

NEW ROVERTOU GALLI PARK

Chengbin Shou SN:18107227 Unit 21 2018/2019

BARC0013:Design Realisation
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Year 4 / Unit 21
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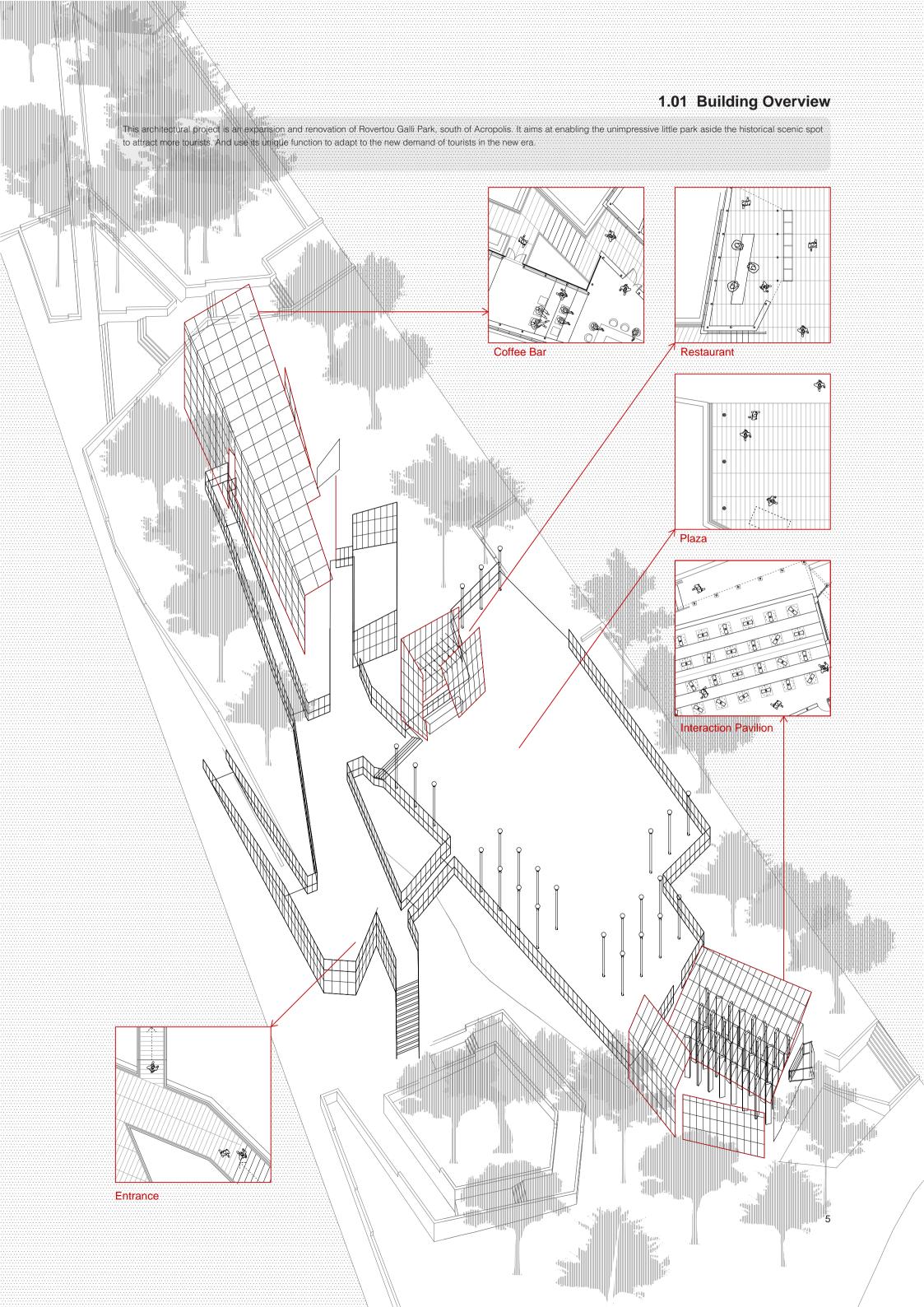
Plan Section Detailed Section

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Section 1 (40%)

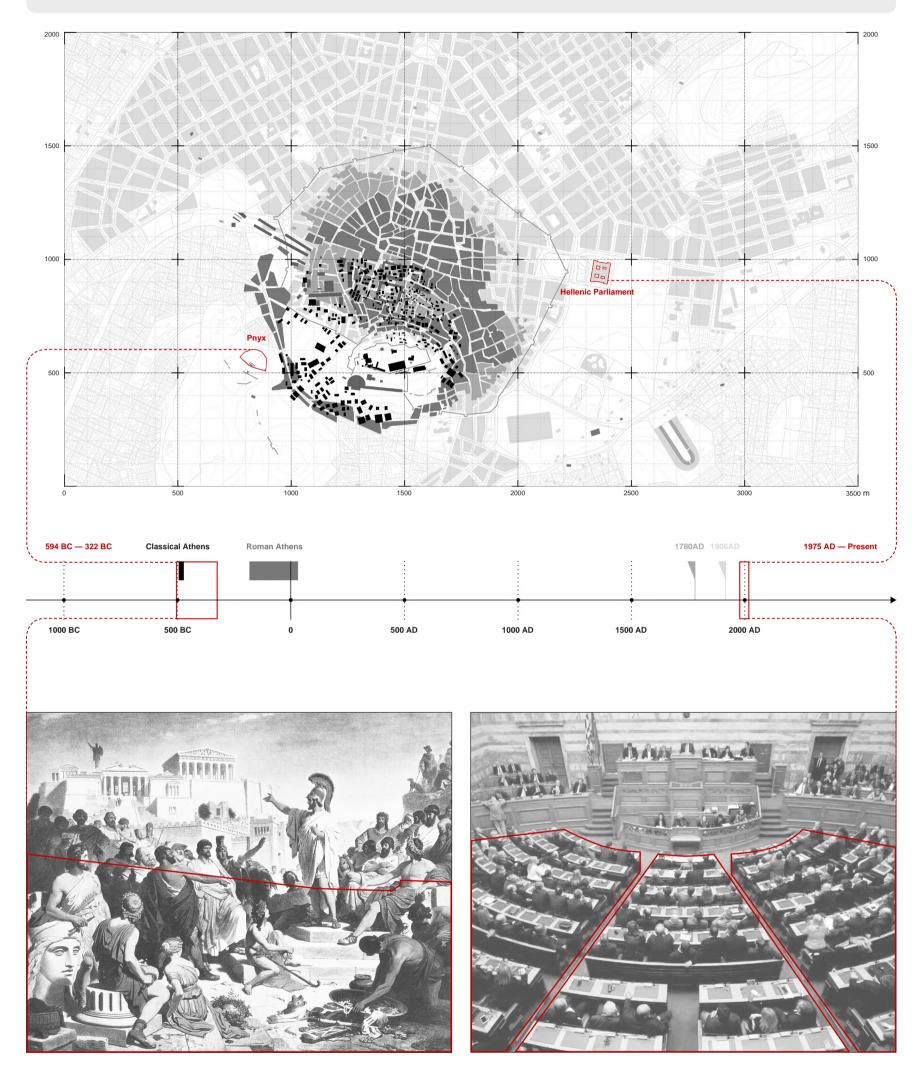
Building Forms, Systems Planning and Context

- 1.01 Building Overview
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1.02 Development of Athens

Situated in southern Europe, Athens became the leading city of Ancient Greece in the first millennium BC, and its cultural achievements during the 5th century BC laid the foundations of western civilization. During the thousands of years of civilization, Athens grows from a little city-state to a big city, containing more people and thoughts, and also more complicated.



Athenian Democracy

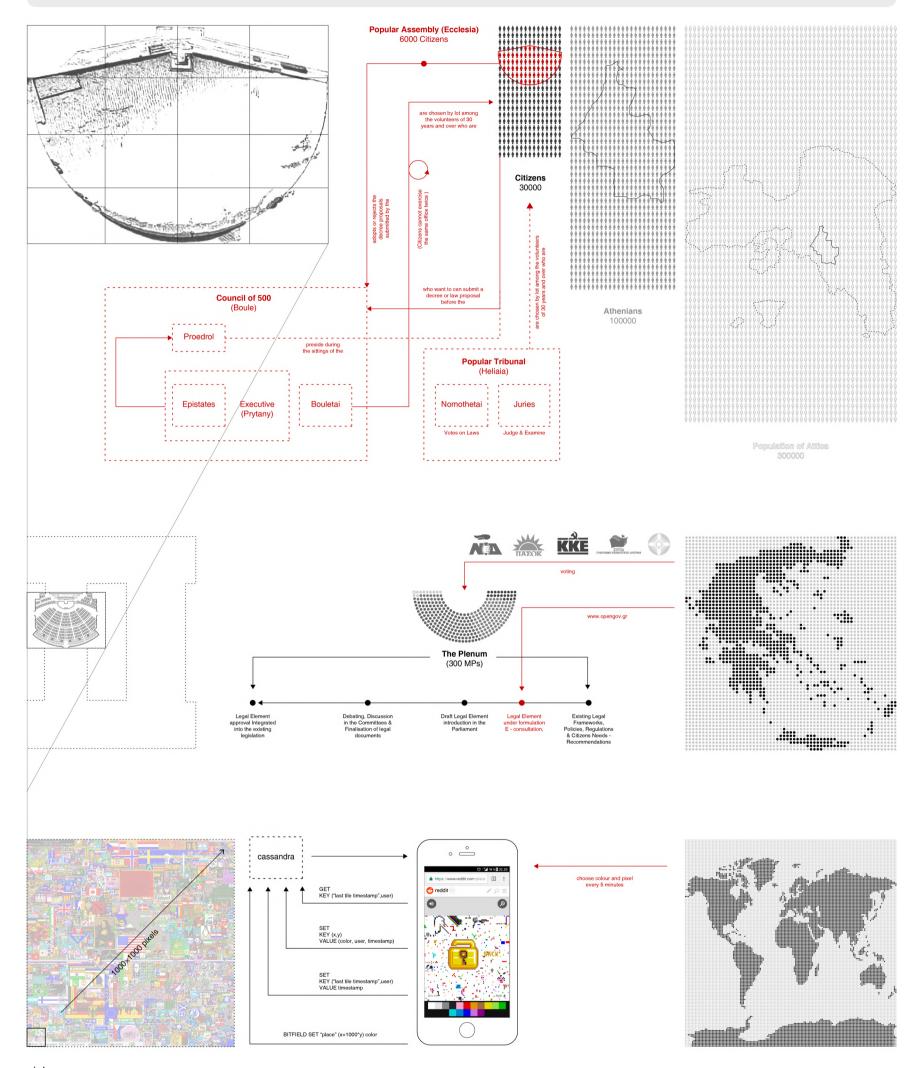
Athenian democracy developed around the fifth century BC in the Greek city-state of Athens, comprising the city of Athens and the surrounding territory of Attica, and is often described as the first known democracy in the world. Athens practised a political system of direct democracy in which participating citizens voted directly on legislation and executive bills. Participation was not open to all residents, but only about 2% of the people in Attica.

Hellenic Democracy

Hellenic Parliament is the supreme democratic institution that represents the greek citizens through an elected body of Members of Parliament (MPs). MPs are elected for a four-year term through a system of 'reinforced' proportional representation in 56 constituencies. The Greek Parliament currently has 300 members. All Greek citizens aged 25 or over on the date of the election are eligible to sit in Parliament, provided they are eligible to vote and don't fall under any of the disqualifications criteria provided by the Constitution.

1.03 The Exchange of Views

The English word 'democracy' is developed from a similar Greek word 'demokratía', which means 'rule by people'. From this perspective, the change of democracy is the change of how people exchange opinions and make decisions. As the expanding of the defining citizens and the revolution of communication, the procedure has also changed dramatically. The prevailing digital media also has a great influence on the procedure.



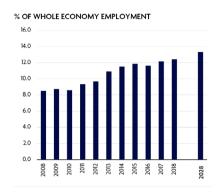
r/place

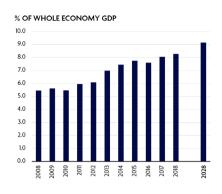
r/place is a collaborative project and social experiment hosted on the social networking site Reddit in 2017. The 3-day experiment involved an online canvas of one million pixel squares. Every registered user could edit by changing the colour of a single pixel from a 16-colour palette. After a pixel was placed, user had to wait for 5 minutes to get another chance to change any one of pixels again.

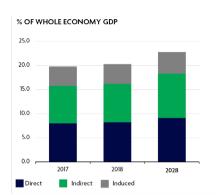
From direct democracy of Ancient Athens to representative democracy of the modern time, the subject of democracy is growing bigger, and the limitation for filtrating is less. What follows is the simplification of most citizen decision making mode. Nowadays, as the popularization of intelligent electronic devices, more people can involve in the procedure of opinion exchanging and decision making. More people has thought upon this. Neil Postman mentioned in Amusing Ourselves to Death, that the popularization of digital social media will lead to information surplus and thus reduce people's ability to think. On April 1, 2017, the famous social media Reddit conducted a 3-day-experiment named 'r/place', attracting more than a hundred people to produce the same drawing. The result was interesting. The image was between chaos and order, revealing a social image under the situation of digital social media.

1.04 Tourism & Digital Media

The trend of change has also happened on tourism. Nowadays' Greece rely on tourism largely. Its numerous historical spots are great tourism resources. As a kind of service industry, the huge amount of tourists and tourism actually greatly enhanced the speaking right of tourists. To say it exaggeratedly, tourists in Athens are 'unusual citizen'. According to the research above, Digital media like Instagram are greatly changing the how people tour in Athens.







