

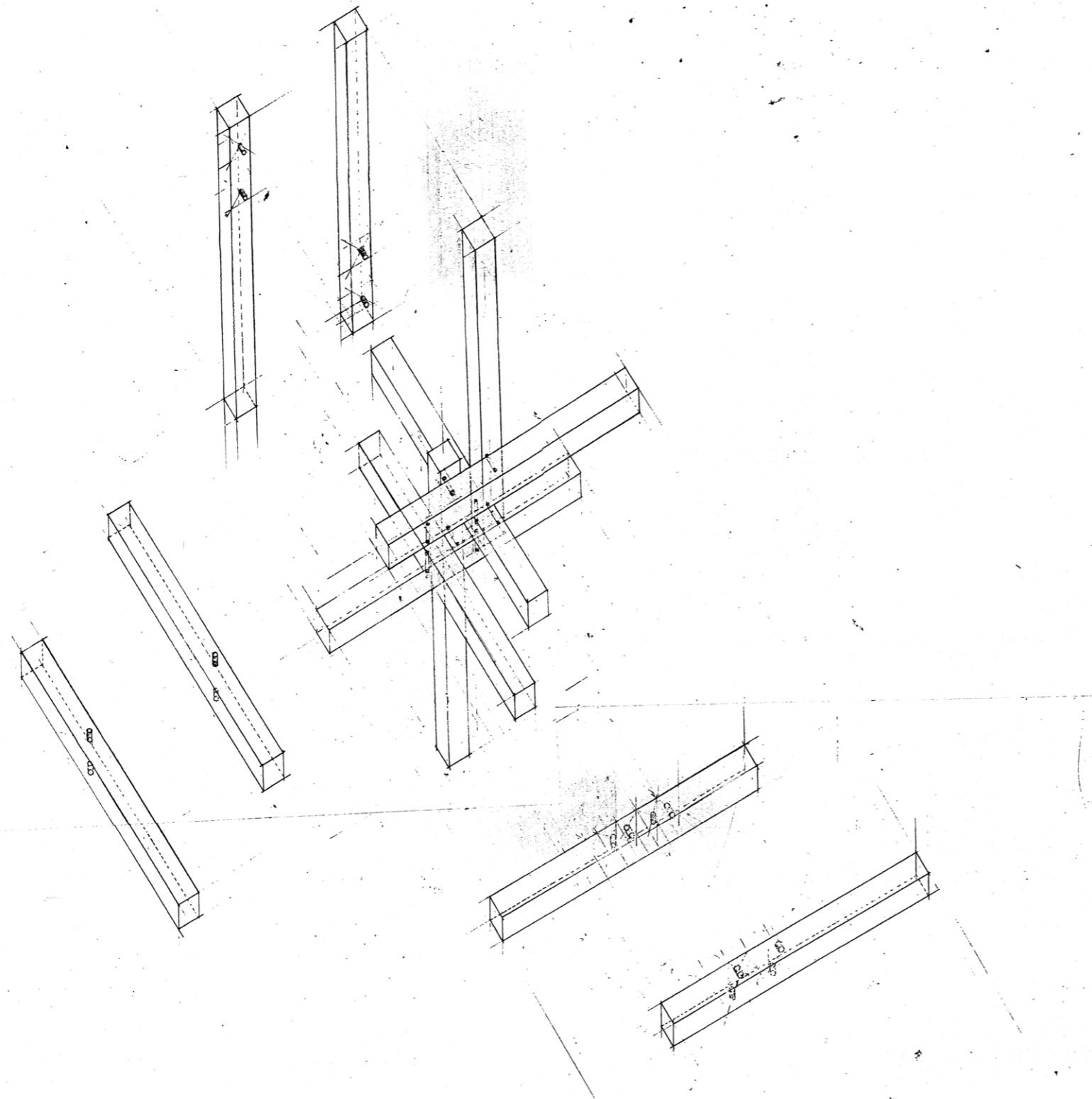
AXIS 軸

FURNITURE FOR NEW GENERATION

A Modular System of Furniture for Small Apartments

Applicant : KENNETH WONG Chi-Kan
Origin : Hong Kong

ARCASIA Travel Prize 2018: Kumiki



HANDCRAFTING AS A SOURCE OF INSPIRATION

HANDCRAFTING AS A SOURCE OF INSPIRATION

As compared with using 3D print machine for manufacture, the hand sketching for the idea, hand-making process and trial and error would be more time consuming and less efficient apparently. However, I believe it not only makes you understand more about the relationship of the technique and the final product but also is a source of the inspiration for you to enhance the quality and precision of your design, which is always been overlooked nowadays.

COMPUTATIONAL DESIGN MAY BE A BURDEN

Nowadays, the computational design method, 3D printing and the laser cut technique do facilitate the quality control of the final product with high precision undoubtedly. Yet, as the design always was bounded by the computer programme, it makes the designers less ambitious to push the limit of their design.

On the other hand, the hand sketching and crafting is able to illustrate what you imagine directly and create a sense of atmosphere of your design to tell the story. The drawings could be a base for your imagination, with trial and error of the physical model making, your design could be polished and the outcome maybe even surprise yourself.

RESPECT THE CULTURE - CARPENTER TO MAKE THING POSSIBLE AND TELL STORIES

The value and the spirit of Carpenters with traditional technique always is overlooked as the computation manufacture industry is getting bigger and worldwide. Actually, most of the carpenters spent their whole life to make their product and technique become better and better. Their value is not only judged by their final product but also their spirit of how they develop their skill set and how they contribute their lifetime to their work. That's all part of our culture and should be preserved and documented.

DESIGNER TO TAKE A GOOD BALANCE BETWEEN THE COMPUTATIONAL AND HANDCRAFTING DESIGN AND PUSH THE LIMIT OF THE TECHNIQUE

Being an architectural designer, I think we should treasure the traditional technique and do spend effort on learning the background of the tradition development. I believe the tradition would be a great gear for the new generation to create more possibilities and introduce the collective memory of the local culture in their design. A good grasp of computational design skill would be also important for the designer to make the manufacture in a more efficient way but enhance the cultural value of the product should be the utmost important as it embraces our culture and our identity, which would make your design become unique and memorable for the end-users.

DESIGN / RESEARCH PROPOSAL
KENNETH WONG Chi-Kan



CONTENT OF SINGLE SET OF **AXIS**

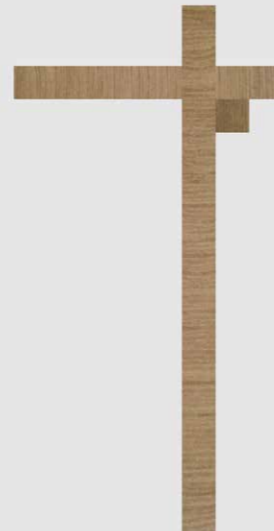
- 2x square shape wooden panel
- 2x 3D dimensional interlock joint
- 2x 3D dimensional interlock joint (flipped version)
- 4x Angle block
- 4x Connector / Coupler



X 2



X 2



X 2



X 4 X 4

SINGLE SET OF **AXIS** 軸

AXIS 軸

FURNITURE FOR NEW GENERATION

A Modular System of Furniture
for Small Apartments

DESIGN - AS BUILT PROJECT

AXIS is a modular system of furniture which come up with a 3D wooden joint (could be further developed by KUMIKI technique) which is used as a base element to develop a series of furniture. **AXIS** let the end-user to use minimum set to provide different use for their daily life. And the system would be re-assembled easily.

A single set of **AXIS** including 14 parts, which could be assembled to be a **STOOL / COAT STAND / FLOOR LAMP**. For **TWO** sets of **AXIS**, it could be assembled to be a **SIDE TABLE / BENCH/ VASE STAND**.

Via the tour, workshop in Hida, I plan to discuss with the local architects, designers and carpenters to further develop the design. I believe the sharing with the experts could help me to bring up more inspiration for the detail design of the wooden joint system and to decide the most suitable timber type to make the furniture.

RESEARCH

As an architectural designer, **AXIS** would be just a starting point for us to develop a design from a joint to an object and then from an object to an architecture project.

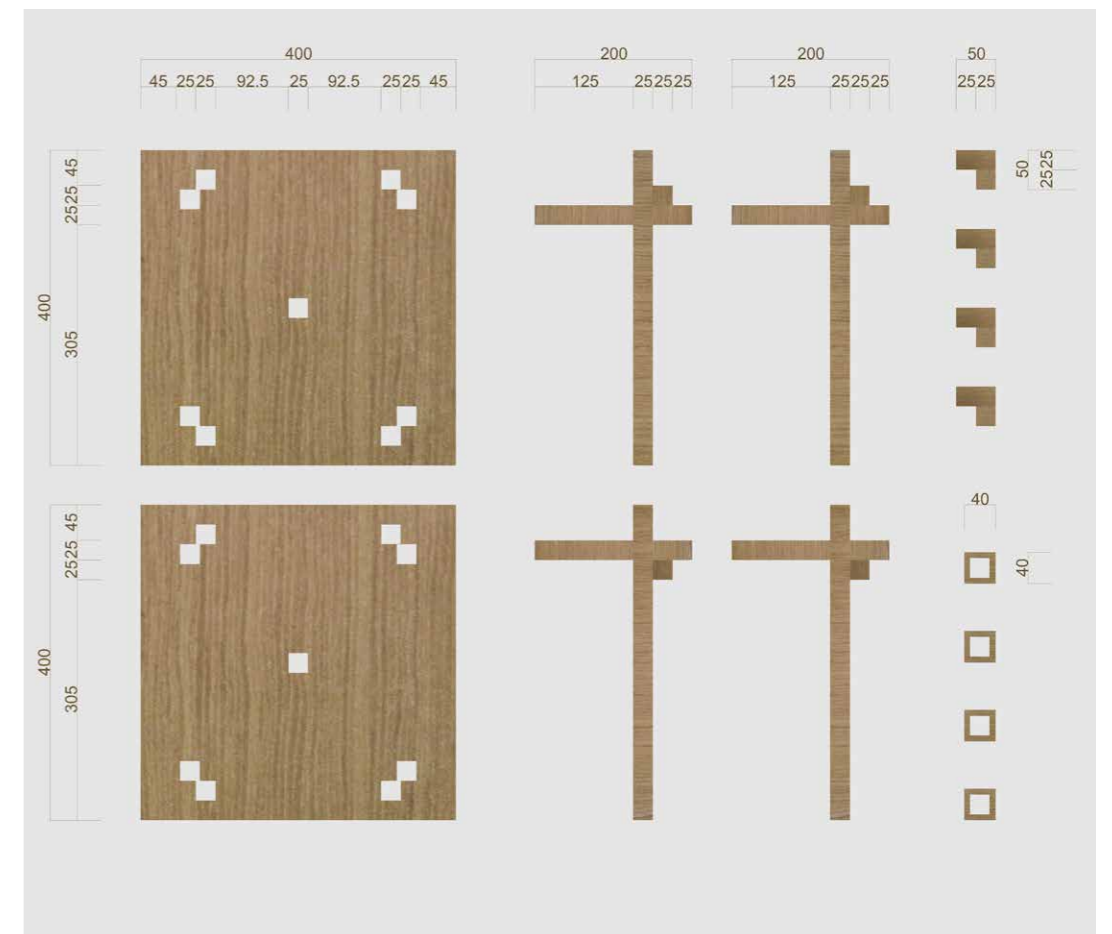
I would like to do further research how to apply the KUMIKI technique to make an architecture or interior designer. Also, how to deal with the details of the timber element with other materials like metal, glazing and plastic sheet etc. would be also one of the topic I would like to achieve via this tour.



STOOL

400mm(L) X 400mm(W) x 412.5mm(H)

1 SET OF **AXIS**

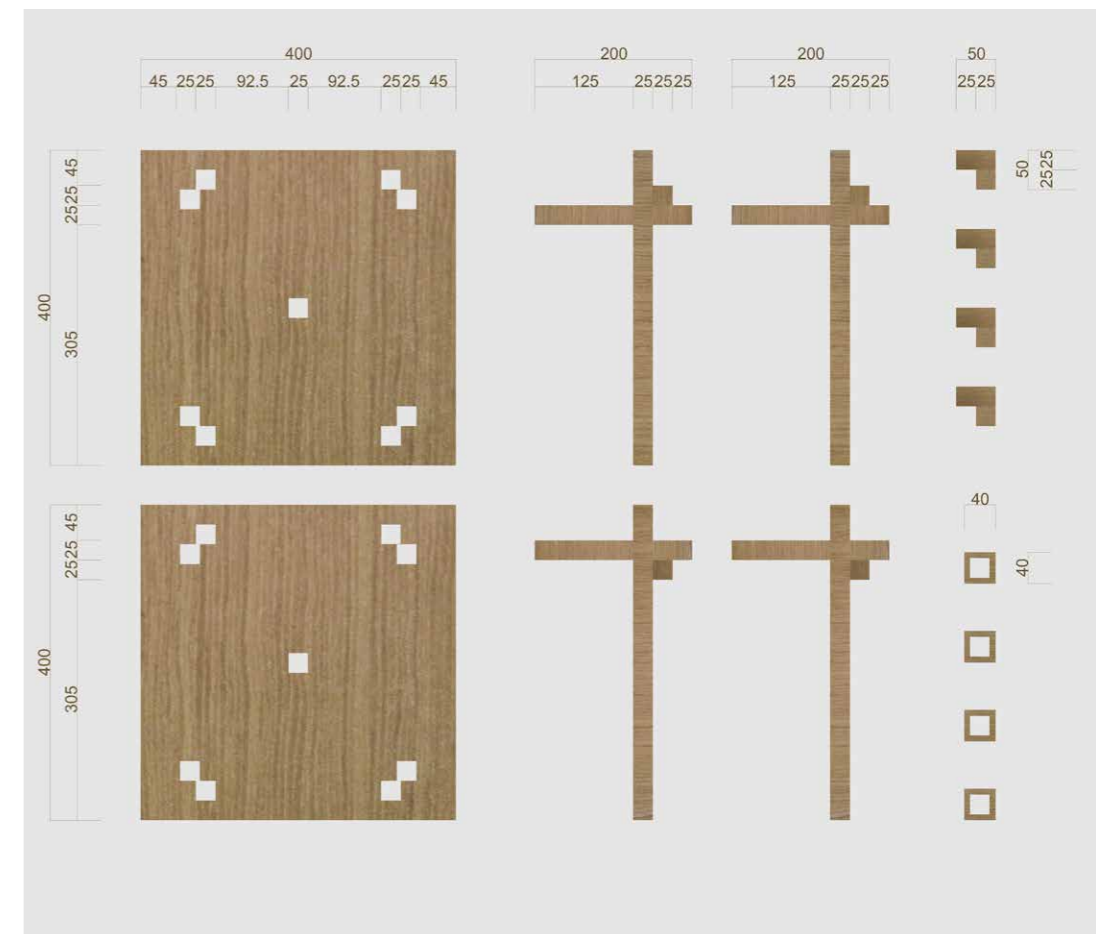




COAT STAND

400mm(L) X 400mm(W) x 1685mm(H)

