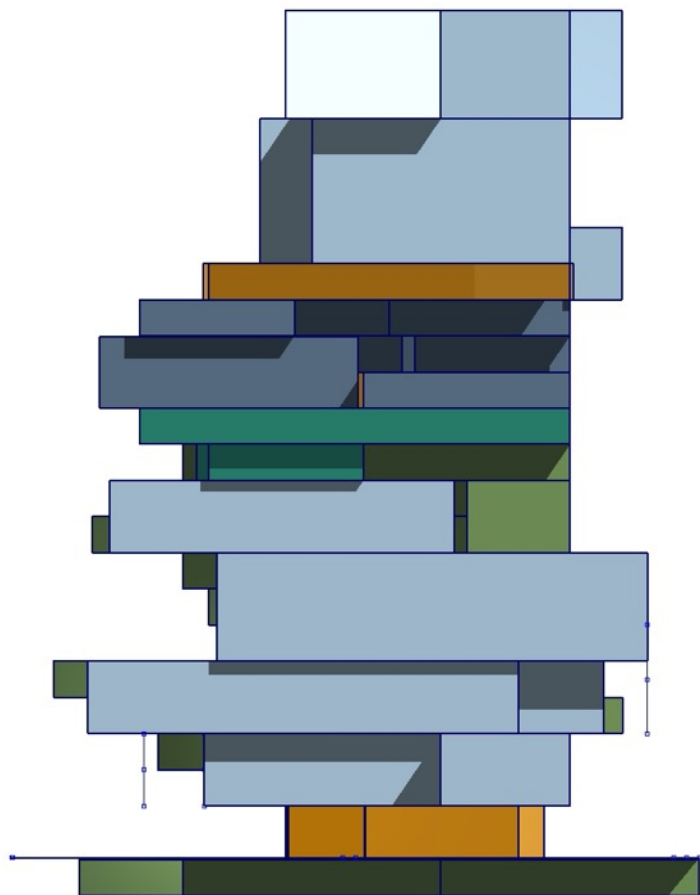
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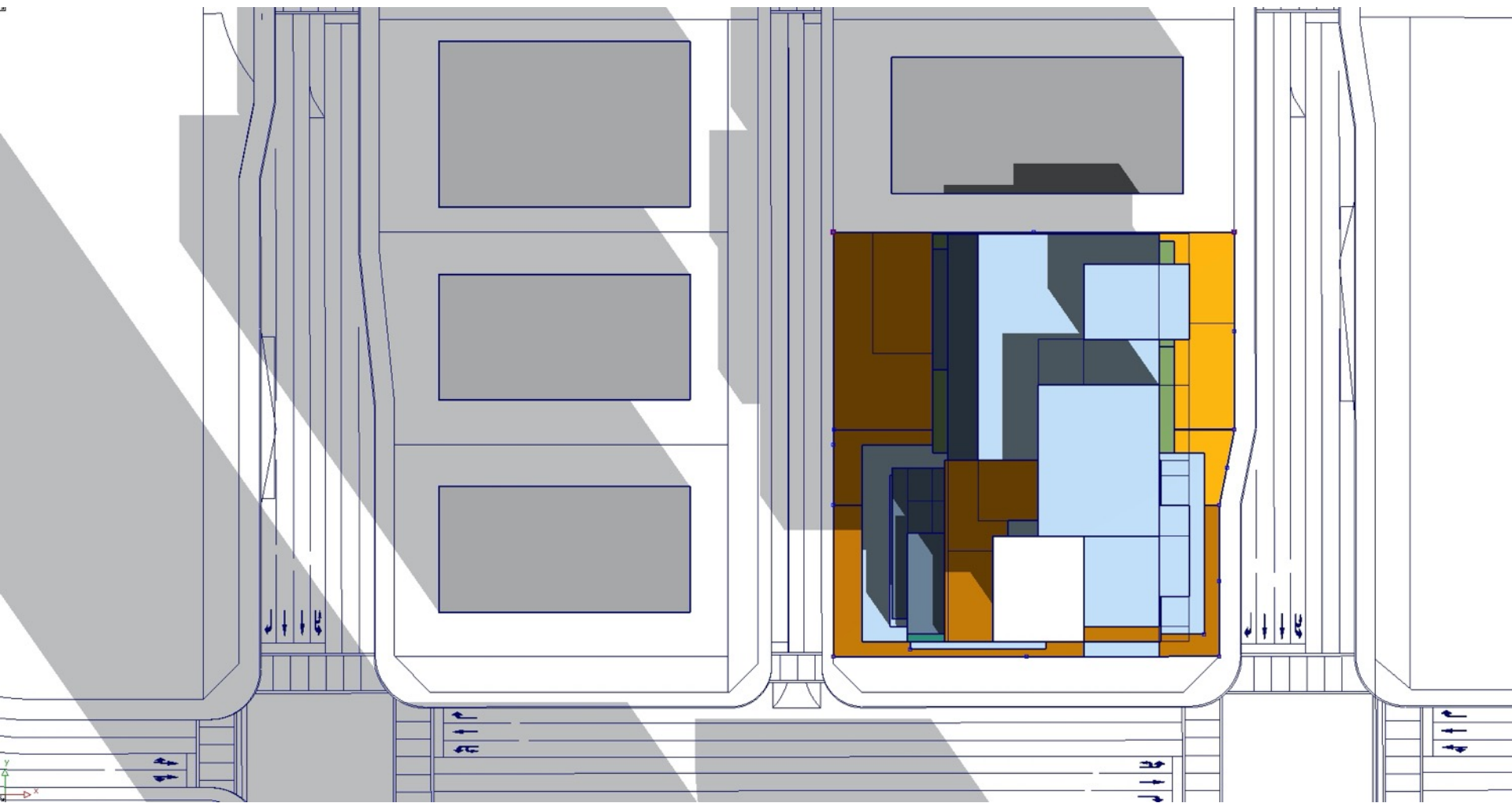
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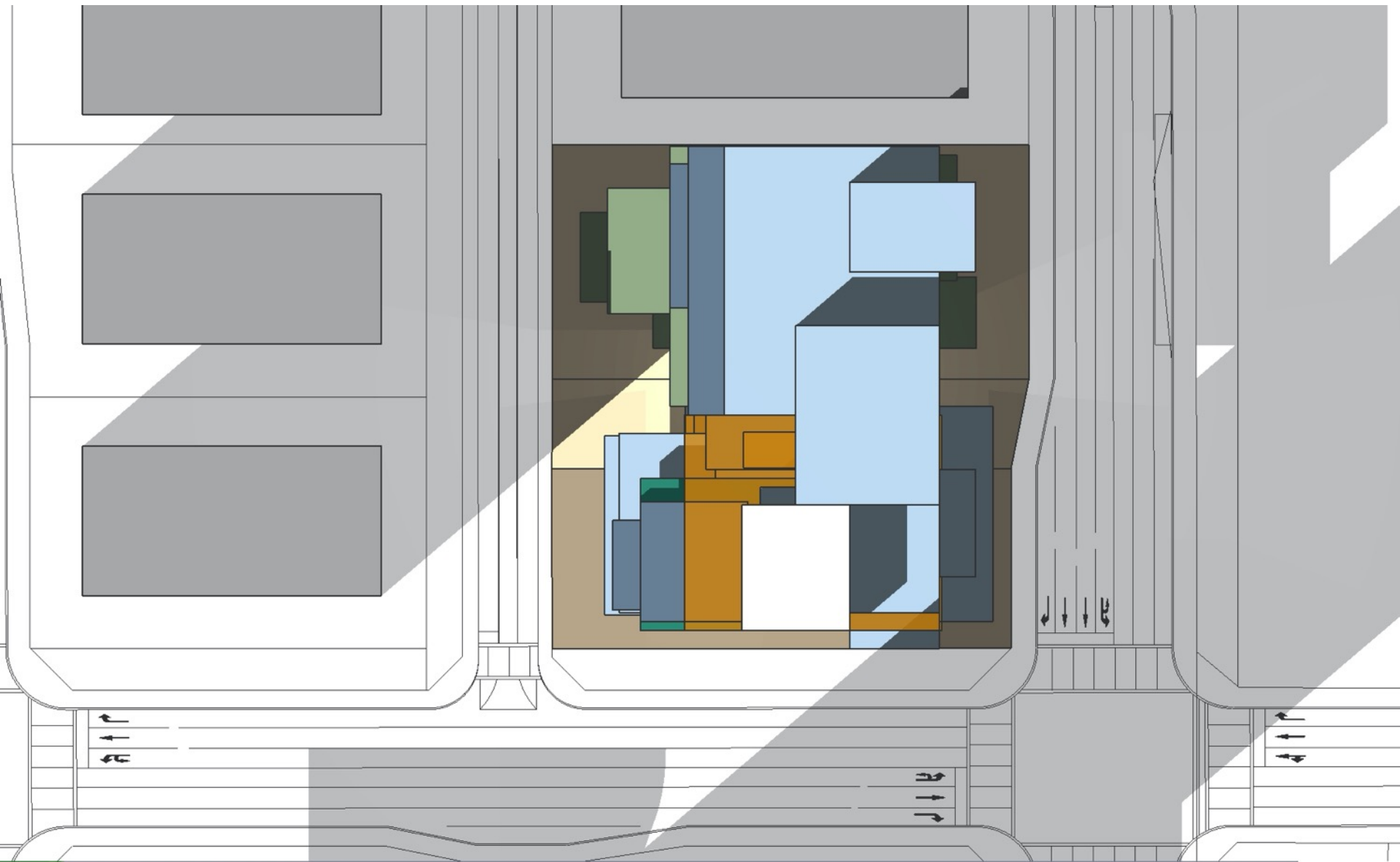
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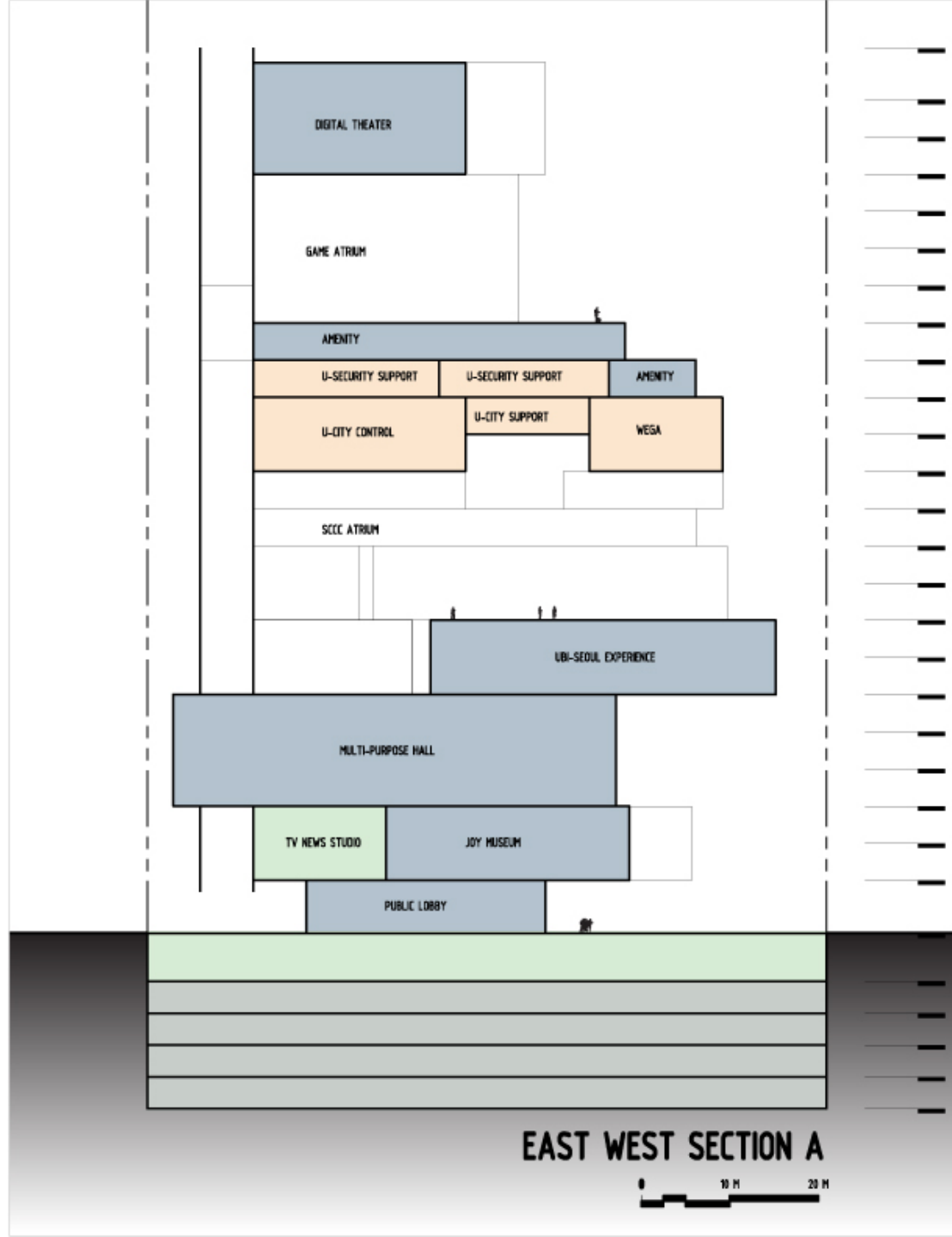
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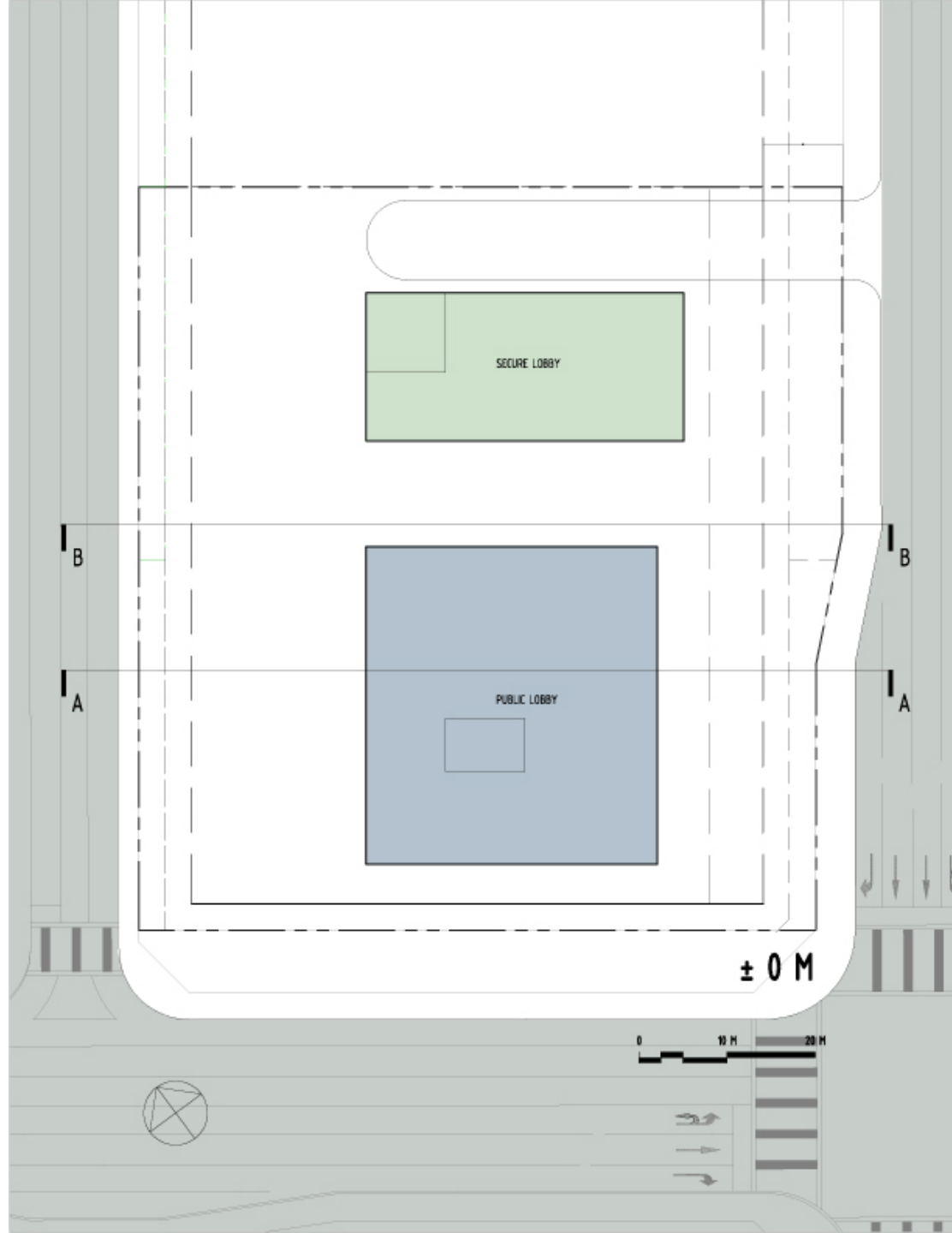


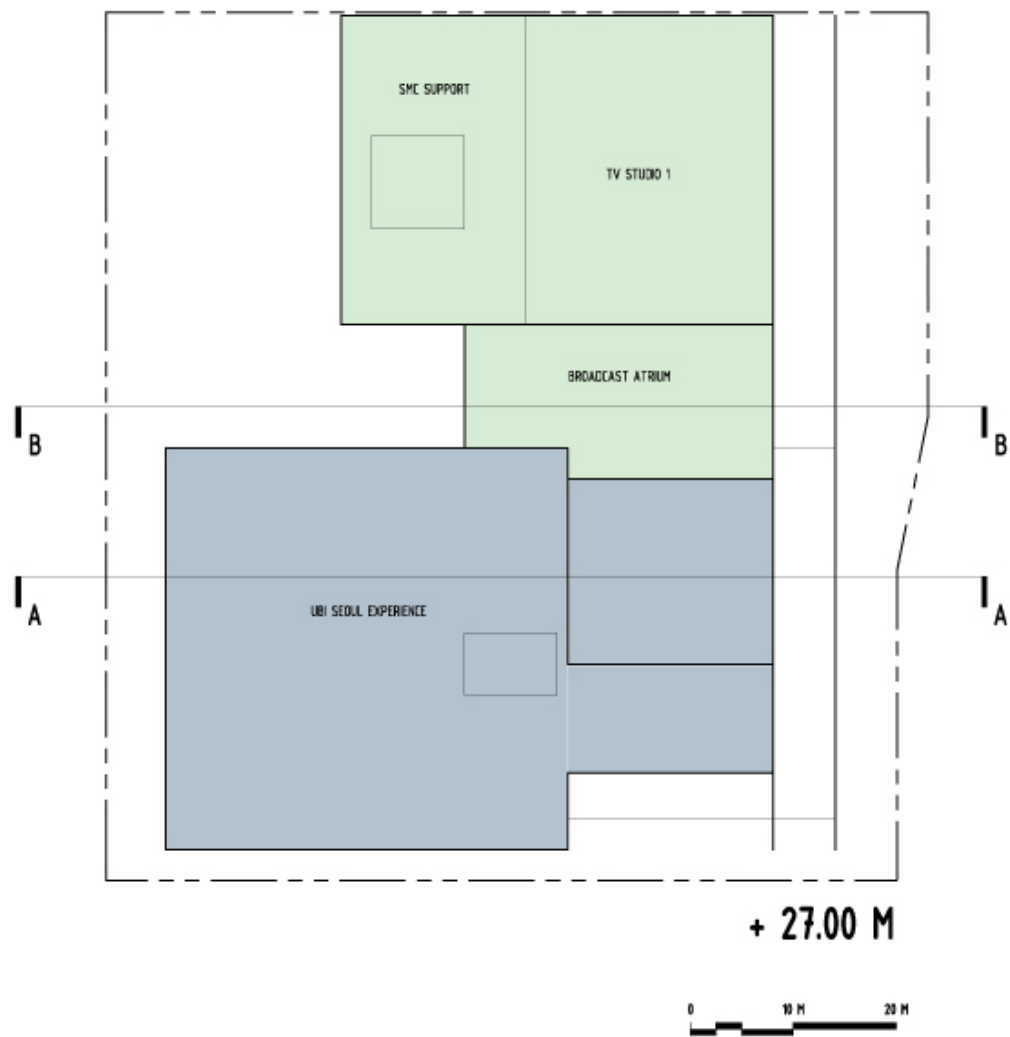
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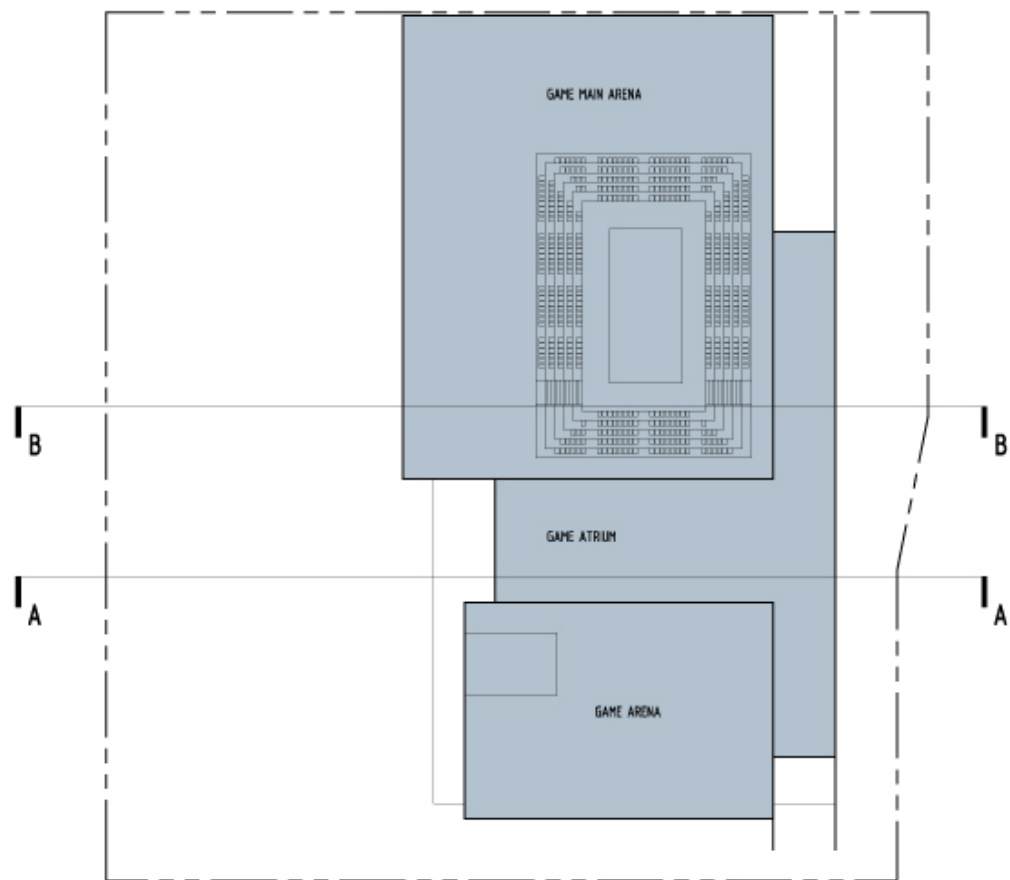