Nowadays, tourism in Greece has been a key element of the economic activity in the country, and is one of the country's most important sectors. Greece attracted 26.5 million visitors in 2015, 30.1 million visitors in 2017 and over 33 million visitors are expected in 2018, making Greece one of the most visited countries in Europe and the world, and contributing 18% to the nation's Gross Domestic Product.





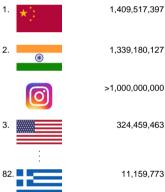


As the development of photography and formation of social media, Self-presentation of Athens tourists has become the most lively tourism advertisement of the new era. To most people in the world, their impression of Athens comes from others' photos. On the other side, uploading photos, forwarding, commenting and liking have the same effect as political activities like proposing political papers, debating and voting. Photos of tourists are the view of them, and propagation of photos is the exchange of views.



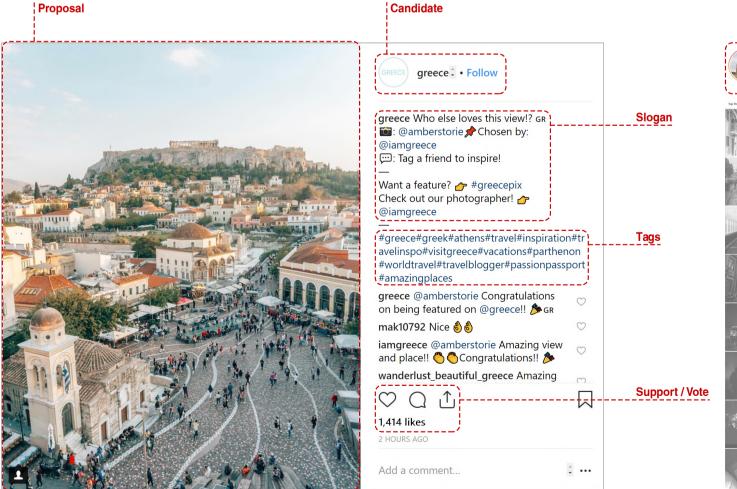


More than



One of the most common way for tourists to express their own views is Instagram. Instagram has more than 1000 million active users in 2017. This number is more than most of countries in the world. It is like a country which is not so tightly organized but still powerful. Every theme in Instagram acts like a bill, and every photo uploaded under and the tags. They can also support it by clicking the "like" button.

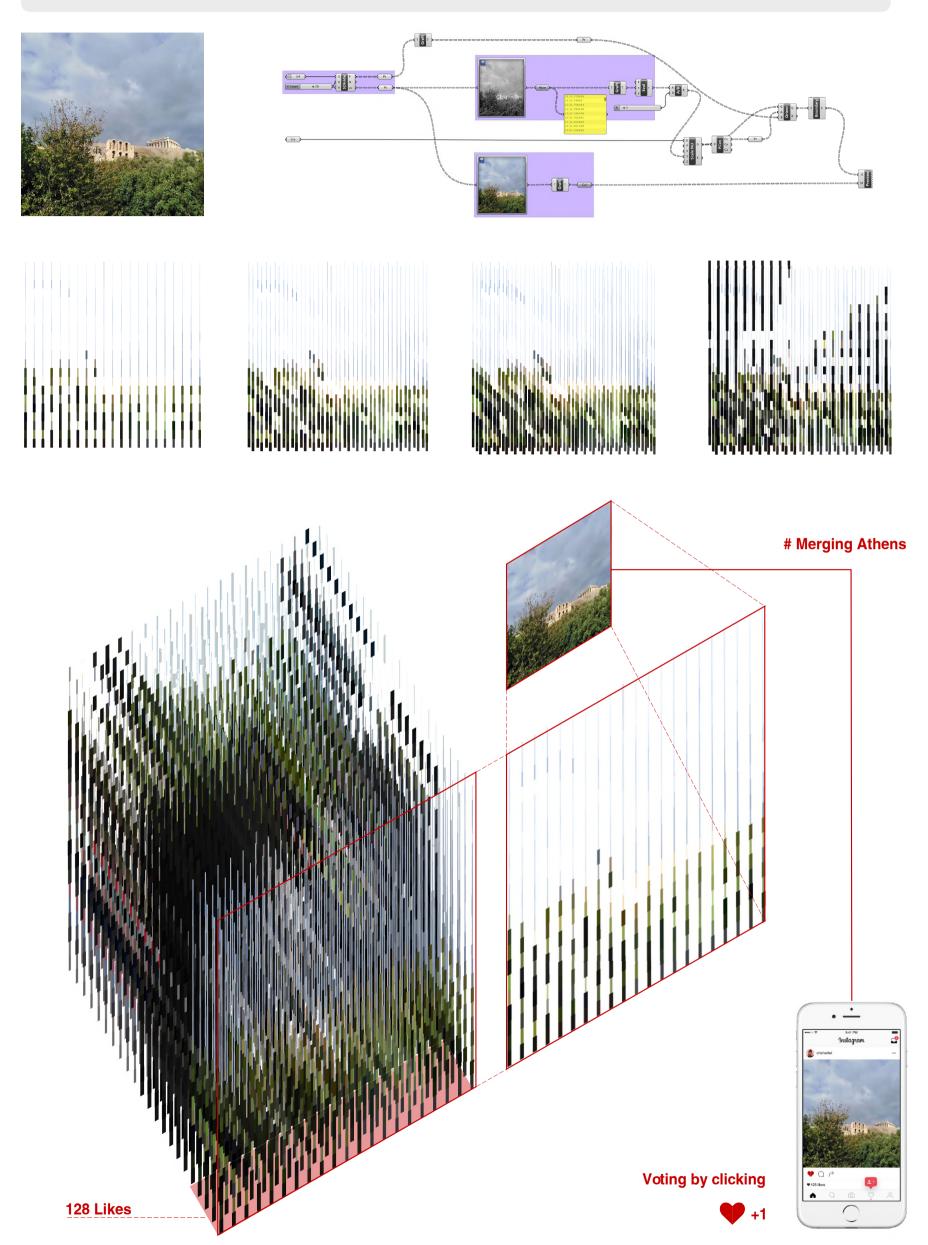
Bill = #Theme





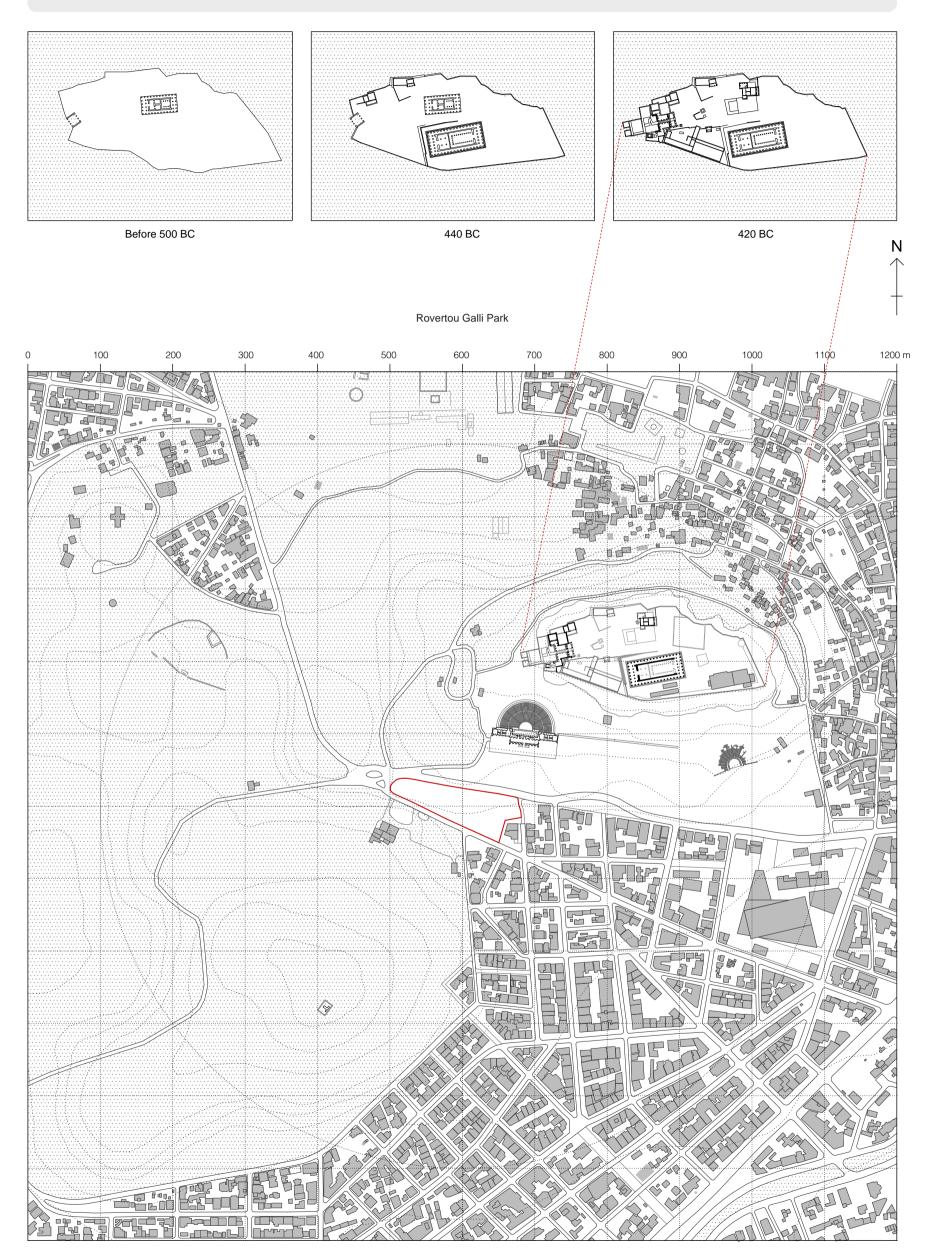
1.05 Photo Merge Test

In the time of information, tourism could be not only a realistic activity, but also exchange of information between different tourists. I hope to make complicated and interesting relationships between the images tourists left. So in P1, I made a simple experiment: I use Image Sampler to select the frames of photos, which can be used to merge together as visible space by different photos. Space generated by that is the set of views from tourists.



1.06 Site Location

The Project locates in the Rovertou Gallin Park, south to Acropolis. Acropolis was renovated during different historic periods. As the area grew bigger, the function of the building group was more complicated. From my point of view, Rovertou Galli Park has the potential to be a public space subject to Acropolis. And provide new contents for Athens's tourism activities conforming to the times.



1.07 Site Context

The site locates in a place where many urban contexts meet in Athens. From tourists points of view, Rovertou Galli Park has many unreasonable problems. Here I want to improve the site's circulation and tourism perspective to combine it with the whole Athens's tourism environment.

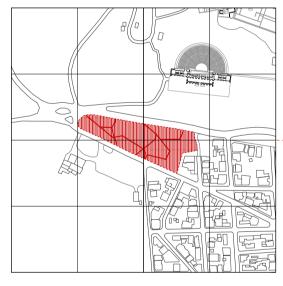






The south side of the park is the terminus of the passenger bus, which makes a large number of tourists come and go to this park.





To the south of the park is a tourism bua stop. Tourists have to pass the curving paths in the park or take a detour to get to The Acropolis after getting off the buses. The circulation is unreasonable.



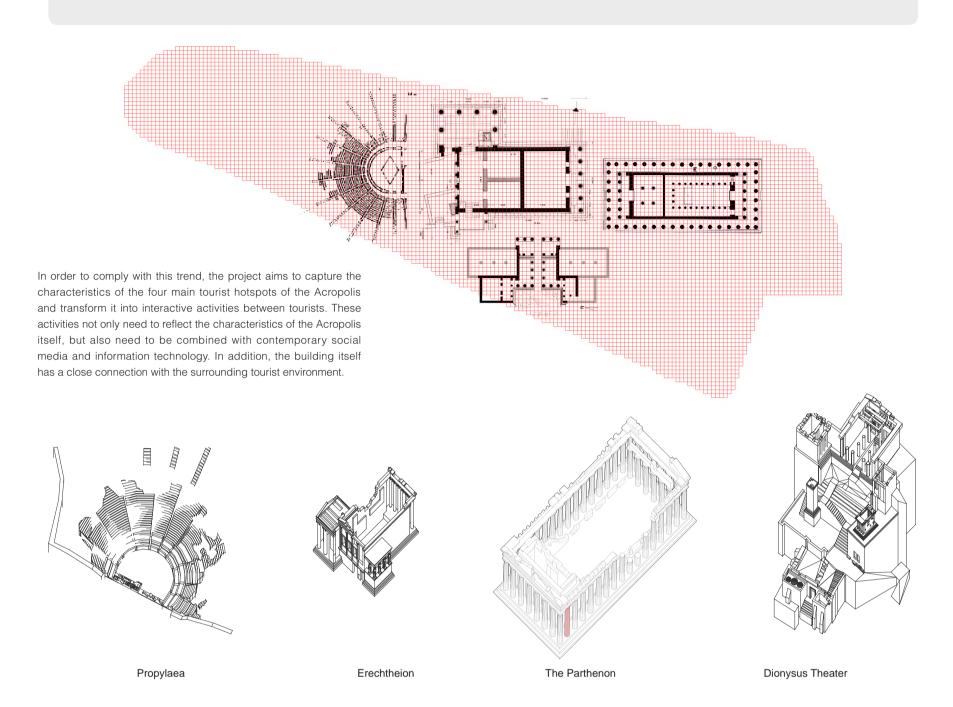


For those who just got off the bus, they couldn't see the Acropolis immediately because the sight was blocked by the dense trees of Rovertou Galli Park. This is also a point that needs improvement in the transformation.