1 SET OF **AXIS**

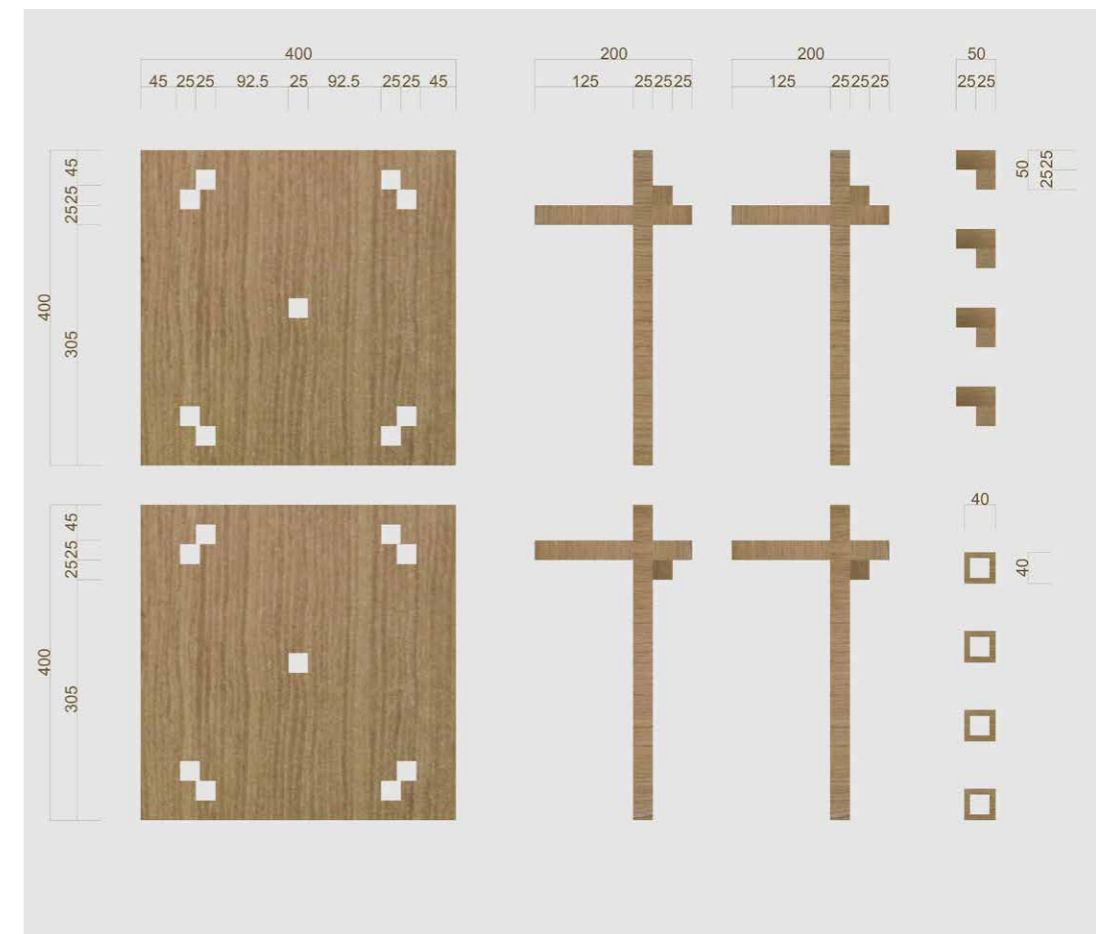


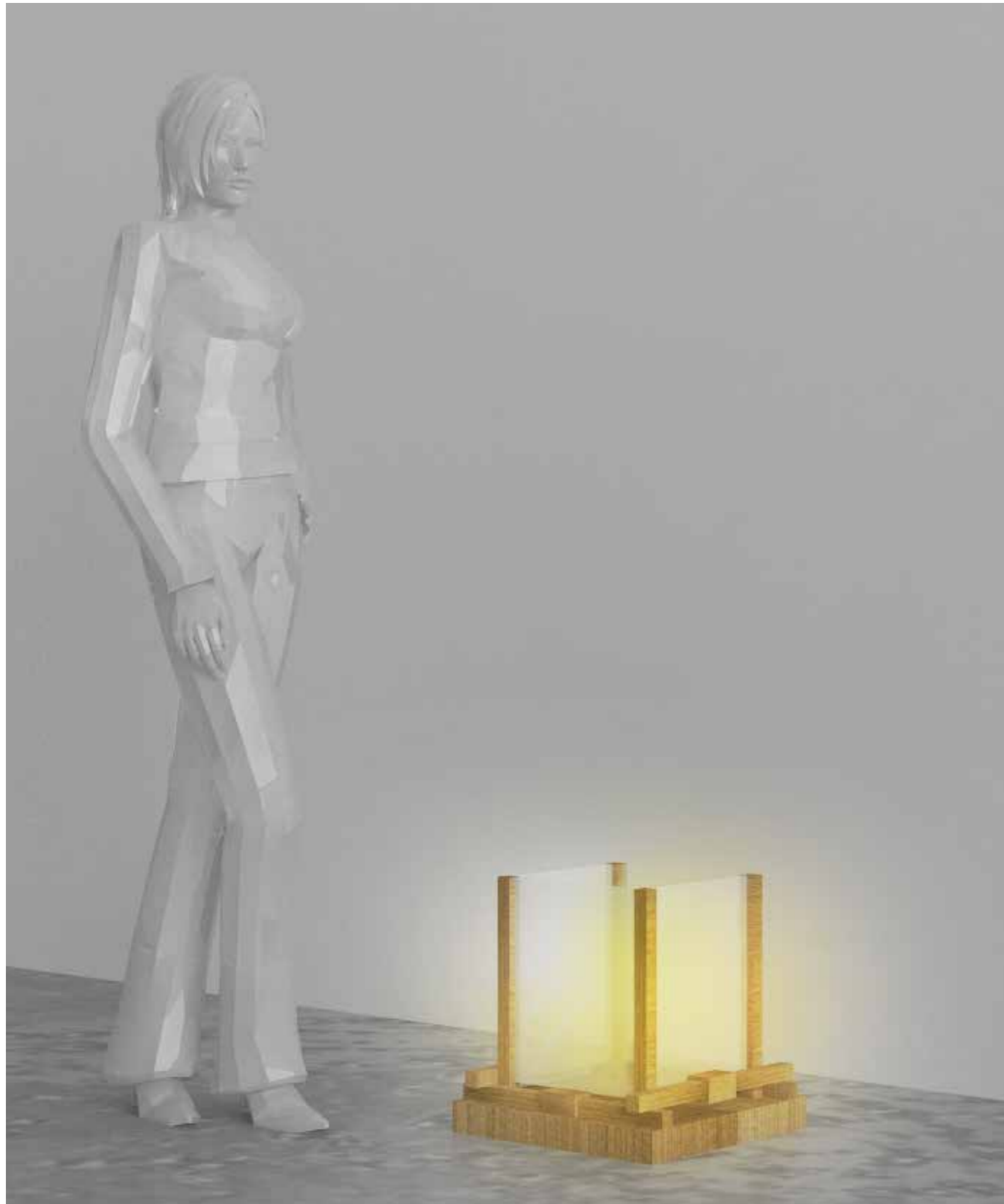


SIDE TABLE

800mm(L) X 400mm(W) x 200mm(H)

1 SET OF **AXIS**

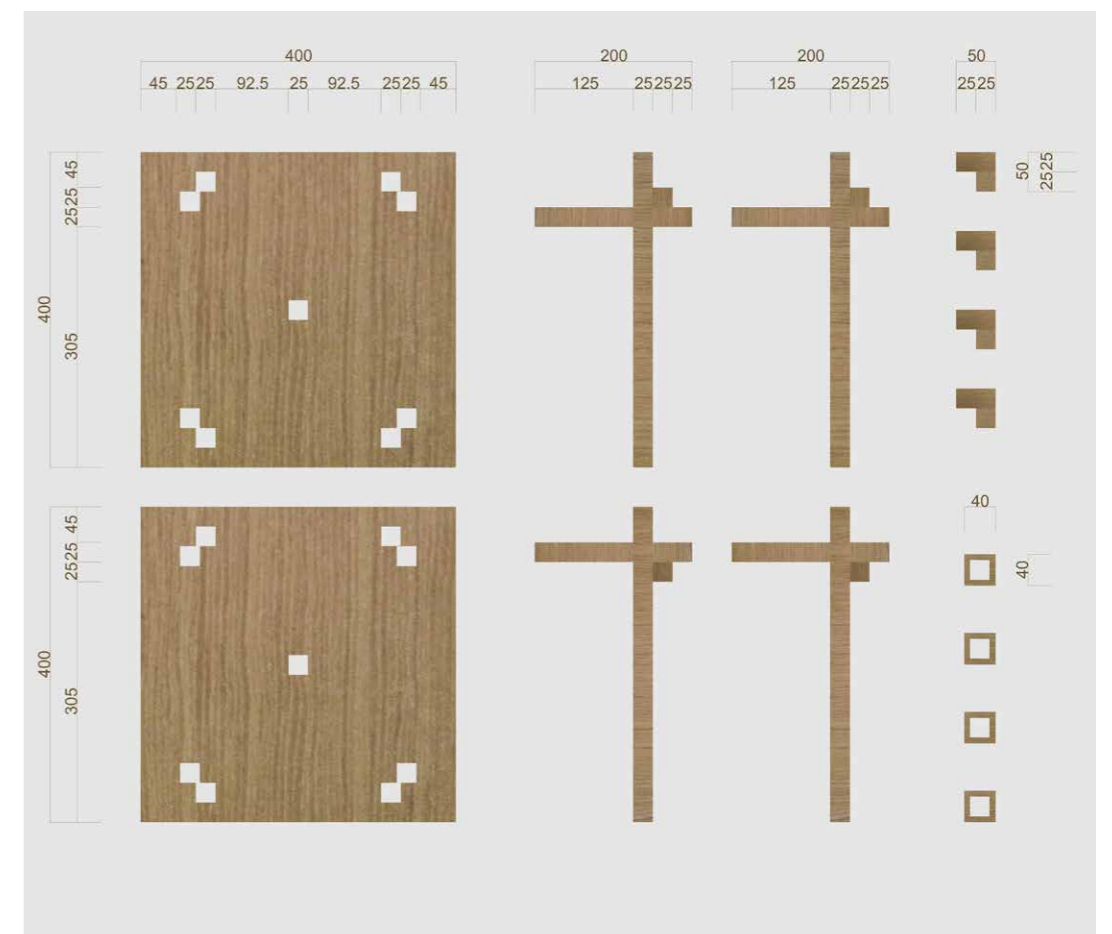




FLOOR LAMP

800mm(L) X 400mm(W) x 12.5mm(H)

1 SET OF **AXIS**

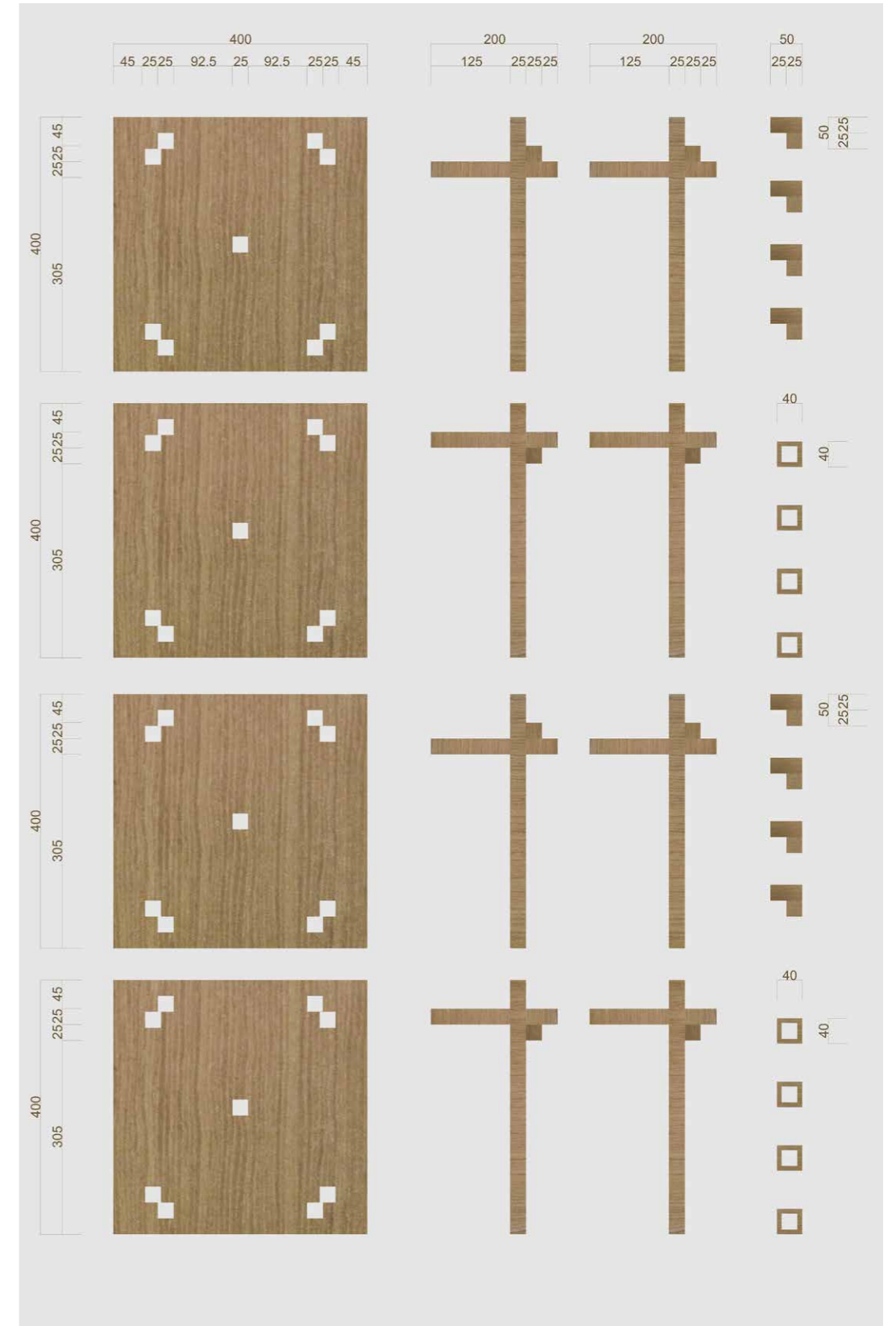




COFFEE TABLE

800mm(L) X 400mm(W) x 400mm(H)

2 SETS OF **AXIS**

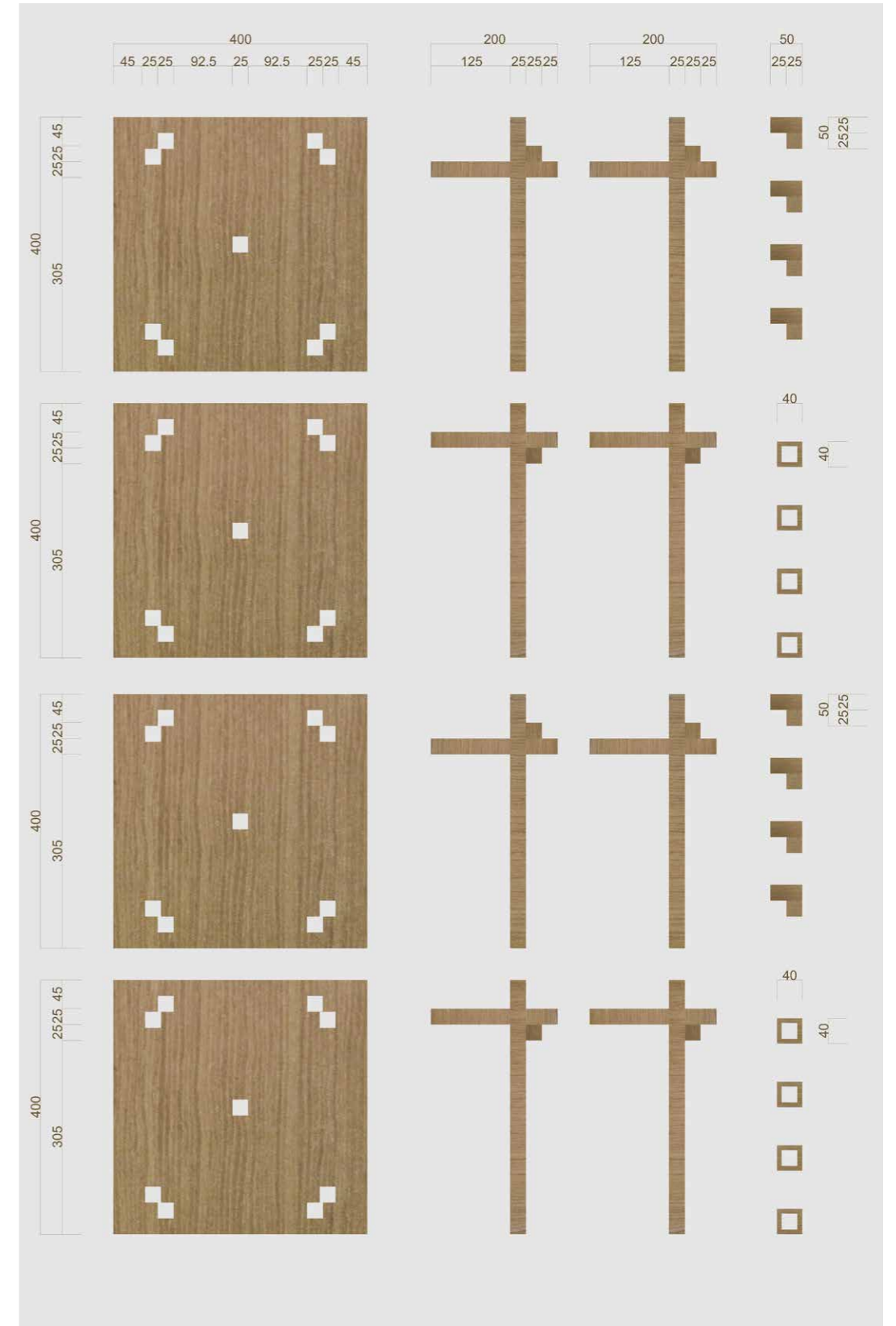




VASE STAND / SHELF

400mm(L) X 400mm(W) x 807.5mm(H)