d r d s



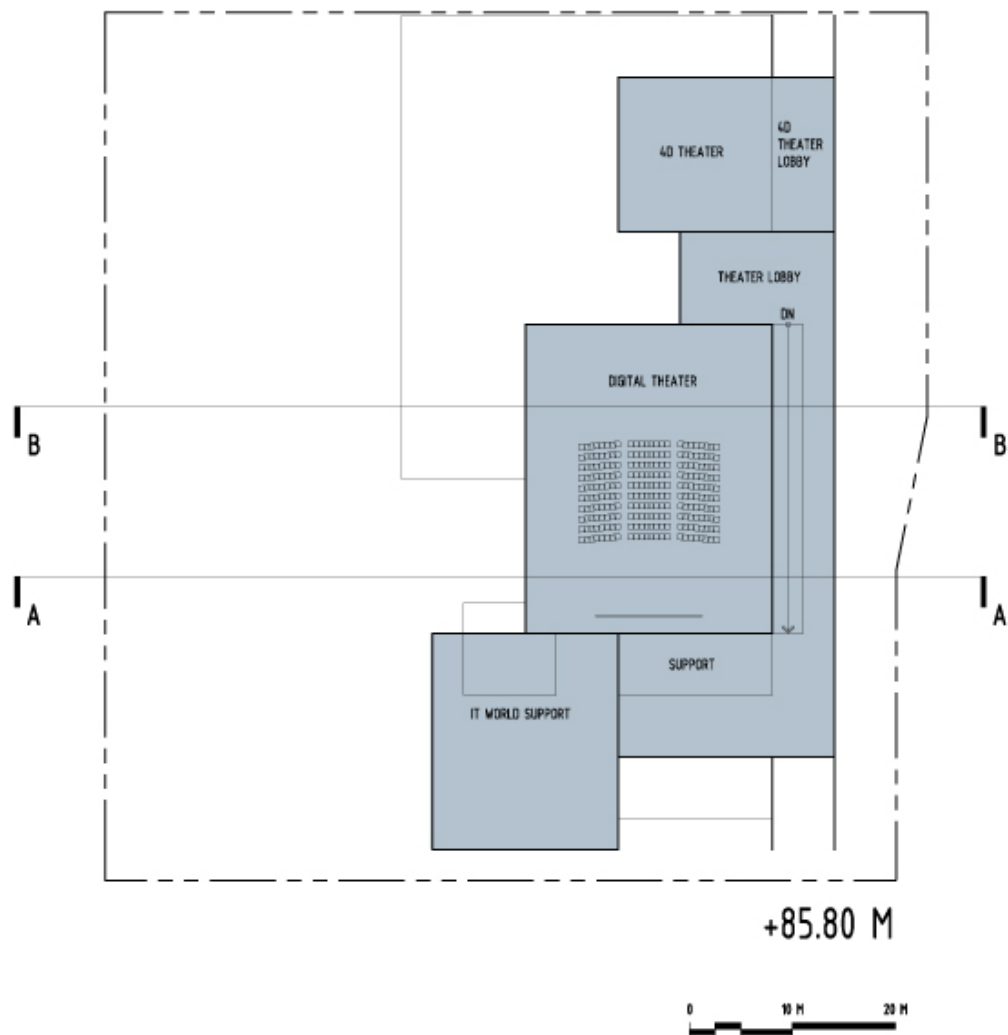


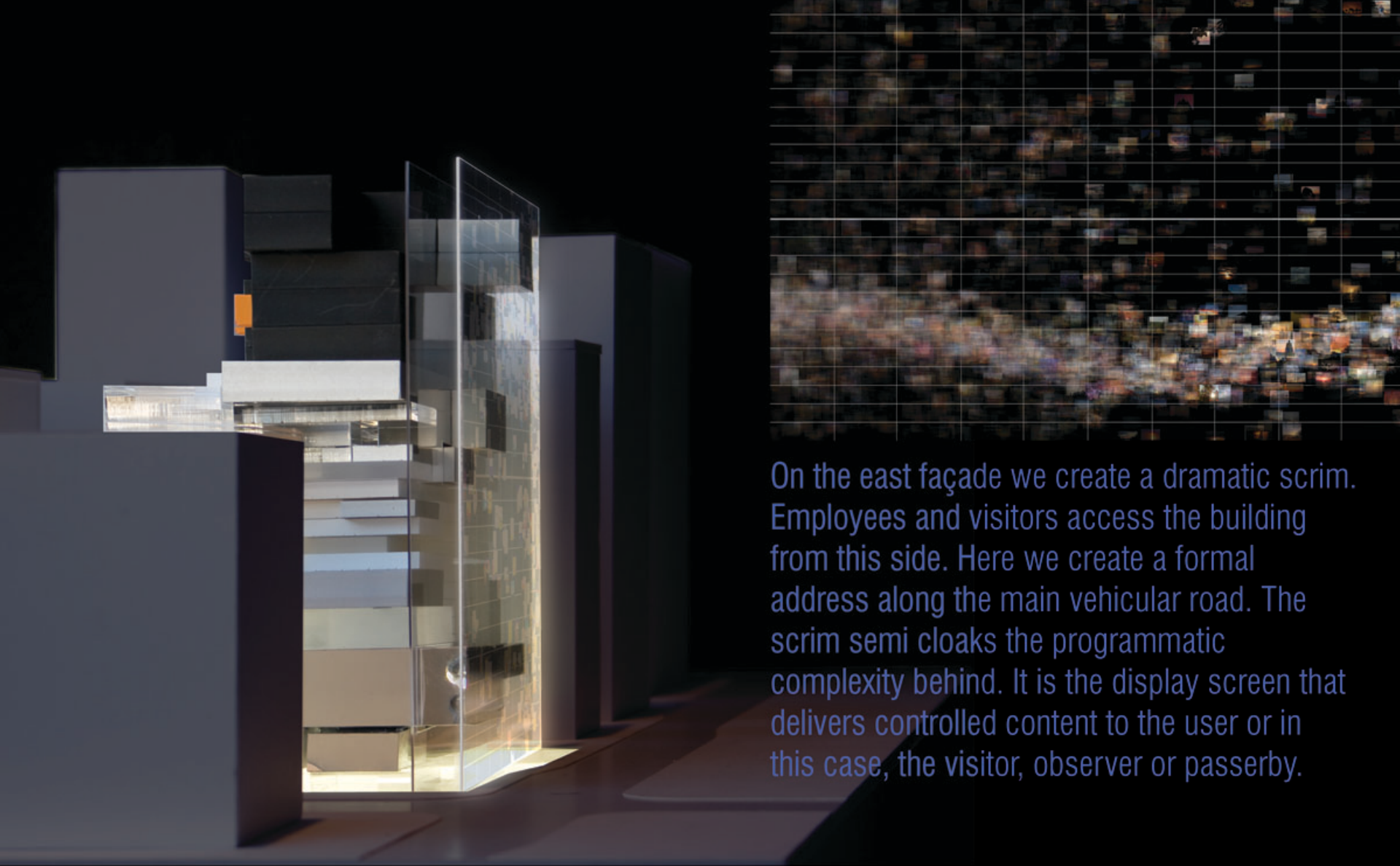




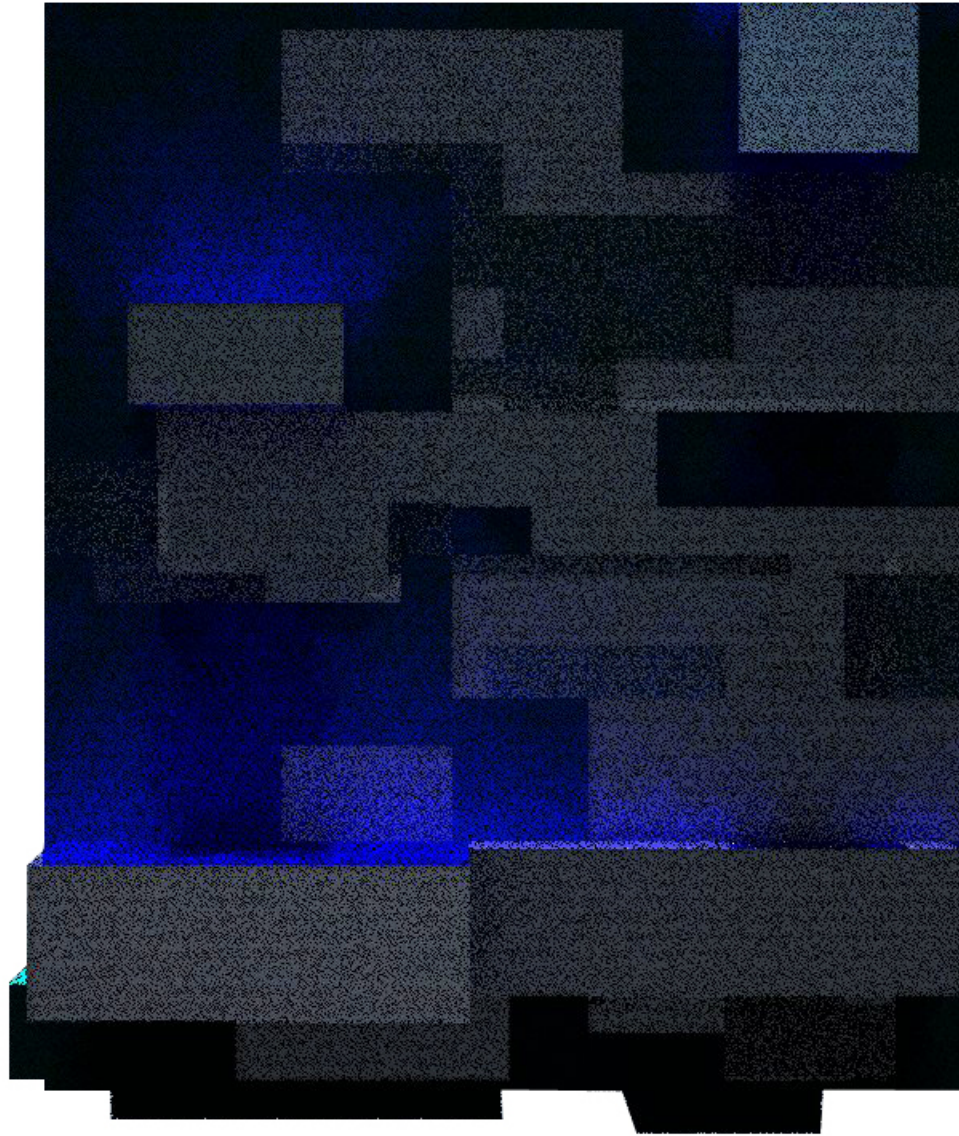
+69.00 M



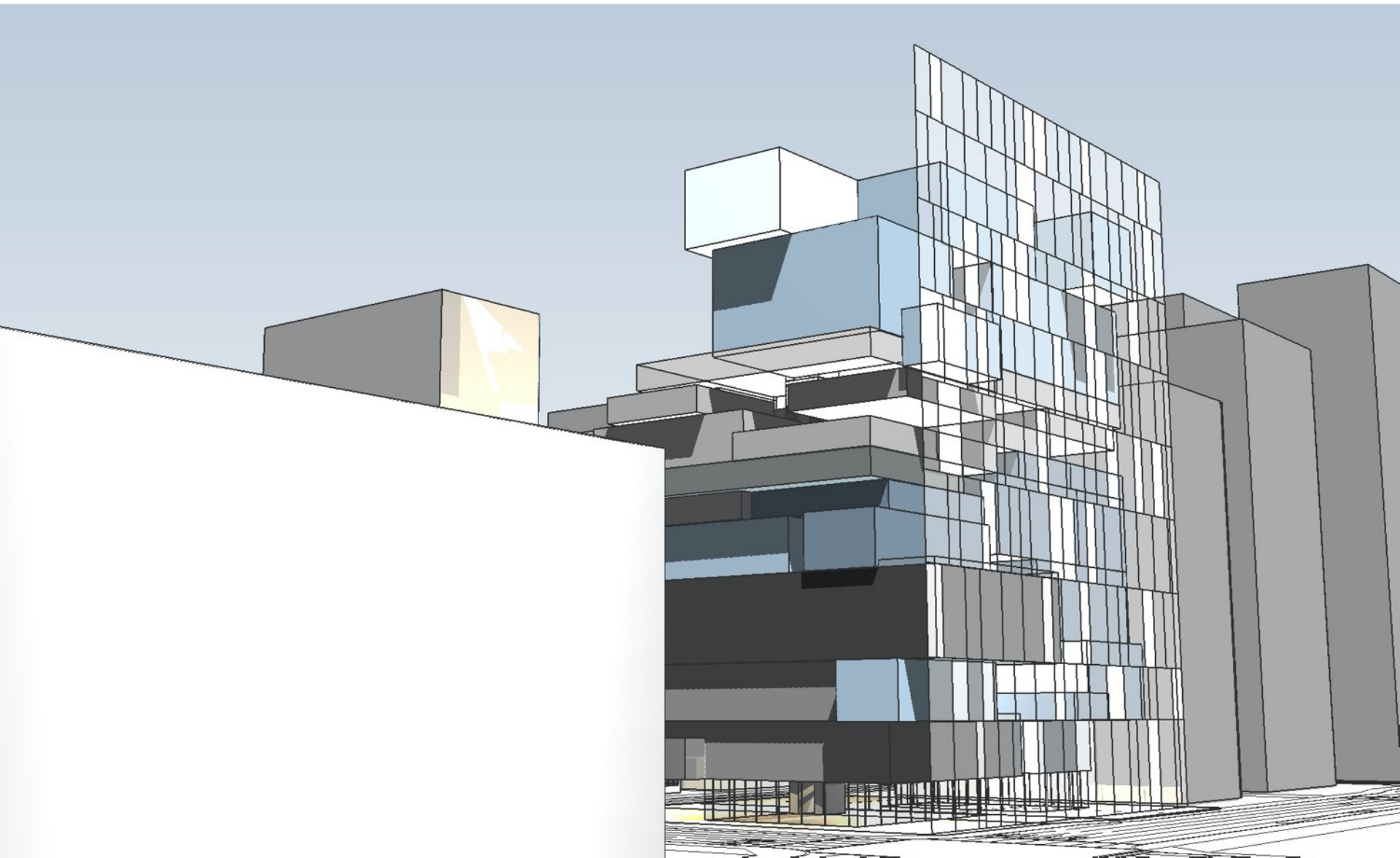




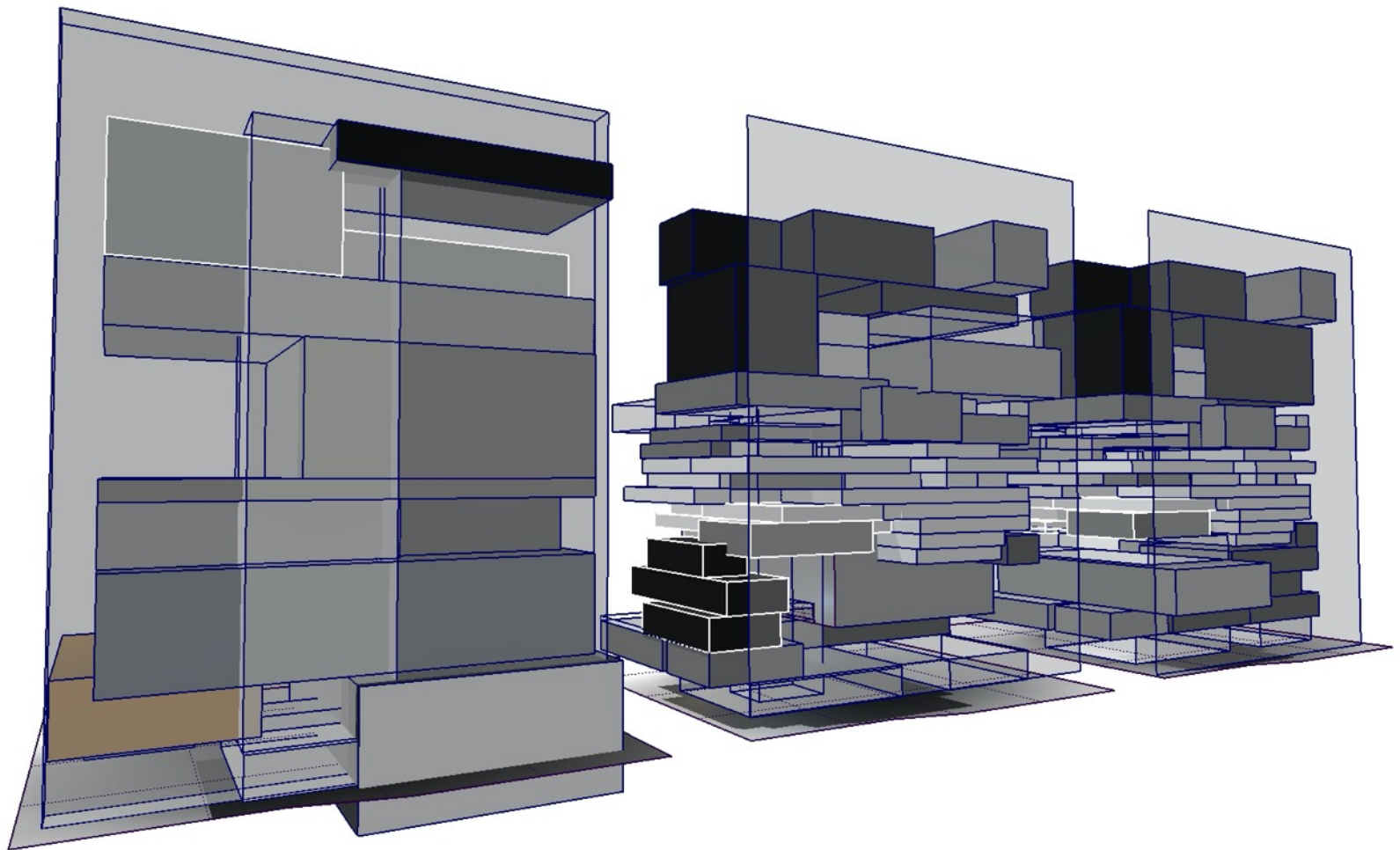
On the east façade we create a dramatic scrim. Employees and visitors access the building from this side. Here we create a formal address along the main vehicular road. The scrim semi cloaks the programmatic complexity behind. It is the display screen that delivers controlled content to the user or in this case, the visitor, observer or passerby.