1.08 Building Program Overview

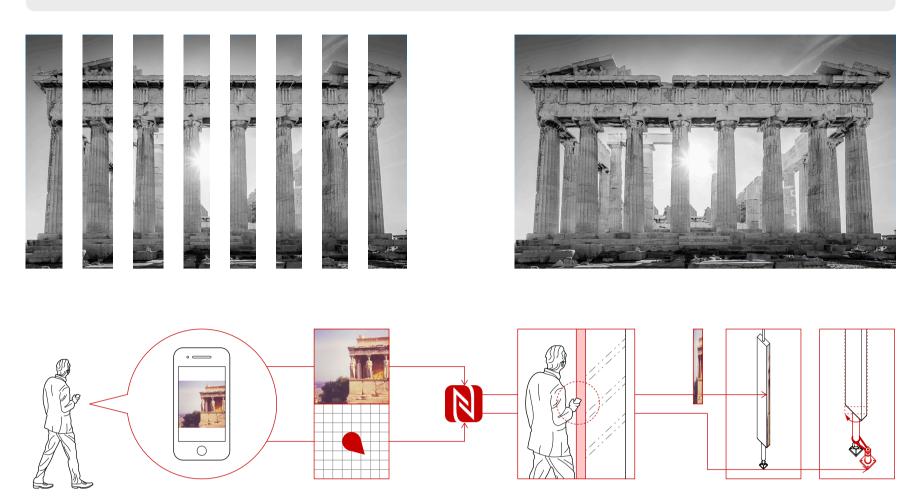
According to previous research, in the information era, many people tend to care more about communication and interactions between people, but not only the historical scenic spots themselves. These communications and interactions don't need much substance space. They would rather see the Athens trip shown by themselves or others virtually.



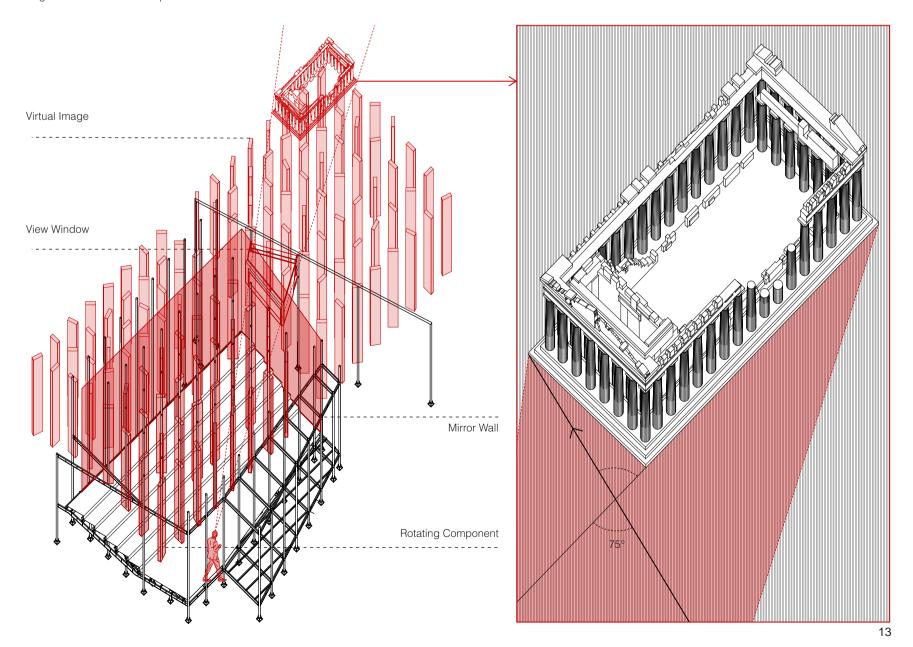


1.09 Building Program: From The Parthenon To Interaction Pavilion

Parthenon Temple has always been the landmark building of Athen Acropolis. Its spectacular doric order is the most obvious characteristic. It's also one of the hottest place tourists take photos. Tourists take photos of Parthenon Temple from every angle, or use it as background for selfies. People record the image of the architecture in different angles at different time, and spread them out constantly. Thus, in this project, the Parthenon Temple is translated into an interaction pavilion.



Smart phones record GPS information when they take photos. Here the architecture takes advantage of NFC technology of the phones, and convey the information to the rotatable structures in the architecture. The shorter faces of the structures install LED screens which can compress and narrow the image and show them. The longer side of the structures are mirrors, that can reflect the various images and spread them. Tourists can use their cell phones to touch the structures to upload their favoured images. The structures will present images according to what they receive, and rotate towards the direction the images were taken. After numerous tourists visited the place, splendours images will be left inside the pavilion.

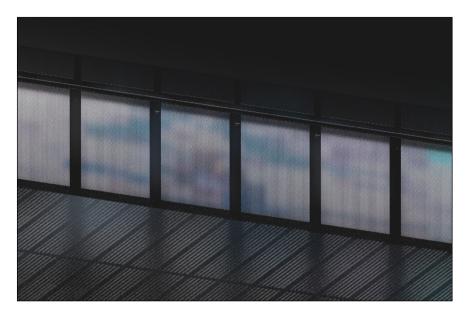


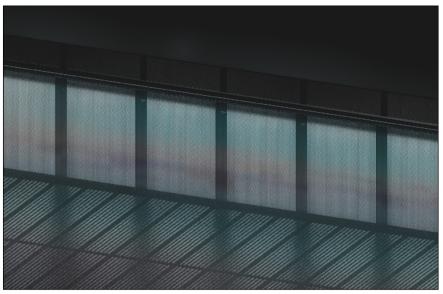
1.10 Building Program: From The Propylaea To Park Entrance

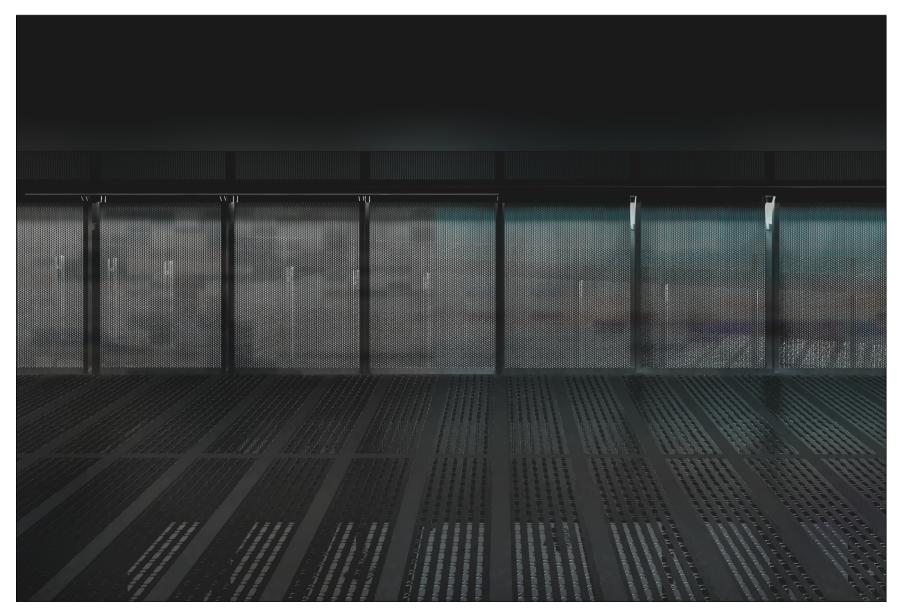
Tourists will meet at the Propylaea as it's the entrance of Athens Acropolis. Thus, it is interpreted into an entrance of the park for tourism buses to park. Park management side will create a # New Rovertou Galli Park on the Instagram for tourists to upload their own photos. Handrails on both sides will shoe the most favoured photos to achieve interaction between tourists.





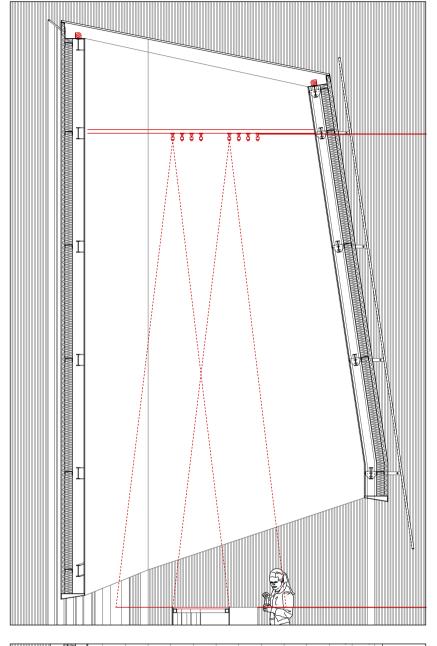




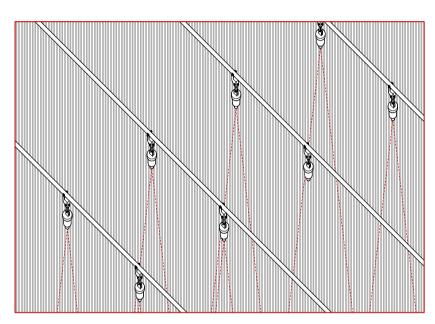


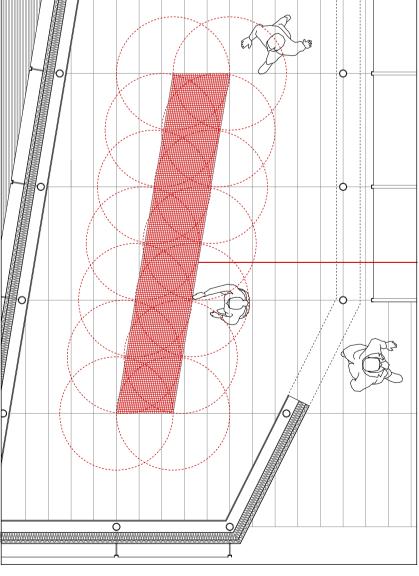
1.11 Building Program: From The Erechtheion To Food Plaza

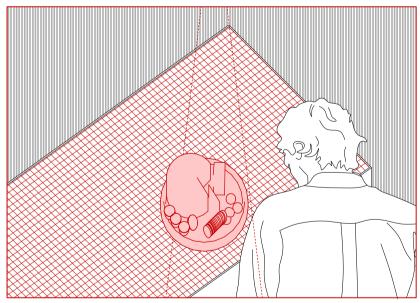
There is a legend for the olive tree next to The Erechtheion, saying it's planted when Athena was fighting for the Athens guardian power against Poseidon. Thus, in the project, The Erechtheion is interpreted into a plaza for food stalls, with some semi-open interactive restaurants for tourists to have meals. Images of tourists having meals will be taken by the indoor cameras and unloaded to social network to advertise Athens's tourism. The surfaces of indoor table ate LED screens, capable of showing photos taken 1 hour ago. Tourists can get to know the special food Athen has got, and meanwhile delivering their own preferences to the next tourists.

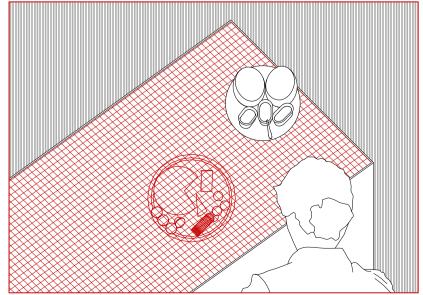






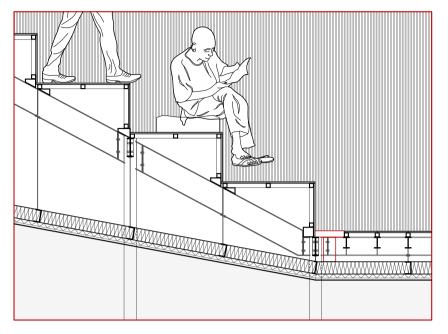


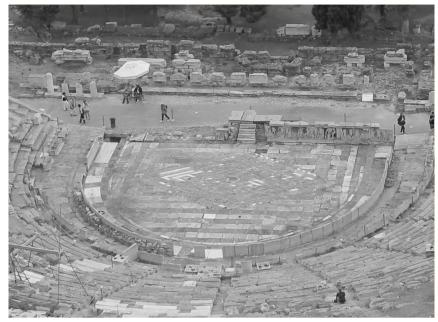


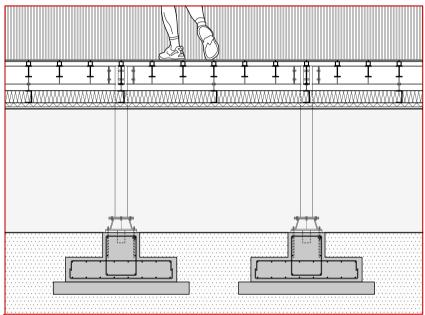


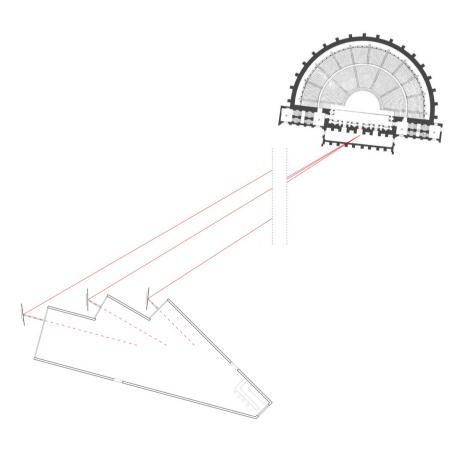
1.12 Building Program: From Dionysus Theater To Coffee Bar

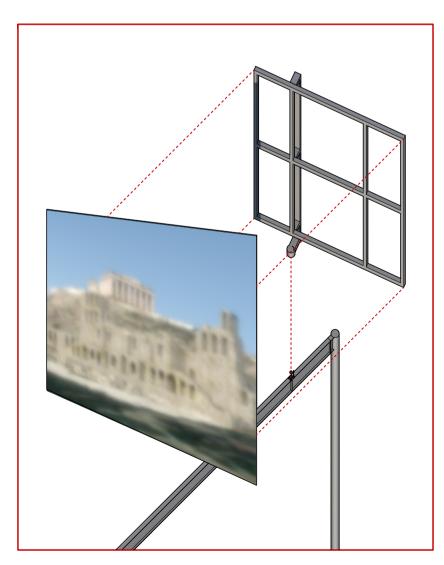
Dionysus Theater is an ancient theatre built on the mountain side. When watching the drama, every audient see from a different angle. The audients in the back rows not only see the drama, but also see the reactions of the front row audients.