2 SET OF **AXIS**



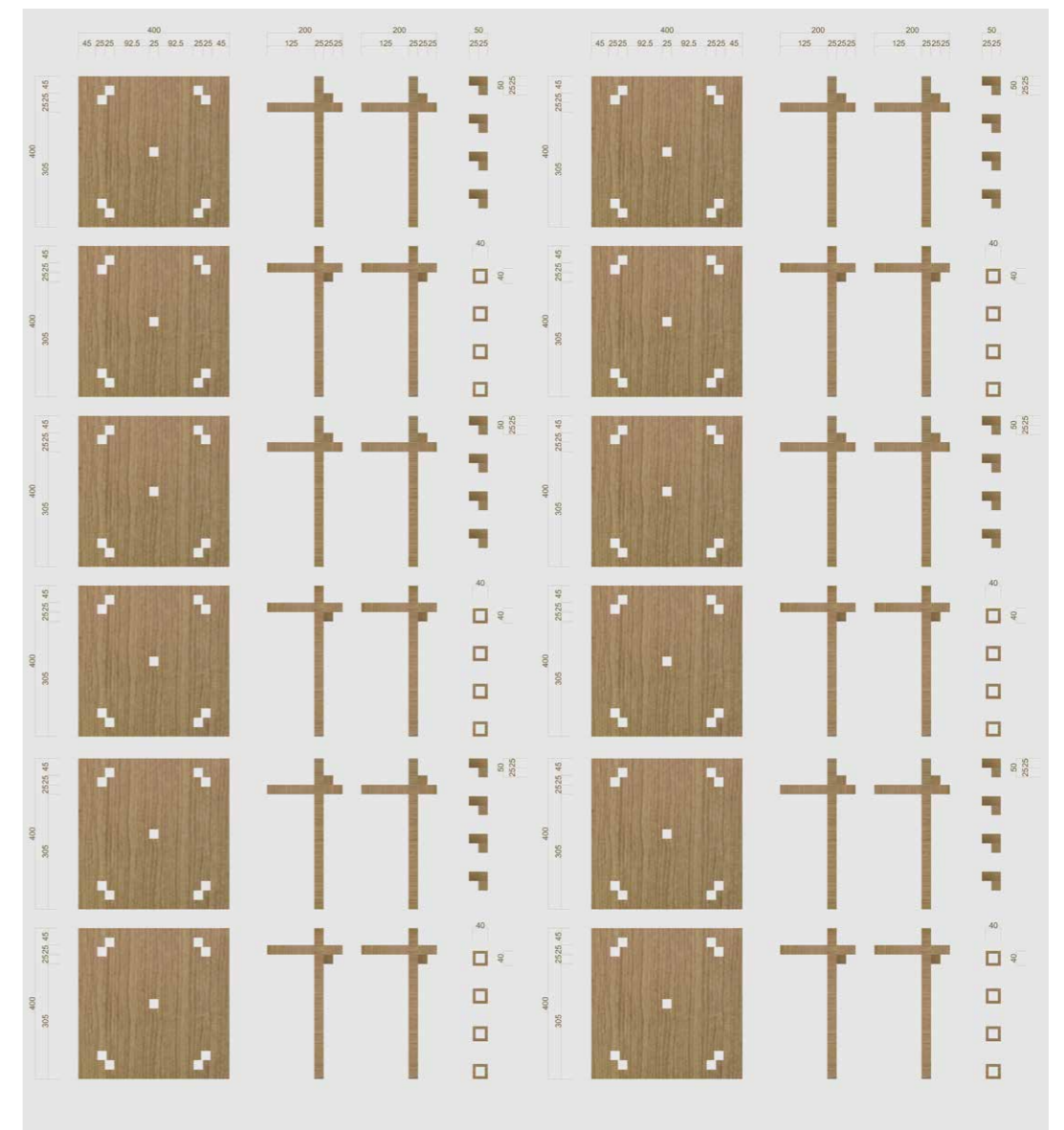
DESIGN PROPOSAL



VASE STAND / SHELF

1600mm(L) X 400mm(W) x 610mm(H)

6 SET OF **AXIS**





ITINERARY

Part 1 Research and Preparation (End Aug)
Hida historiacal research, reaching out to the local institu-
tions and local expert, craftsmen and japanese architects,
travel logistics (including Hida and Tokyo)

Part 2 Travel, workshop and Presentation (1-10 Sept)

- _ Design Camp / Workshop at HidaKuma / FabCafe Hida*
- _ Hiking in the Forest
- _ Interview with the local carpenter local architects
on design enhancement

Part 3 Presenation and Conference Visit (10-14 Sept)

- _ Presentation at ACA 18 (Tokoy)
- _ Interview with the local architects

Part 4 Documentation (Mid Sept)

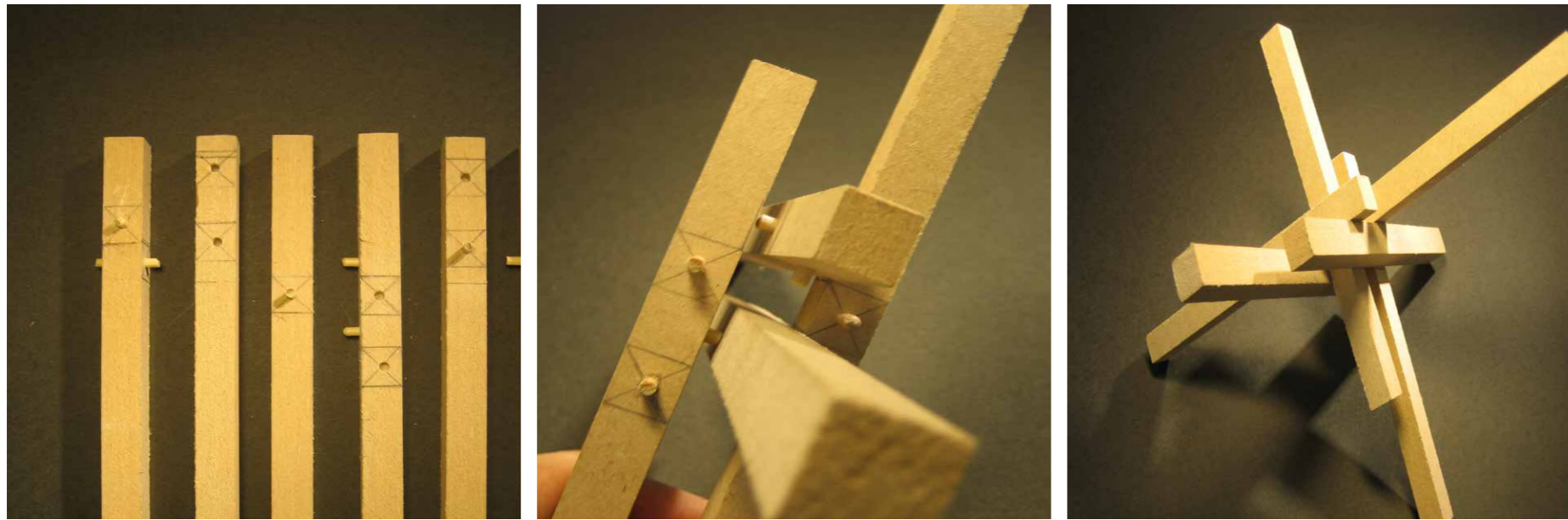
*
HIDAKUMA / FabCafe Hida
+81 577-57-7686
6-17 Furukawacho Ninomachi, Hida, Gifu Prefecture 509-4235

DELIVERABLES

- _ PReport of trave experiences and lesson learnt
- _ Menu of furniture template
- _ Presentation at ACA 18 (Tokoy)

DESIGN STUDIES

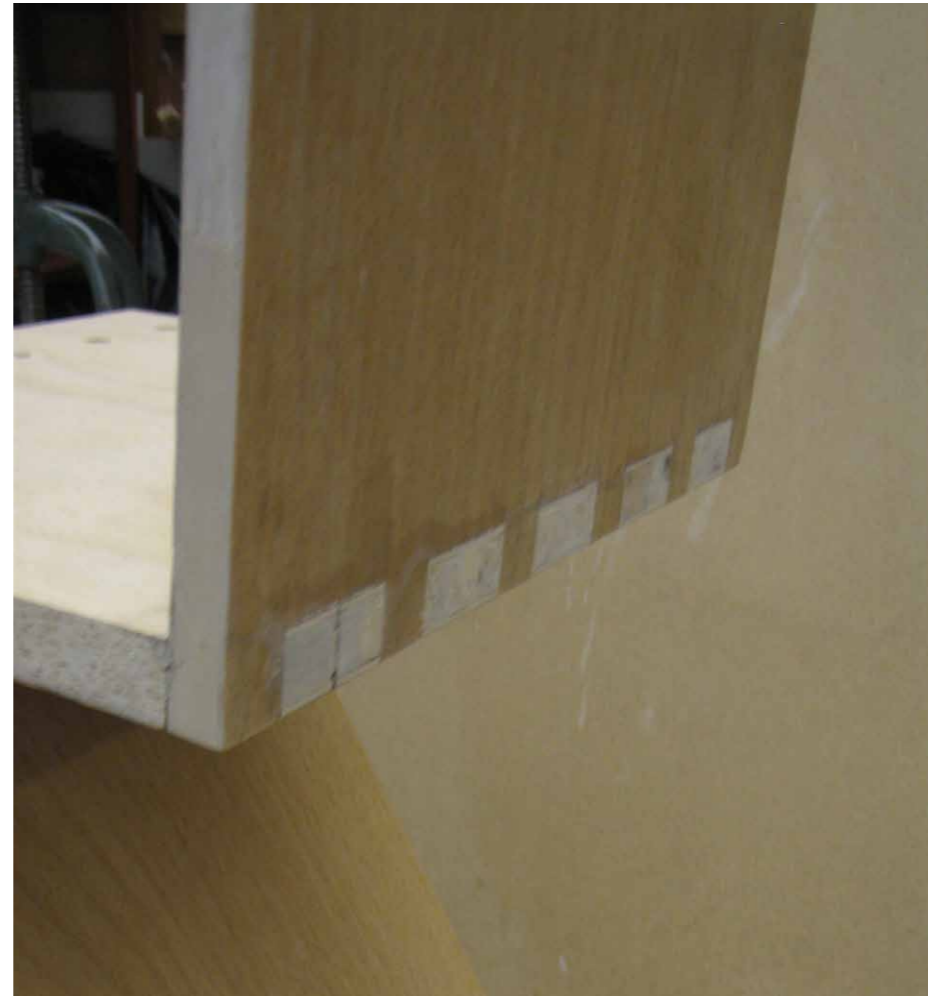
Before to come up with an idea of AXIS, here is some studies of wooden physical model to study the possibilities of wood material, which is also a source of inspiration for the deisgn.



JOINT / OBJECT

WOODEN JOINT PROTOTYPE TRIAL

use 6 MDF pins and connect 6 sticks together basically. 1 extra pin which is not necessary for the structure of the joint is used to enhance the rigidness of the joint.



CHAIR / OBJECT

ZIG-ZAG CHAIR MODEL in 1:1

17mm thk. plywood boards were interlocked in finger joint to form the



TRADITIONAL ANCESTRAL HALL ARCHITECTURE

Traditional Ancestral Hall
sectional model 1:50

Beech after air drying was used to make the model by hand.



ABOUT KENNETH WONG CHI-KAN

Architectural Designer

Age: 32
Origin: Hong Kong
Email: ckwong.kenneth@gmail.com

Professional membership: HKIA Graduate Member

Kenneth Wong, who is an architectural designer in AGC design limited, have a diverse cultural background with 6 years working experience in Hong Kong, Tokyo and Basel (Switzerland), for local and world masters of Herzog & de Meuron, Toyo Ito, Kengo Kuma and Rocco Yim. With such diverse practical experience, Kenneth has developed his passion and constant awareness of the conceptual precision, elemental simplicity, exquisite detailing and craftsmanship.

Kenneth holds a BA in Architectural Studies and a MArch from The Chinese University of Hong Kong, where he was awarded with Tun Tan Cheng Lock Scholarship in Architecture by National University of Singapore for his thesis research on urban river regeneration in SE Asian Cities, awarded with Fontainebleau School International Summer Program scholarship by HKIA.

His research was invited for a solo exhibition at The Tun Tan Cheng Lock Centre in Malacca, Malaysia and Poster Exhibition at The International Forum on Urbanism at National University of Singapore. His thesis project was awarded as finalist of Design for Asia Student Award by Hong Kong Design Centre. After graduation, Kenneth was selected to enter the Architectural Design Internship Programme by The Wharf ArchDesign Resource Trust (the WHART) of The Wharf (Holdings) Limited.

CV
KENNETH WONG Chi-Kan



KENNETH WONG Chi-Kan

email ckwong.kenneth@gmail.com	address G/f, Blk G, Yuk Yat Garden Stage 3, 41 Ko Po Tsuen, Yuen Long, New Territories, Hong Kong SAR	nationality Chinese (Hong Kong SAR)	date of birth 15.07.1985
contact +852 9876 6451			

QUALIFICATION

- 09.2009 - 08.2011 **Master of Architecture**
The Chinese University of Hong Kong
- 07.2009 - 08.2009 **Diploma, Music & Fine Arts**
Ecoles D'Art Americaines De Fontainebleau, Palais De Fontainebleau
- 09.2005 - 08.2008 **Bachelor of Social Science (Architectural Studies)**
The Chinese University of Hong Kong
- 09.2004 - 08.2005 **Bachelor of Engineering Programme (Systems Eng. and Eng. Management)**
The Chinese University of Hong Kong (Yr1)

WORKING EXPERIENCE

- 10.2017 - CURRENT **AGC Design Limited (Hong Kong, China)**
Central Market Renovation, Hong Kong, China
- 12.2015 - 10.2017 **Rocco Design Architect Limited (Hong Kong, China)**
The Architectural Design Of Qianhai Exchange Plaza (mixed used complex), Shenzhen, China
Shenzhen Nanshan District Long Chuan Tang Redevelopment (residential), Shenzhen, China
- 02.2014 - 10.2015 **Kengo Kuma and Associates (Tokyo, Japan)**
WangJing B-15 Culture And Entertainment Project (mixed use complex), Beijing, China
Elevation Hifrafu (Residential) Masterplan & Villa Design, Hokkaido, Japan
Ota-shi Cultural Building (gallery & library) at Ota-shi Conceptial Design Competition
Seijōkinoshita Hospital (women Hospital) at Seijo, Setagaya, Tokyo, Japan
Cultural Centre Design Competition in Los Angeles, US
School Renovation Design Competition in Oxford, UK
- 05.2013 - 02.2014 **Ida&Billy Architects (Hong Kong, China)**
Private villa design, York Road, Hong Kong
Installation: Hong Kong & Shenzhen Bi-City Biennale of Architecture, Oil Street Art Garden
- 02.2013 - 03.2013 **Toyo Ito & Associates, Architects (Tokyo, Japan)**
Hong Kong West Kowloon Cultural District - Museum Plus (M+) Design Competition
- 01.2012 - 12.2012 **Herzog & de Meuron (Basel, Switzerland)**
Hong Kong Central Police Station Compound
Confidential Project 01 (orientalist museum & landscape schematic design)
Confidential Project 02 (residential high-rise building schematic design)
- 06.2011 - 12.2011 **AD+RG, Architecture Design and Research Group Ltd. (Hong Kong, China)**
The Hong Kong Polytechnic University (Phase 8 Development)
Hong Kong West Kowloon Cultural District Development Procurement Strategy
- 06.2010 - 08.2010 **CL3 Achitects Ltd. (Hong Kong, China)**
Nike (Hong Kong) Headquarter office interior design
Villa Design Proposal for Vanke, China