d r d s



d r d s

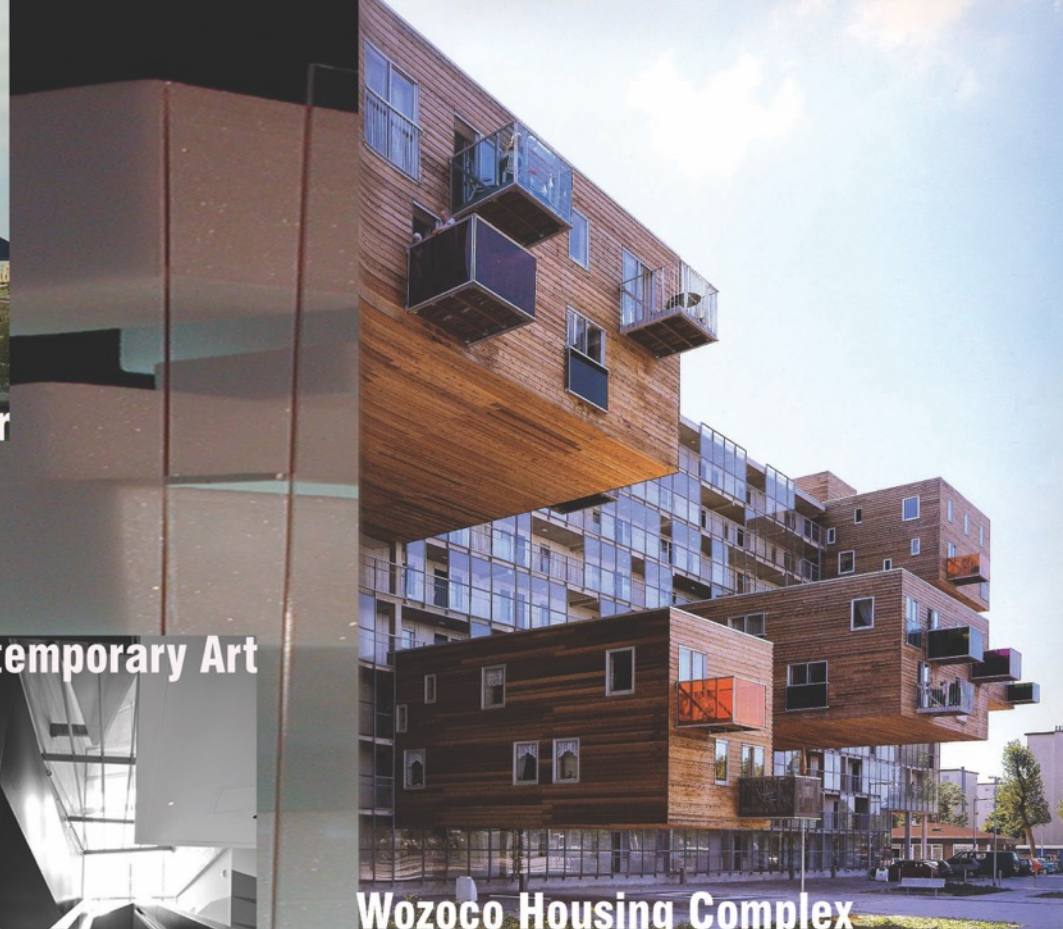




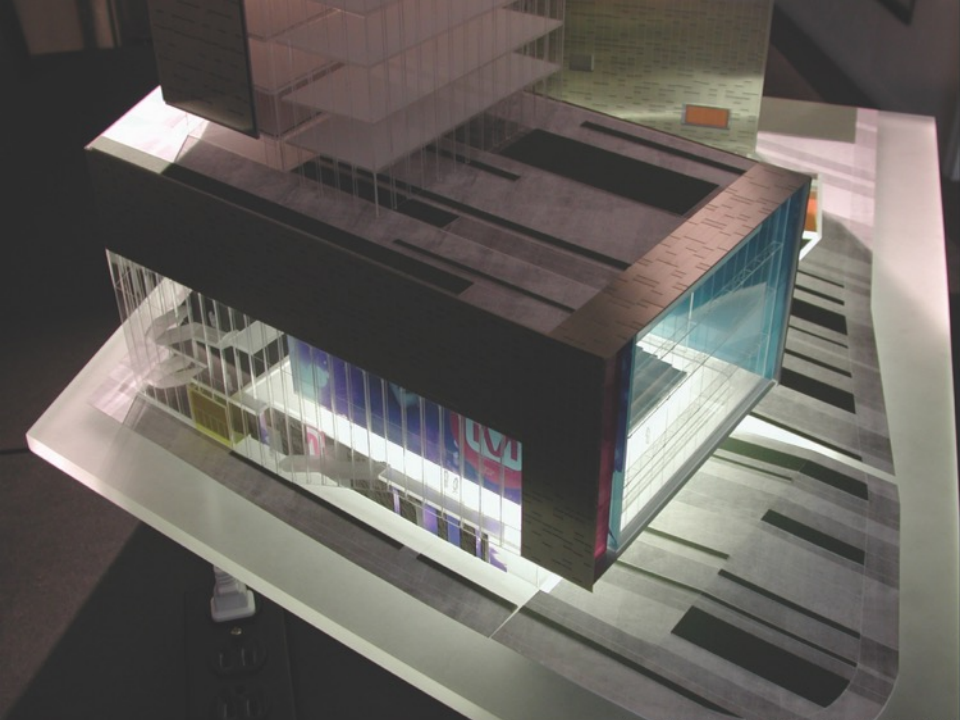
Guthrie Theater



Rosenthal Center of Contemporary Art



Wozoco Housing Complex

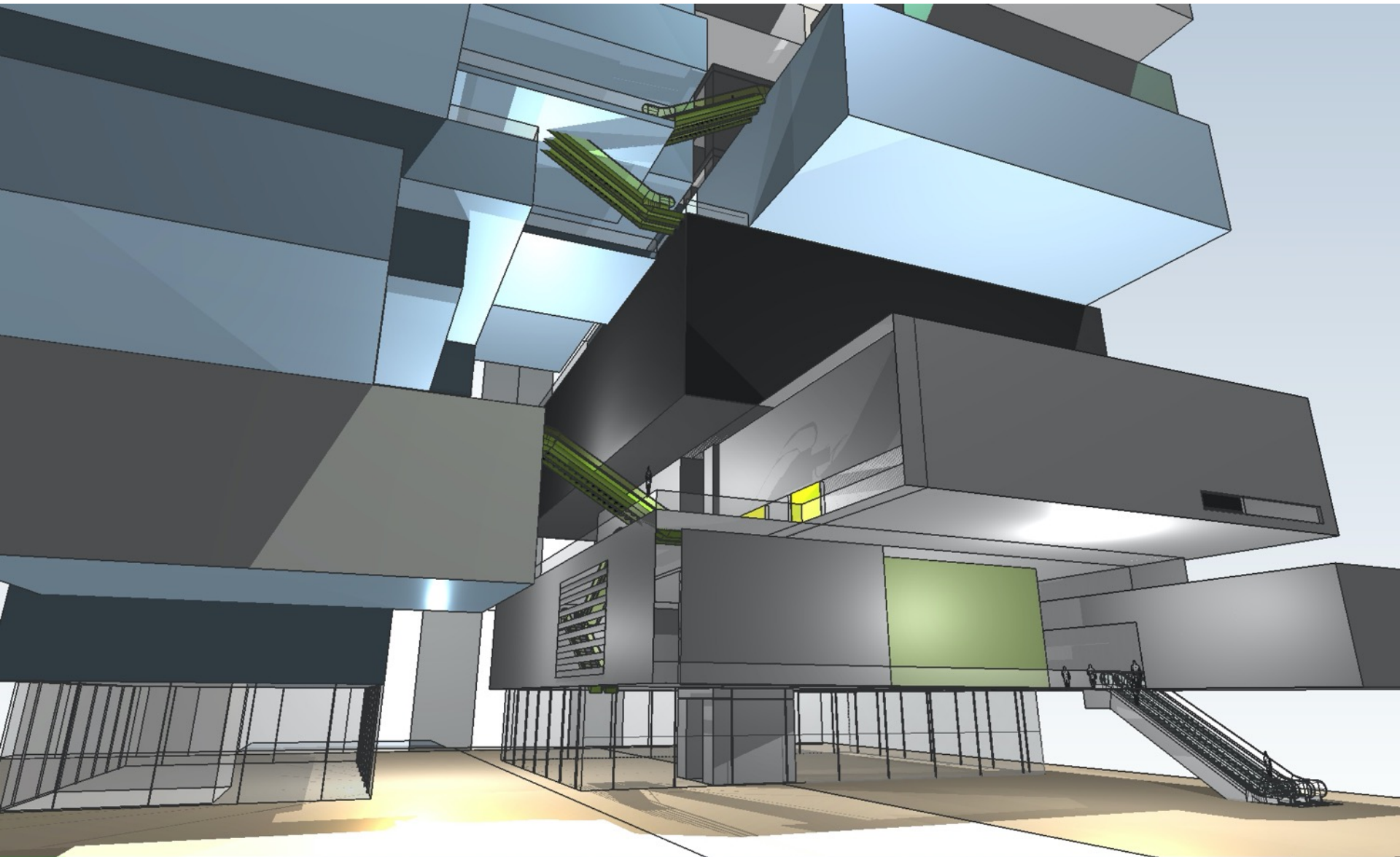


INTERSECTION
IDEAS, PEOPLE, AND URBAN ENVIRONMENT
CJ Headquarters and Broadcast Facility, Seoul, Korea

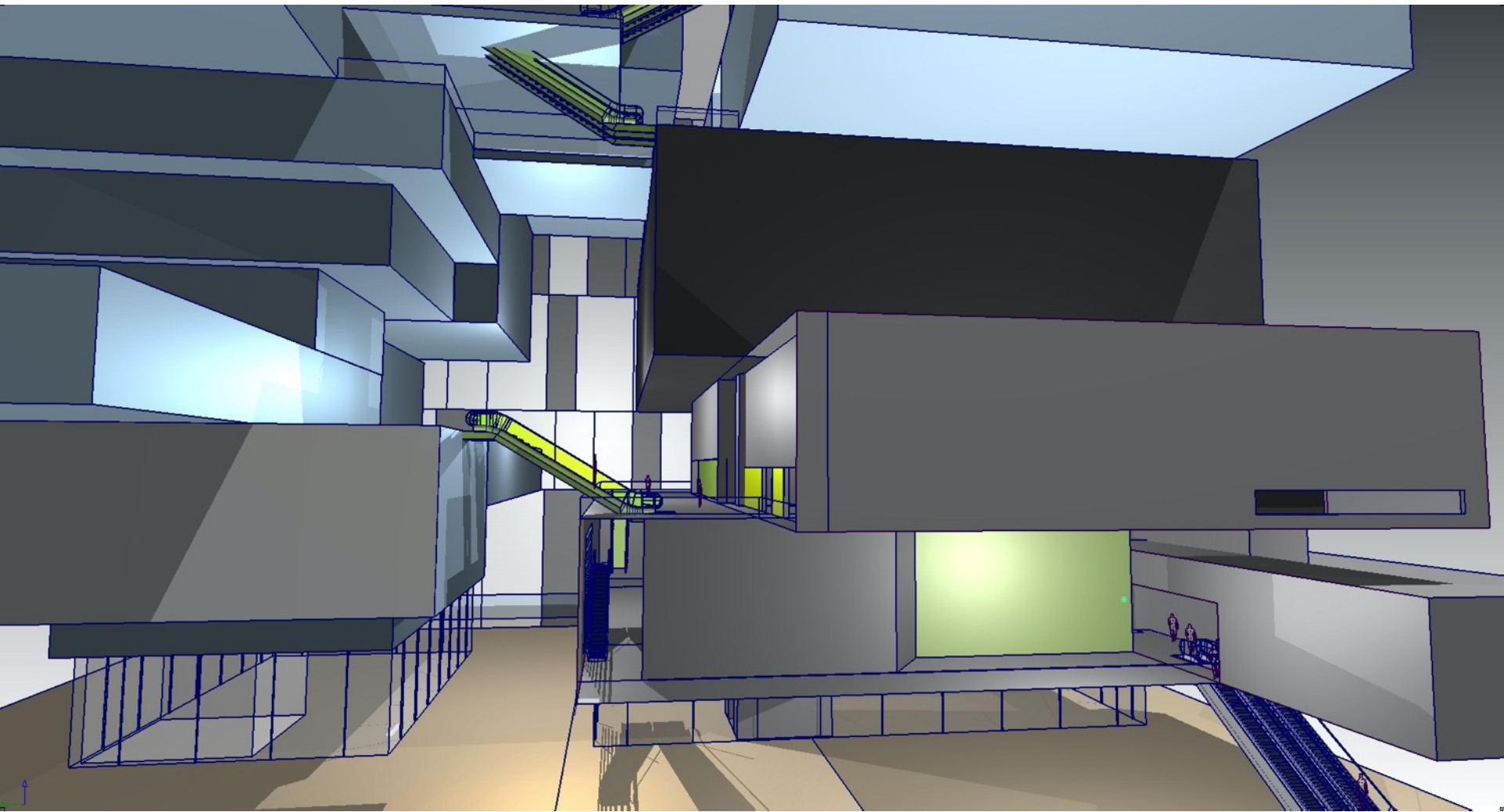
CJ BROADCASTING AND MEDIA



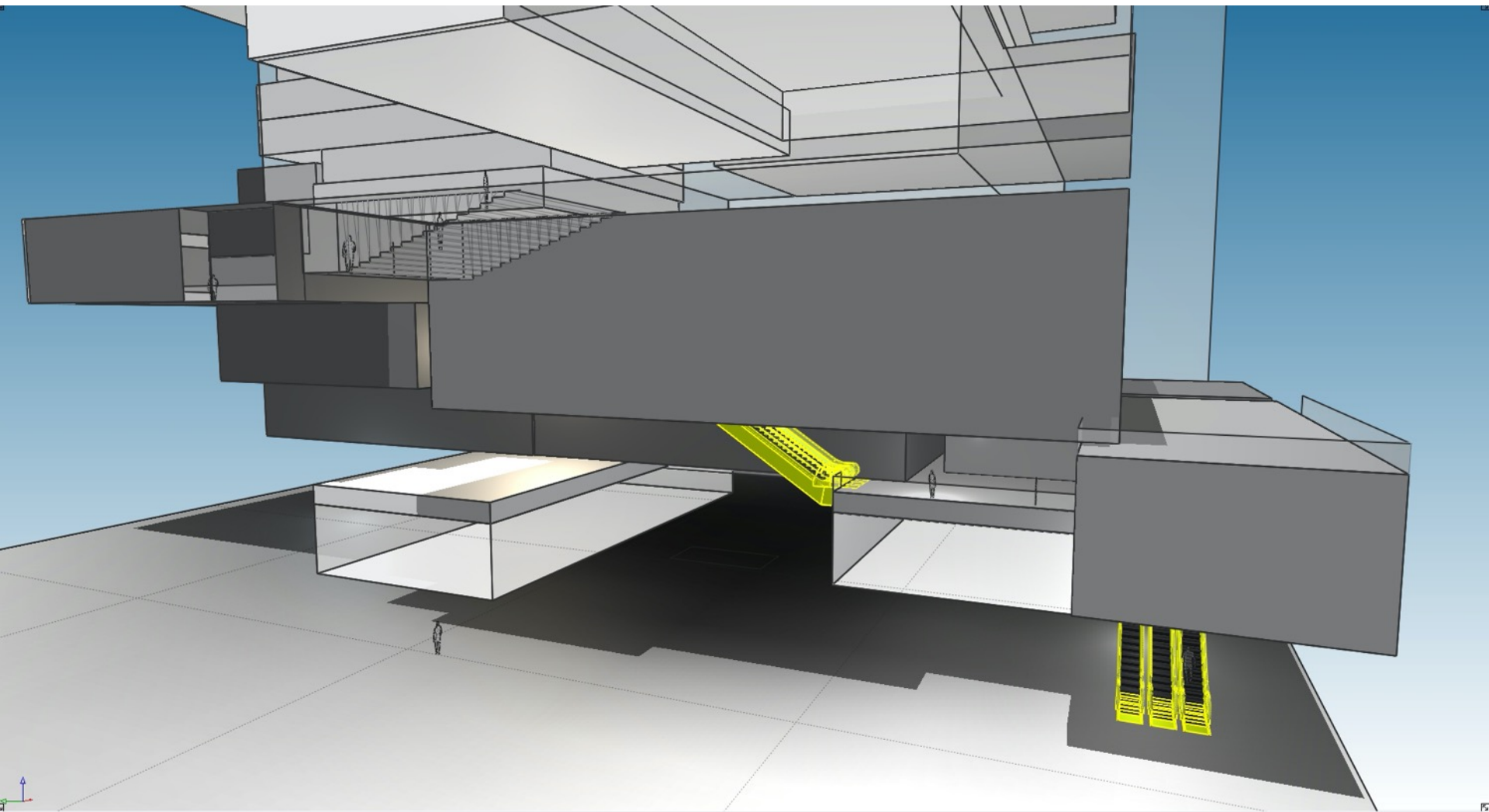
d r d s



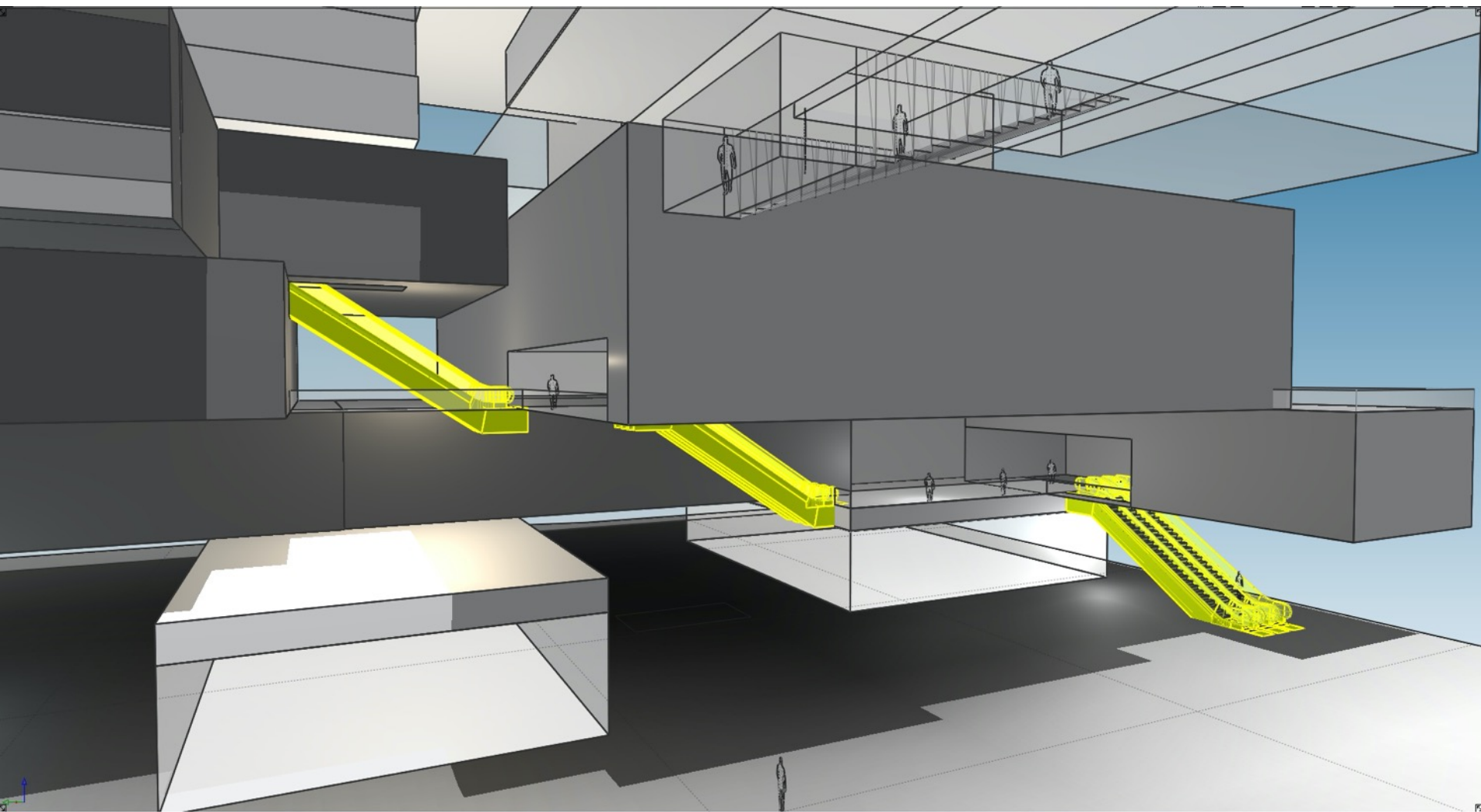
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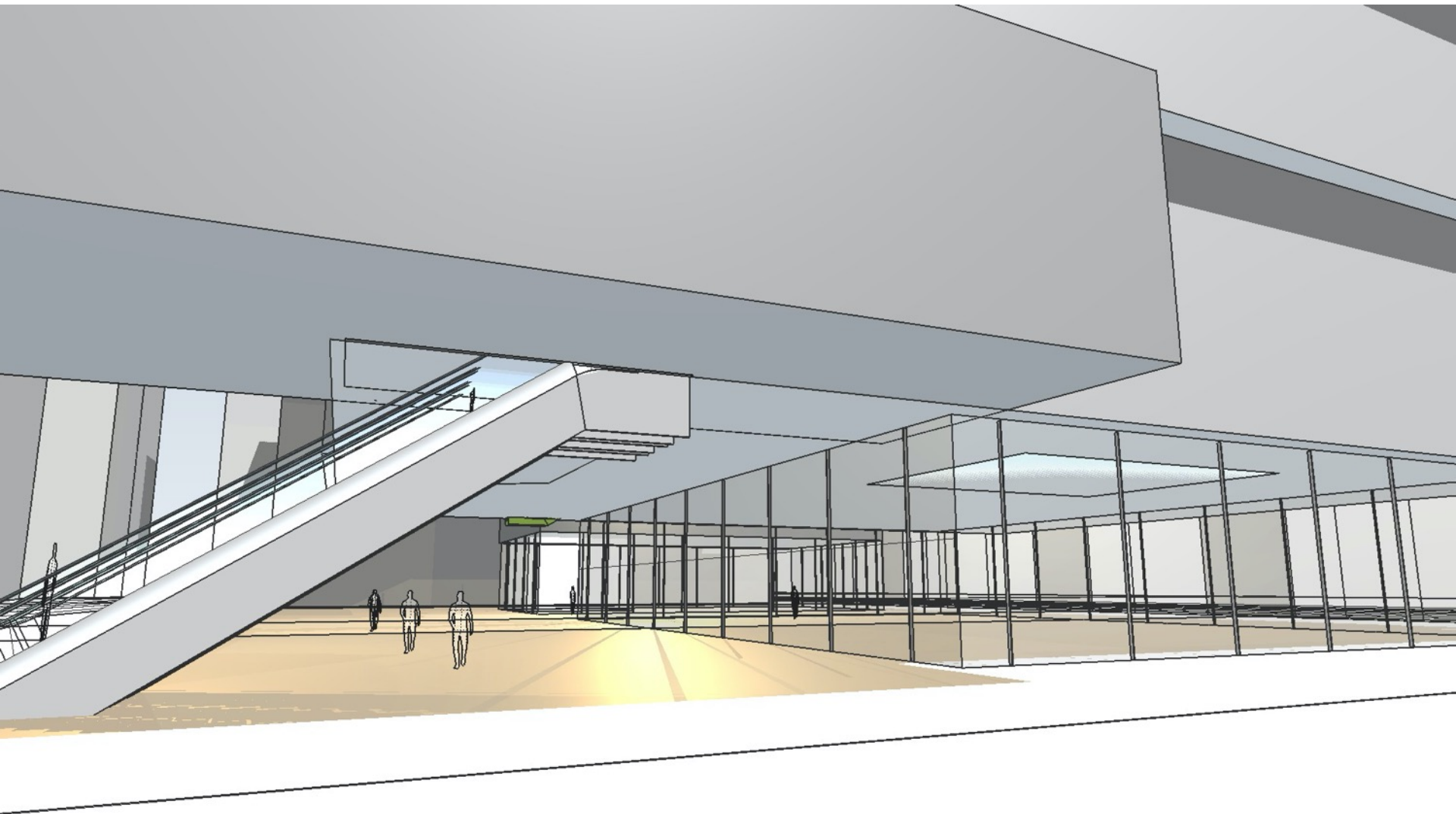
d r d s



d r d s



d r d s



d r d s



The design represents an amalgamation of multiple complex programs that are arranged in a way that is logical based on a complex set of functional constraints. Due to site conditions, it is a vertical building. Floor plates vary based on function and logical stacking principles. This leads to dramatic juxtapositions of program that are reflected in the composition.