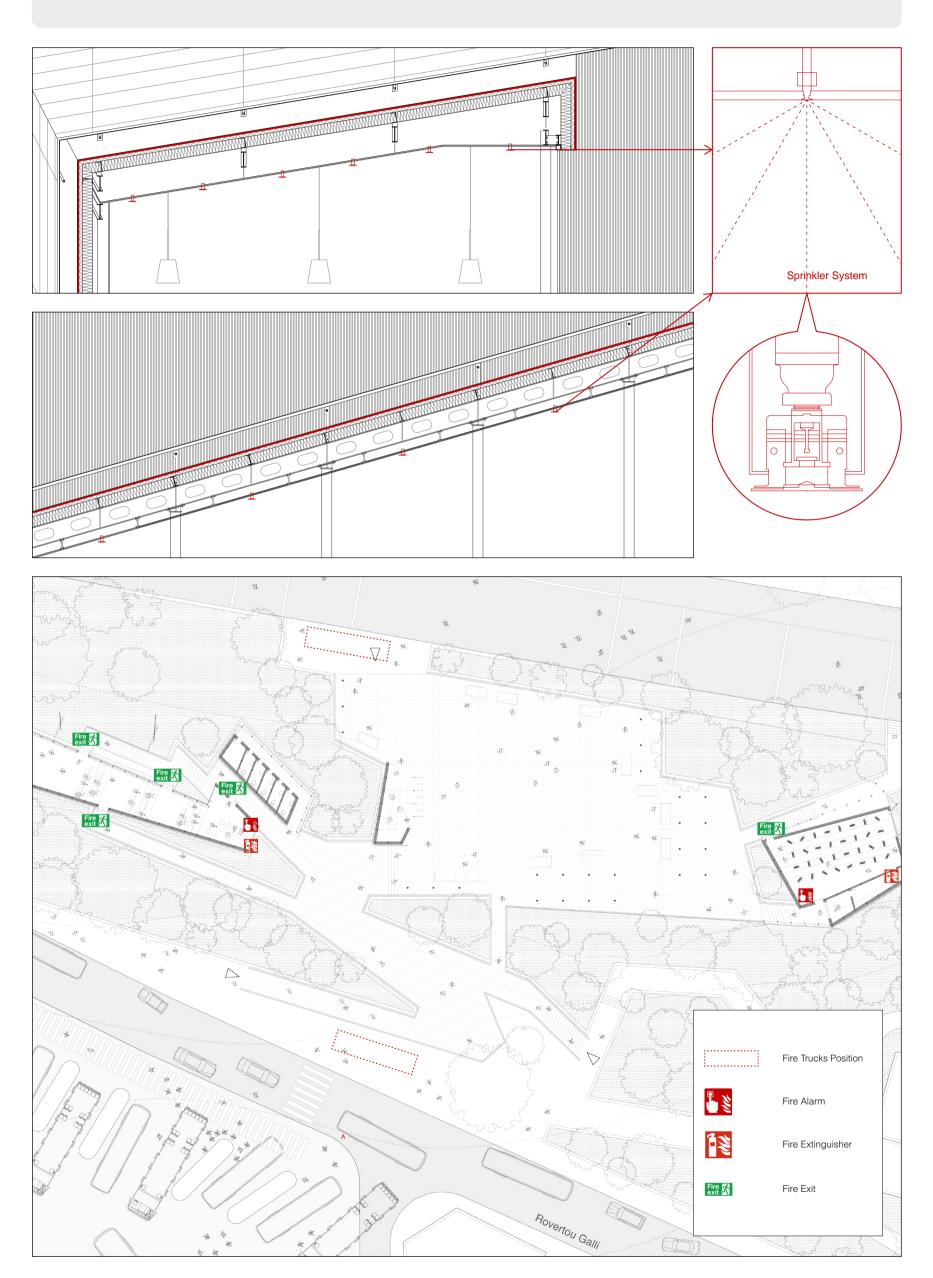




This project interprets this relationship into an amphitheatre coffee bar with interaction function. At days, the building is used as coffee bar. At nights, it acts as bars. The cameras above records the scenes inside, and show on the TV screen what happened 12 hours ago. The corridor aside will be installed with 3 mirrors, on which tourists will see the Odeum of Herodes Atticus from different angles.

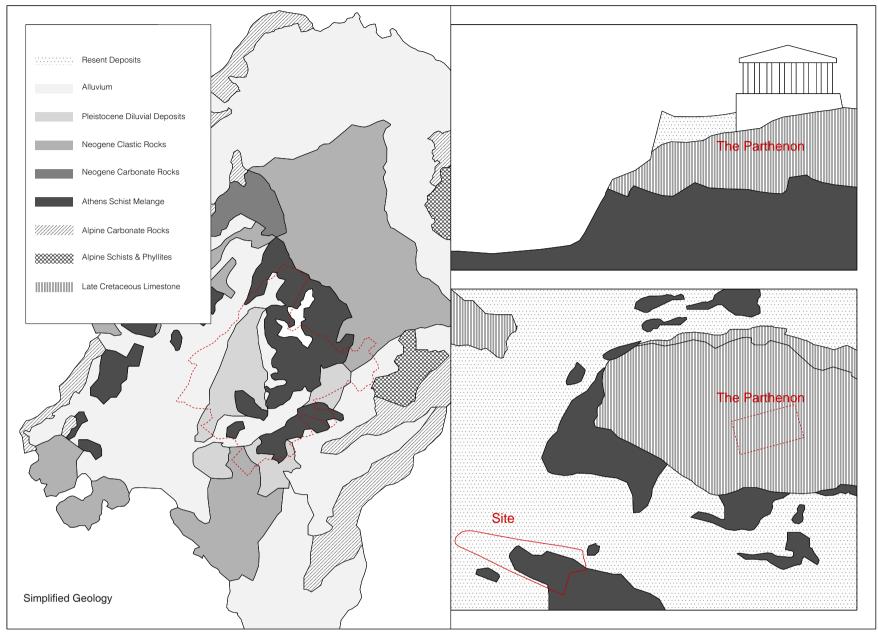
1.13 Fire Strategy

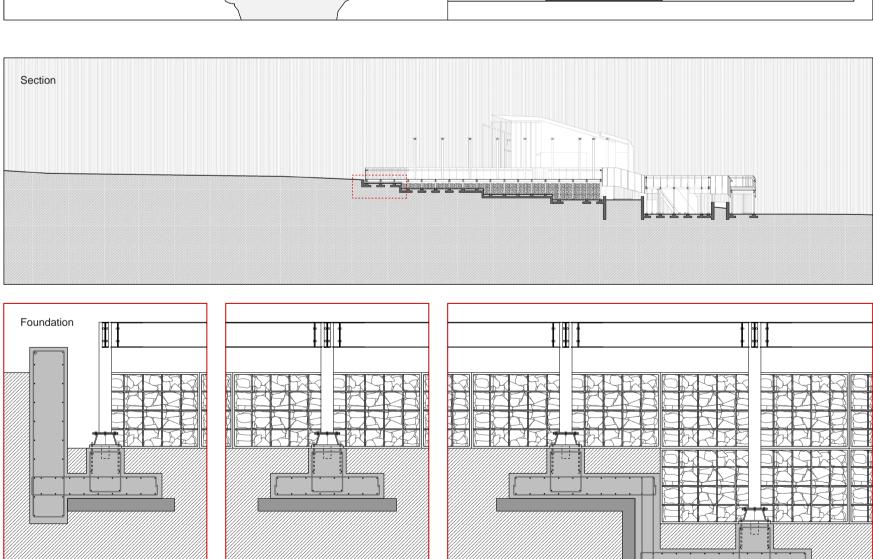
Fire coil is installed inside the wall of the building. Fire sprinkler system is stalled in the pavilion and coffee bar. The building is relatively open and the indoor space is not so huge. Thus, fire escape route is relatively short while ensuring users to get away from the fire quickly.



1.14 Geology & Building Foundation

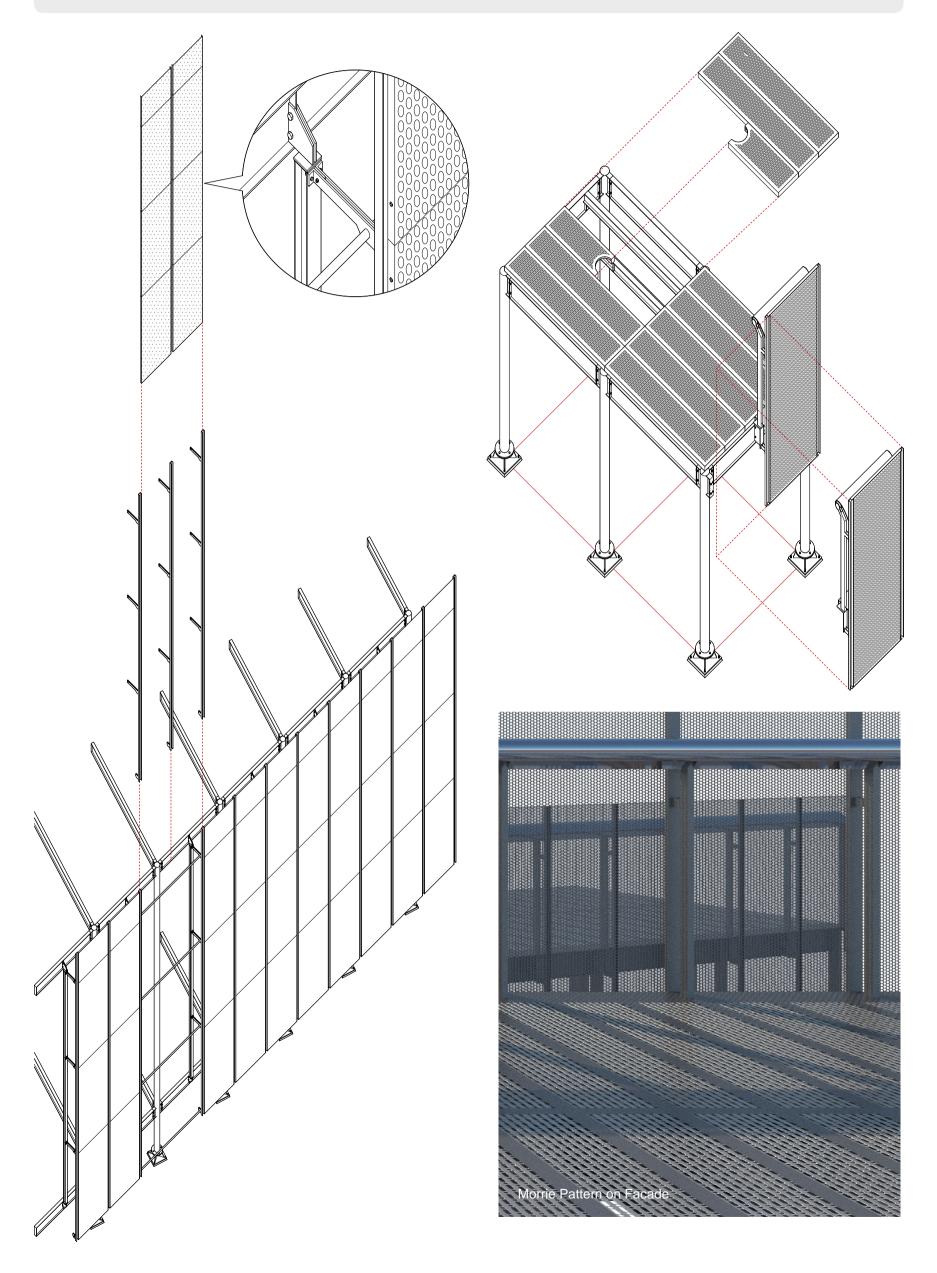
According to geology situation of Athens, the site locates on lots of rocks and sedimentary soil. When constructing the structure of the base, lots of gravels was excavated. Regarding to this situation, the gravels in the project will be kept and stored in Gabion Rock Store. By which the transportation cost of architectural waste and the destruction of the scenic spot will be reduced.