WORKING EXPERIENCE

- 12.2008 - 12.2009 **School of Architecture, CUHK (Hong Kong, China)**
Research and Consultancy study on Public Space in private developments
Commissioned by The Government of Hong Kong SAR (Development Bureau)
- 06.2008 - 06.2009 **RAD Ltd. (former OMA Asia) , Hong Kong**
W Place building renovation projects, HK (tender & construction stage)
W52 Italian Restaurant interior design, HK (design, tender & construction stage)
Spring villa design, Kunming, China (tender stage), IT mall complex design, India (final design stage)
Venice Biennale Exhibition, HK (installation stage)

AWARDS

- 02.2016 **Finalist (Lighthouse Sea Hotel - Syracuse)**
awarded by Young Architects Competitions
- 10.2015 **Second Prize (Site Lake Baths - Serra da Estrela, Portugal)**
awarded by Arkxsite International Architecture Competition
- 01.2012 - 12.2012 **ArchitecturalDesign Internship Programme**
awarded by The Wharf ArchDesign Resource Trust of The Wharf (Holdings) Limited
- 11.2011 **Finalist of Design for Asia Student Award 2011**
awarded by Hong Kong Design Centre
- 11.2011 **Finalist of Perspective Award 2011 (Student Category)**
awarded by Perspective Magazine
- 07.2011 **Tun Tan Cheng Lock Scholarship in Architecture (Travel and Research Scholarhsip)**
awarded by National University of Singapore
- 07.2008 **Fontainebleau Summer School Scholarship**
awarded by Hong Kong Institute of Architects

ACTIVITIES

- 02.2011 **Solo Exhibition: Urban river regeneration in SE Asian Cities**
funded by The Tun Tan Cheng Lock Centre in Malacca, Malaysia
- 02.2011 **Poster Exhibition at The International Forum on Urbanism**
funded by The National University of Singapore
- 01.2008 **Exhibition: Shaw College Barbecue Shelter Design Exhibition**
funded by The Chinese University of Hong Kong
- 06.2007 - 08.2007 **Service Learning: A BRIDGE TOO FAR II 無止橋二**
funded by Shaw College, The Chinese University of Hong Kong
Bridge Design & On-site bridge foundation design and on-site construction in Sichun, China

SKILLS

Autodesk AutoCAD
Adobe Photoshop, Illustrator, Indesign, Bridge & Premiere
Rhinoceros 3D, Sketchup, V-Ray
Ecotect Analysis , Microsoft Word, Excel, Powerpoint, Outlook

LANGUAGES

Cantonese native English fluent Mandarin average

PROFESSIONAL EXPERIENCE
KENNETH WONG Chi-Kan



Professional Experience

office
Kengo Kuma Associates, Architects

project
Ota-shi Cultural Building (gallery & library) at Ota-shi Conceptual Design Competition (Ota, Japan)

period
02.2014 - 03.2014

position
Internship

scope of work
Concept Model, Physical Model, Massing Studies & Renderings

Cultural (cultural centre) Concept Design

「木を植える、森をつくる」市民と共に未来を描く、新しい交流のかたち

N133

■木が植えられる場所をつくる
木のフレーム内の壁は市民の壁です。アートの壁であったり、本棚であったり、デジタルサイネージであったり、壁には多様な機能を実現する壁となります。誰もが安心して活動が出来る場所になります。

■拡張するスタジオ
一階の廻り込んだスペースはスタジオ兼視聴覚ホールとし、壁に収納可能な収容形式の観覧席を計画することで、一階レベルにも人が拡張します。様々な利用形式に対応可能な多目的なスタジオとします。書庫はオープンな利用とし、上部の階には図書・展示コーナーを設置します。

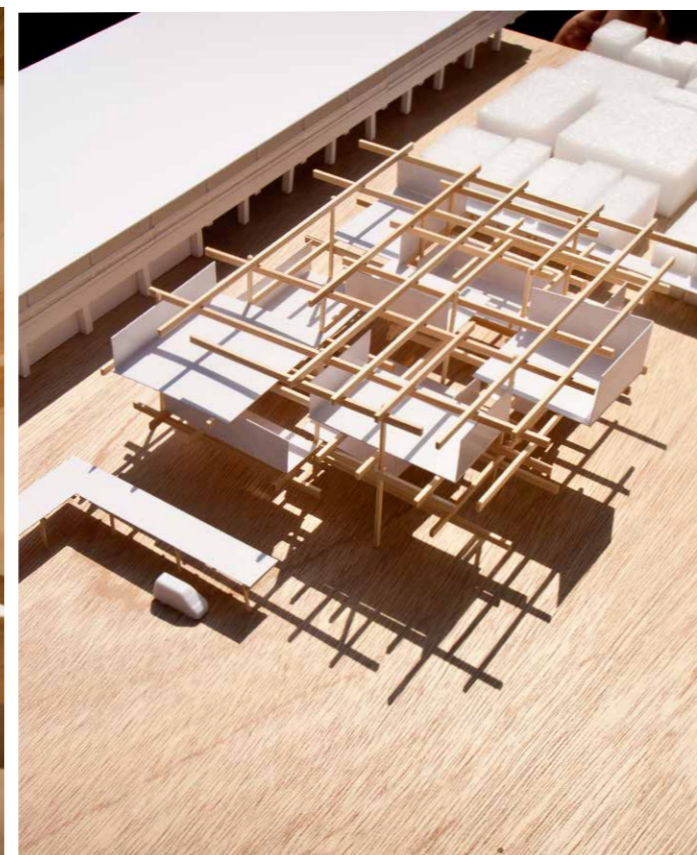
■誰でもわかりやすい施設のサイン
壁や床には機能や分野を示すサインをわかりやすく設置し、目的の場所に向わず通り抜けるように計画します。施設のロゴデザイン、サイン計画やその他のプロモーション活動の拠点となるようなものをデザインします。

■繋がる創造と活動のネットワーク
木がつくる柔らかいフレーム / 主要構造は鉄骨の柱型鋼を集成材で挟んで被覆したハイブリッド耐火集成材を使用し、コンパクトな単位のラーメン架構の集積とすることで、さまざまな空間の大きさに対応できます。木架構は空間に温かみを与え、親しみやすい表情をつくります。

■伝統と先進性を持ち併せた太田市に相応しい独自のスマートシティ
エネルギー計画 / 富士重工業などの大規模企業のエネルギー計画と整合することで、発電事業の展開を行う際の相乗効果を期待し、本計画では企業売電を受け入れることを前提とし、太陽光発電、市の地熱特性を活かした地熱交換機設備を備えた地中探熱管方式による地熱利用をミックスして、本施設のエネルギー需要に活用します。

■繋がる面 / 構造の枠組みは、梁や柱が余

■繋がる面 / 津部と融合するソフトな熱線



Professional Experience

office
Kengo Kuma Associates, Architects

project
Eijokinoshita Hospital (women Hospital) at Seijo, Setagaya (Tokyo, Japan)

period
03.2014 - 04.2014

position
Internship

scope of work
Concept Model, Physical Model, Massing Studies & Renderings

Hospitality (women hospital) New Build Project - DD phase



Professional Experience

office

Kengo Kuma Associates, Architects

project

Elevation Hirafu (Residential: Masterplanning & villa design)

period

05.2015 - 10.2015

position

Architect

scope of work

Master Layout Planning, Project Coordination, Schematic Design, Villa Layout Design & Detail Design

Residential

(master layout plan & villa)

New Build Project - Concept Design & Schematic Design phase

Development Concept
Master Plan



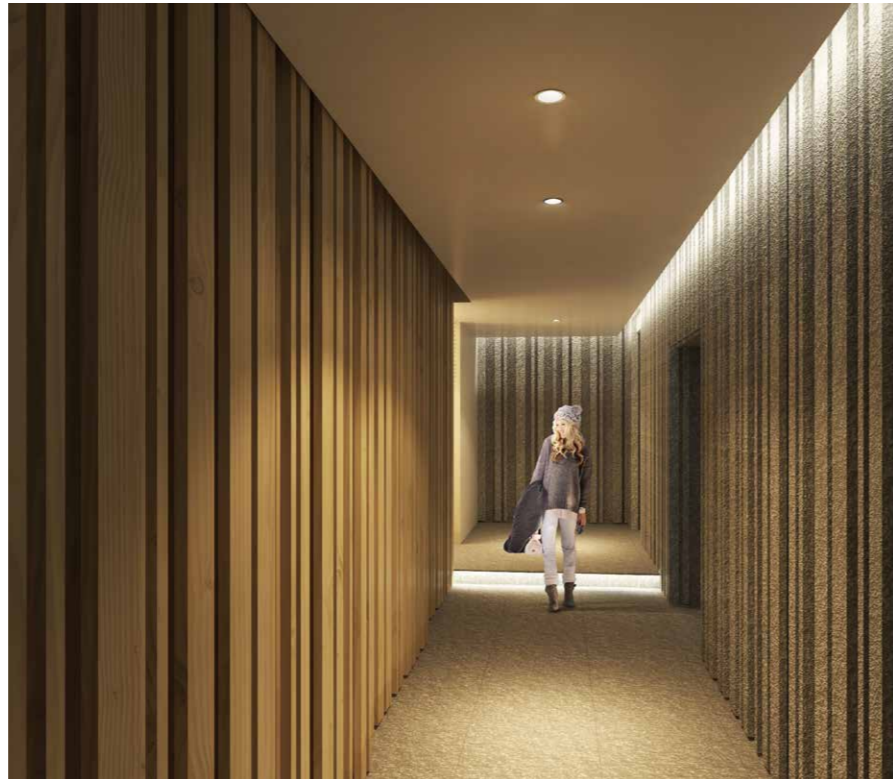
Magnificent Panoramic View offered by open planning.



Roofscape facing Mt Yotei forms a dynamic spectacle.

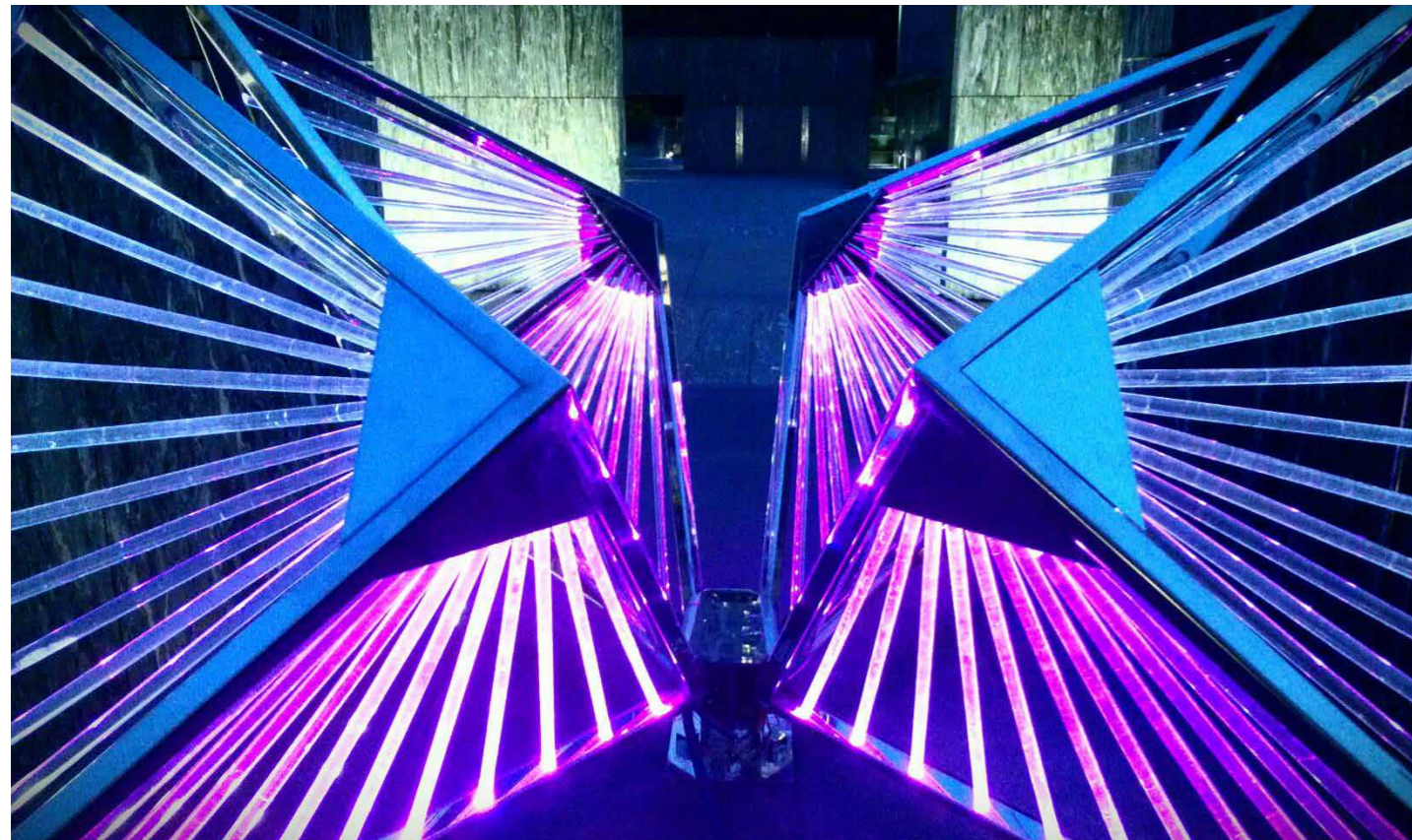
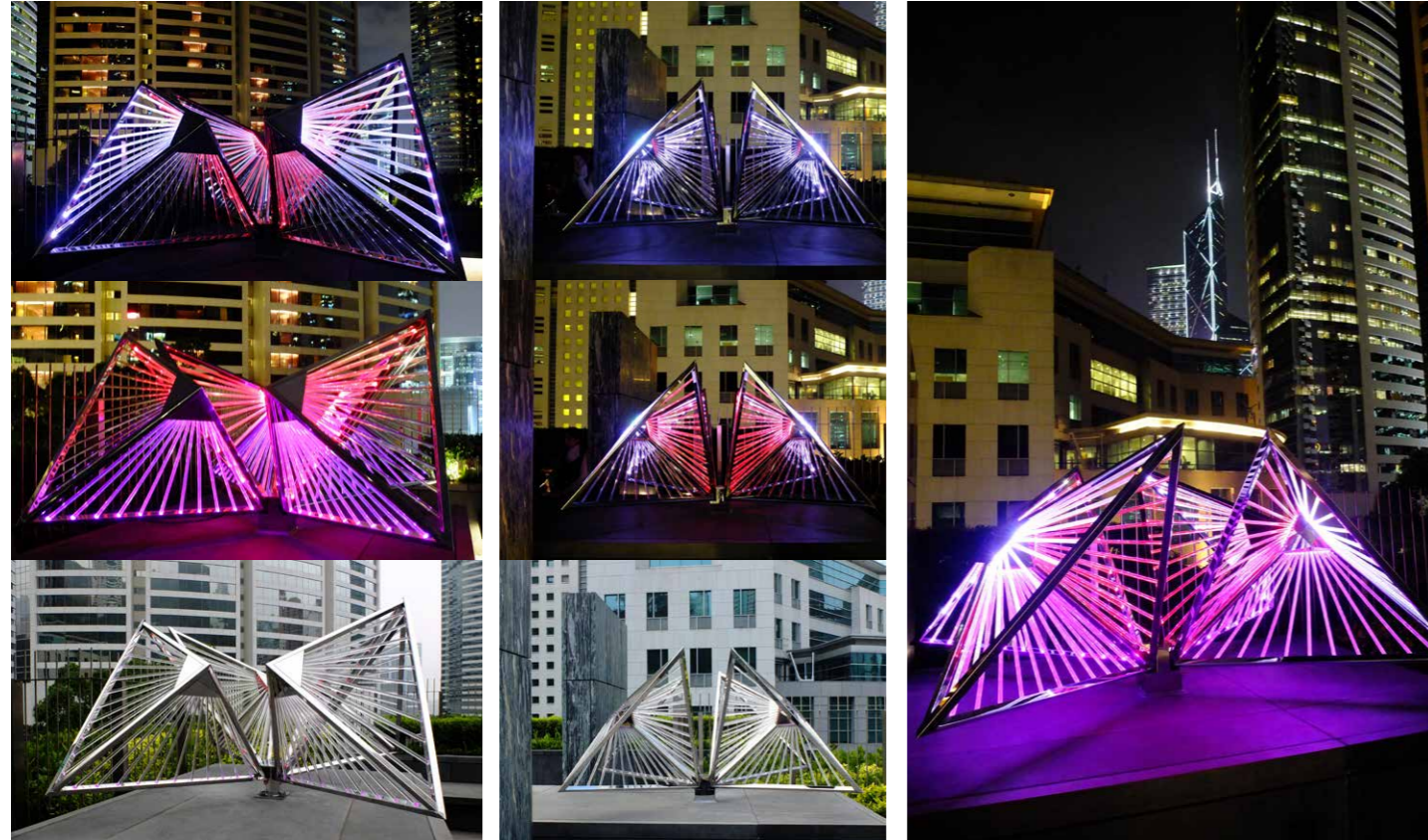


Large window and spacious terrace create openness and connection to nature.