STACK



2

FREQUENCY

d r d s

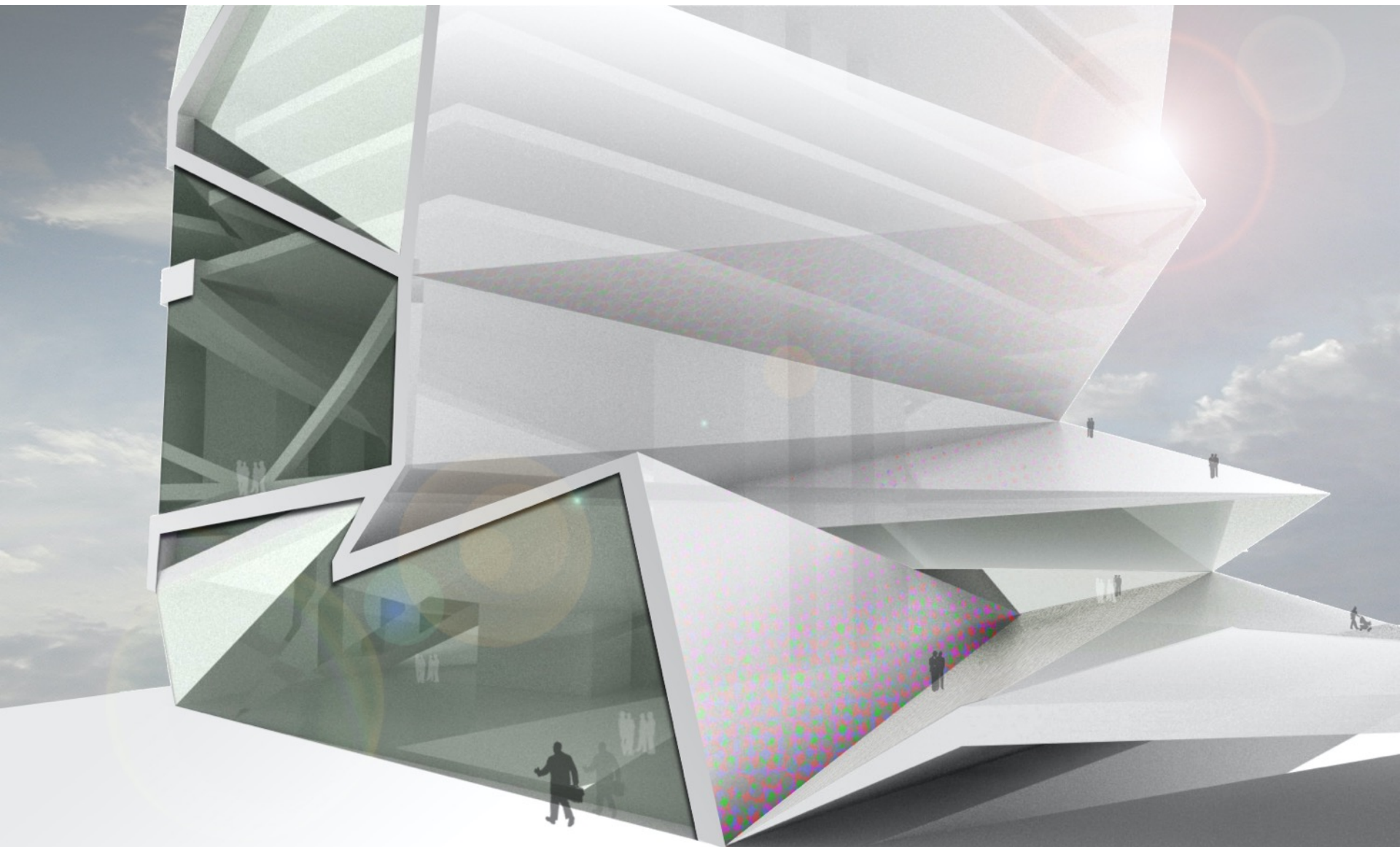
FREQUENCY



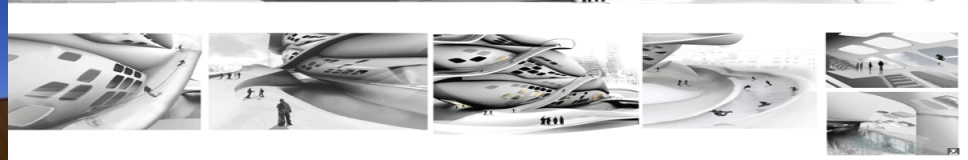
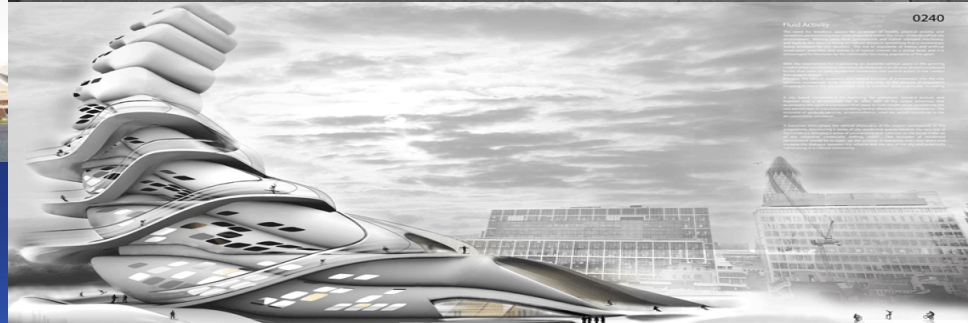
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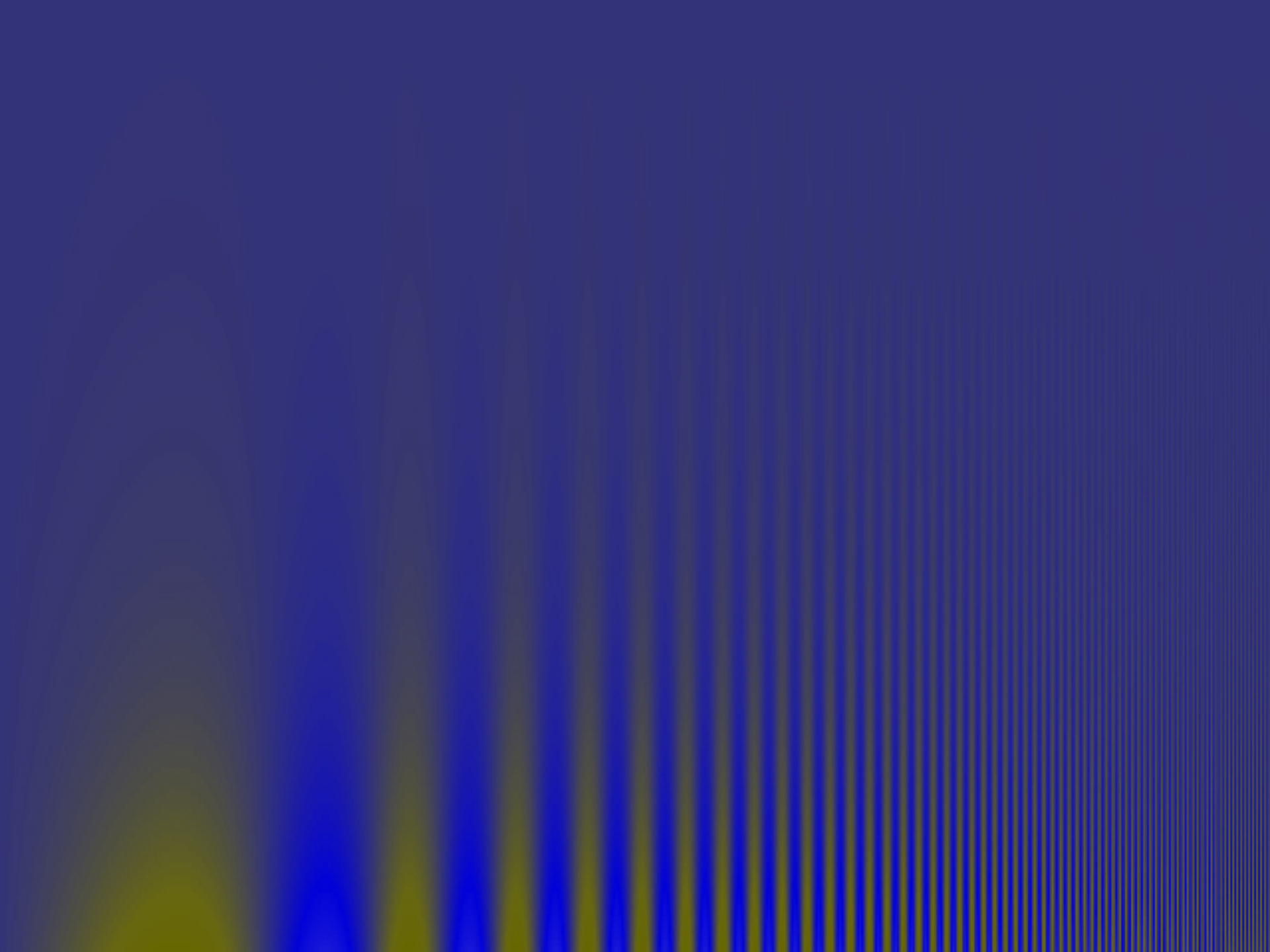
d r d s

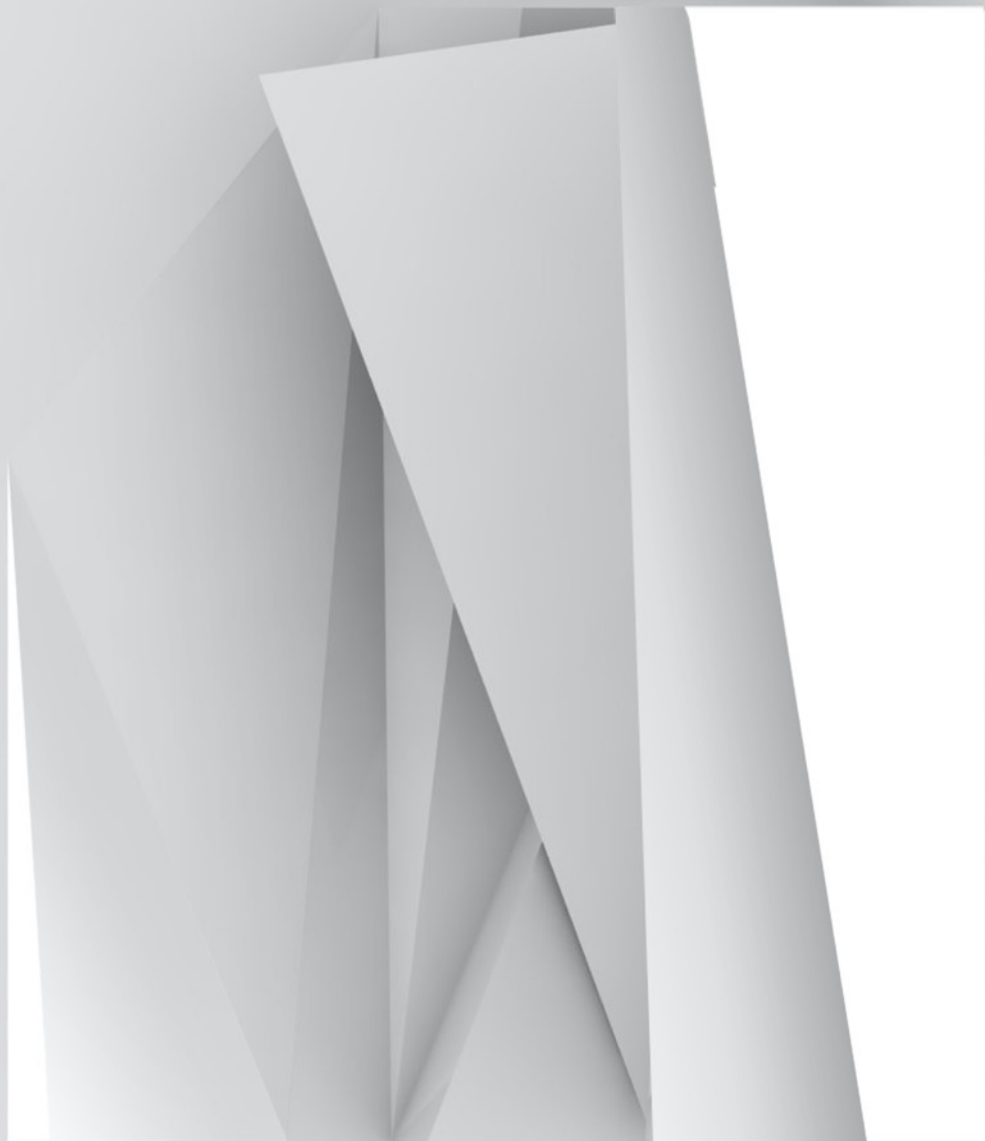


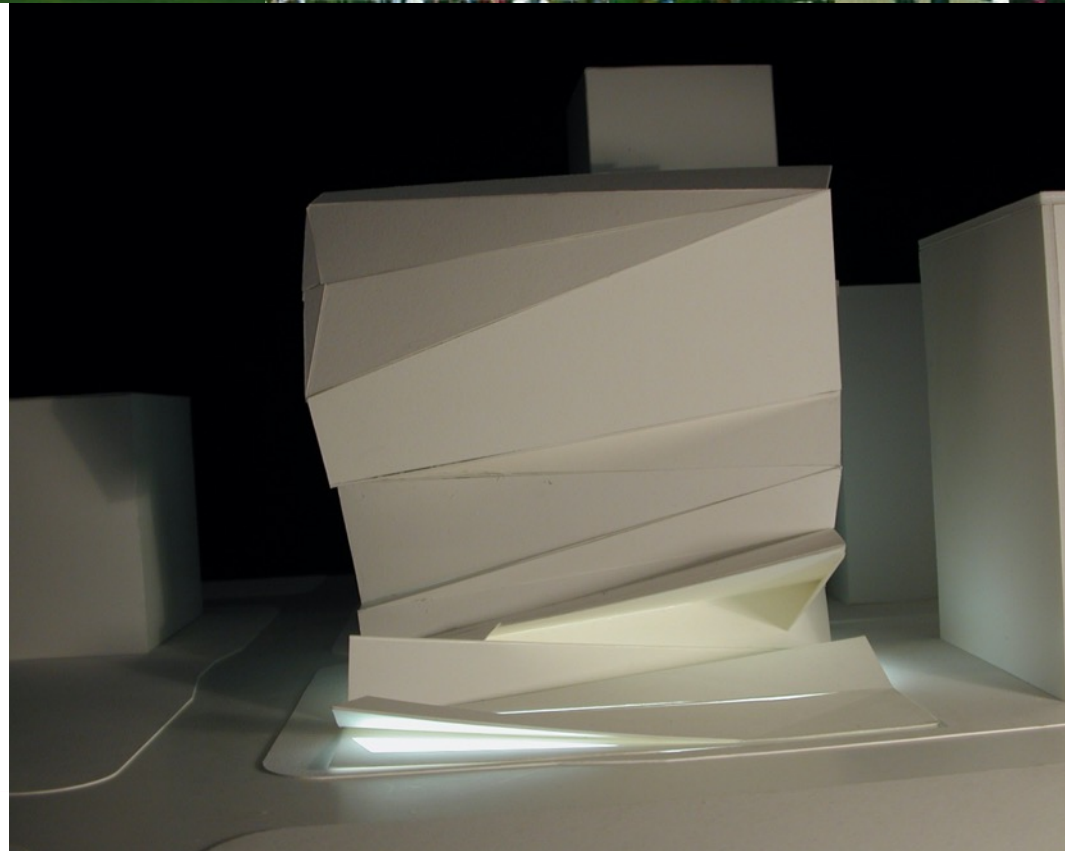
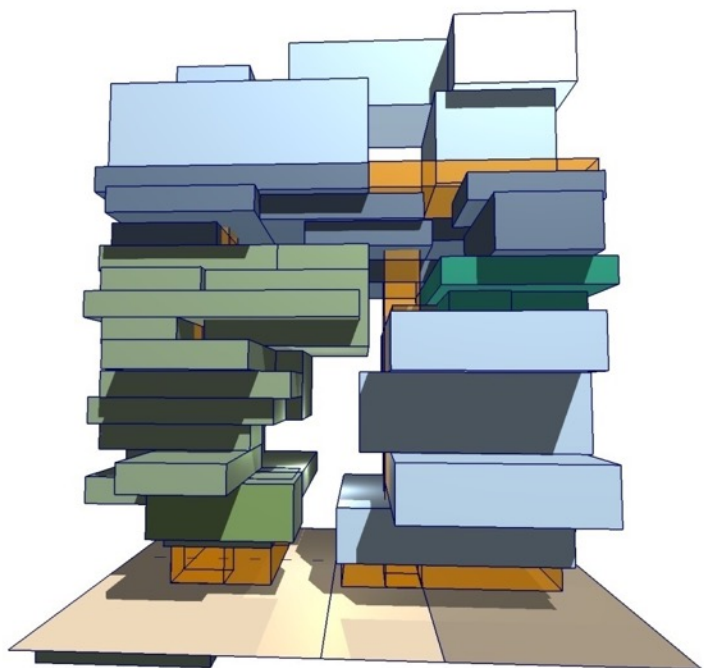
d r d s



Fluid Activity
The building's design is characterized by its fluid, organic forms and its ability to adapt to the needs of its users. The architecture is a testament to the power of innovative design and the importance of creating spaces that are both functional and inspiring.

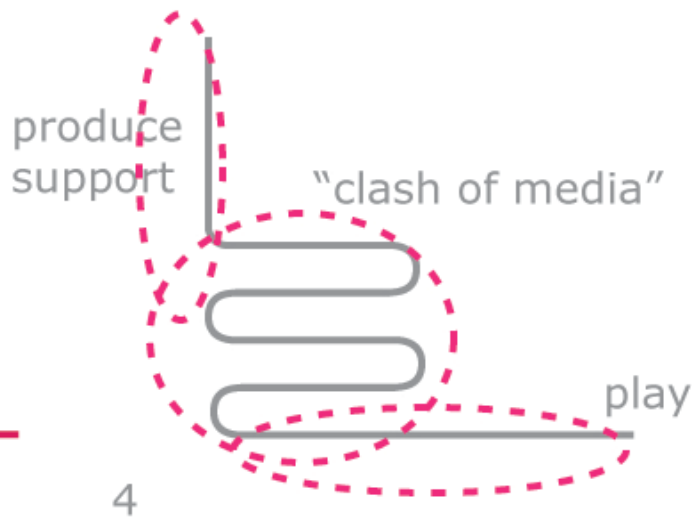
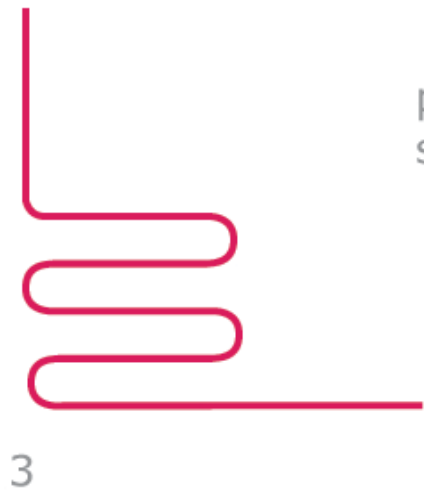
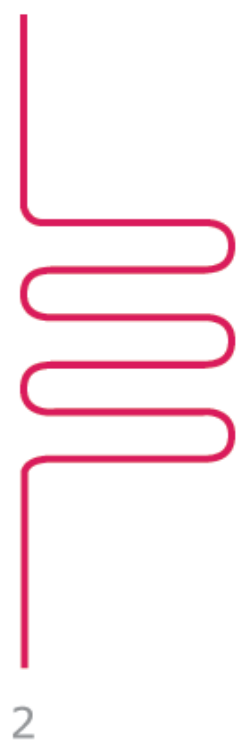