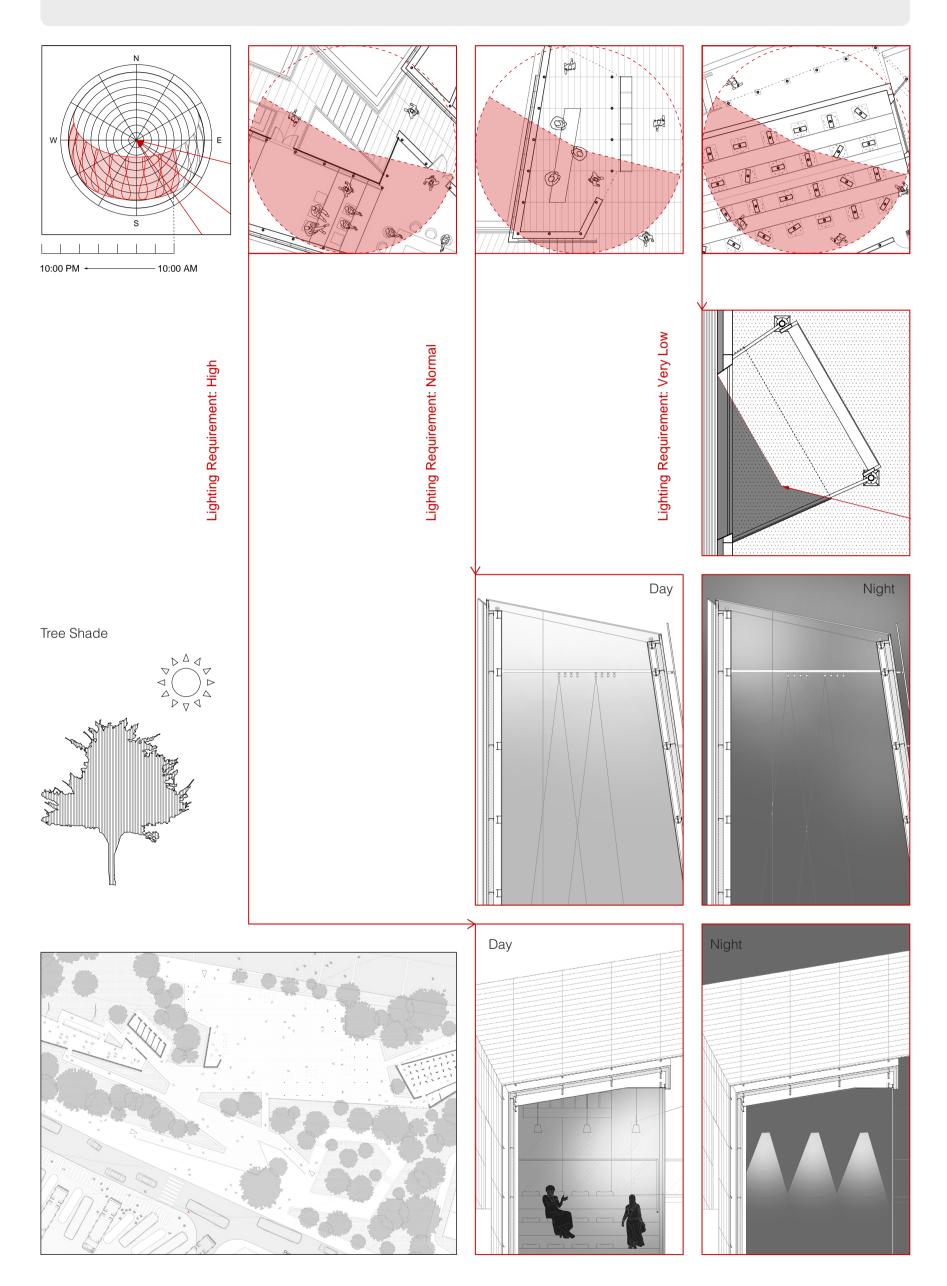
1.15 Morrie Pattern in Materiel

In the project, facades will mostly be perforated Steel Plate with pretty large diameter for shading and creating a 'digitization' feeling for the motion pictures in the architecture via the sense of translucence. Moreover, regular perforated board texture will from Morrie Pattern on the images taken in the cell phones, presenting the simple façade with a complex sense of movement on its photos. The shadow perforated plate casts is also regular, adding to the effect of Morrie Pattern.



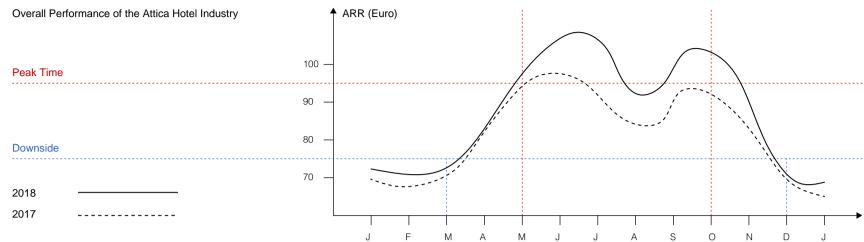
1.16 Sunlight Analysis

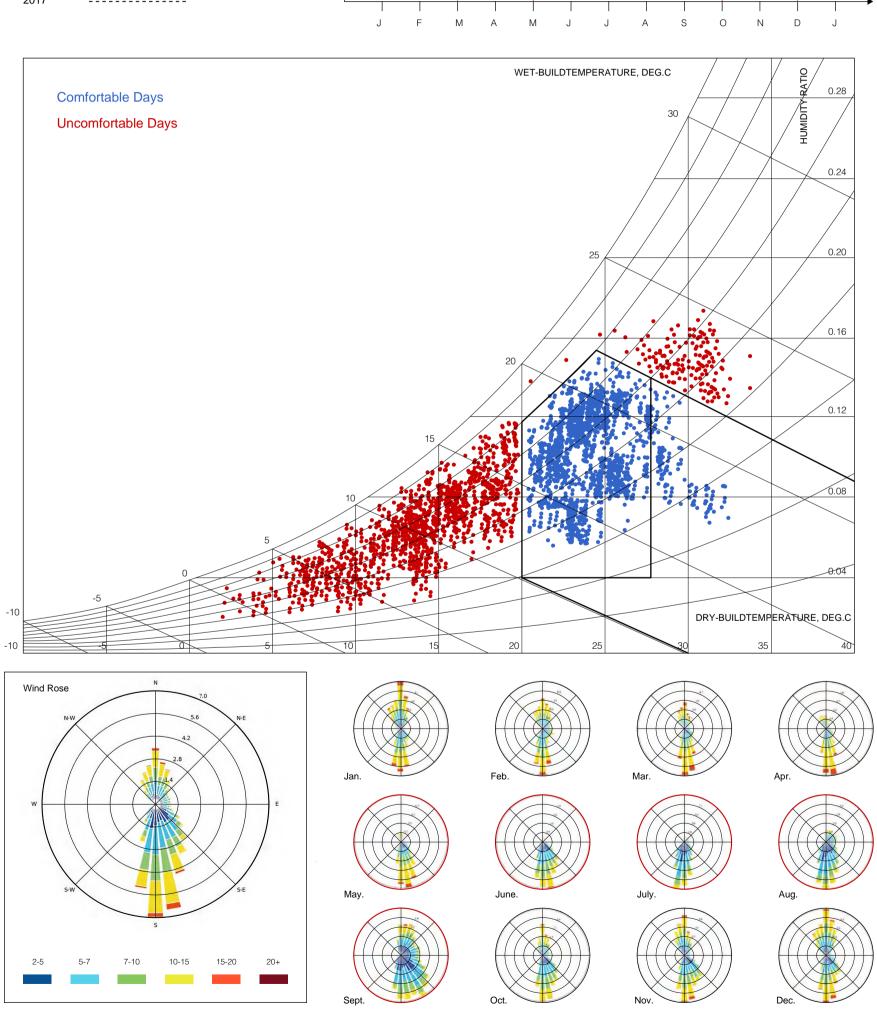
The building is for tourists. Thus, the opening time of it is from 10:00 AM TO 10:00 PM. From the Sun Path image, we can know the exact sun angle. Shading system will be arranged according to that. Artificial light is combined to satisfy lighting requirements of various building parts of the park.



1.17 Thermal Comfort Analysis

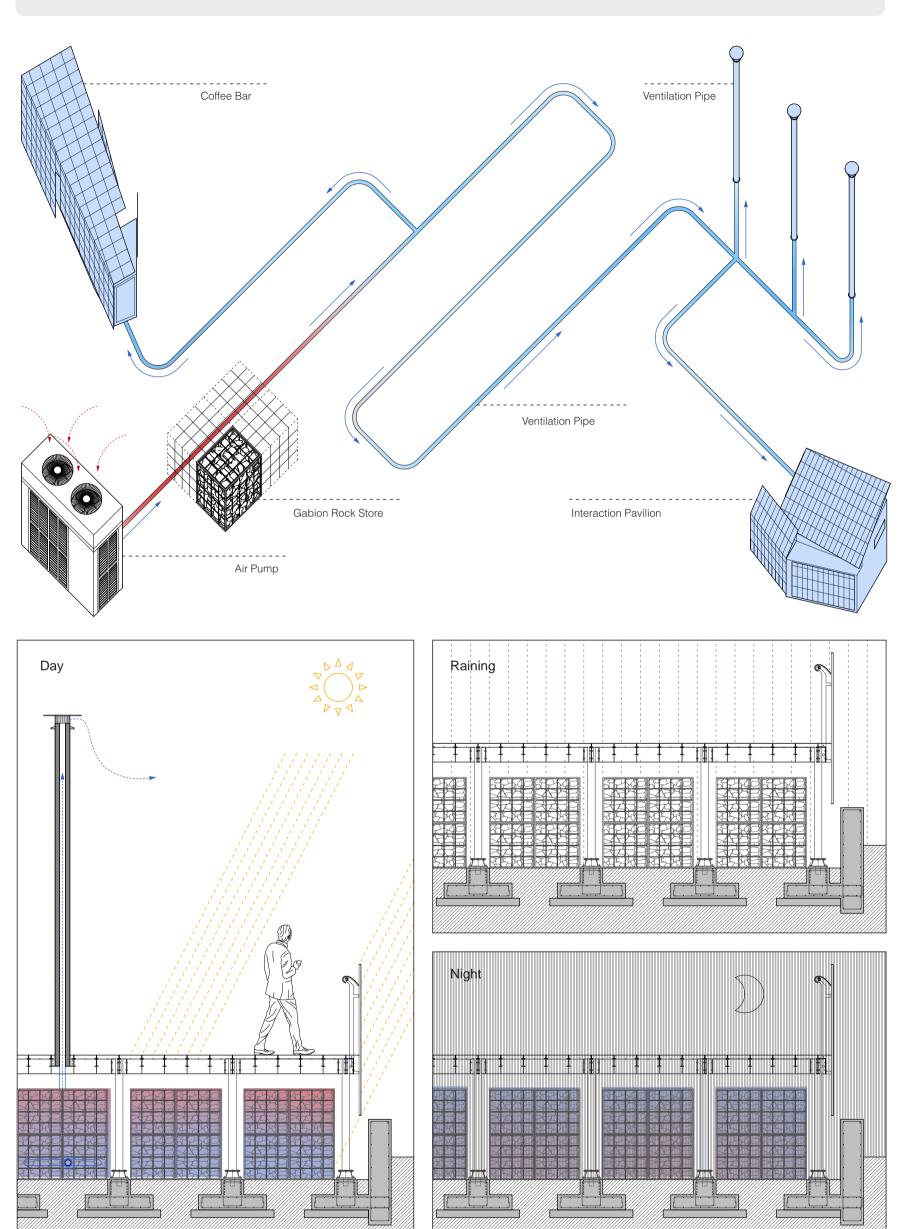
According to official data from Athens, the peek tourist season is from May to Octorber. However, the weather is mostly uncomfortably hot and humid during this period. In this period, wind is mostly blowing from south. Luckily the site is on a hill facing south. This environment factor helps to improve thermal comfort.