Professional Experience

office
Atelier//studio WF (New York, USA) / Wendy Fok
project
Imminent Domain: De-signing the Life of Tomorrow
curated by Fumio Nanjo, Director of Mori Art Museum, Tokyo
period
01.2013 - 02.2013
position
Design Assistant
scope of work
Design Modification & Manufacture in China



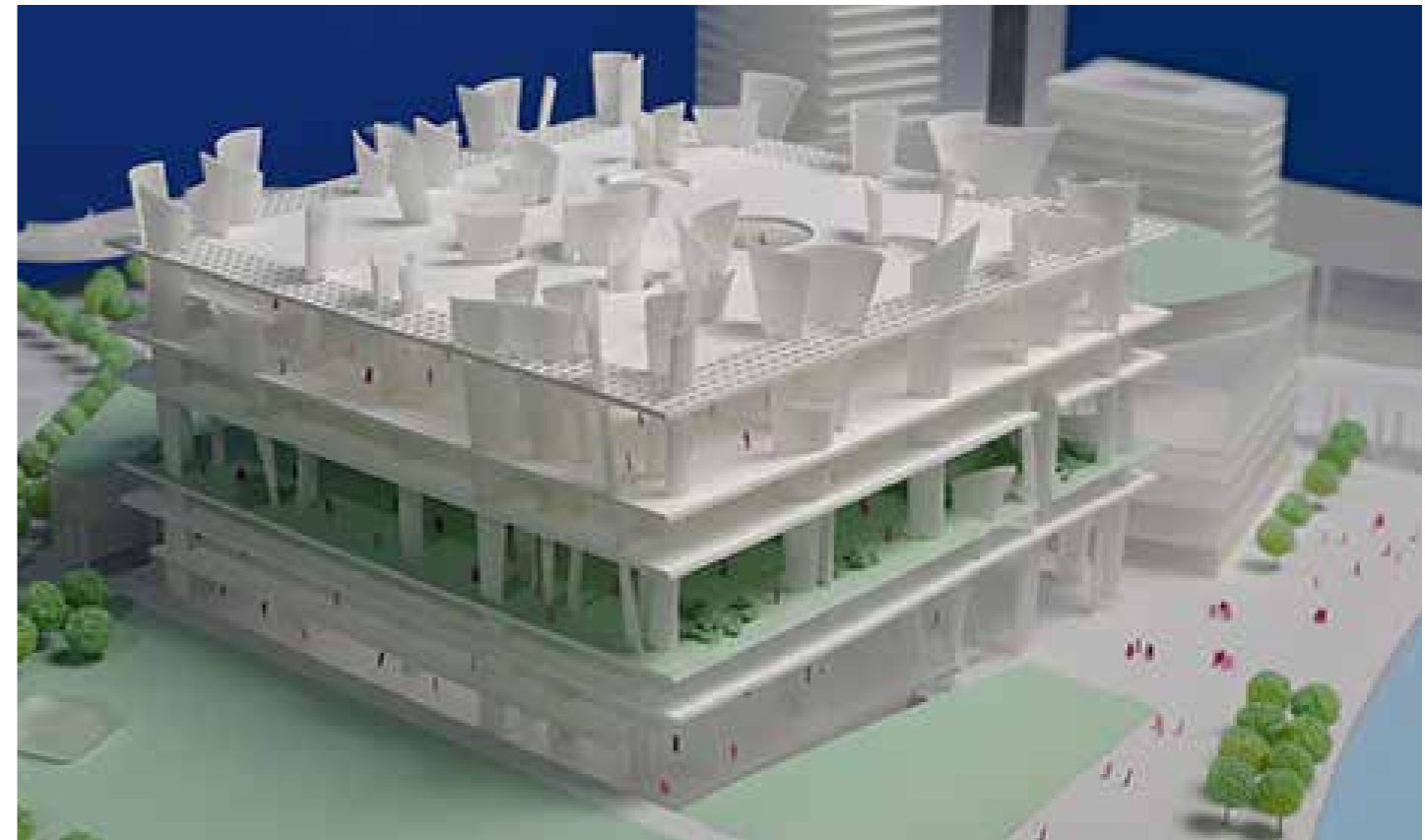
Cultural
(artwork)
Installation Artwork

Copyright © Atelier//studio WF

Professional Experience

office
Toyo Ito & Associates, Architects (Tokyo, Japan)
project
Hong Kong West Kowloon Cultural District
Museum Plus Design Competition
period
02.2013 - 03.2013
position
Architectural Assistant
scope of work
Conceptual Model Making, 3D digital modeling, Photoshop, Schedule of Programme

Cultural
(museum)
Concept Design



Copyright © Toyo Ito & Associates, Architects
ARCASIA Travel Prize 2018: Kumiki

Professional Experience

office
Herzog & de Meuron (Basel, Switzerland)

project
Hong Kong Central Police Station Compound

period
01.2012 - 12.2012

position
Architectural Assistant

work
Design Sketch Package, Gallery Design, Furniture Design, Lavatory Design,
Digital 3D model, Physical 3D model, Diagram illustration & Rendering

Cultural (museum) Building Conservation & Revitalization



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ARCASIA Travel Prize 2018: Kumiki

Professional Experience

office

Kenneth Wong

project

Pavilion Design for Wharf Scholarship Exhibition in Hong Kong I

period

03.2018 - current

position

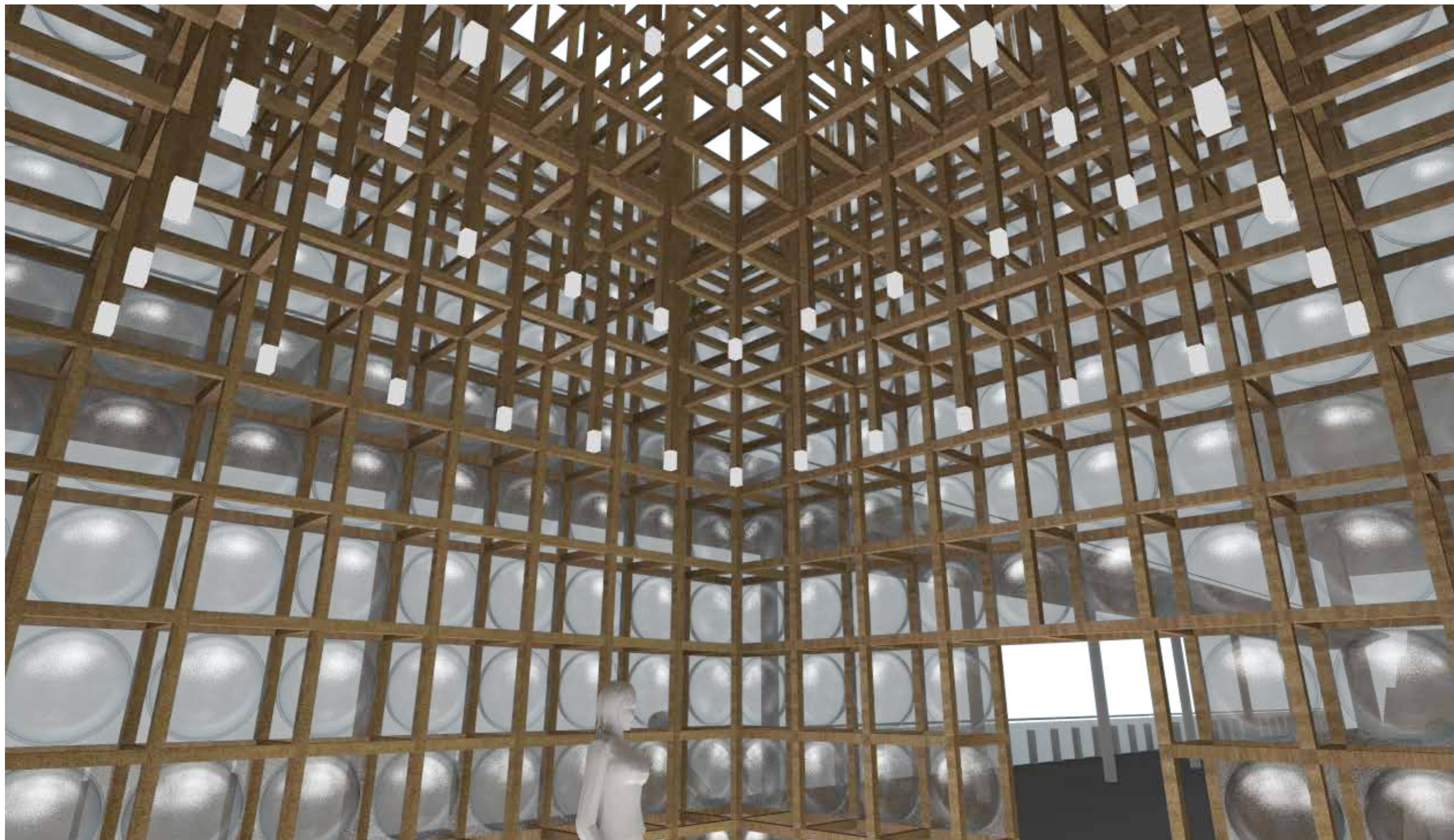
designer

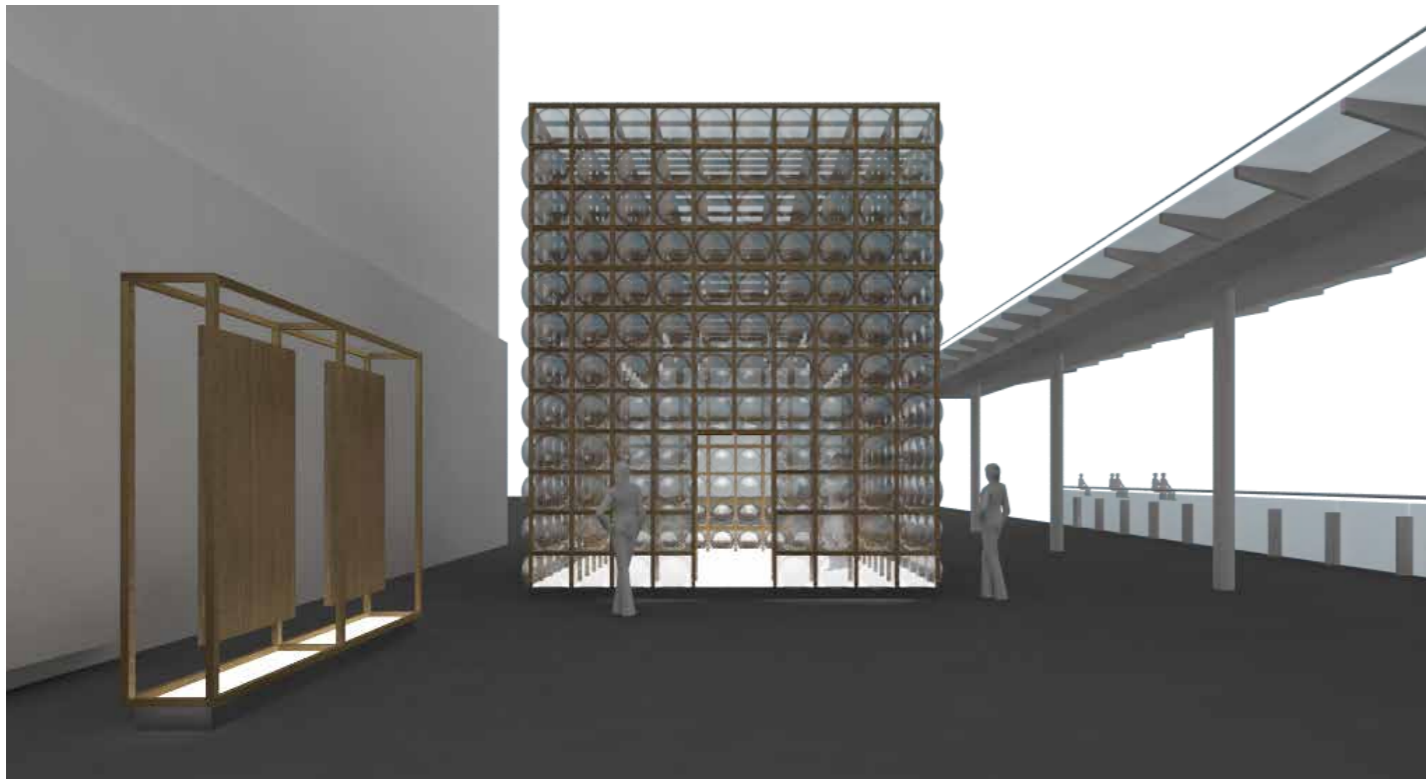
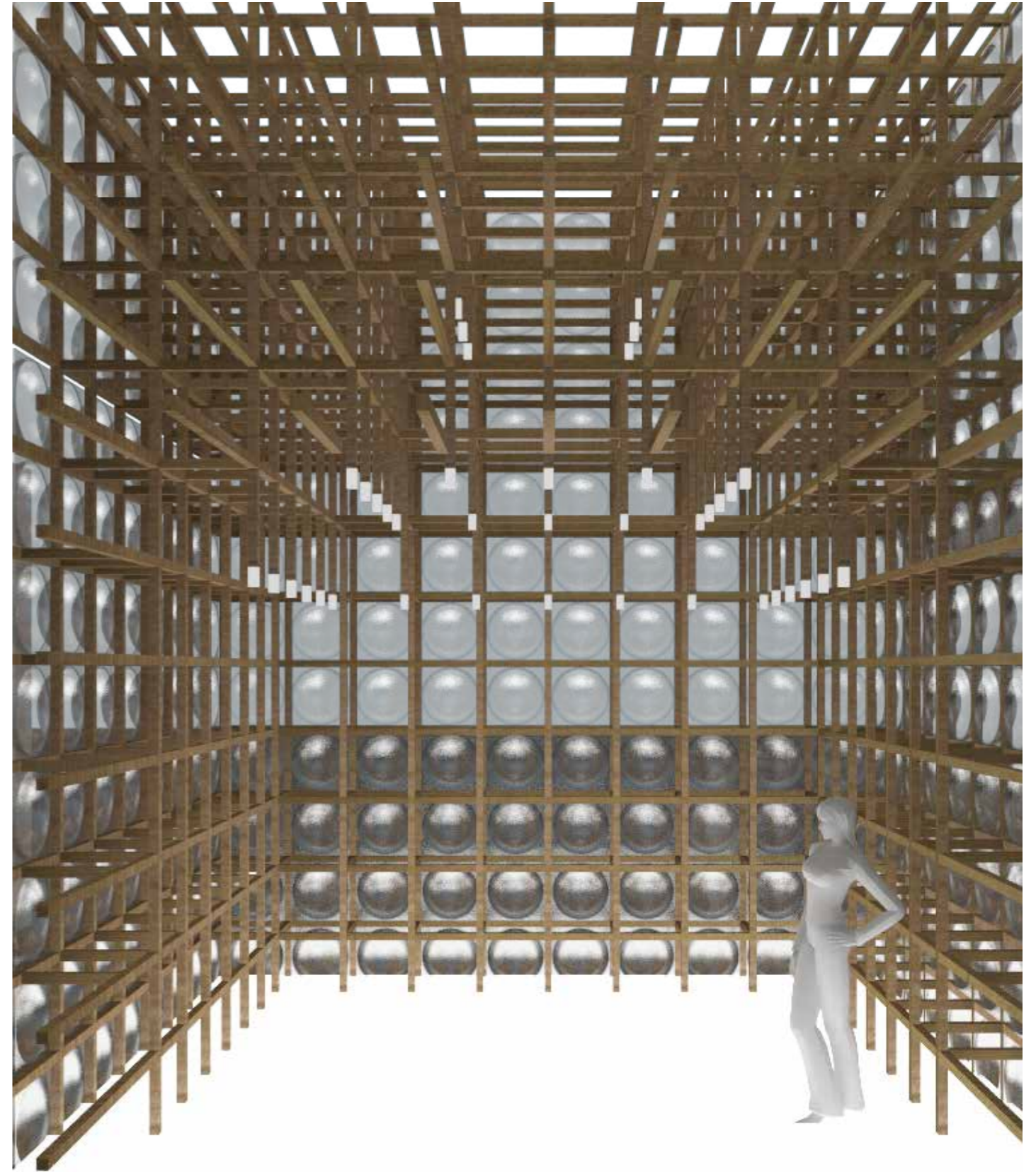
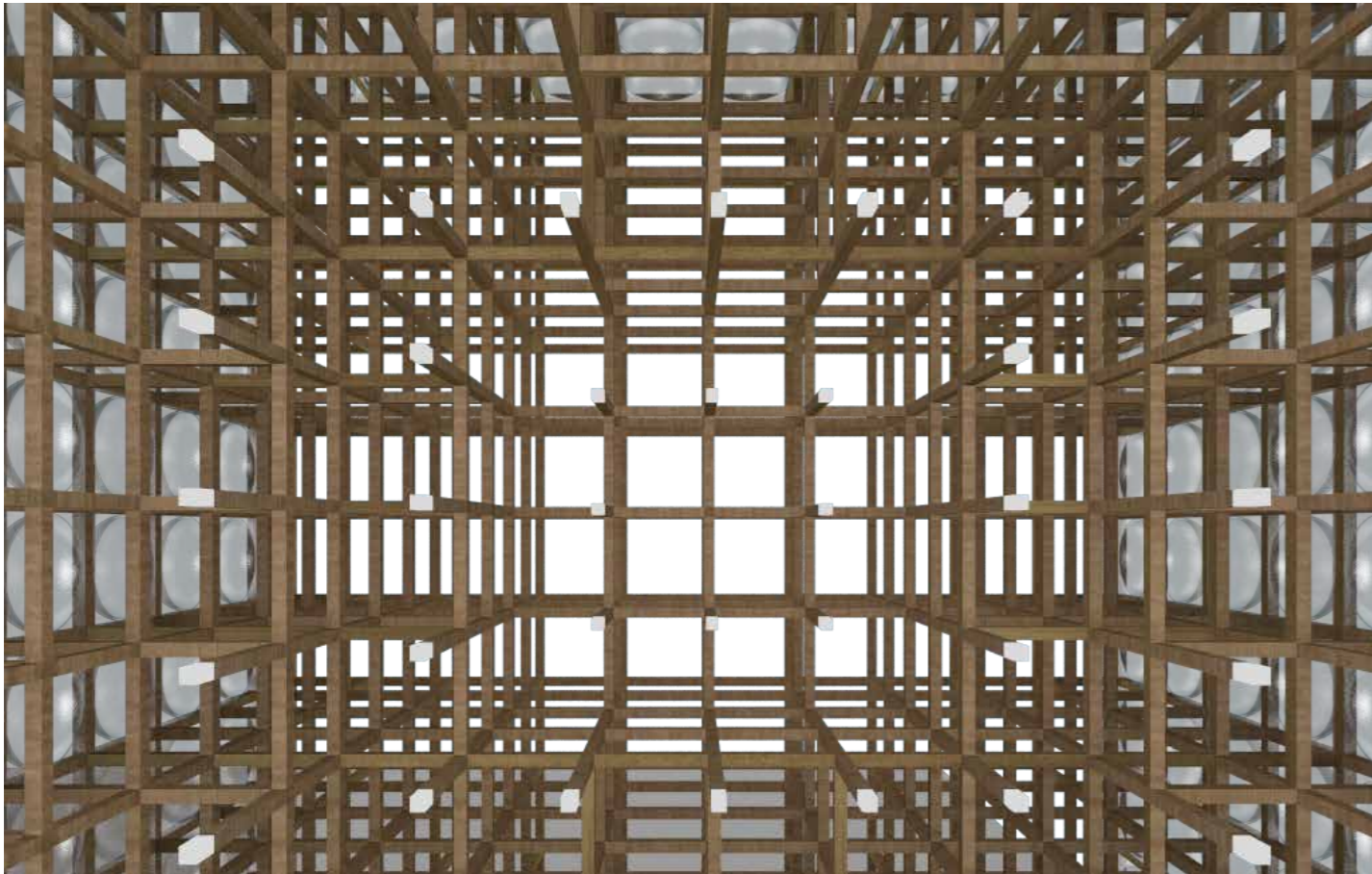
scope of work