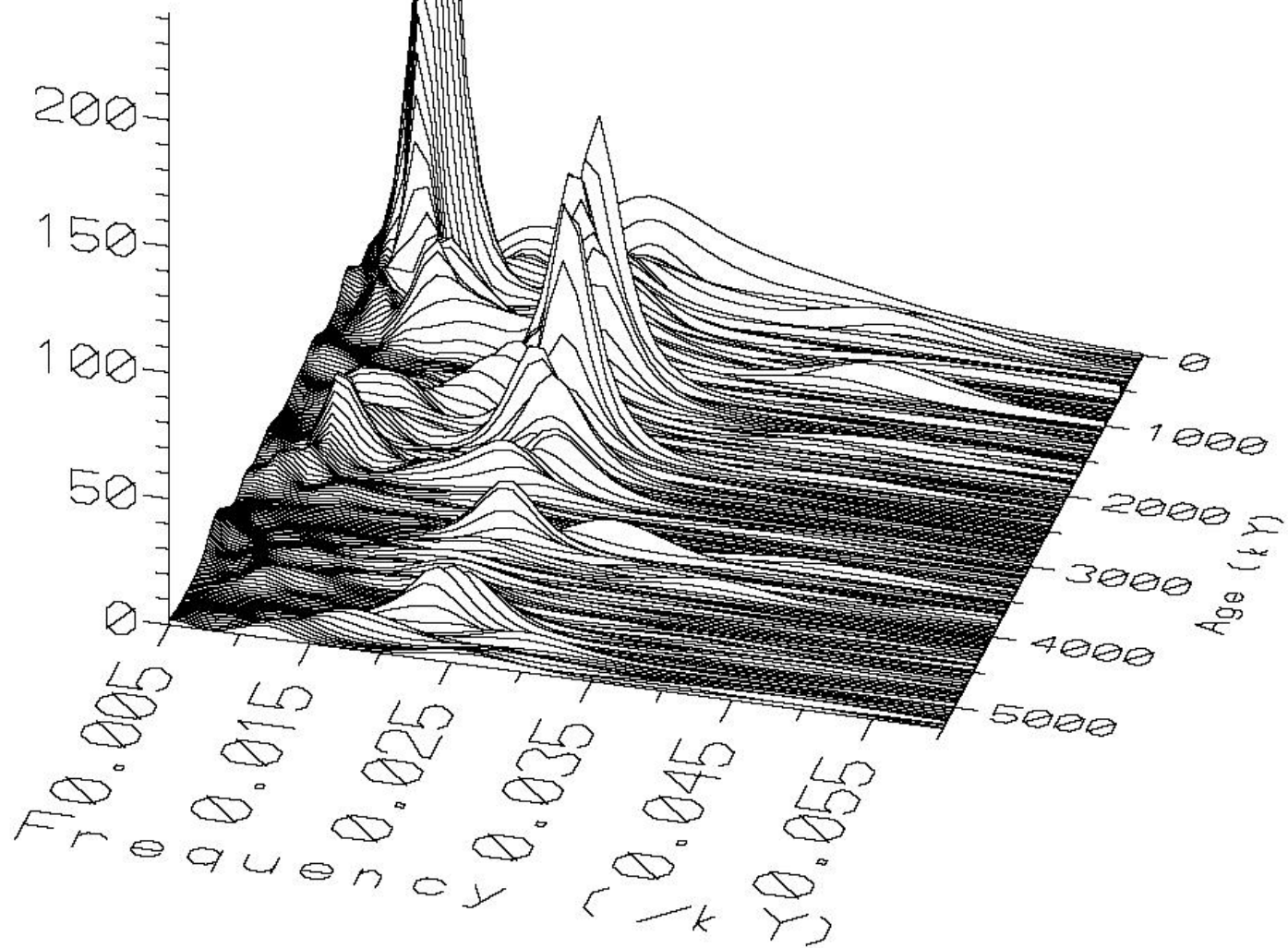
d r d s



frequency_sectional diagram

d r d s

LR04

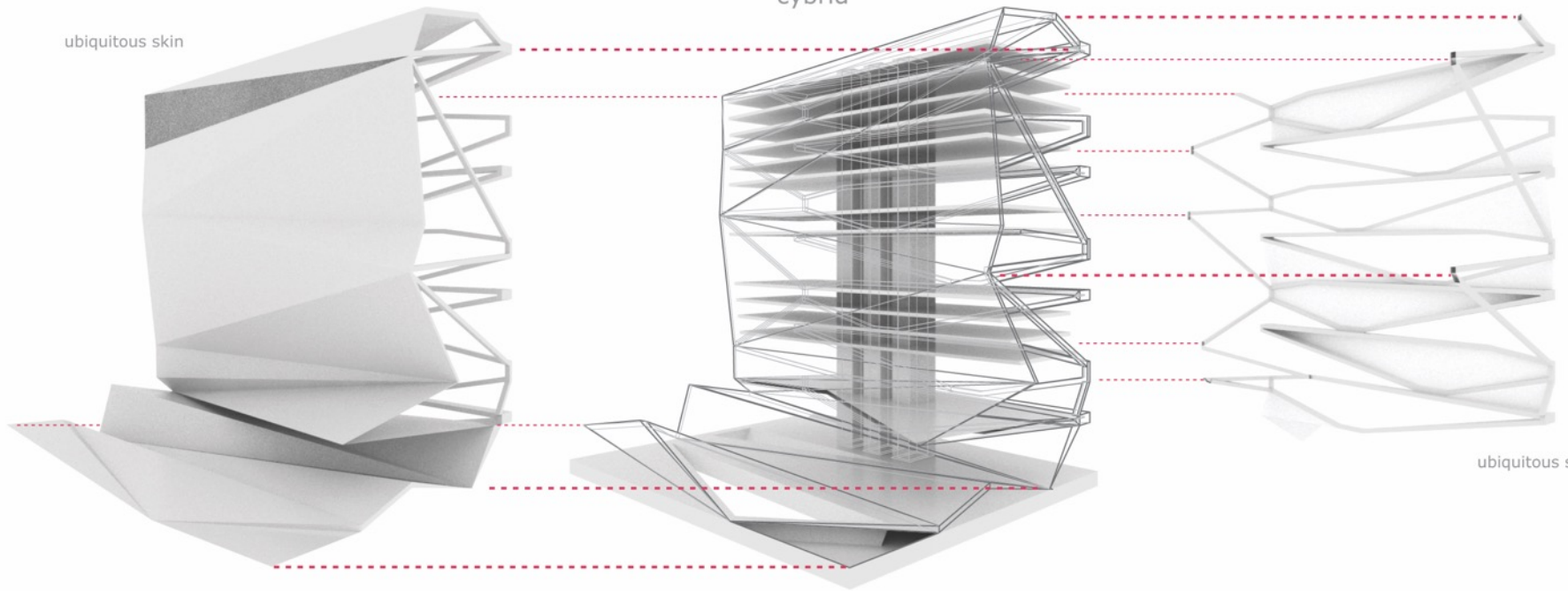


ubiquitous skin

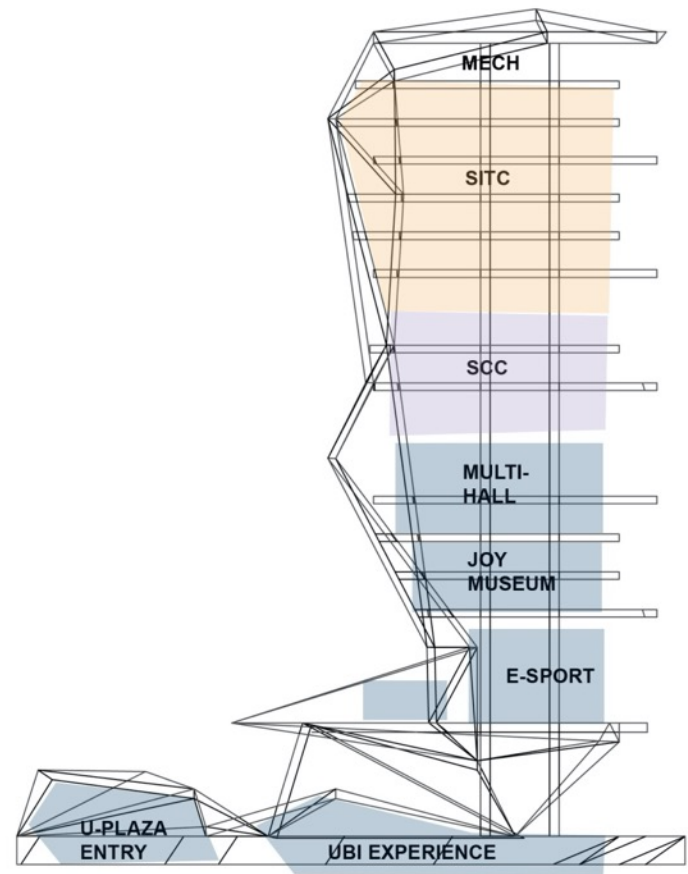
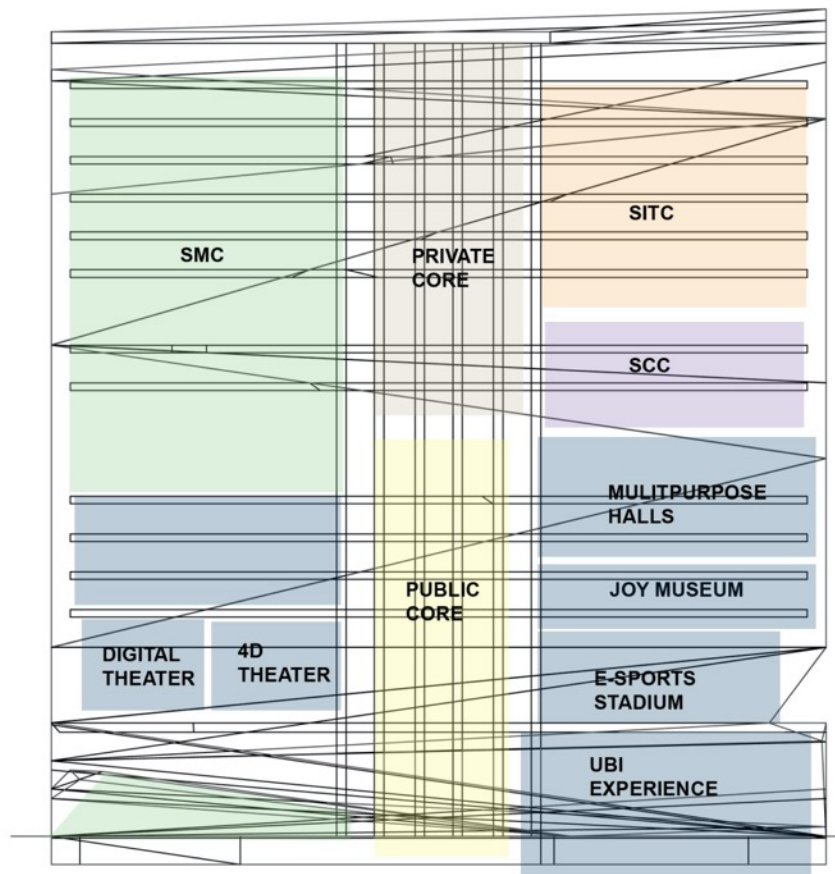
cybrid

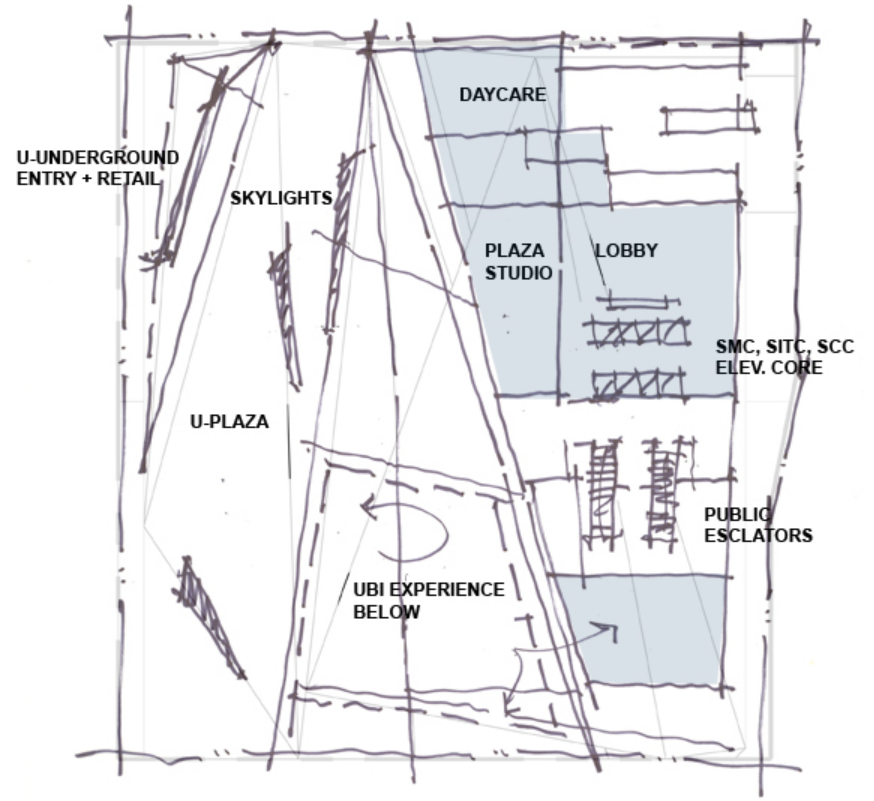
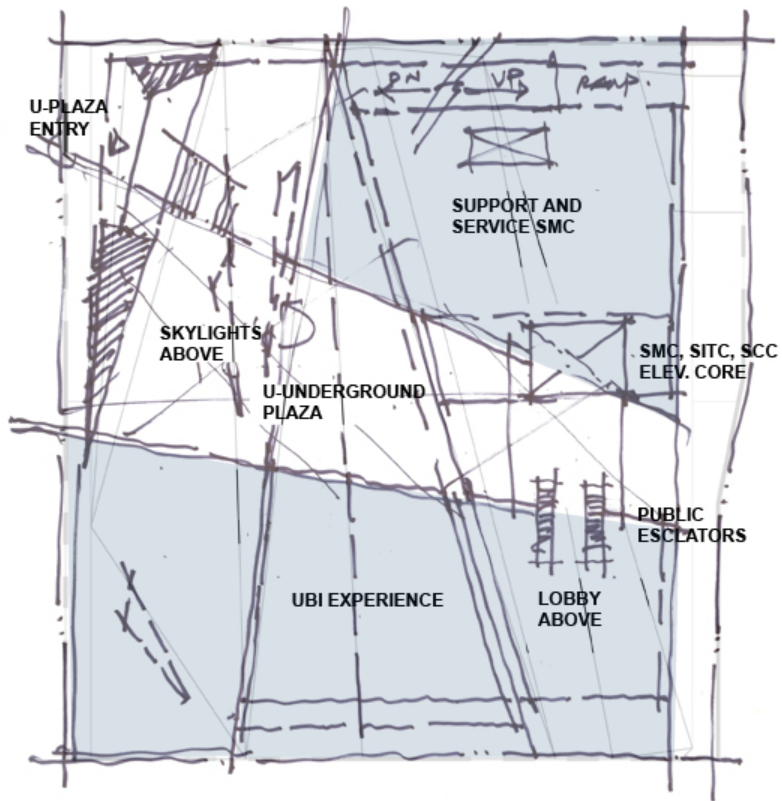
ubiquitous system

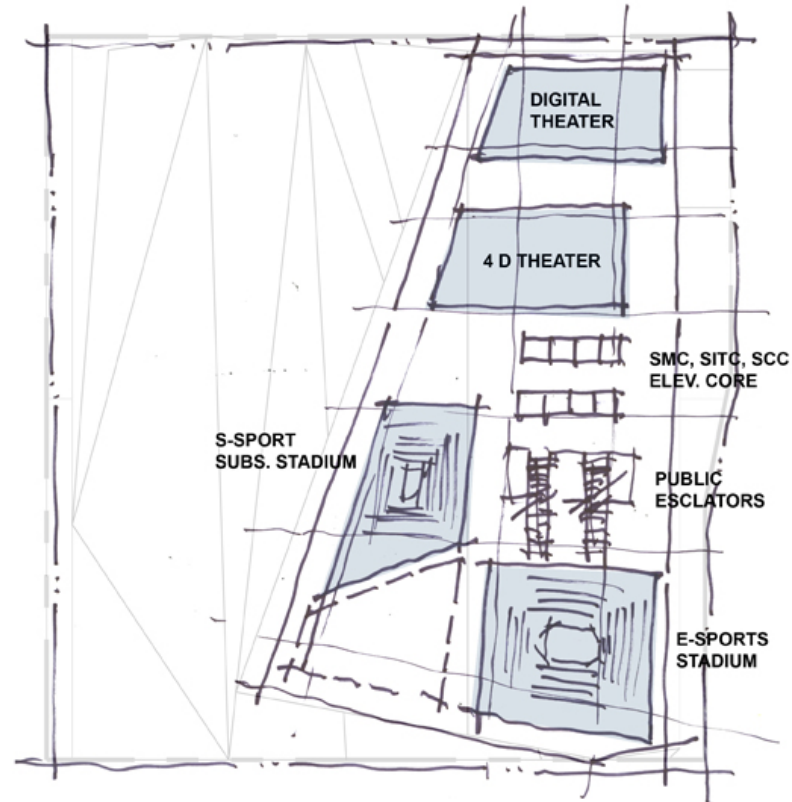
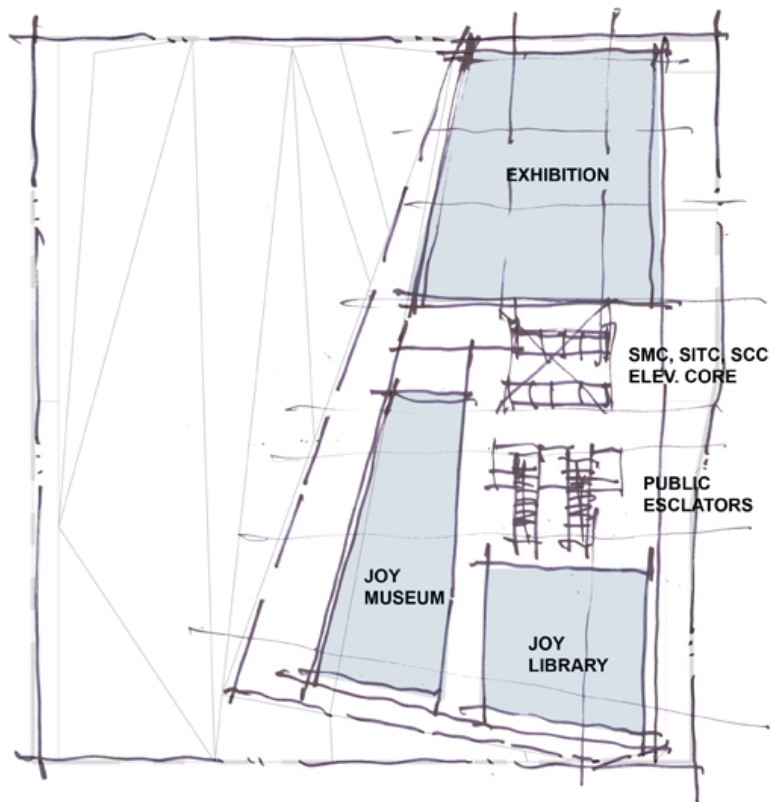
d r d s

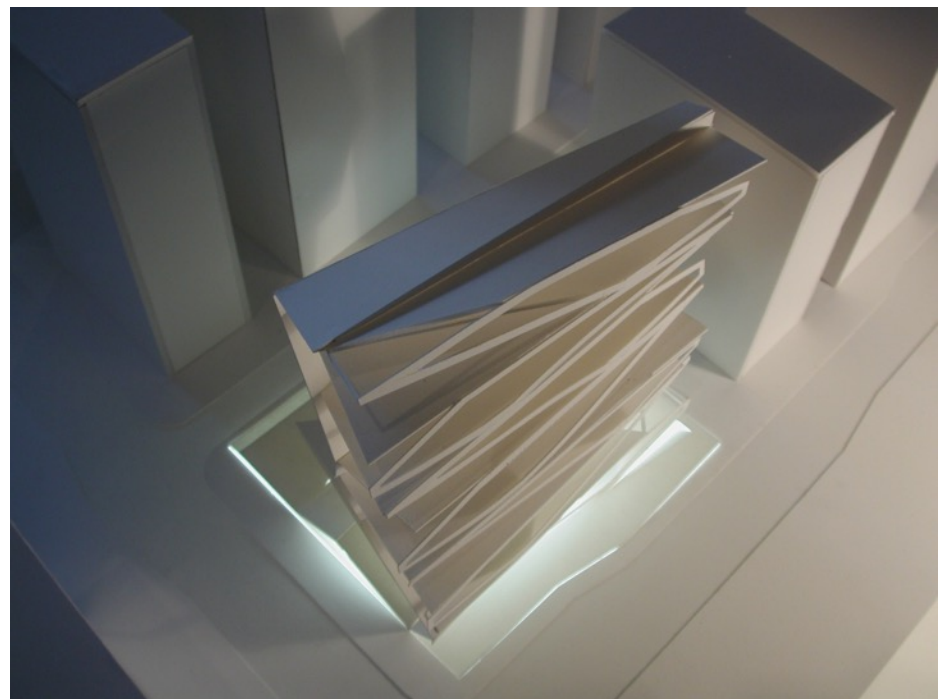
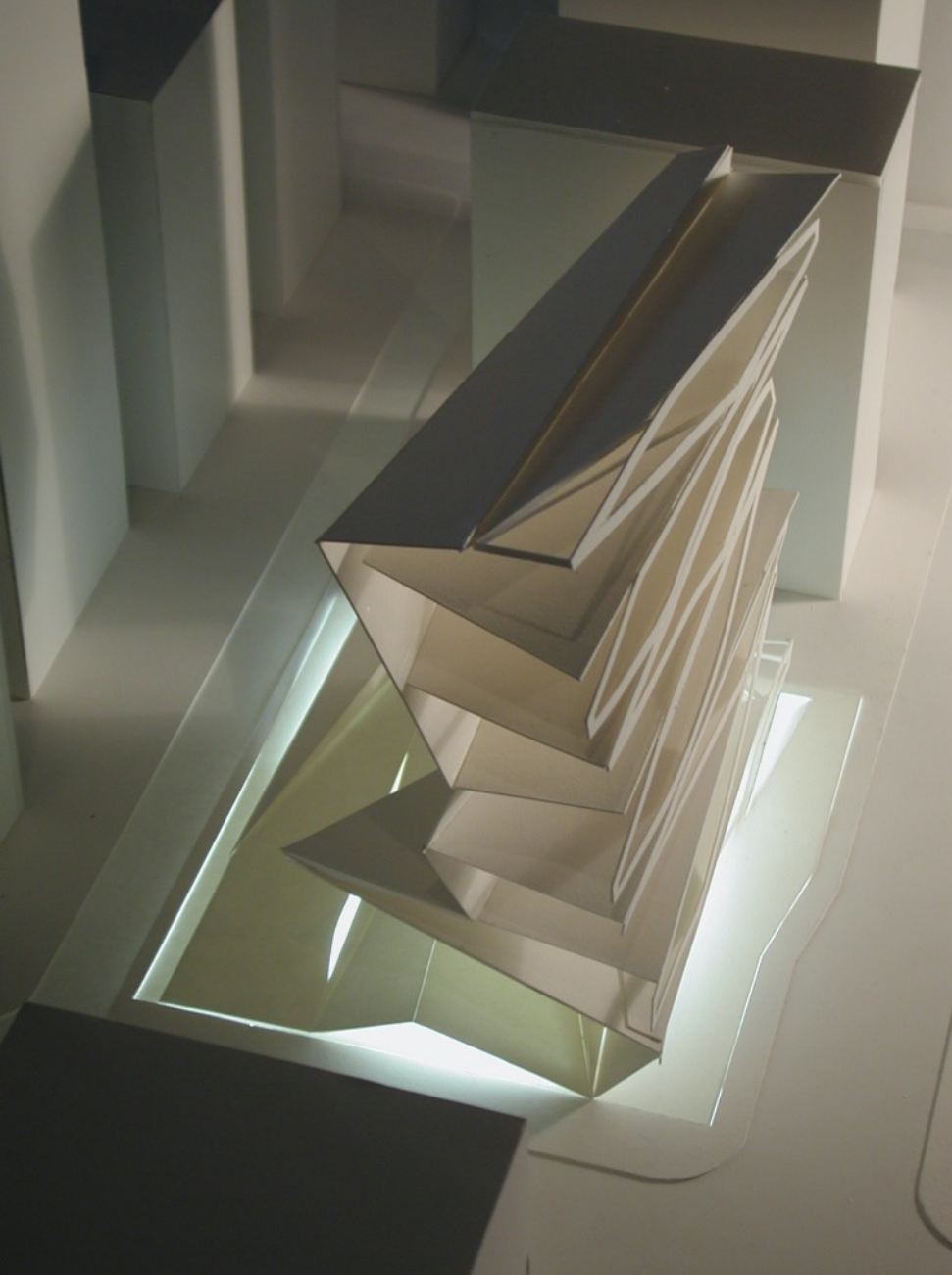