1.18 Environmental Strategy

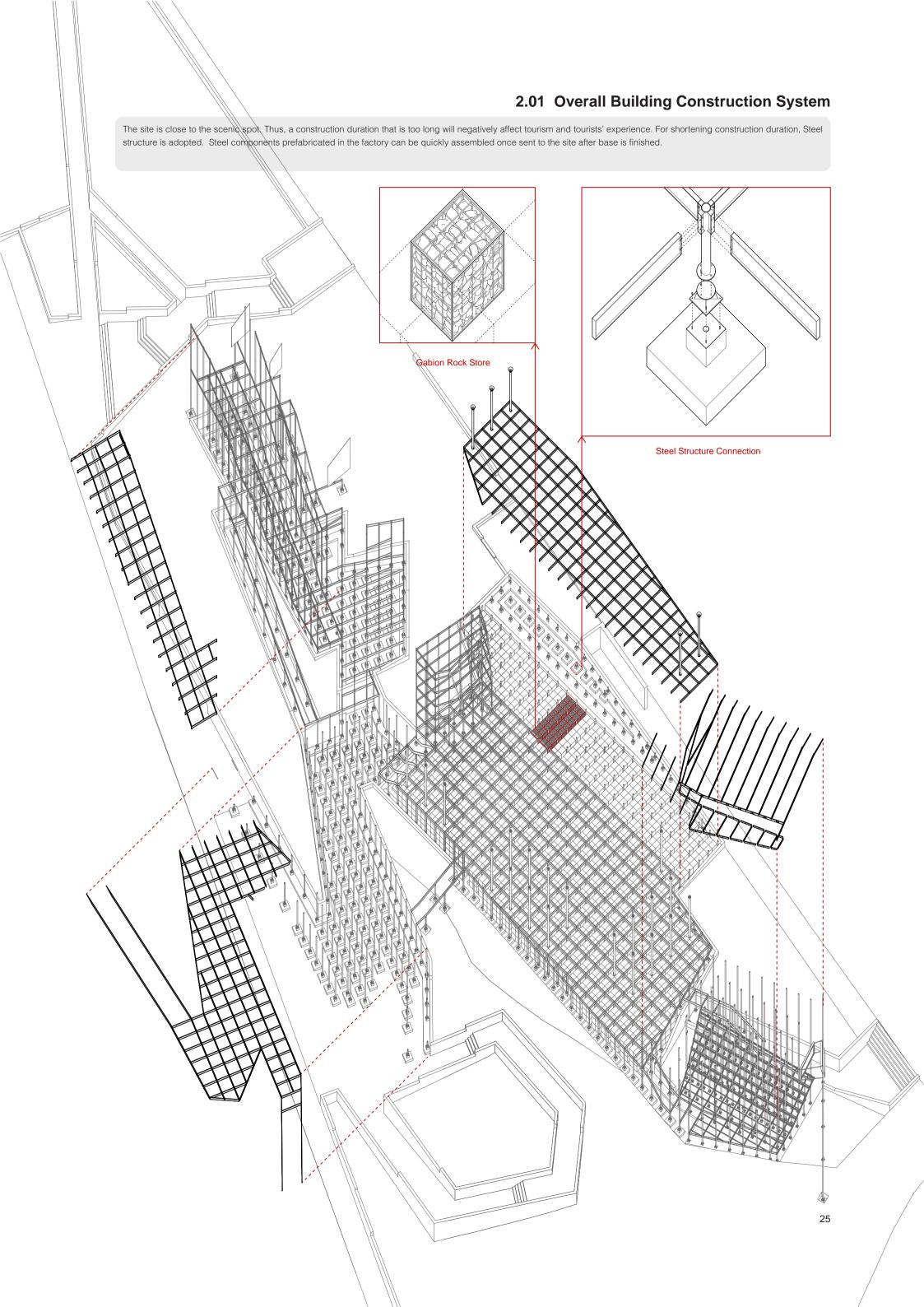
Here, the project can take advantage of south wind and Gabion Rock Store in the foundation to improve human thermal comfort. Gabion Rock Store will discharge heat at relatively cool nights, and absorb part of the heat in the hot daytime. Ventilating ducts are embedded in the rock. Hot air will be cooled down after being compress into the ducts through air pump, and flows into the building to achieve indoor thermal comfort.



Section 2 (15%)

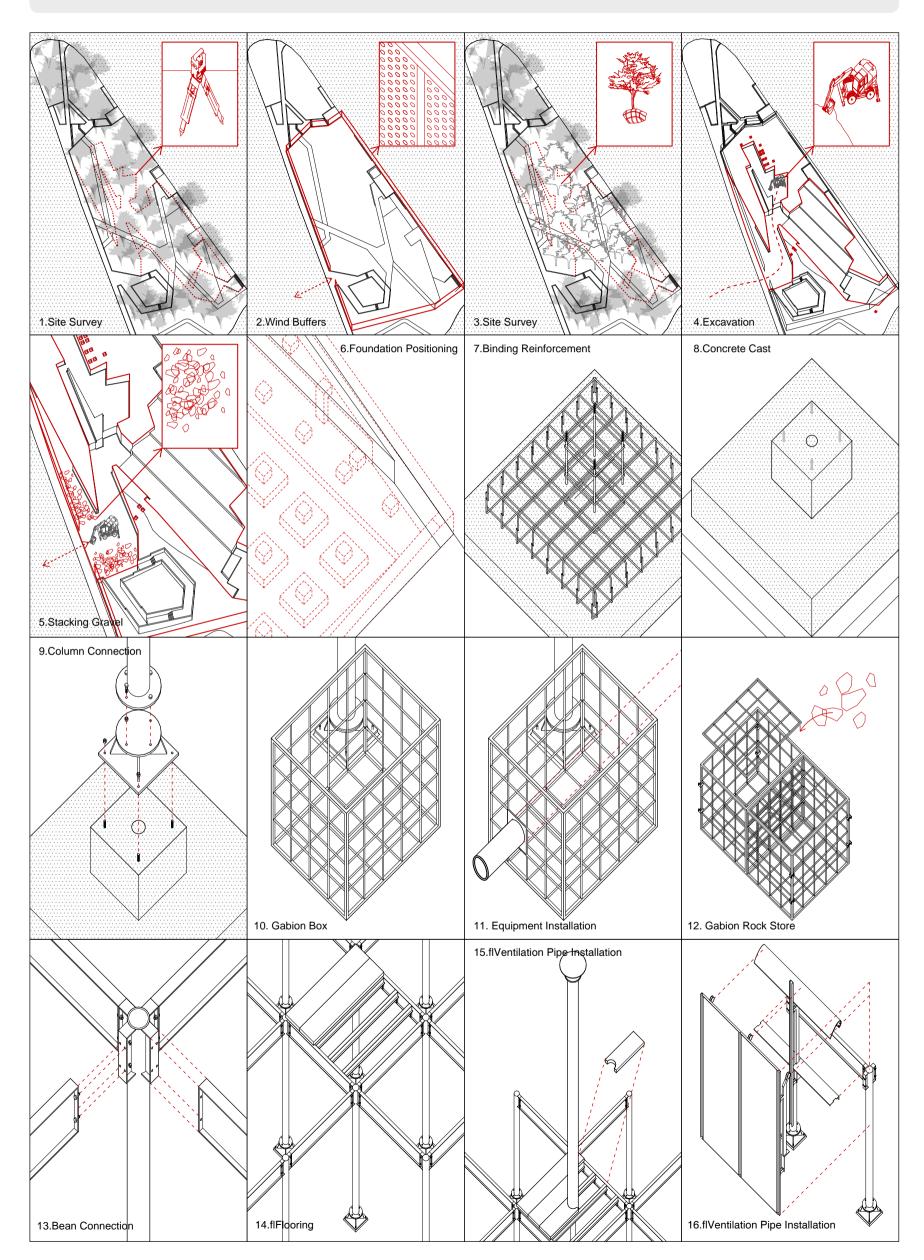
Building Construction

- 2.01 Overall Building Construction System
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- 2.09 Facade Material



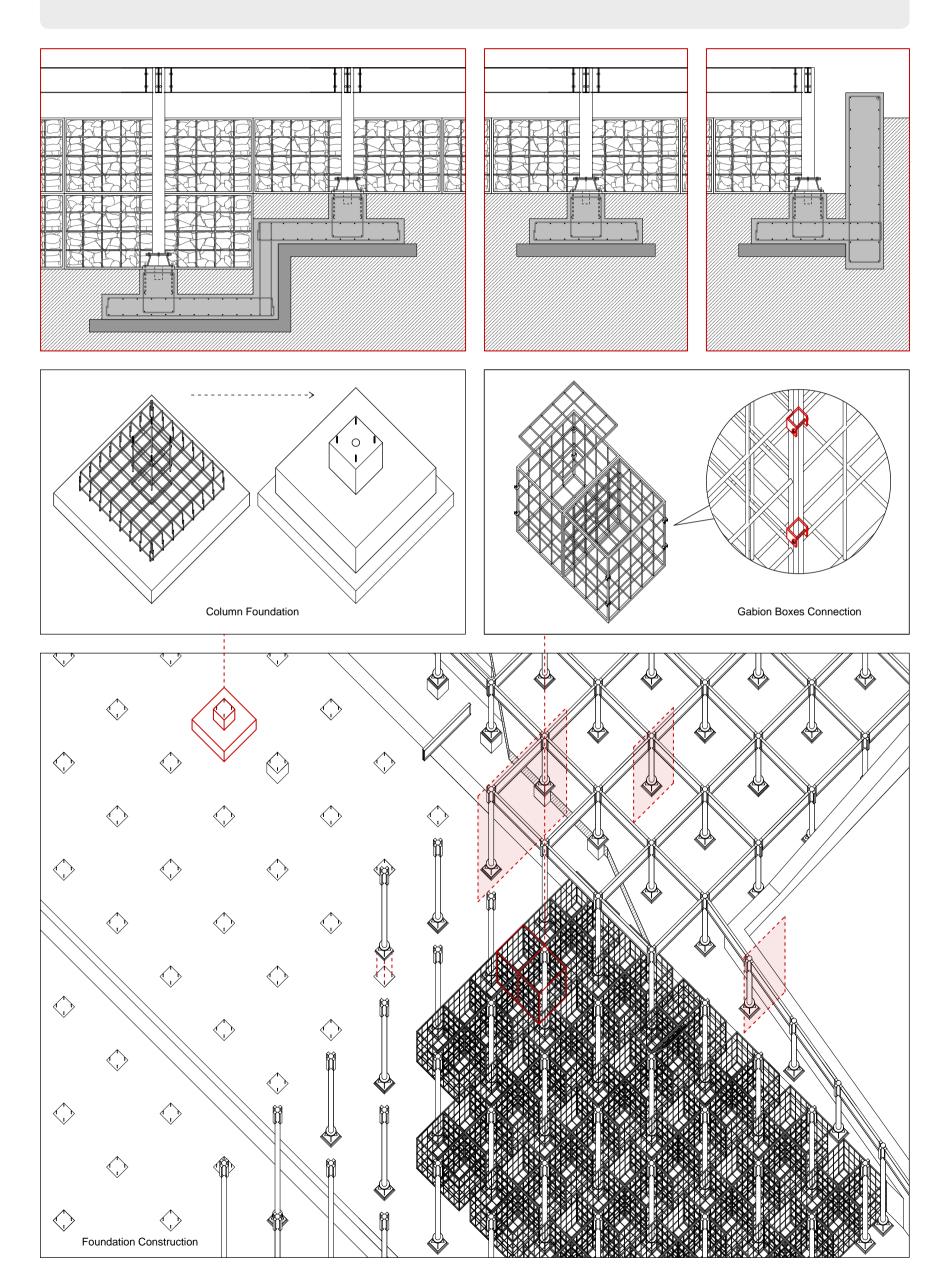
2.02 Construction Sequence

The construction procedure is based on the site survey. After the site survey, construction fence will be built surrounding the construction site. Then surplus trees on the construction area is dug away. After digging is the construction of base and columns. And gravels are filled into Gabion Boxes. Finally, installation of Splicing of beams with columns and other secondary structure is finished.



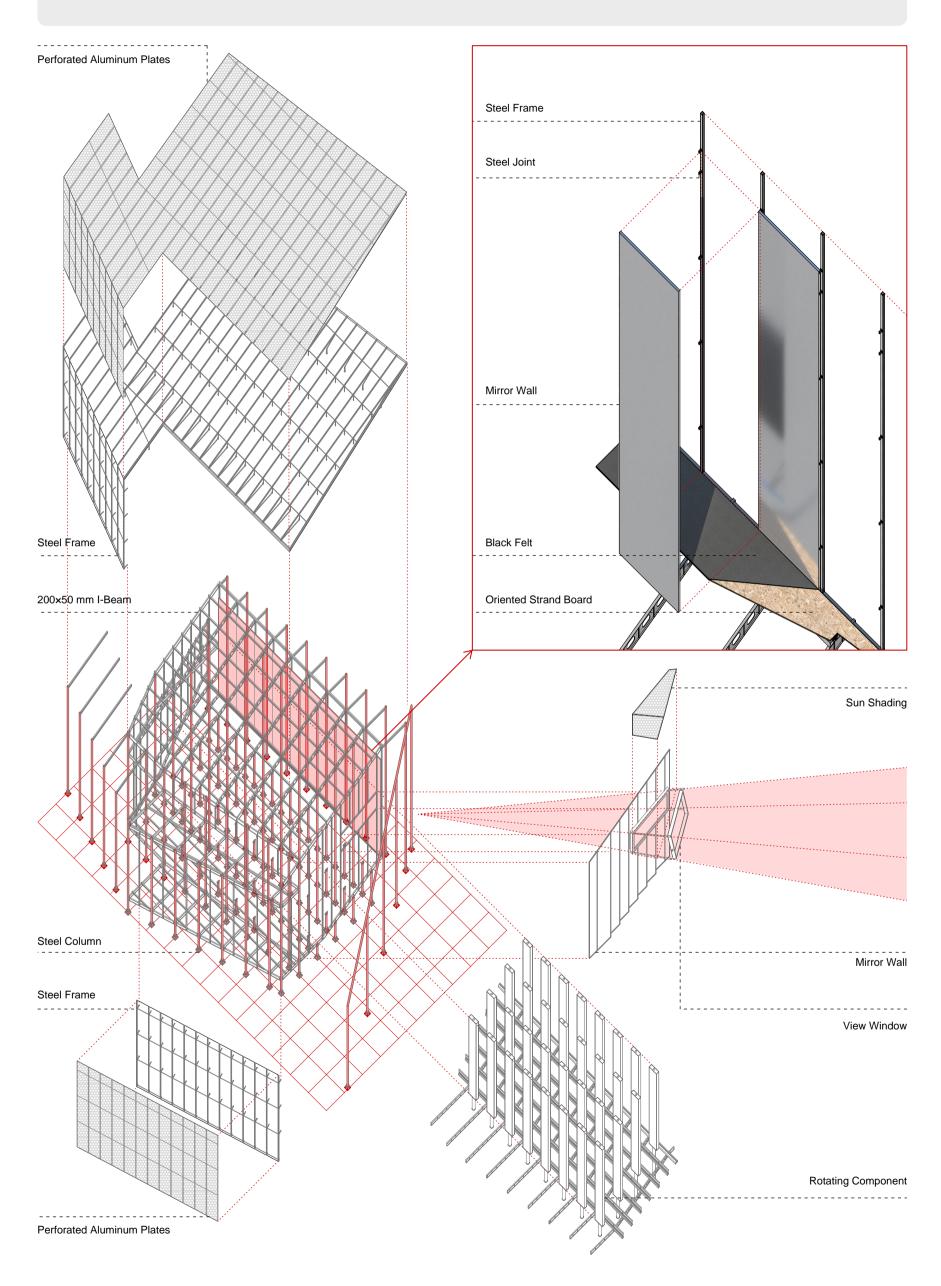
2.03 Foundation Construction

The site is facing south. So, the foundation is designed to be stair stepped. On the building boundary, retaining walls are built. The construction of plinth needs colligating rebars first and then concreting. Gabion Boxes have the same size with the grids, and are placed between columns.