Concept Design, 3D modeling & Rendering

Art Installation

Pavilion Design for Wharf Scholarship Exhibition in Hong Kong





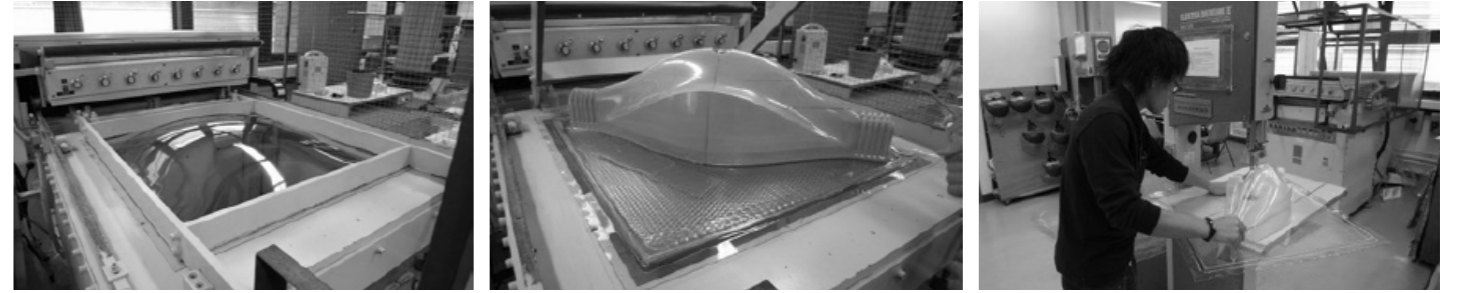
Professional Experience

office
School of Architecture, CUHK (Hong Kong, China)
project
Chinese traditional ancestral hall sectional model (hardwood)
Antiquities and Monuments Office
period
07.2006 - 09.2006
position
Model Maker
scope of work
Building Survey & Sectional Wooden (Hardwood) Model Making



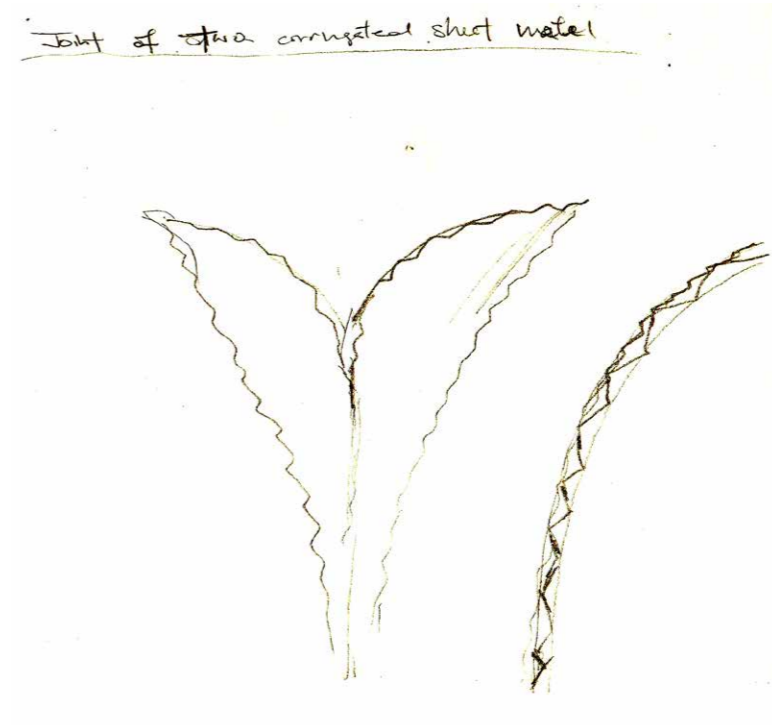
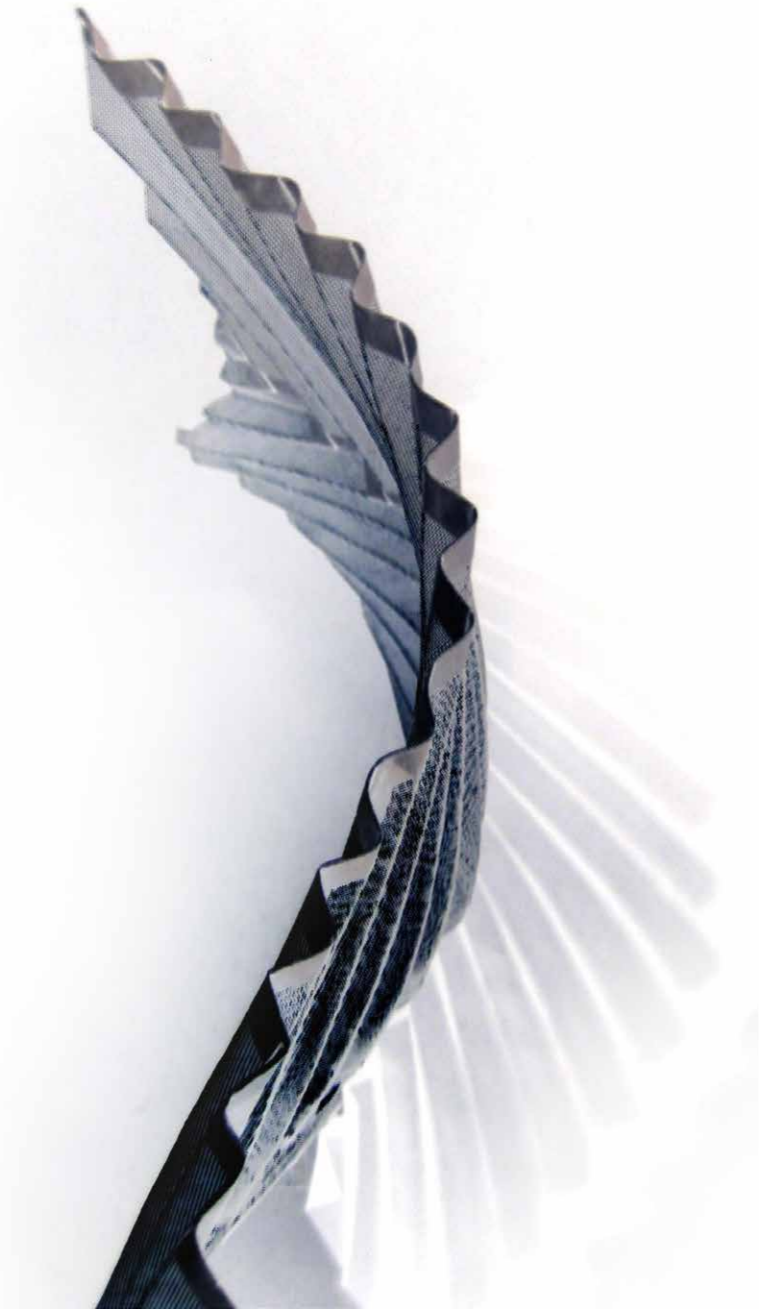
Professional Experience

office
Shinya OKUDA Architect (Hong Kong, China)
project
Vacuum-formed Modularized Shell
Shenzhen Biennale of Urbanism and Architecture
period
06.2008 - 08.2008
position
Research Assistant
scope of work
Model Manufacture _ Vacuum Forming



DESIGN PORTFOLIO
KENNETH WONG Chi-Kan



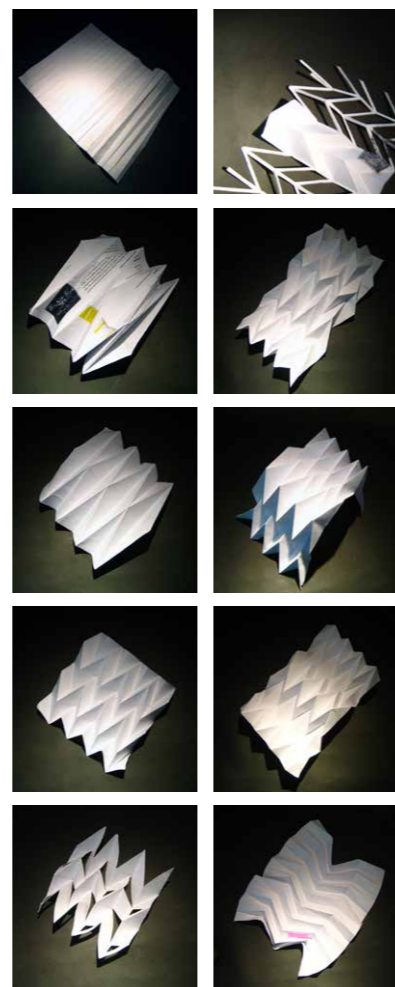
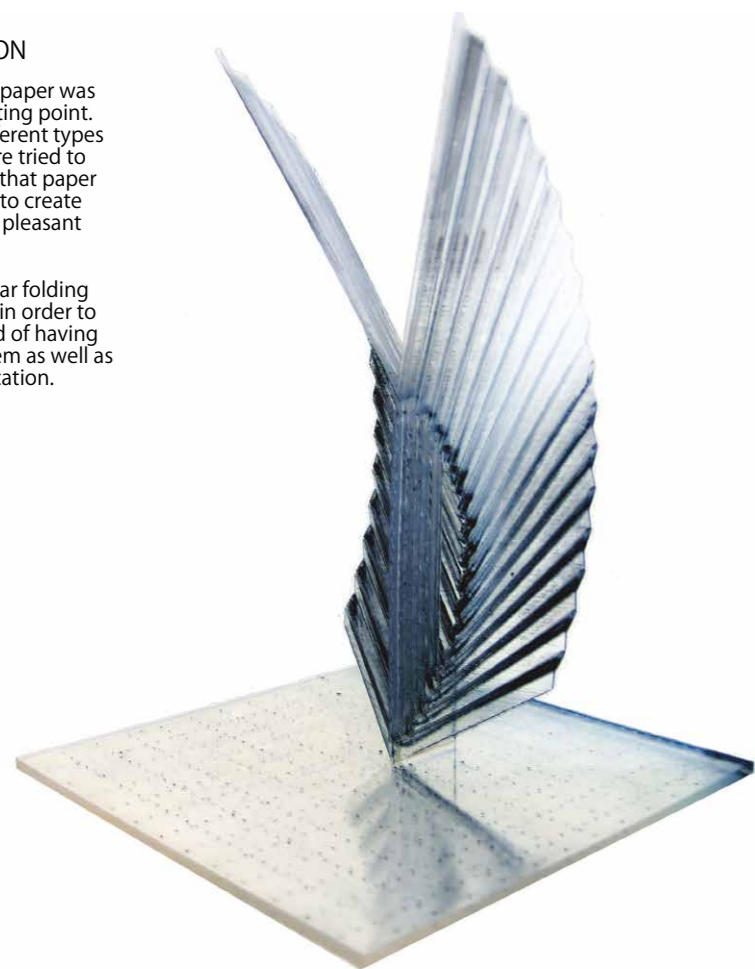


DESIGN PROCESS

FOLDING EXPLORATION

A sheet of A3 paper was used as a starting point. And then, different types of folding were tried to increase load that paper can take, and to create a shelter with pleasant composition.