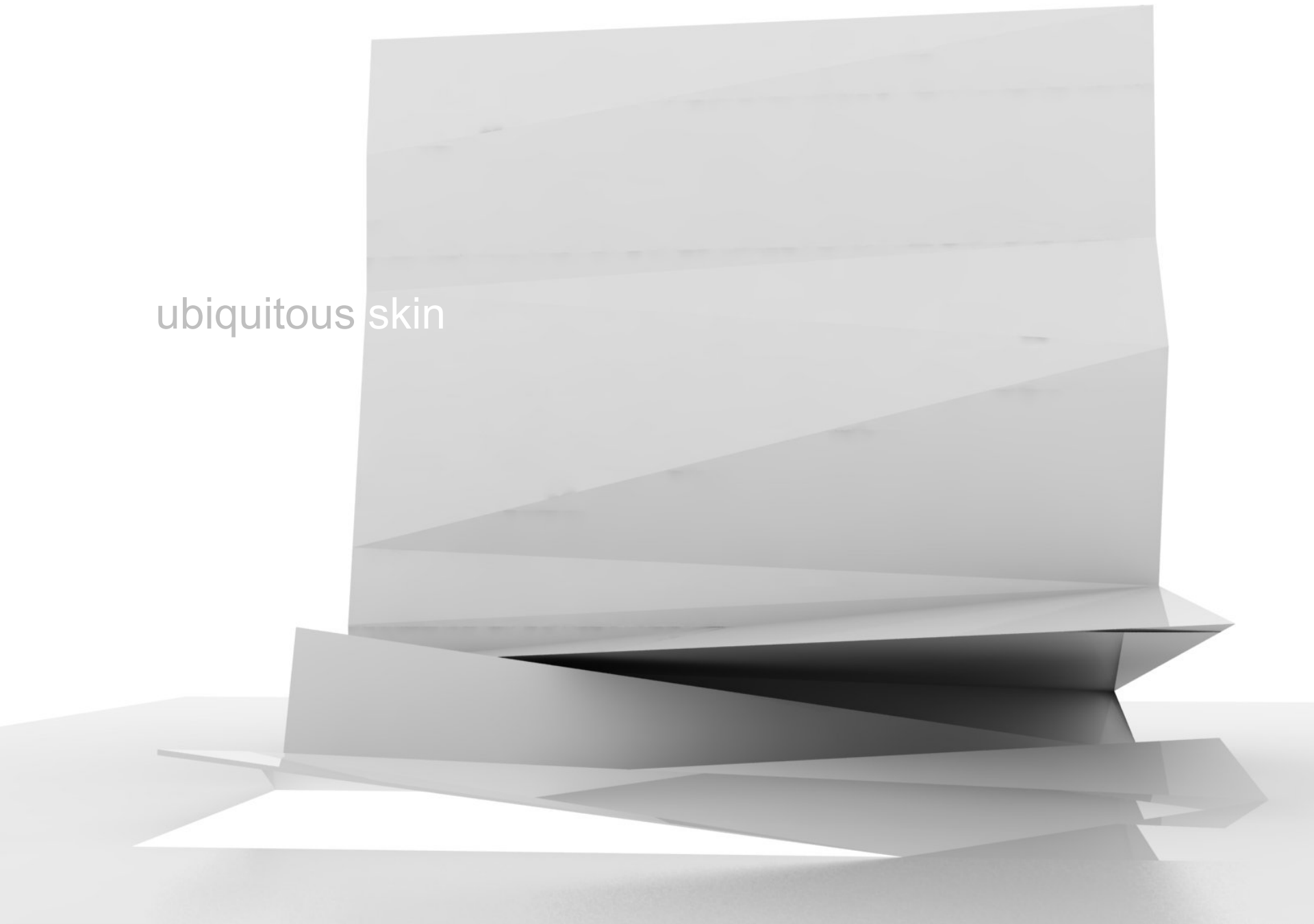


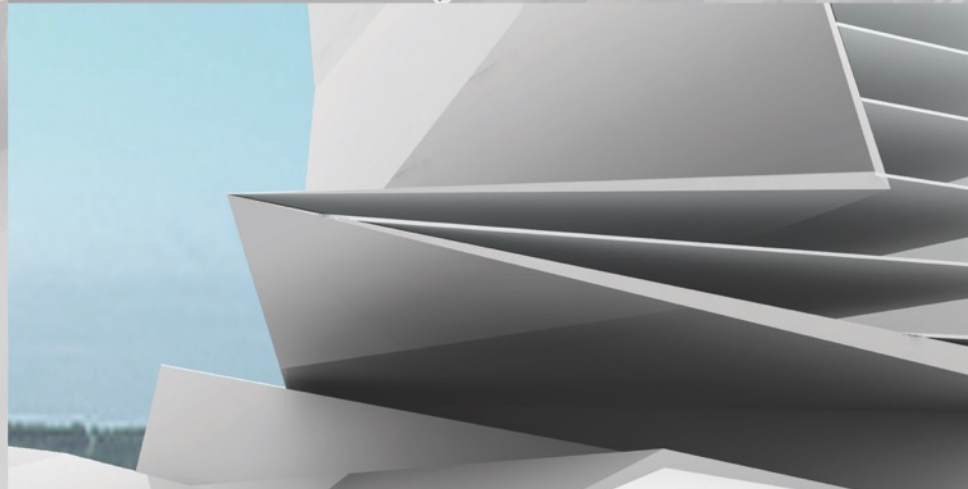
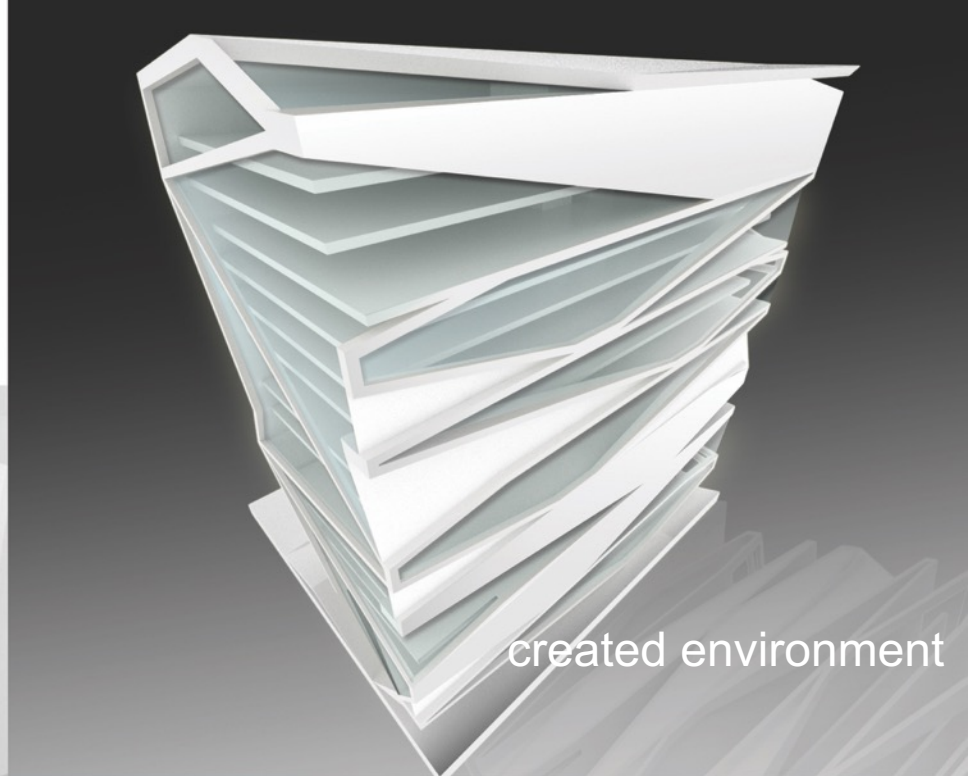
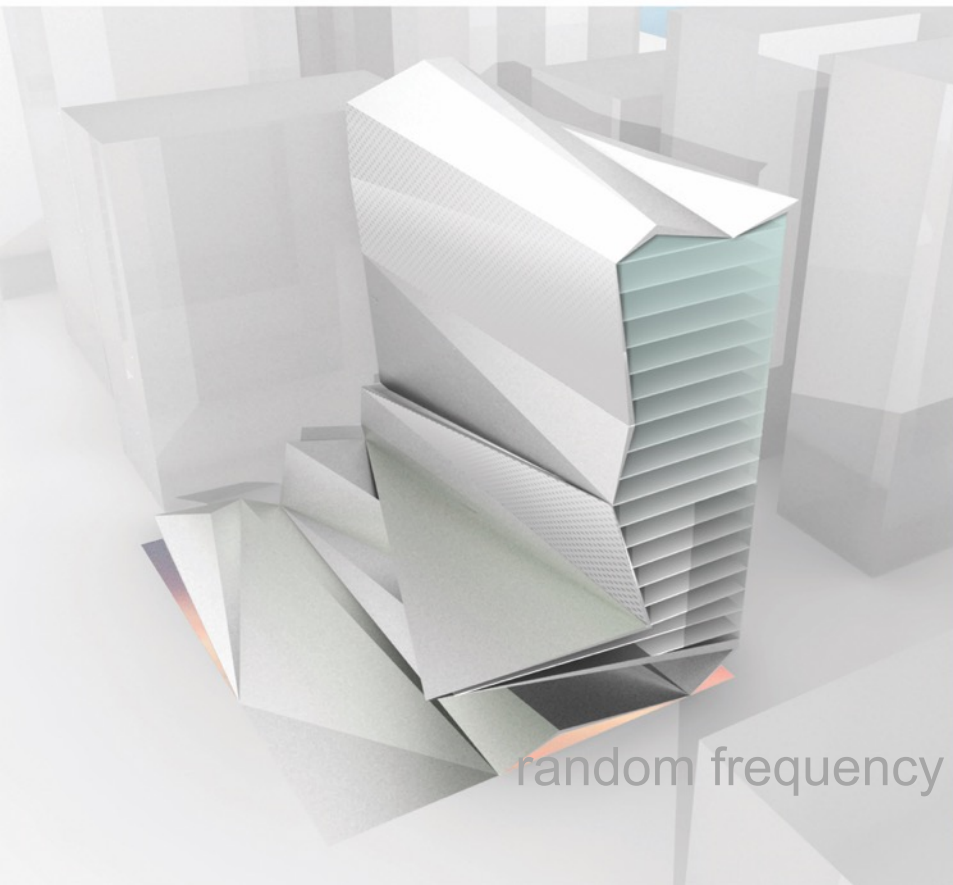




d r d s

ubiquitous skin



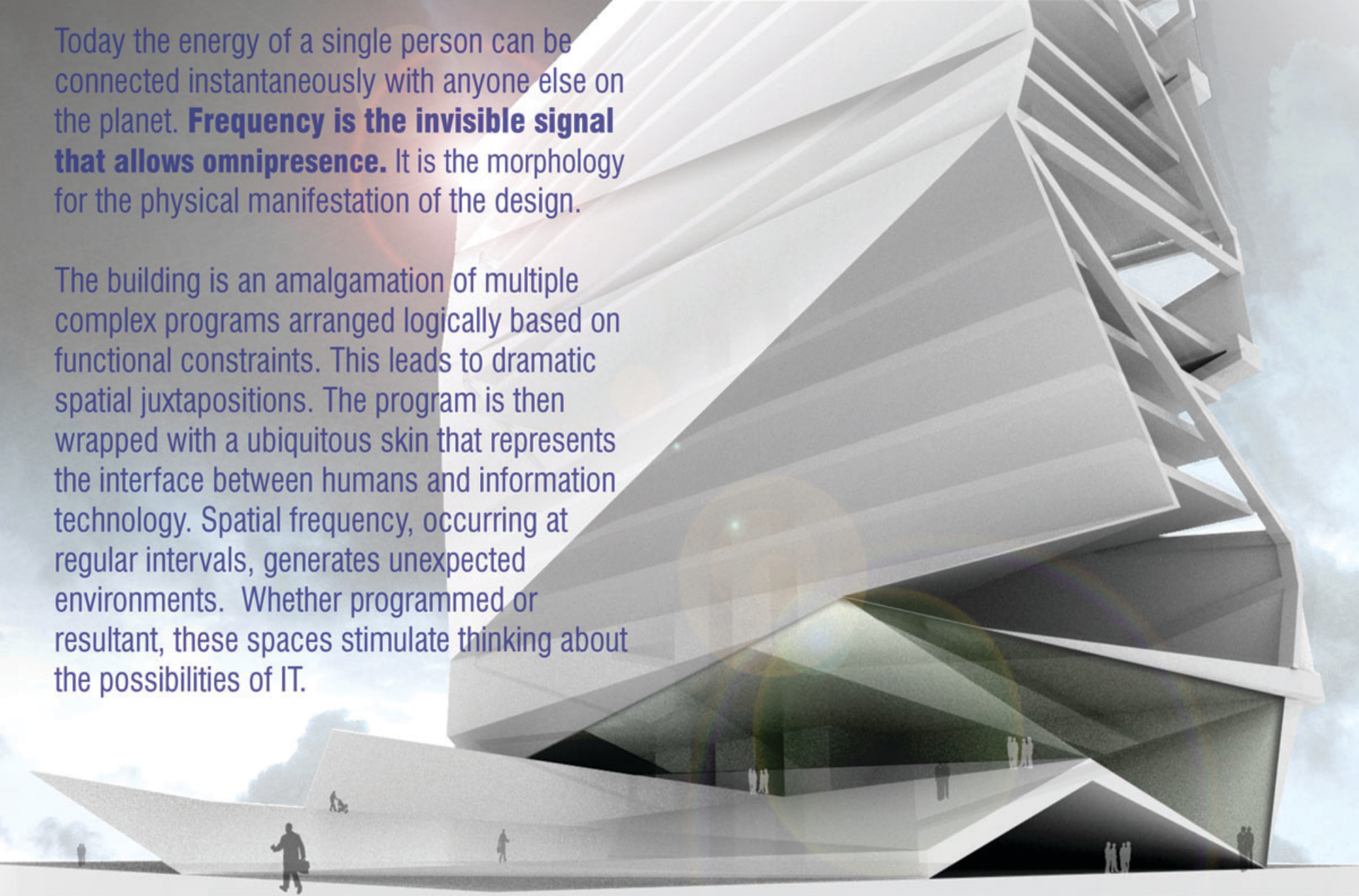


d r d s

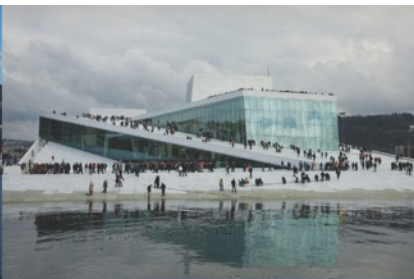


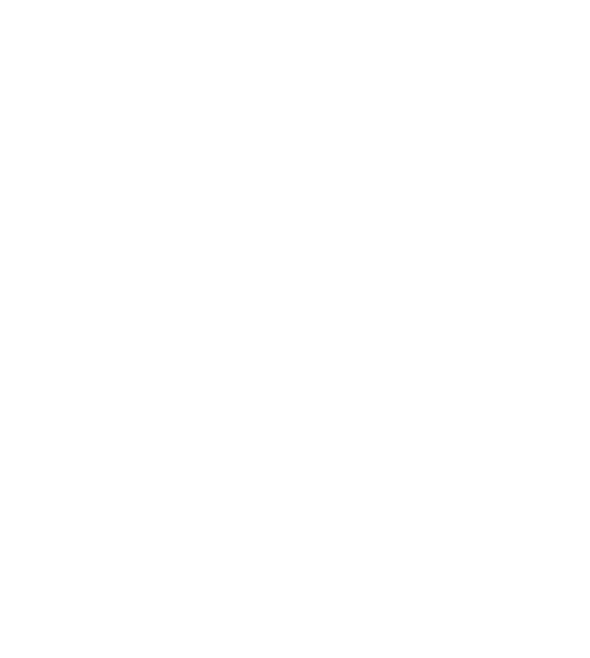
Today the energy of a single person can be connected instantaneously with anyone else on the planet. **Frequency is the invisible signal that allows omnipresence.** It is the morphology for the physical manifestation of the design.

The building is an amalgamation of multiple complex programs arranged logically based on functional constraints. This leads to dramatic spatial juxtapositions. The program is then wrapped with a ubiquitous skin that represents the interface between humans and information technology. Spatial frequency, occurring at regular intervals, generates unexpected environments. Whether programmed or resultant, these spaces stimulate thinking about the possibilities of IT.



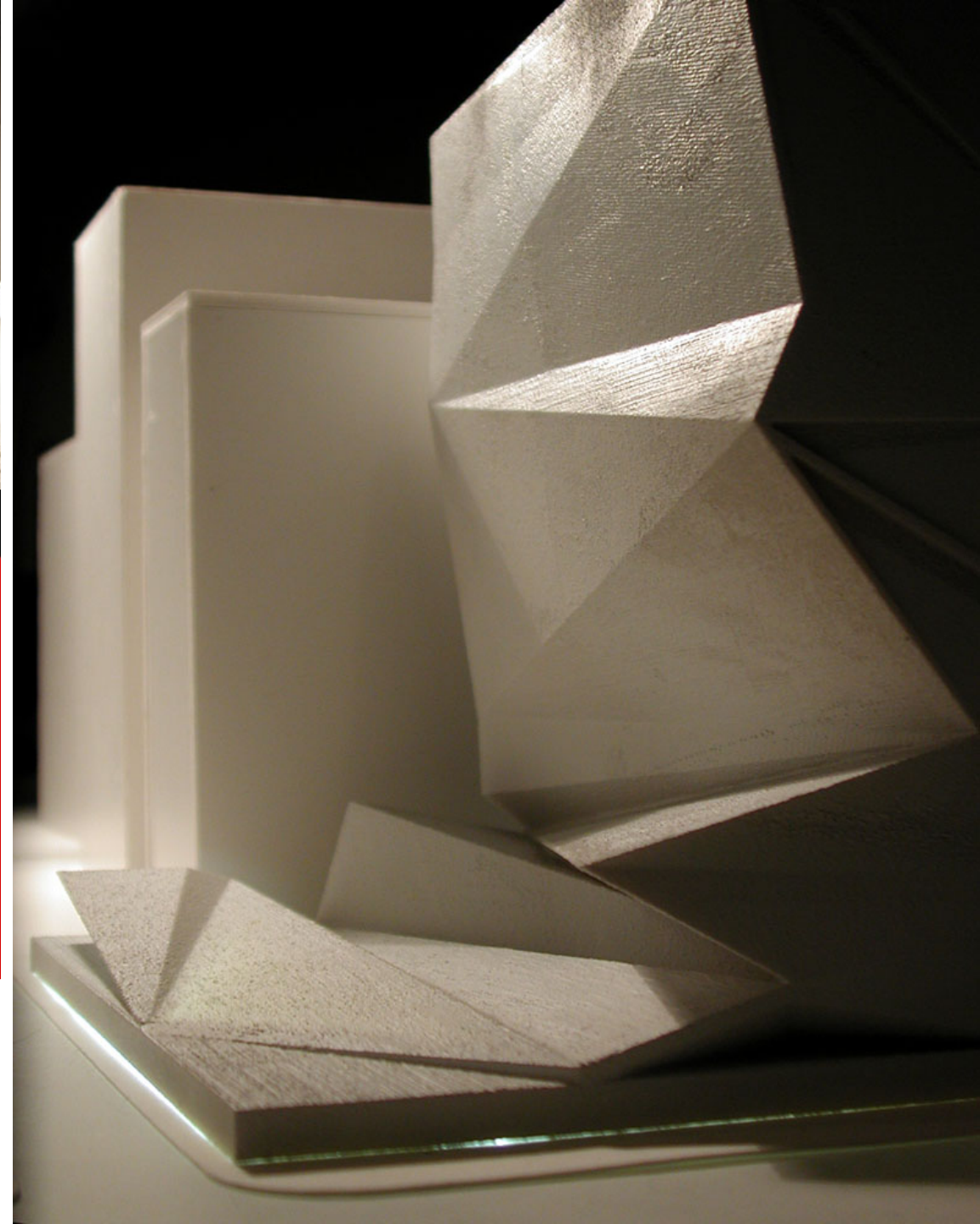
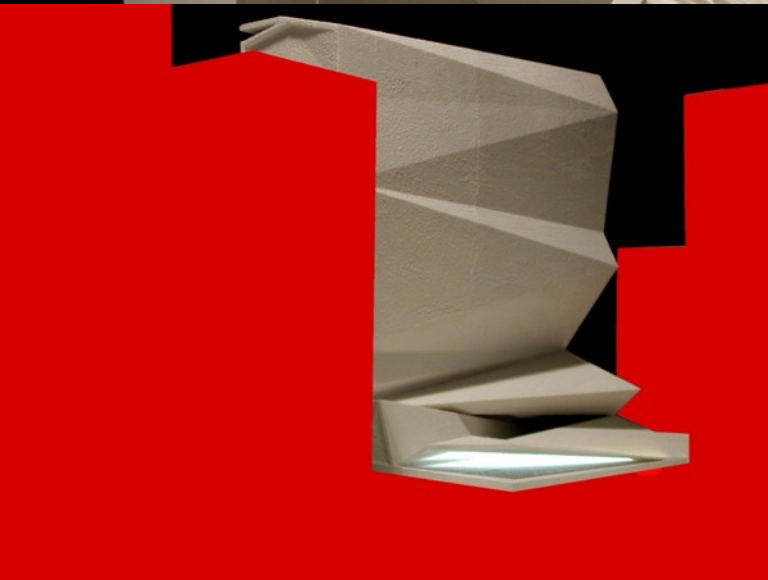
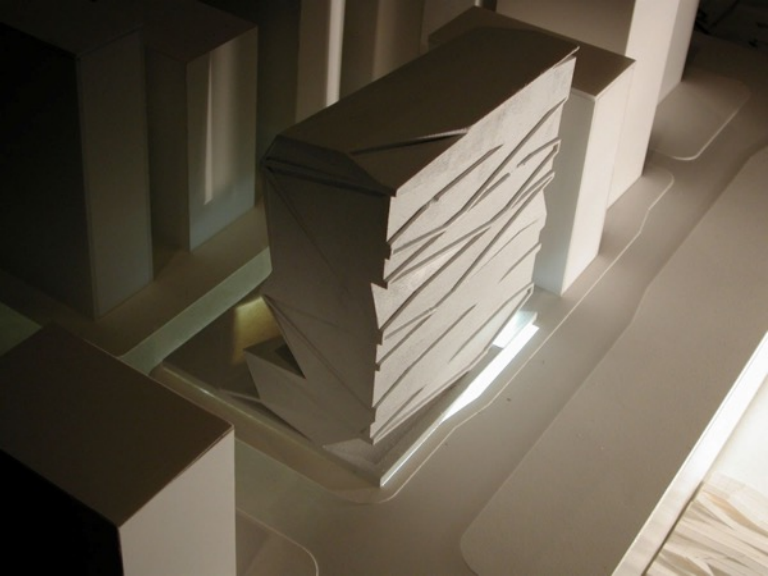
d r d s