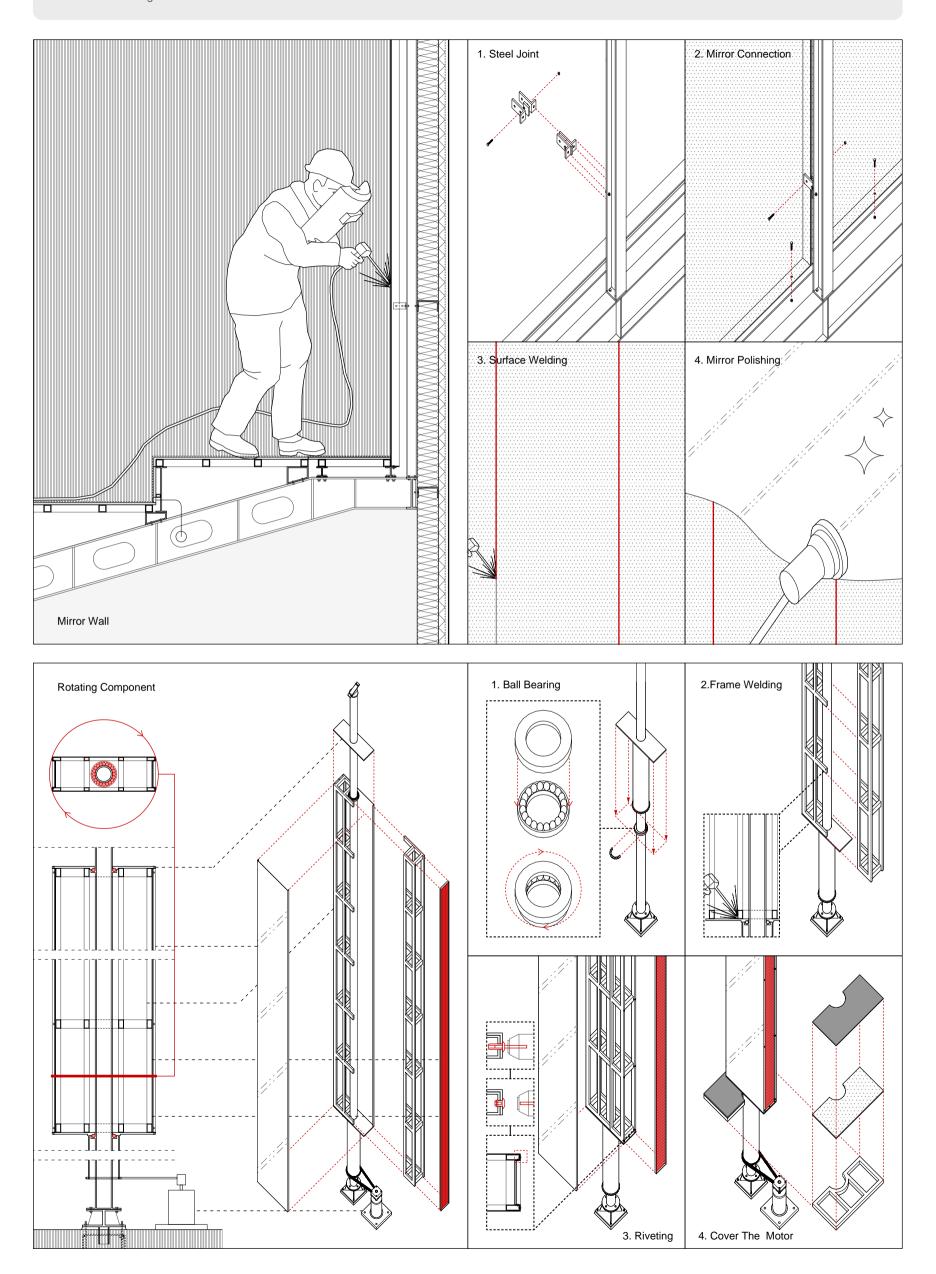
2.04 Construction Of Pavilion

Some columns in the pavilion not only supports, but also act as spindles of rotatable components. Except the two reflection walls in the building, other surfaces are a splice of OSB boards (Oriented Strand Board). To create the environment of darkroom, black felt is paved on the indoor surfaces.



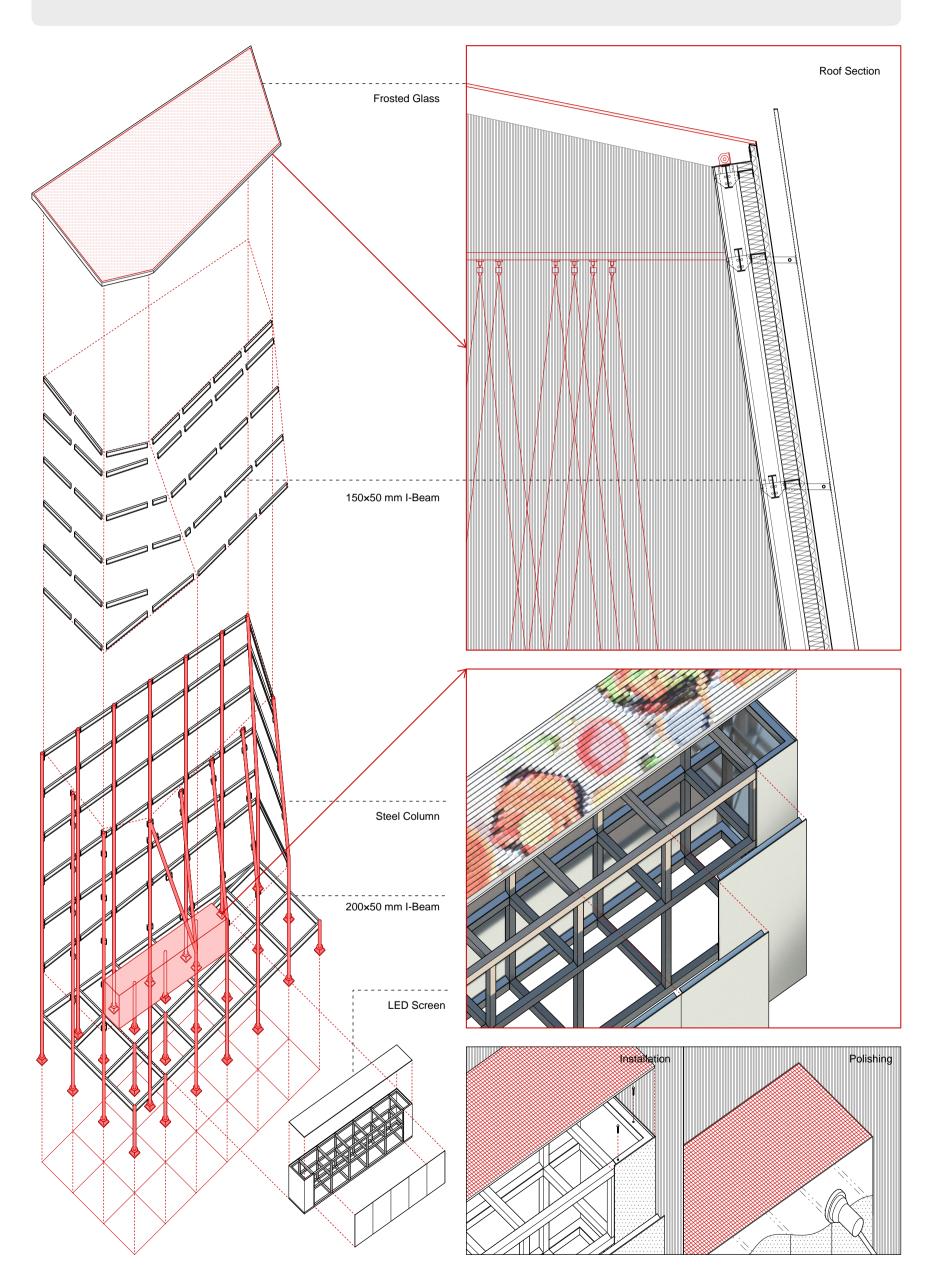
2.05 Architectural Component Assembly

The mirrors in the pavilion are firstly jointed stainless steel plates on the steel structure. Then, indoor surfaces are welded and polished at last to create the reflecting mirrors. The rotating component use Ball Bearing. Steel framing is used to support inside. Then mirrors and LED screens are installed. Machinery that rotates the components are hidden underneath the flooring.



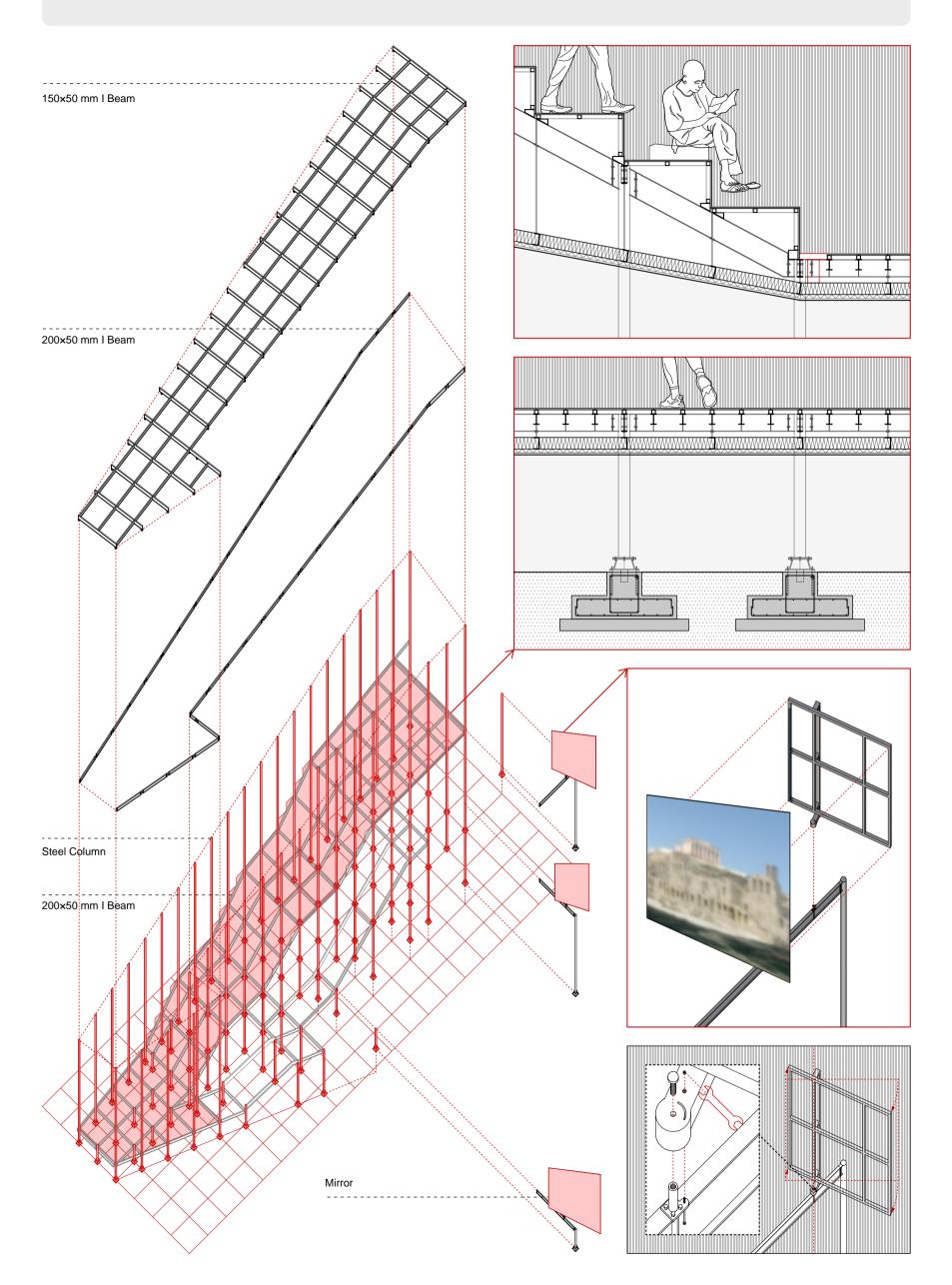
2.06 Construction Of Restaurant

The floor of the restaurant is the same height of the plaza. Skylights above utilize frosted glass to create gentle light, and avoid too much lighting. LED table in the middle of the restaurant is jointed with polished stainless steel plates on the four surrounding sides to emphasize the effect of LED.