Besides, regular folding is considered in order to fulfill the need of having modular system as well as easy prefabrication.



JOINT

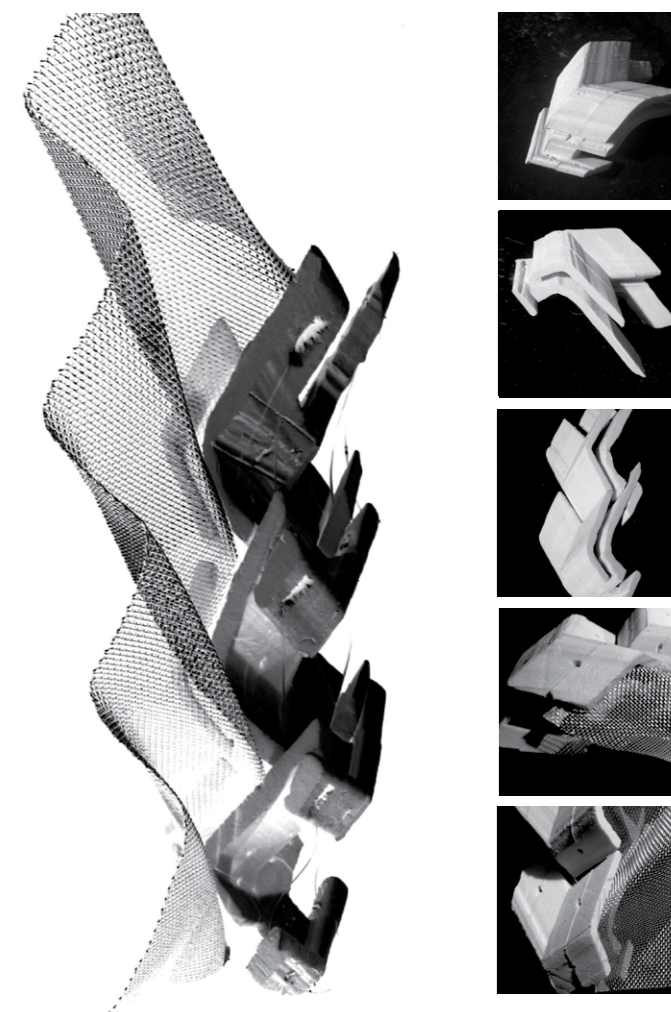
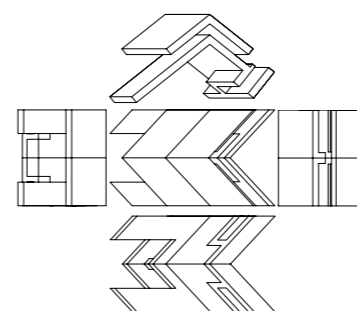
Modular System

The joint would be designed to interlock with each others to form a spine as a major structure with certain curvature to achieve an elegant shelter form. Meanwhile, as the joints are interlocked with others, certain oscillation is allowed to compensate for the fluctuation from the wind load.



Cable System (along the spine)

To strengthen the connection with the joints and maintain the curvature, cable would be introduced to link them together and link to the foundation.

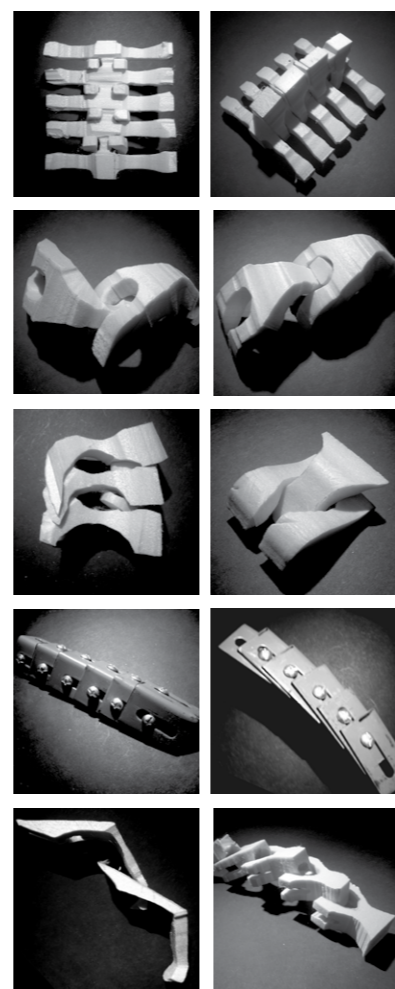


INTERLOCKING SPINE

Start from inspiration of human skelton (backbone)

Transform the organic form to the simpler configuration

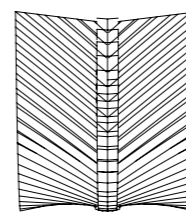
Modular system inspired from the skelton facilitates the production as well as easy prefabrication.



GEOMETRY

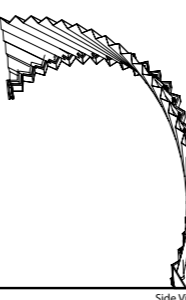
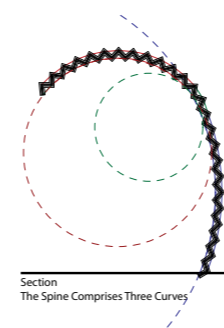
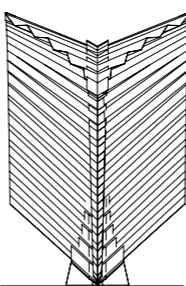
Spine

In order to increase the coverage for covered area, three types of joints are designed to create three curves with different radius to form the shelter.



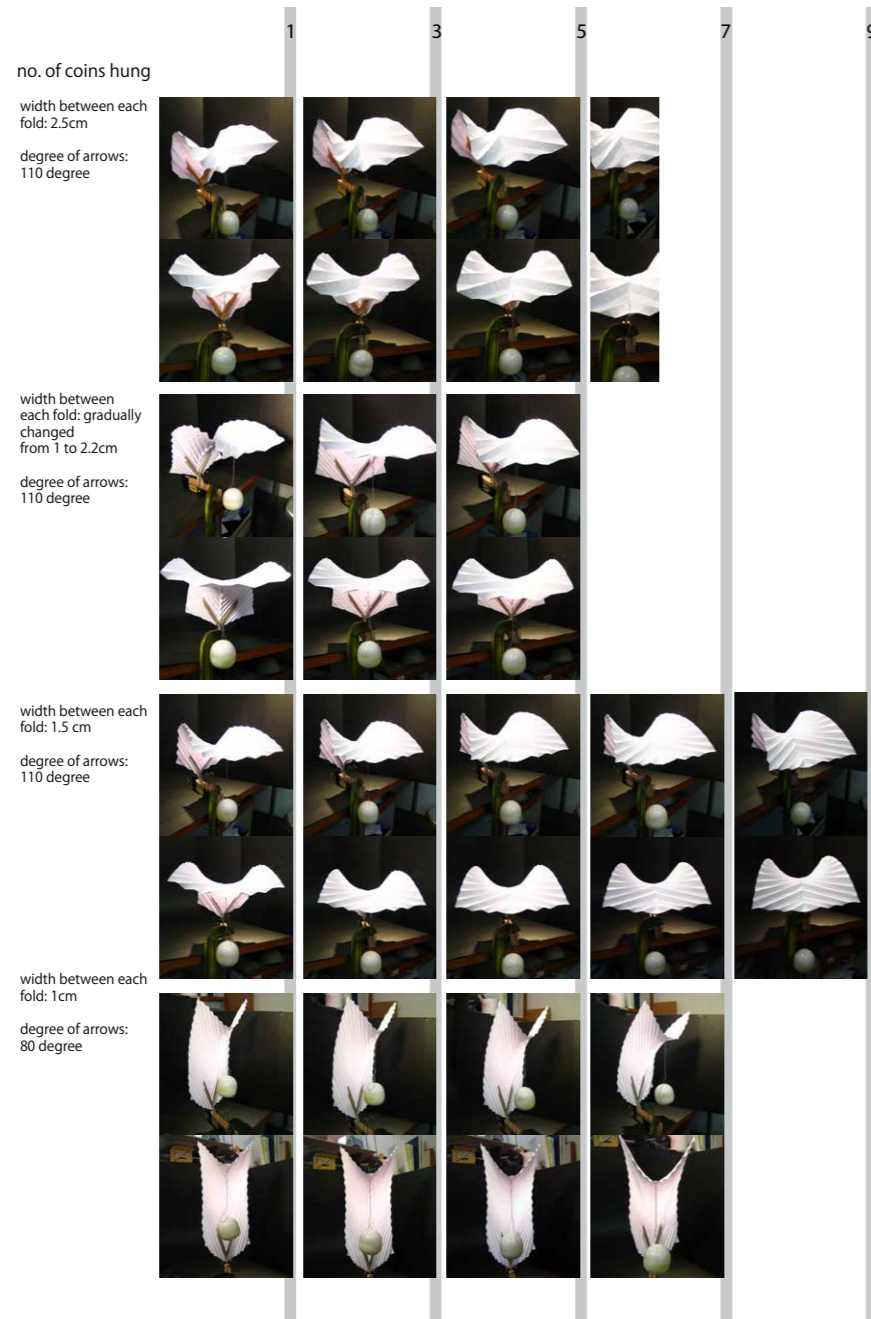
Canopy

The steel meshes would be folded and inserted into each joints along the spine. As the mesh fixed at the joints, the curvy form would be generated.



PERFORMANCE MODELS

To try varying parameters of the structure to figure out the more appropriate combination



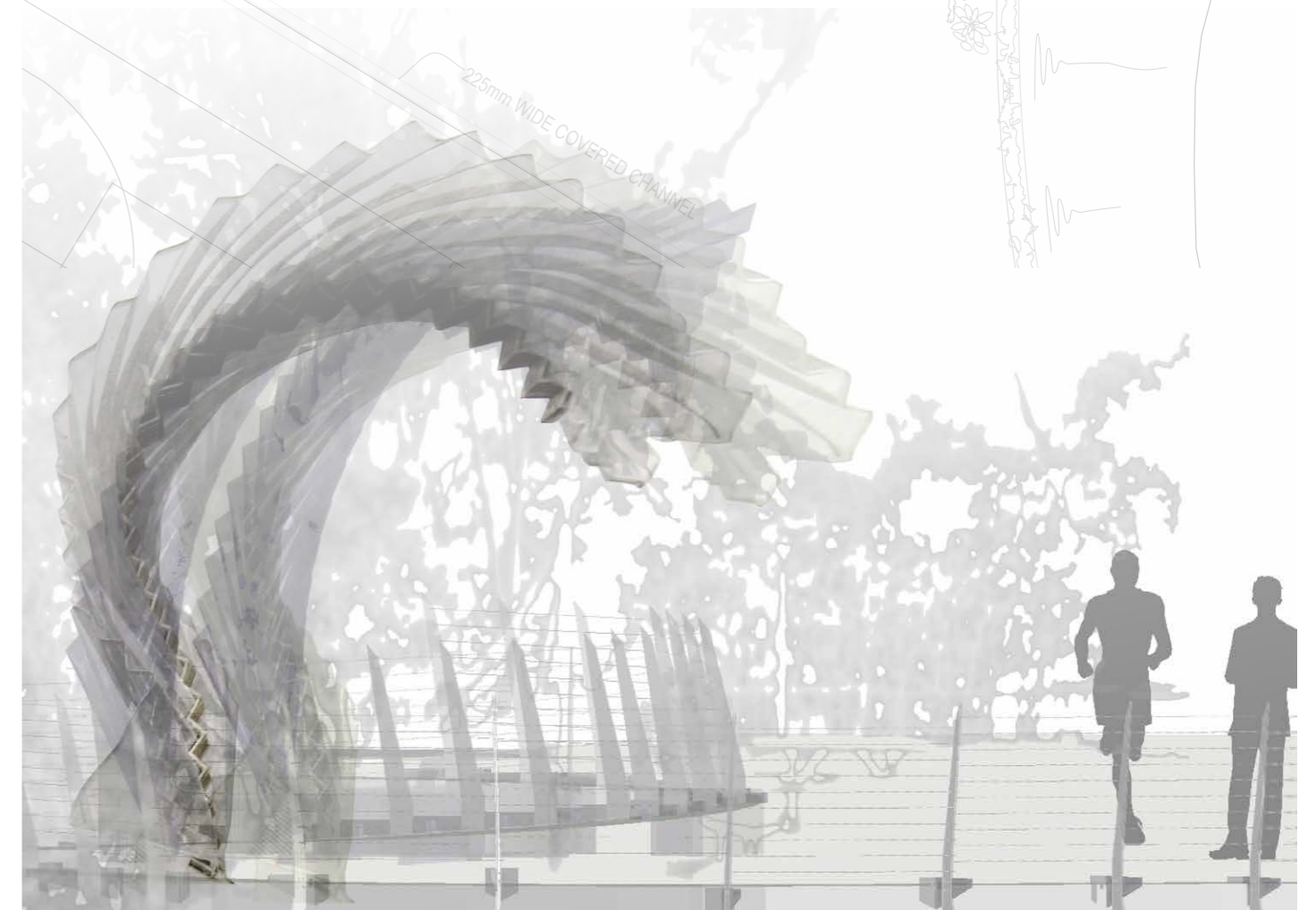
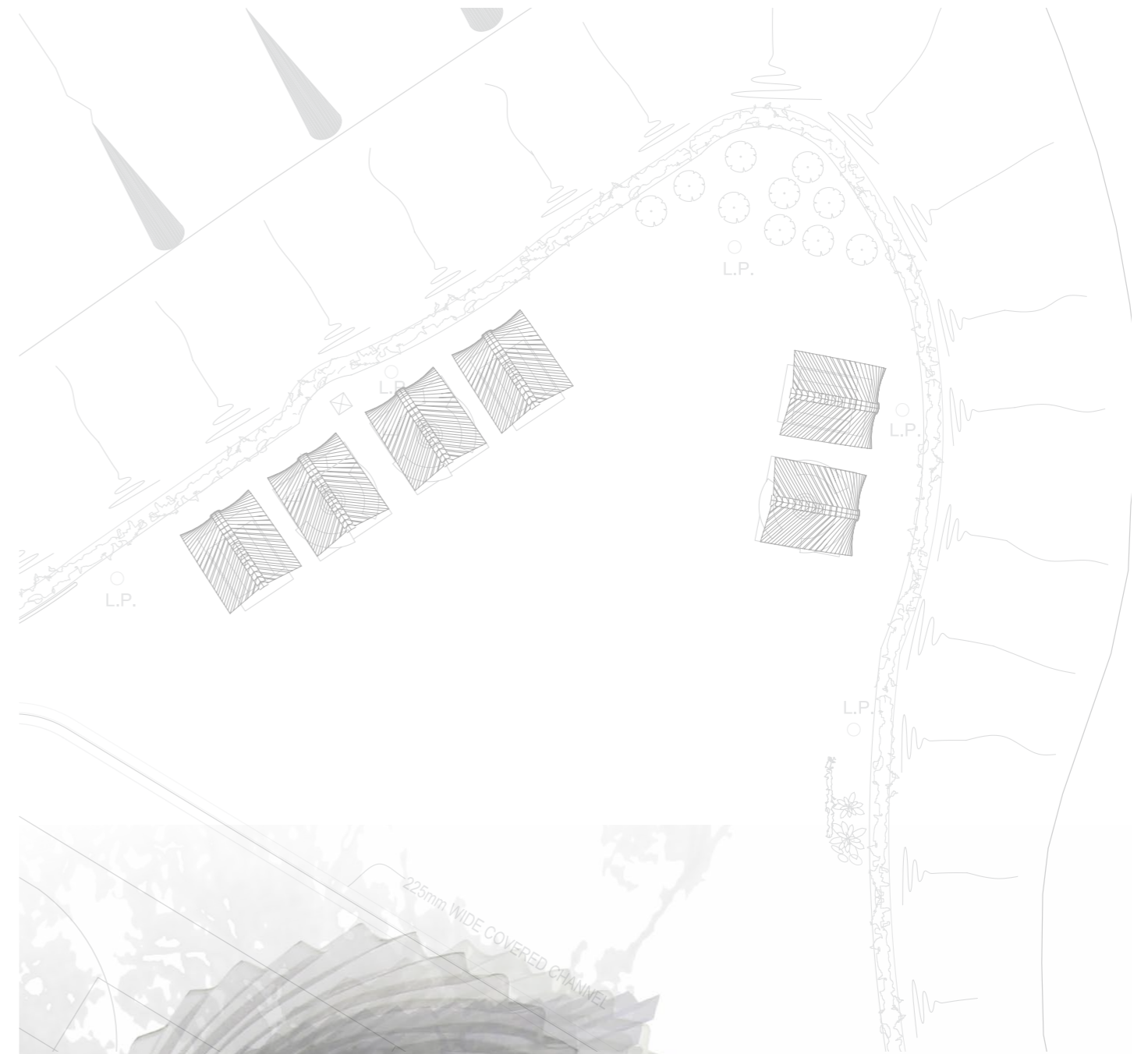
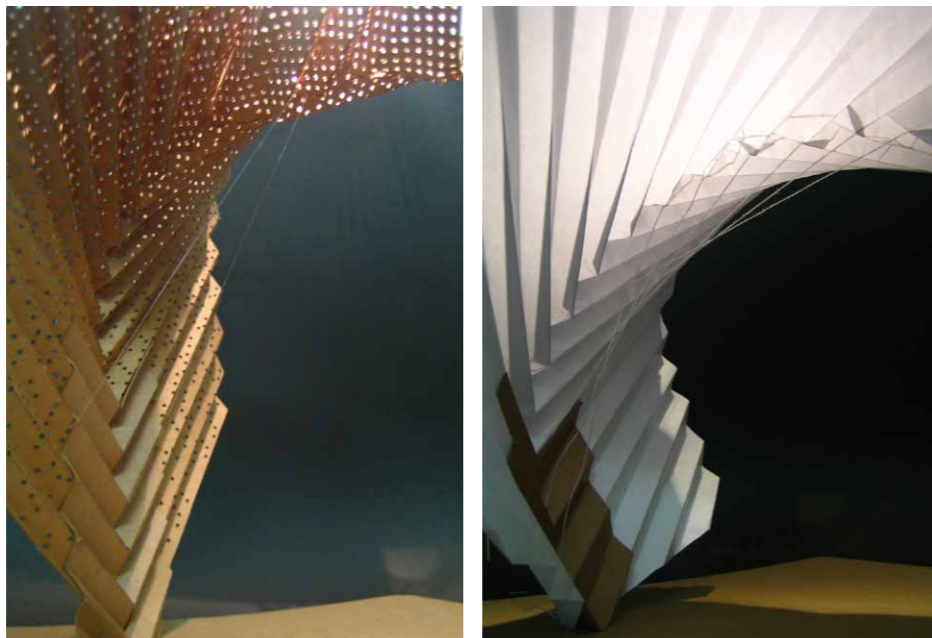
IMPROVEMENT