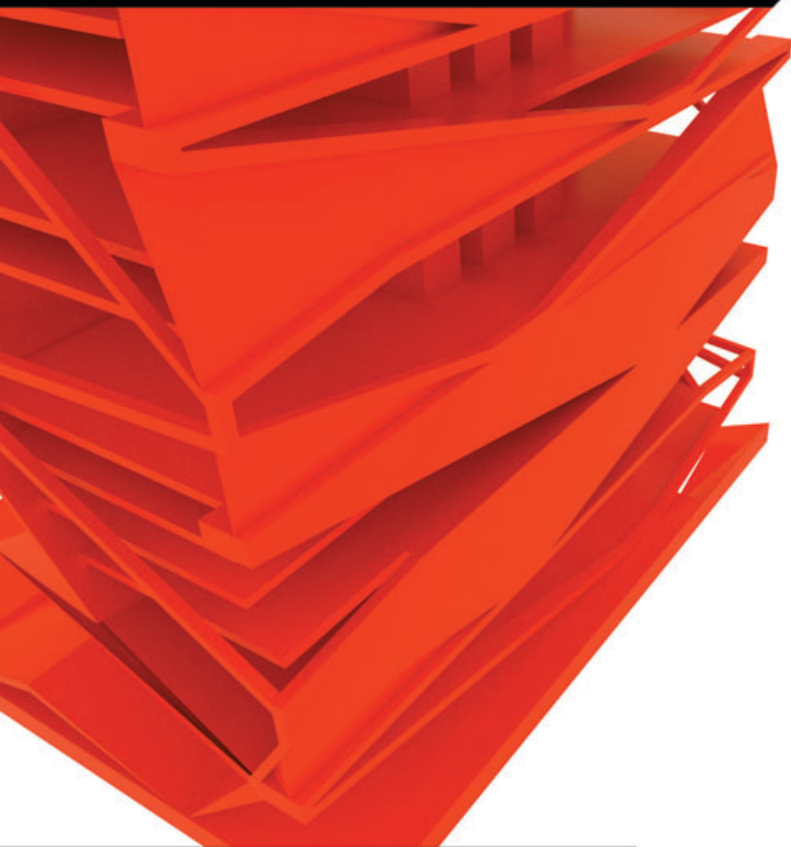




d r d s







The building emerges from beneath the street from some unknown origin. The skin bends upon itself creating energy lines at the folds like electronic signals bouncing information between satellites and Earth. Random patterns gradually become more controlled as the skin culminates on the formal east façade. It is now intricately designed. The composition, shaped by human hands, is an evolution of traditional façade design. Evolved through modern technologies, it physically make possible this new world view. **It is not rational but neo-expressionism, a futurist exploration of the 21st century.**

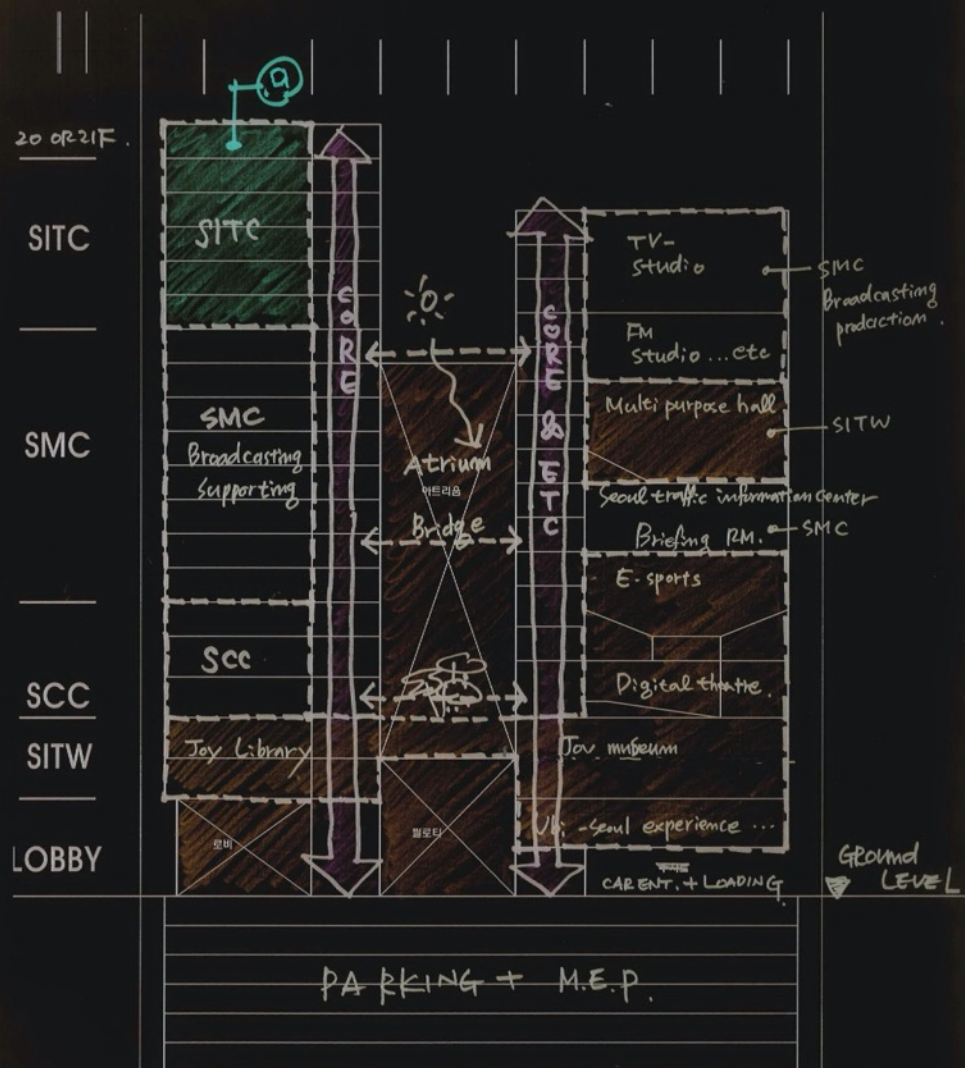
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


INTERFACE

d r d s

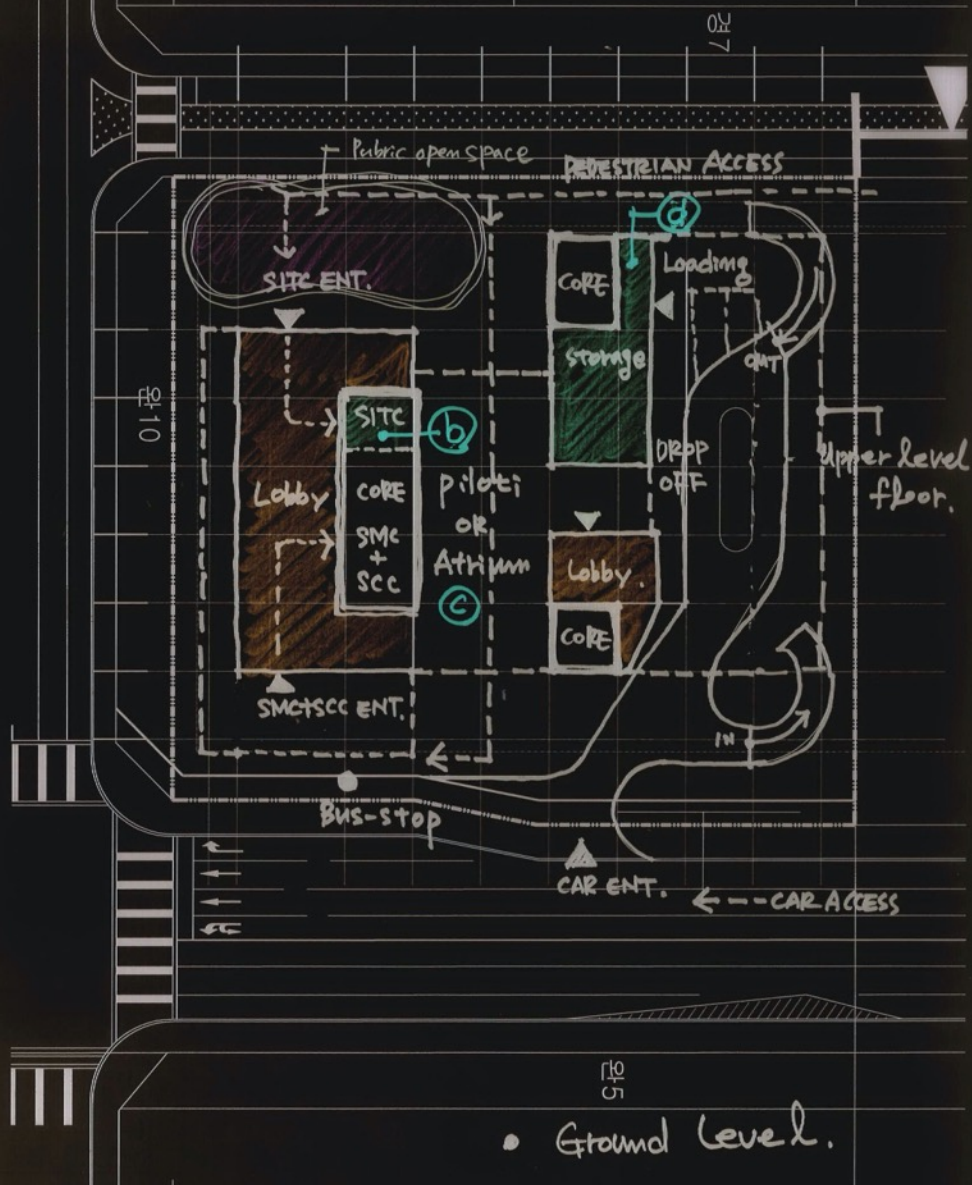


ATTACHMENT - 1

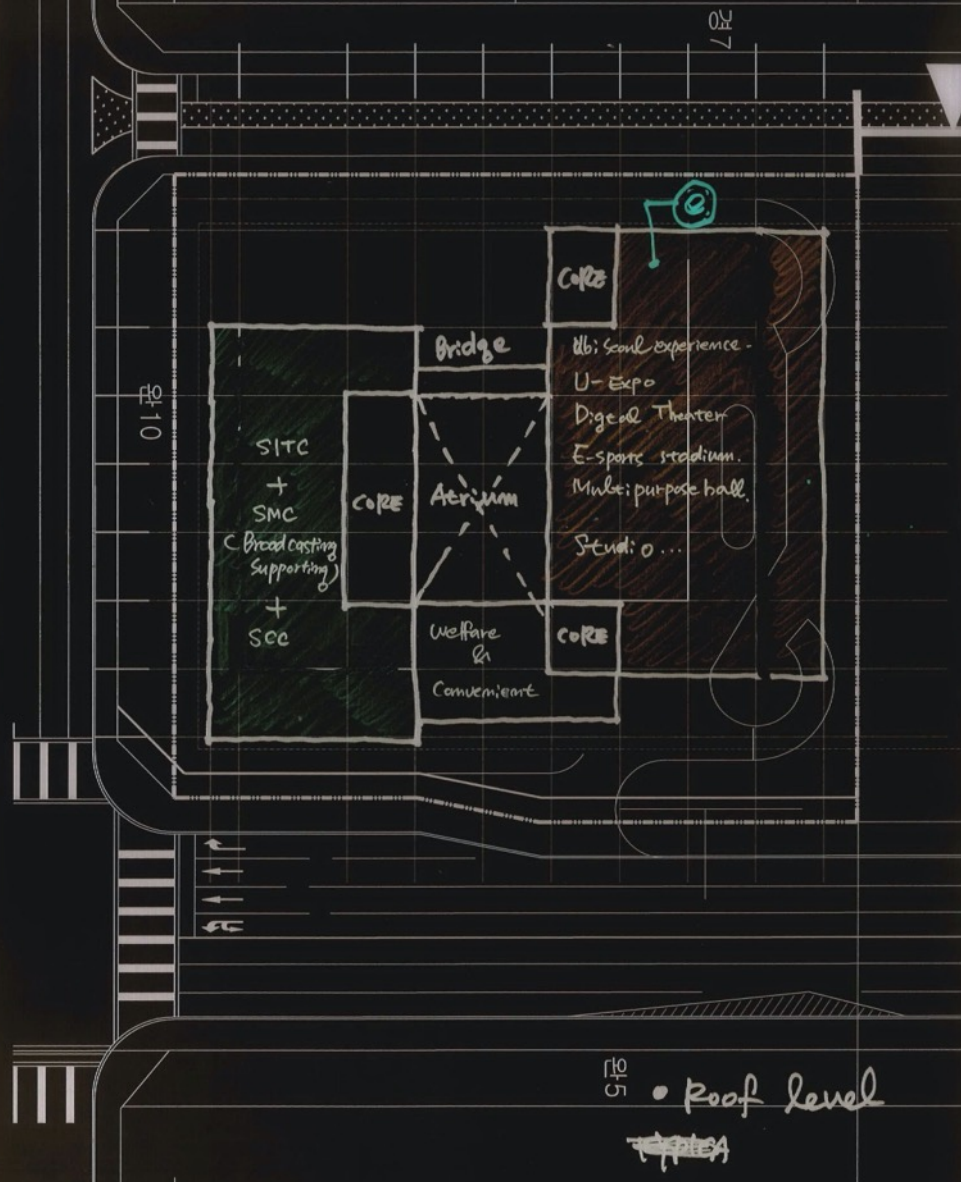


-  ZONE A : STAFF ONLY (Security)
 ZONE B : STAFF + Public (Semi Security)
 ZONE C : public (Public)