Reduce Wind Load

To avoid the uplifting of wind, cable system is designed to maintain the curved form. Compression members are installed in the lower part which take up the largest amount of load. More holes are punched in the upper part to help stabilize the whole structure

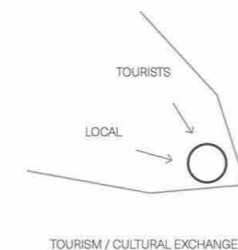
Potential Material

For the real material, a number of choices can be used as follows, fibre Glass which allows the shelter to be made as one whole piece, semi-translucent to reduce the massiveness; Sheet metal which allows prefabrication and perforation; Steel Mesh which allows the shelter to be made as one whole piece, semi-translucent to reduce the dead load.





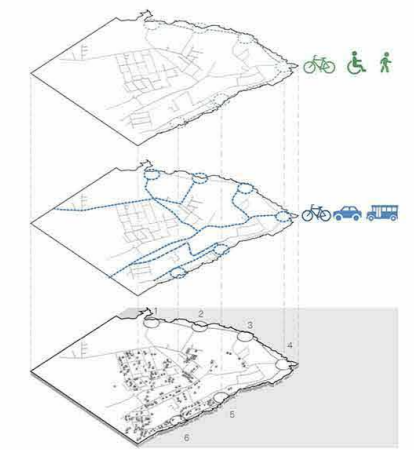
SITE PLAN 1:1000



TOURISM / CULTURAL EXCHANGE



CONCENTRIC / COMMUNITY



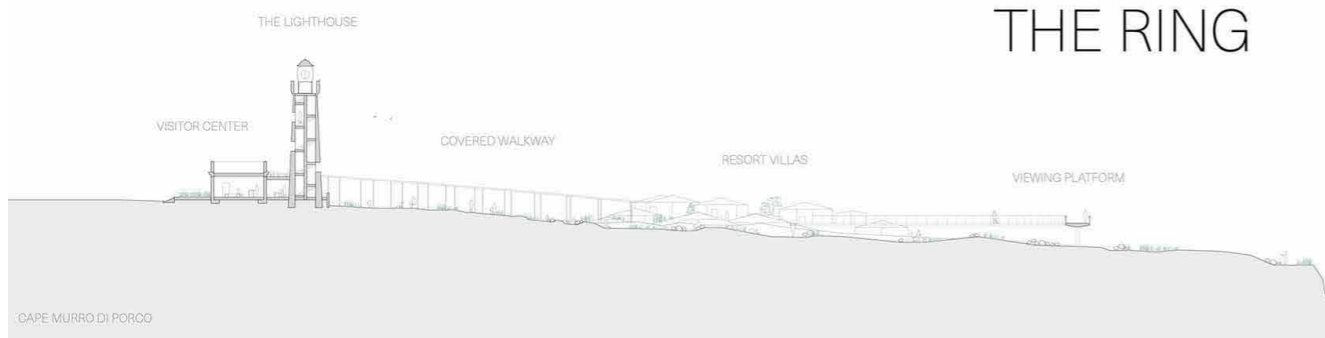
EXPANDABILITY / CONNECTIVITY



PLAZA / EVENTS



JOURNEY / EXPERIENCE



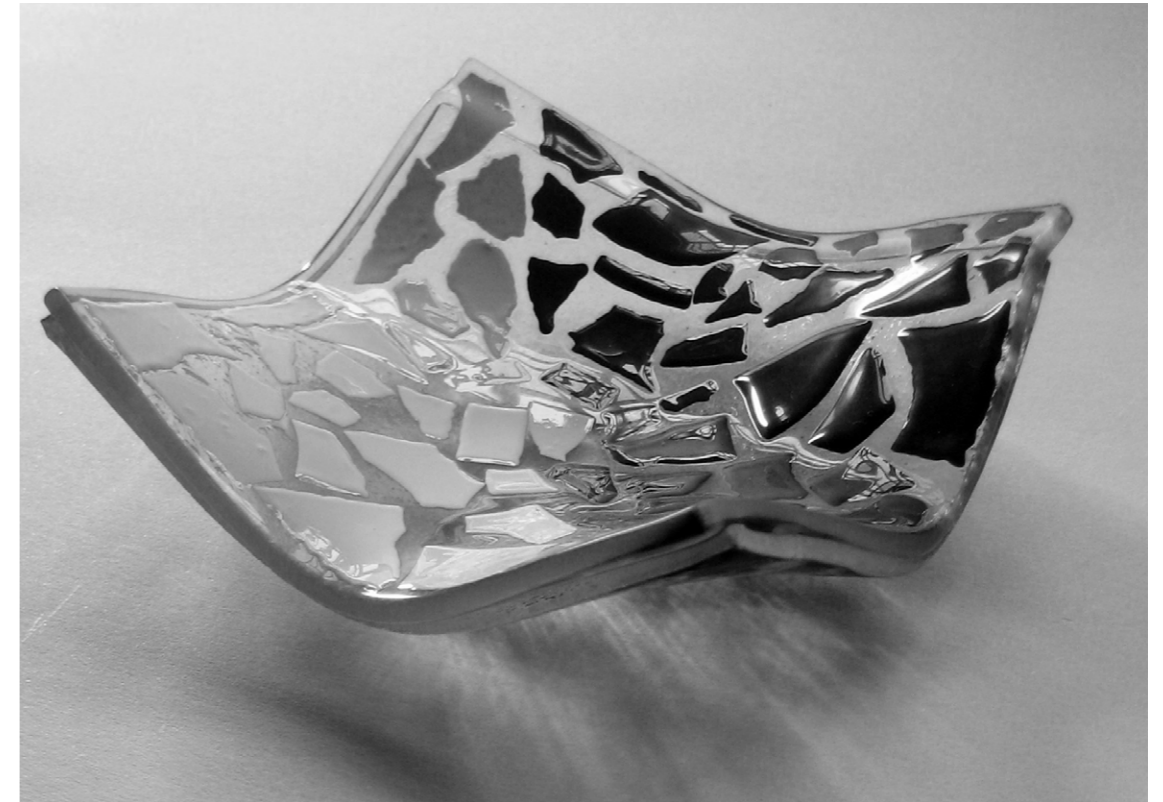
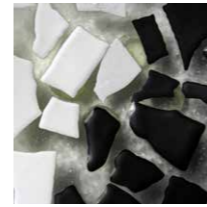
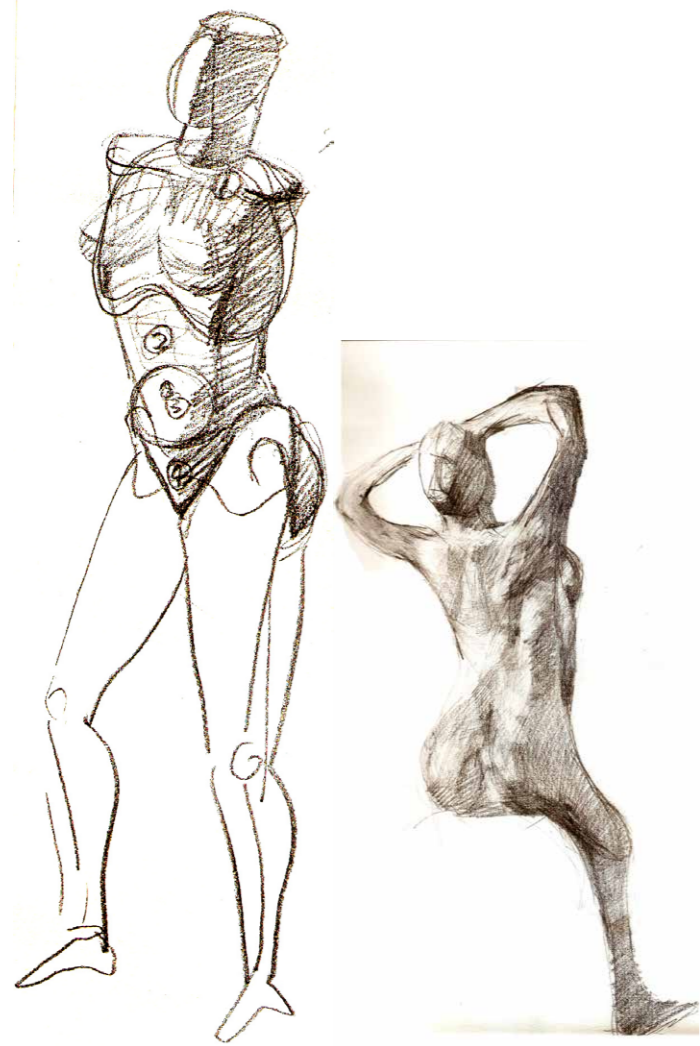
THE RING

The fundamental concept behind the project is to preserve and promote the historic lighthouse of Murro di Porco.

Noticeably visible in the form of a looping walkway, the ring is much more than an eccentric pathway meandering across the rocky site. It is a collection of strategies executed through the medium of architecture.

The project compliments the main concept via: respecting historic values; introduction and promotion of tourism; provision of leisure activities and supplementing amenities; create and promote conservation awareness; and through the exploration of expandability to benefit a broader community.





Times/10s



Times/20s



Times/30s

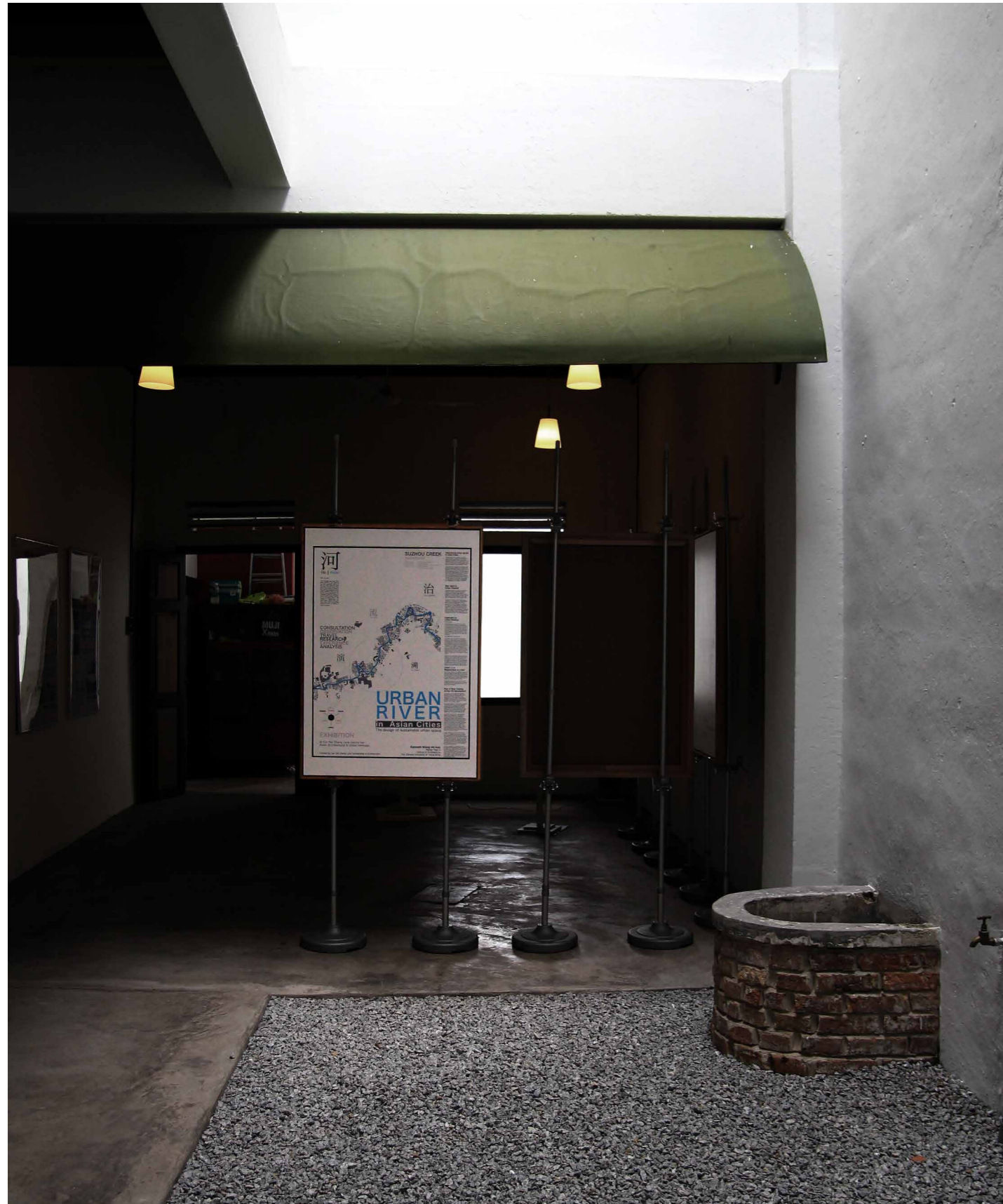


Times/40s



Solo Exhibition

project
Solo Exhibition: Urban river regeneration in SE Asian Cities
The Tun Tan Cheng Lock Centre in Malacca, Malaysia
funded by The National University of Singapore
period
02.2011
scope of work
Travel Research(Seoul, Shanghai, Malacca, & Singapore), Interview & exhibition



THANK YOU