ATTACHMENT-2



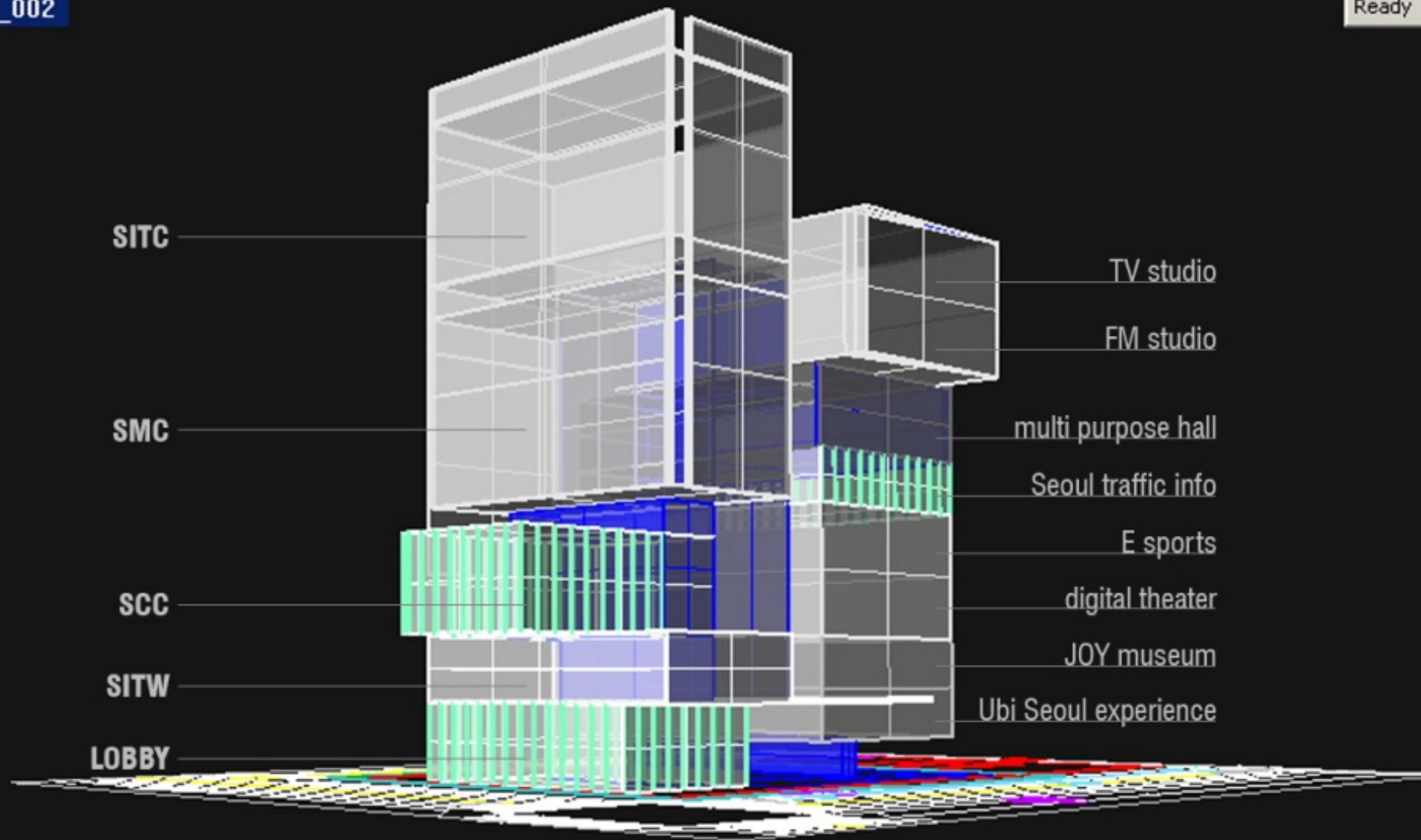
ATTACHMENT-3



INTERFACE

view_002

Ready

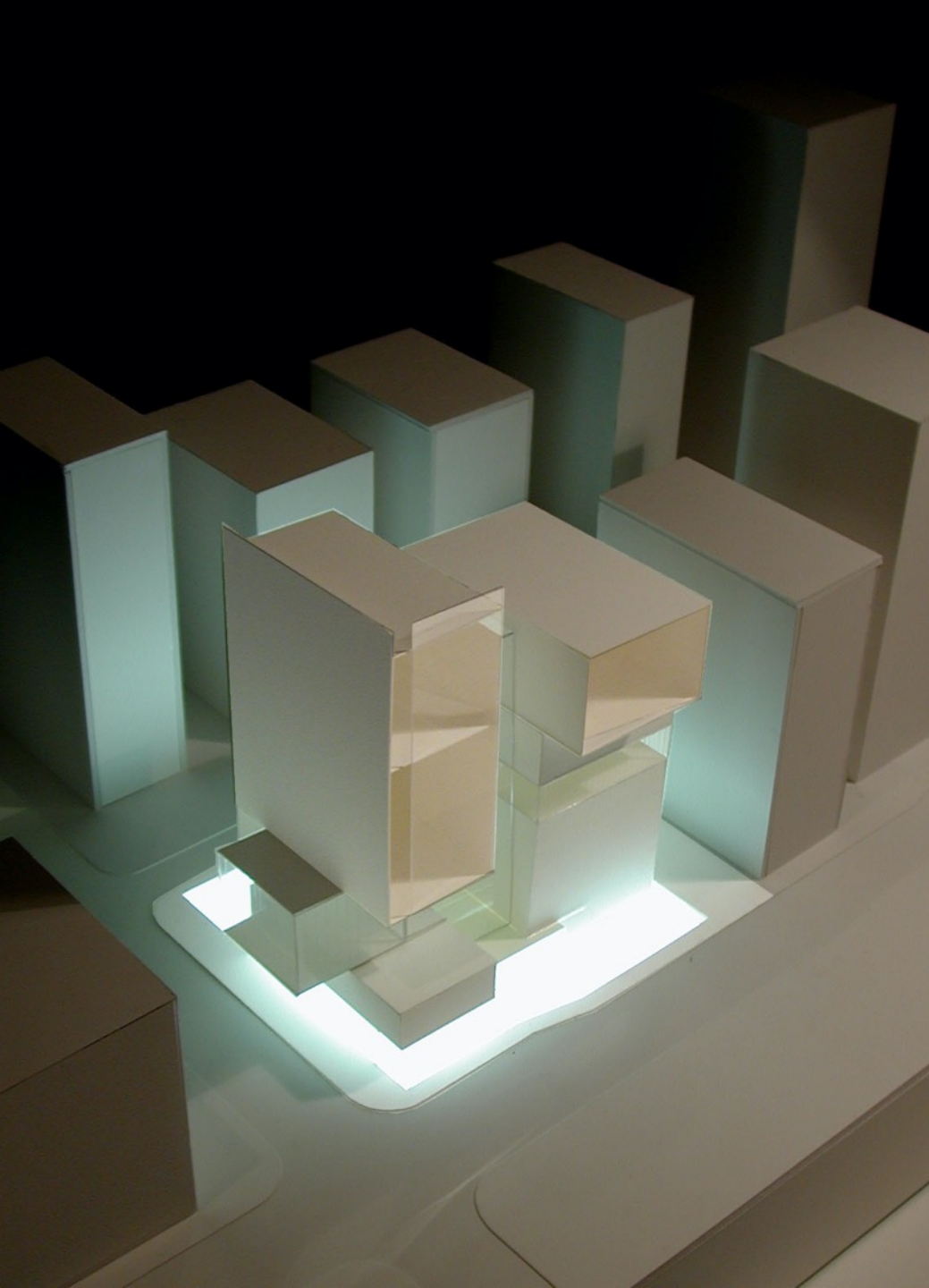


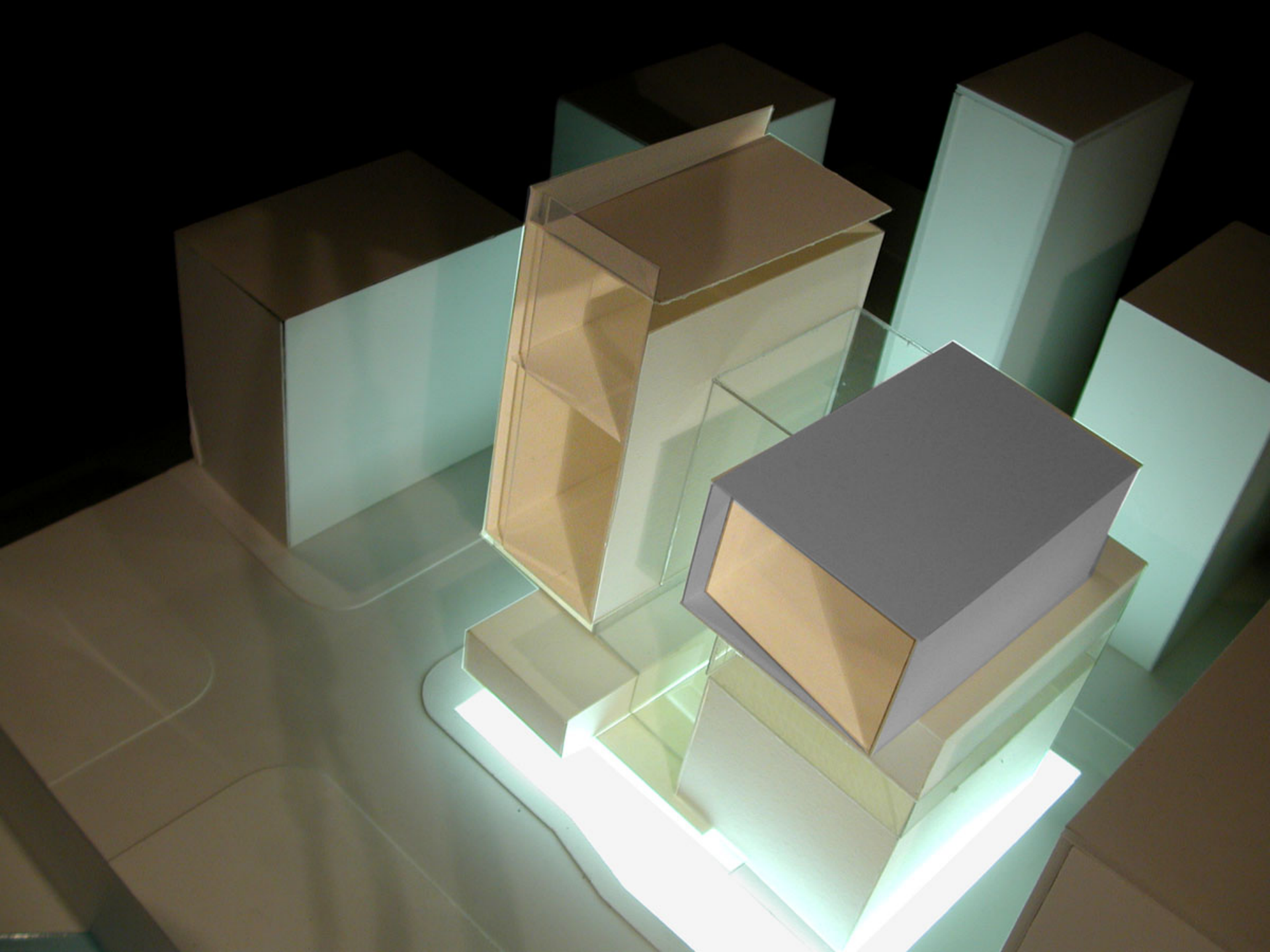
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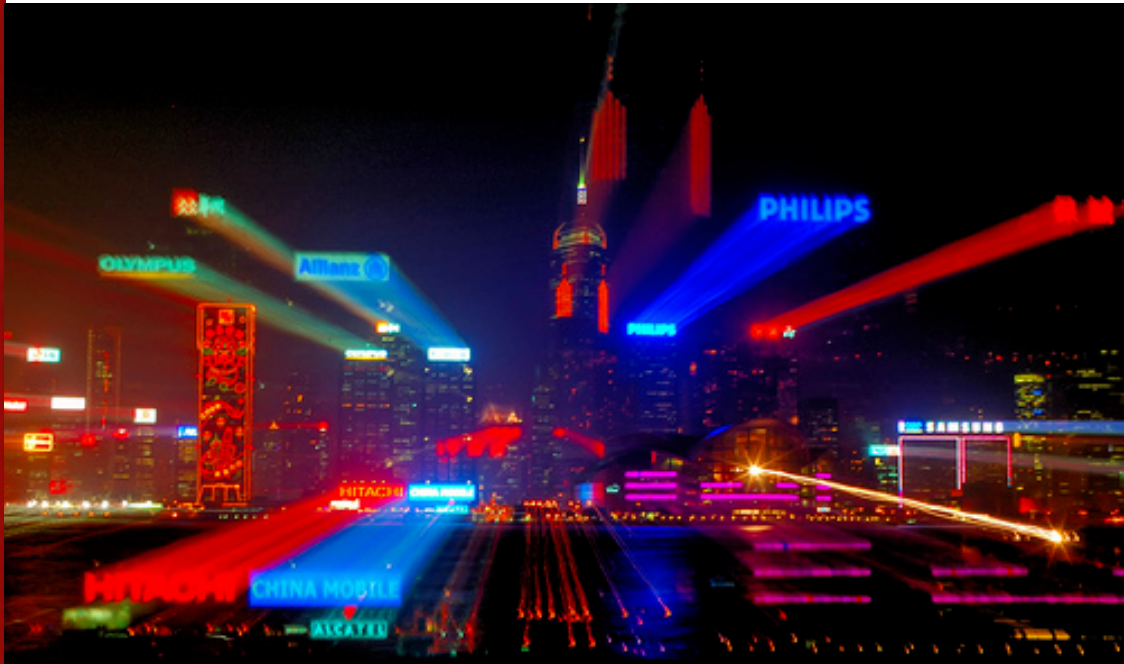
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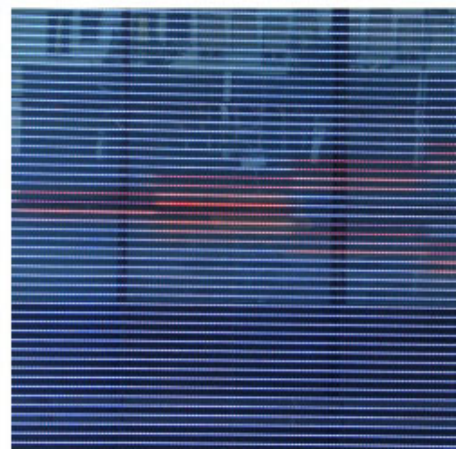
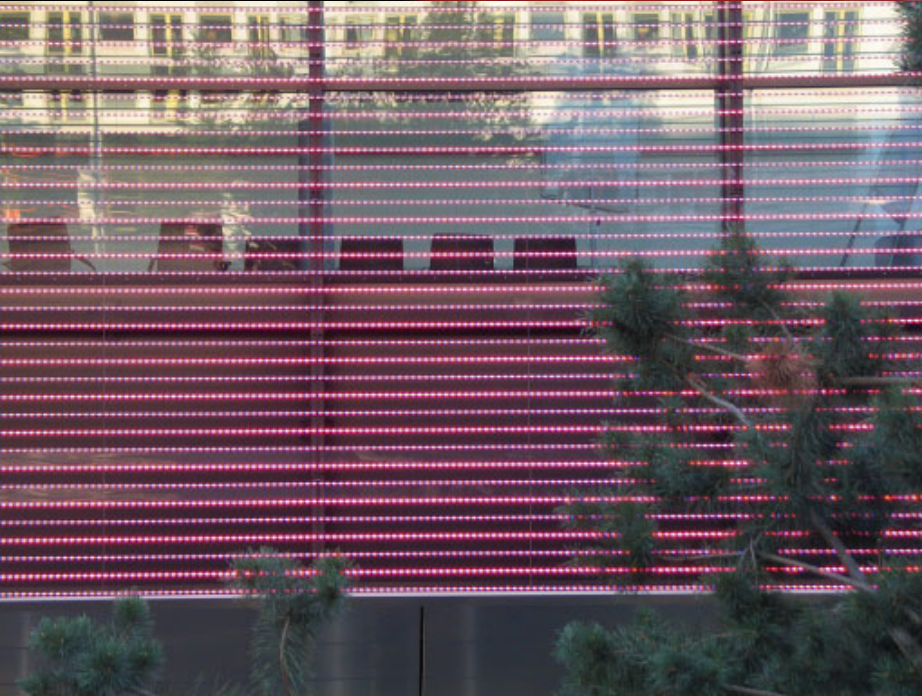


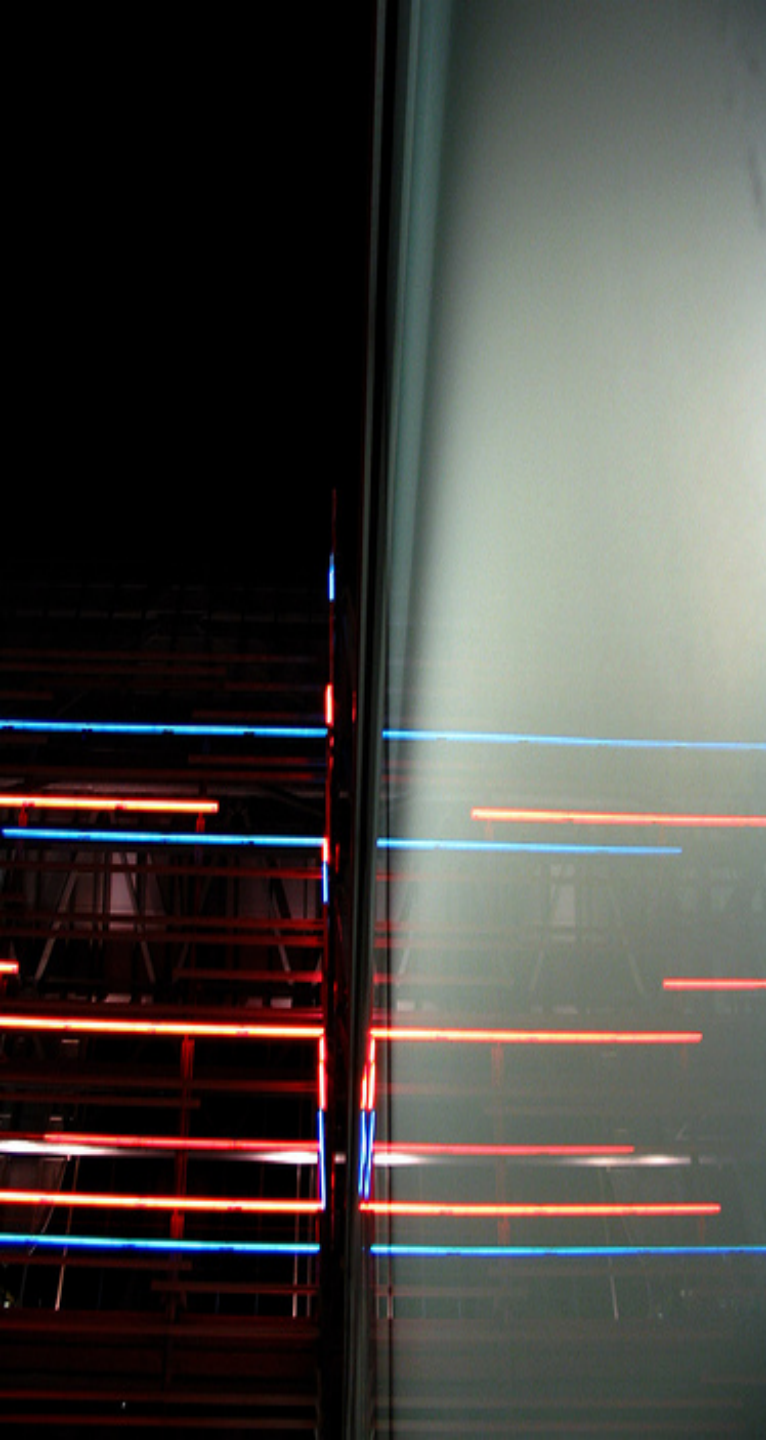


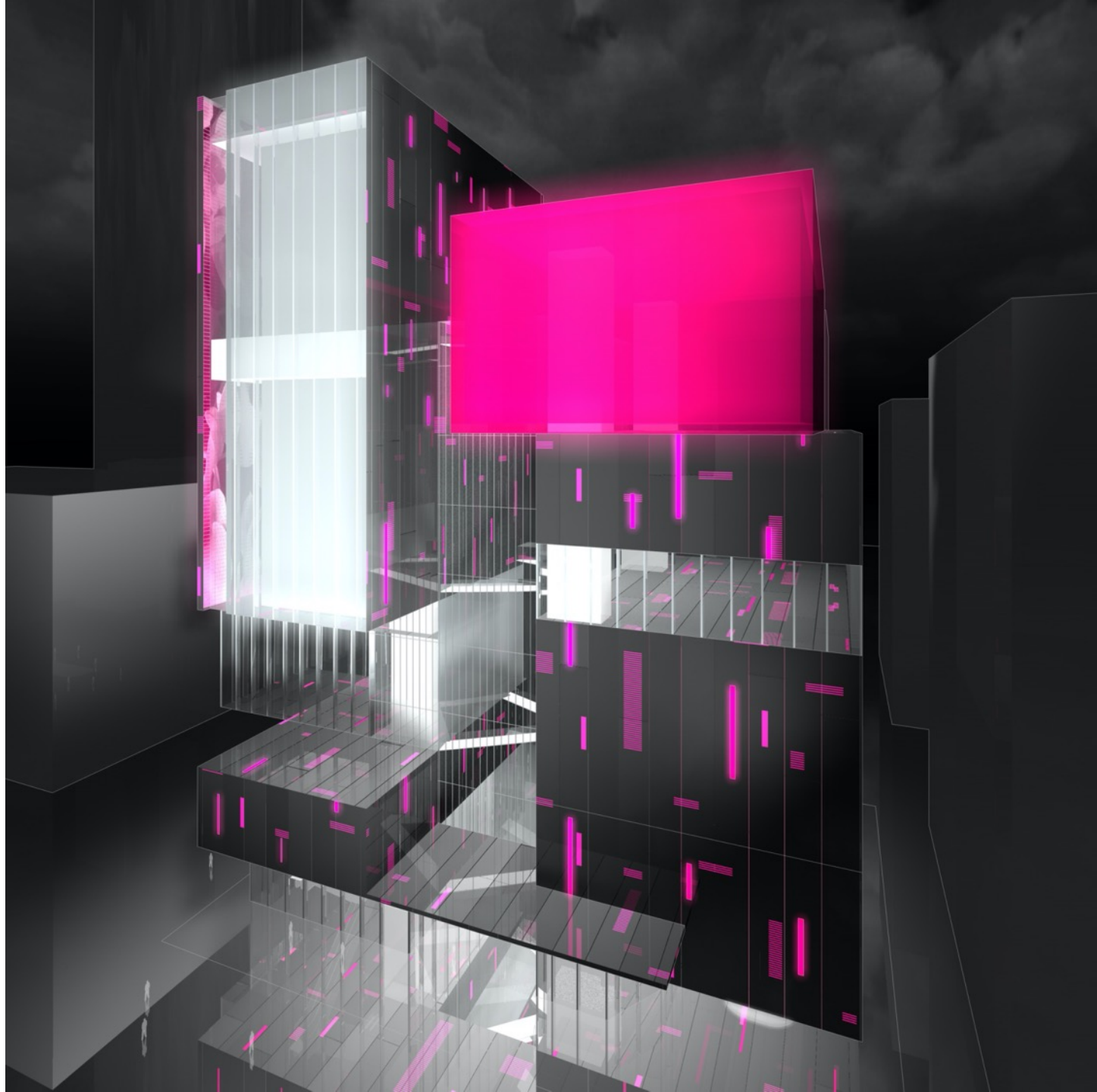


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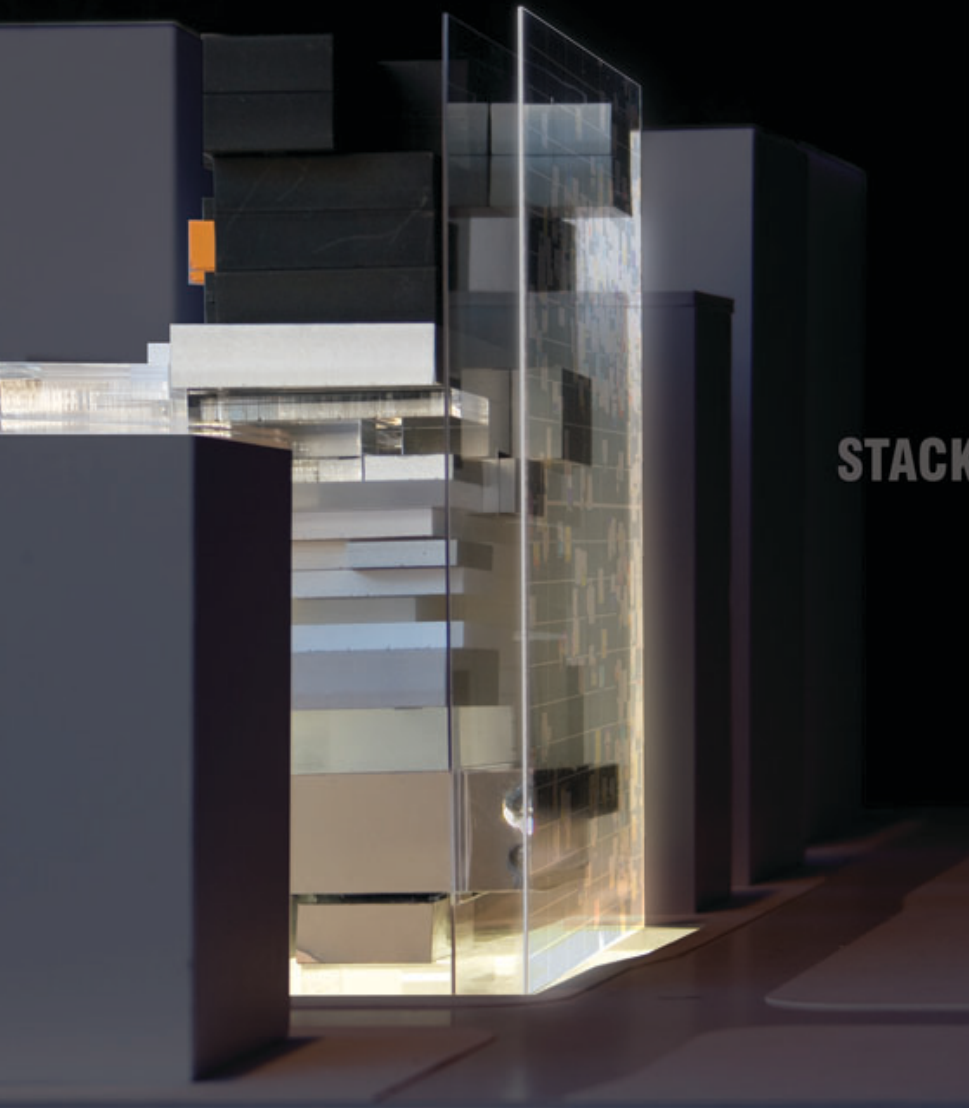
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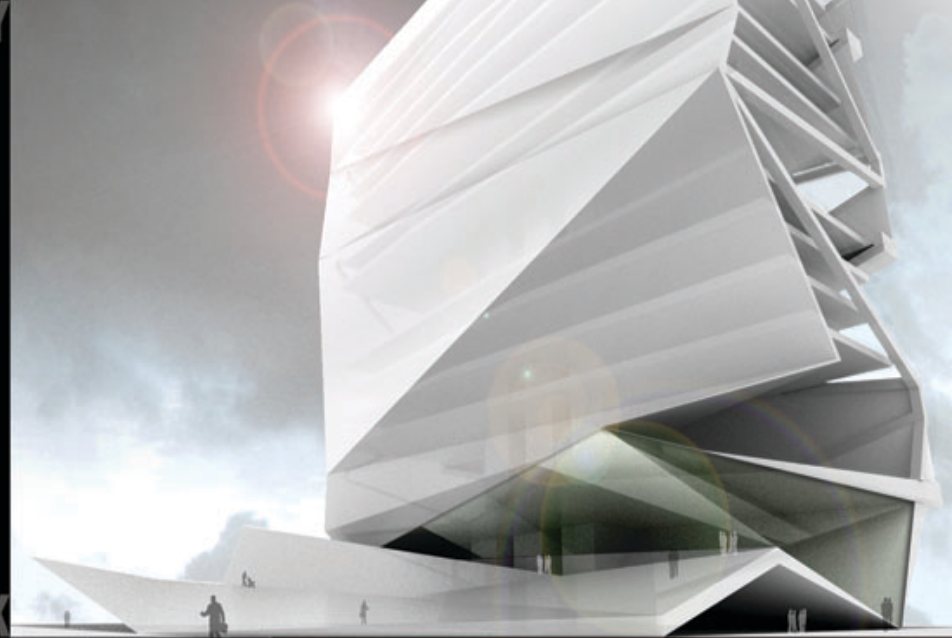
IT Complex Design Considerations

- *Civic Image- IT SEOUL*
- *Revenue Generation*
- *IT Experiences*
 - Arrival Sequence + Pedestrian Flow
 - Quality of Public Spaces
 - Event Configuration + Sightlines
 - Amenities + Support Facilities
 - Acoustics, Air Quality, + Lighting
 - Security + Event Parking (Valet, Public, Support)
- *Efficiency of Systems*
 - Building Stacking
 - Multiple Event Flexibility
 - Long Span Structural Solutions
 - Mechanical Ventilation, Conditioning, and Energy Efficiency
 - Stacking of Program
 - Natural Light Access and Control
 - Sustainable Design Considerations
 - Maintenance + Operations

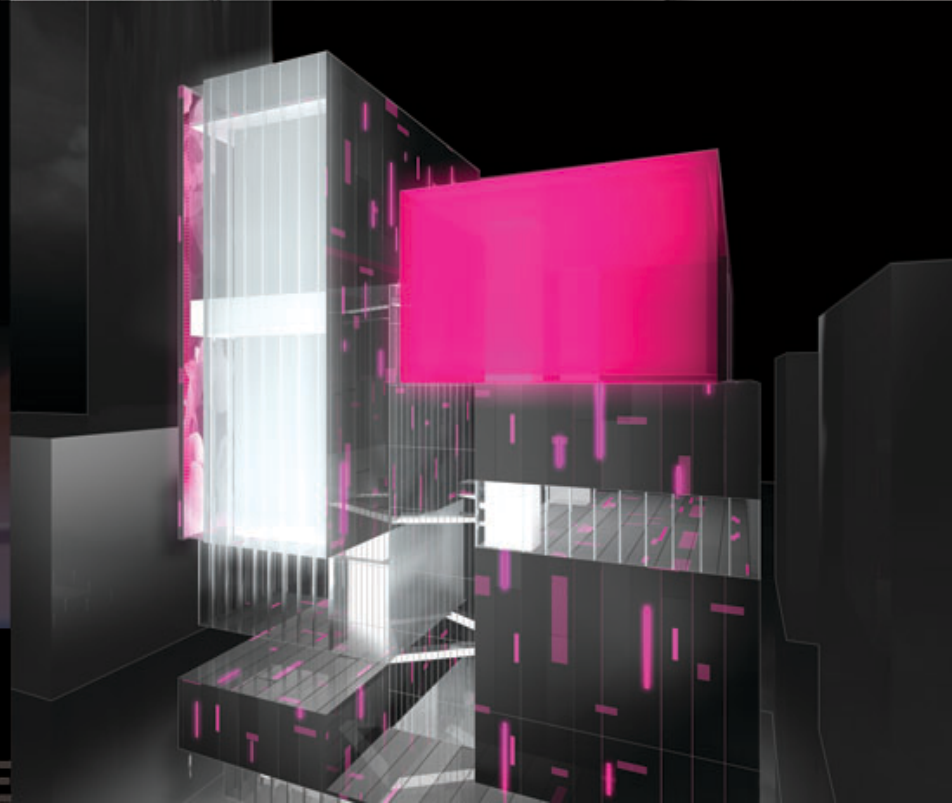
FREQUENCY



STACK



INTERFACE





d r d s

Seoul IT_ FREQ.