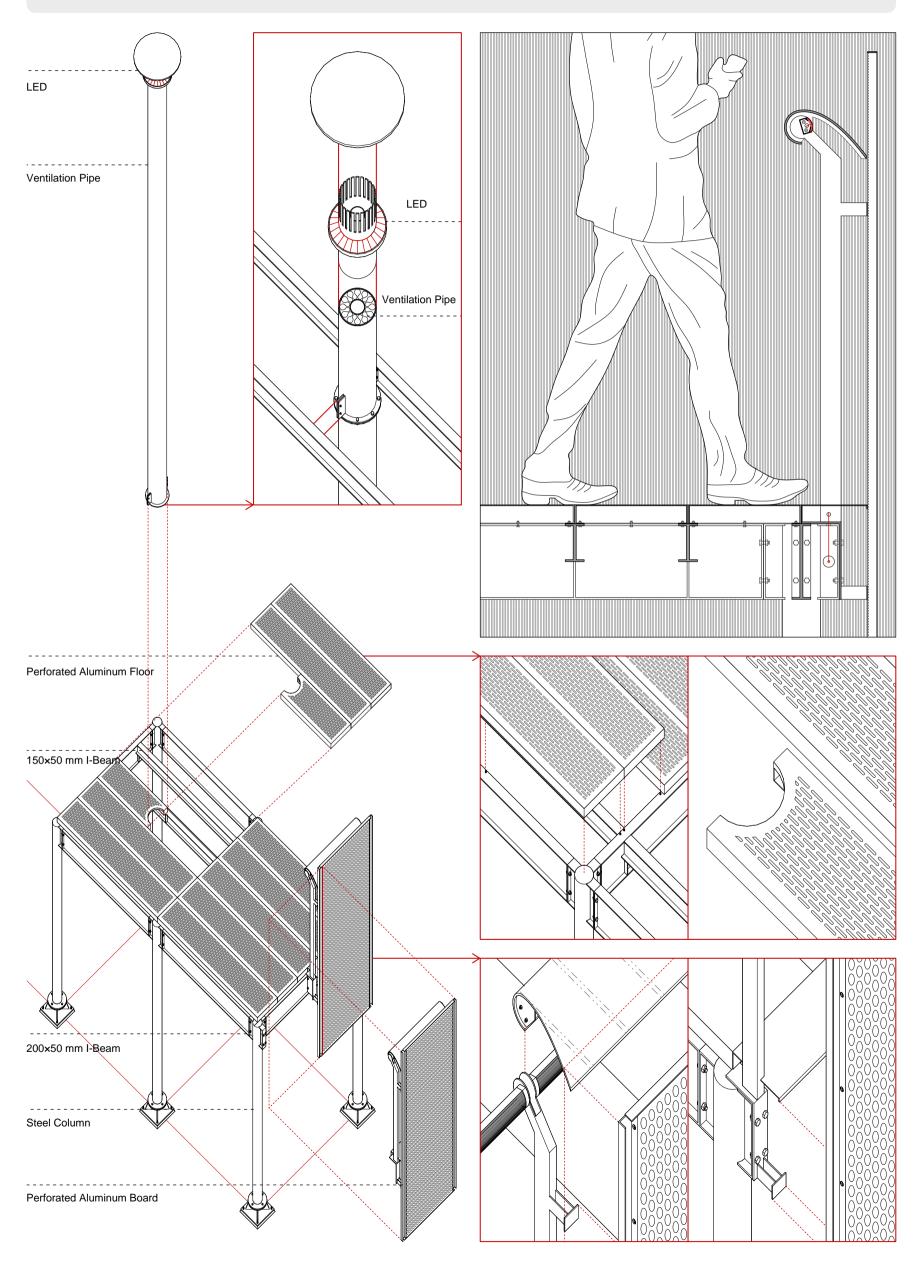
2.07 Construction of Coffee Bar

Underneath the stepped floor of coffee bar hides space placing architectural equipment. Outdoor mirrors are supported with steel framing, and jointed on the steel girders with rotatable steel nodes. When construction workers install them, they will have to adjust the angle first, then screw down tightly the screws on the steel nodes.



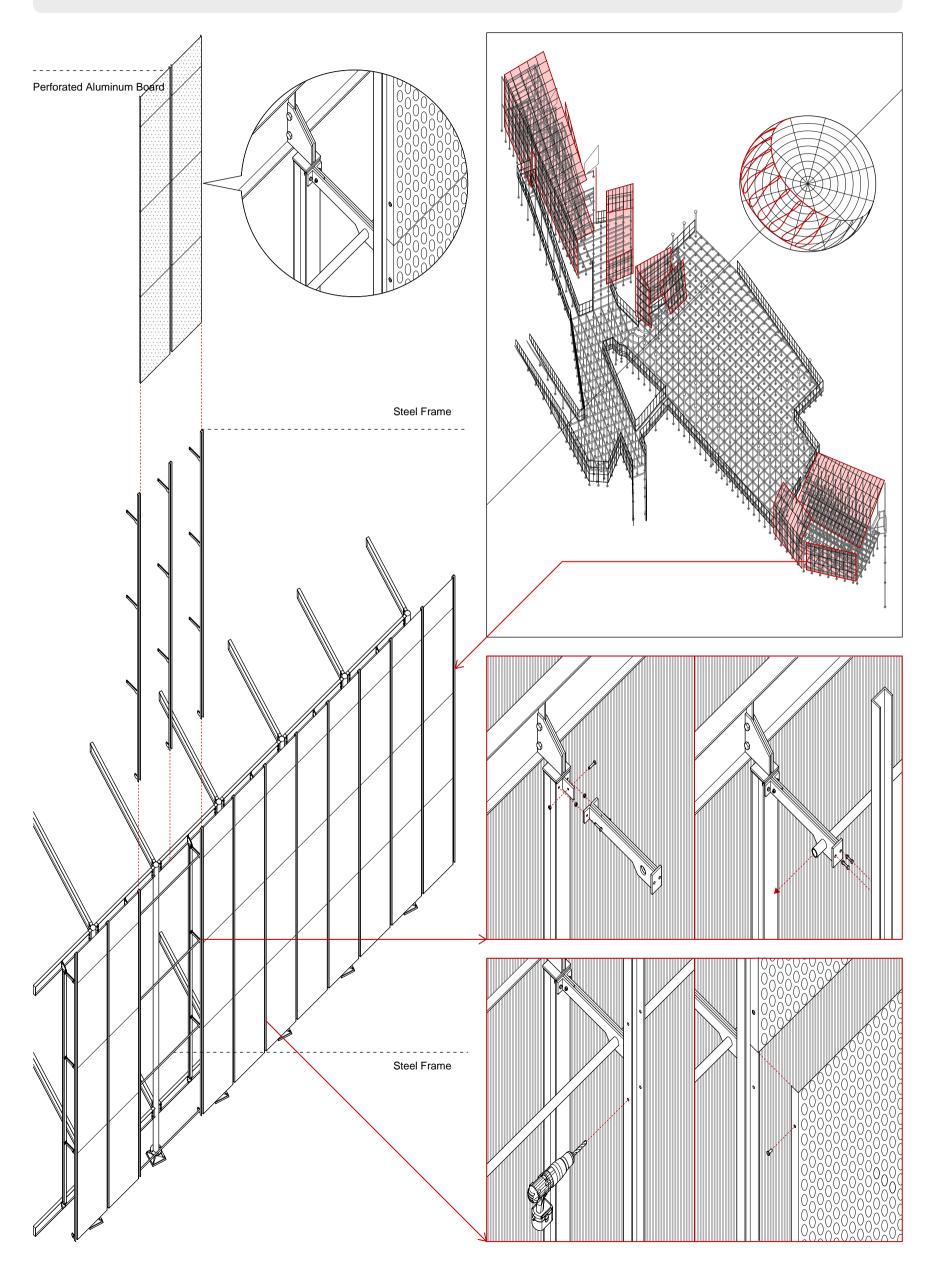
2.08 Construction Of Plaza & Entrance

Plaza flooring utilizes permeable perforated board paving. Lightings are hollow in the middle to install ventilation ducts for conveying cool air. Balustrades are a stainless steel curving surface connected to the steel columns with LED lighting tubes inside. The surface to enclose the balustrades are perforated steel plates.



2.09 Facade Material

Based on the sunlight angle analysis above, shading systems with different angles and sized are set. Shading boards utilize modularized perforated aluminium plates, and are jointed on the main structure by steel nodes.



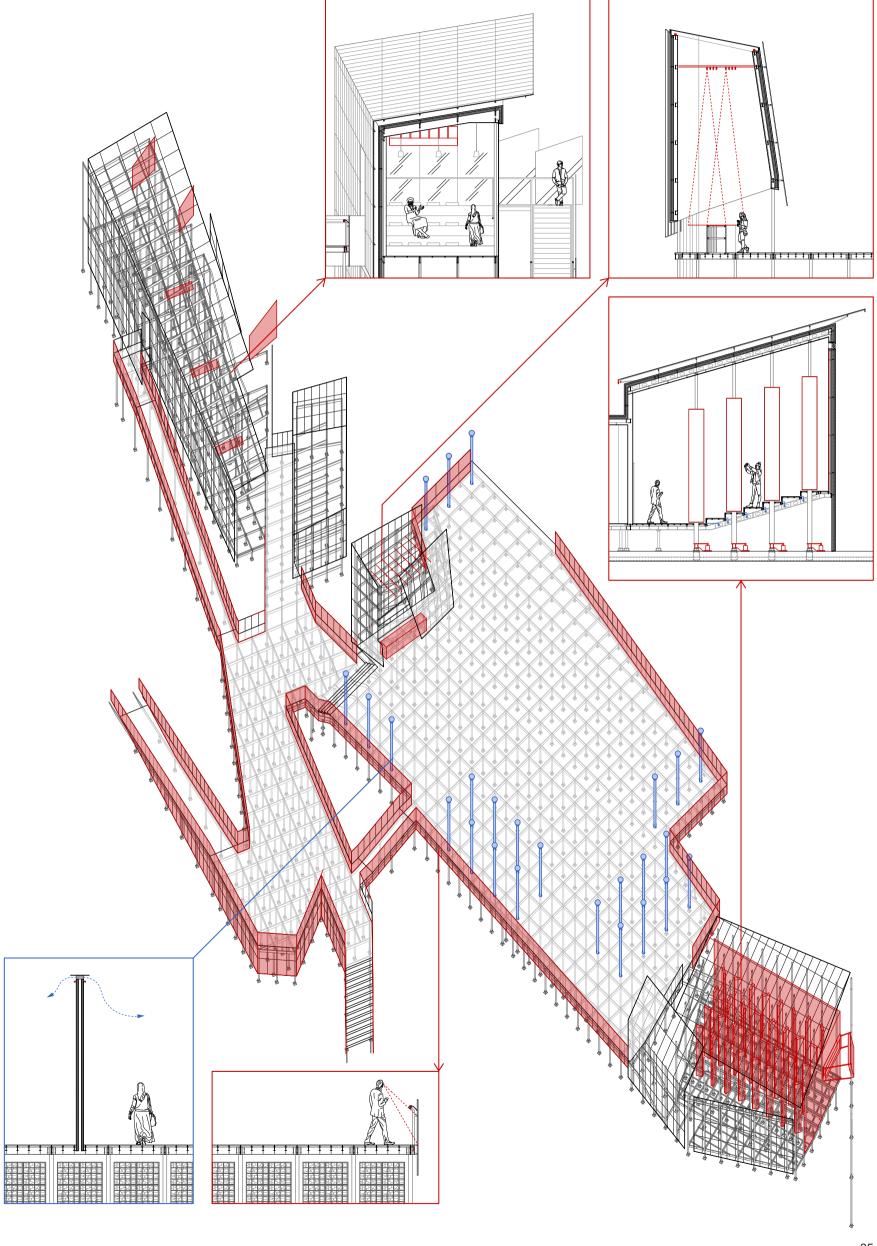
Section 3 (30%)

Building Performance

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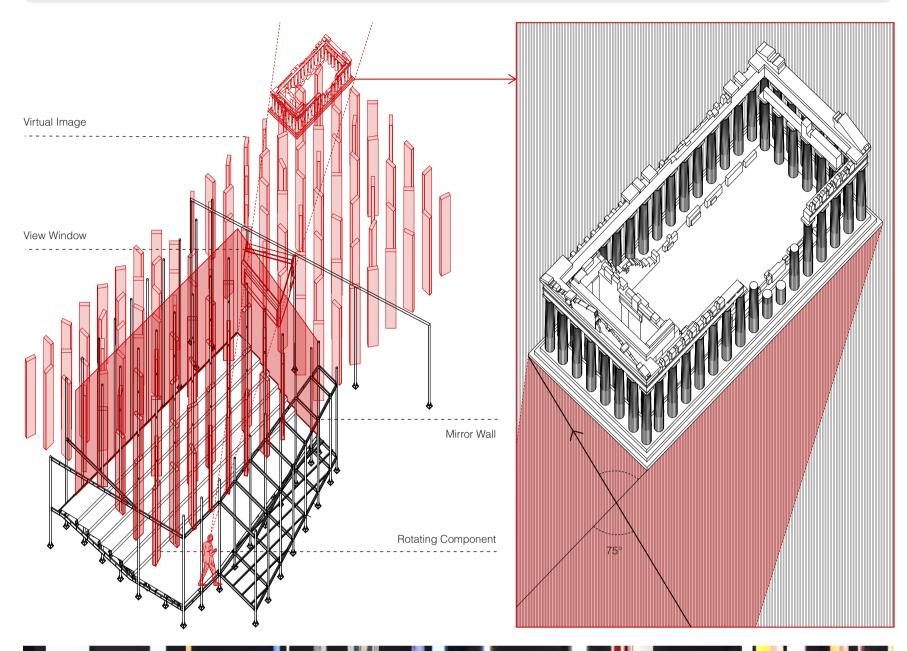
3.01 Overall Building Performance System

The performance in the architectural project is focused on the interaction between the building and the visitors as well as thermal comfort. The interaction pavillion, restaurant, coffee bar and the handrail of plaza and entrance have close interaction with the user, while the vertical ventilation pipe improved the thermal comfort of visitors in hot weather.



3.02 Interaction Of Pavilion

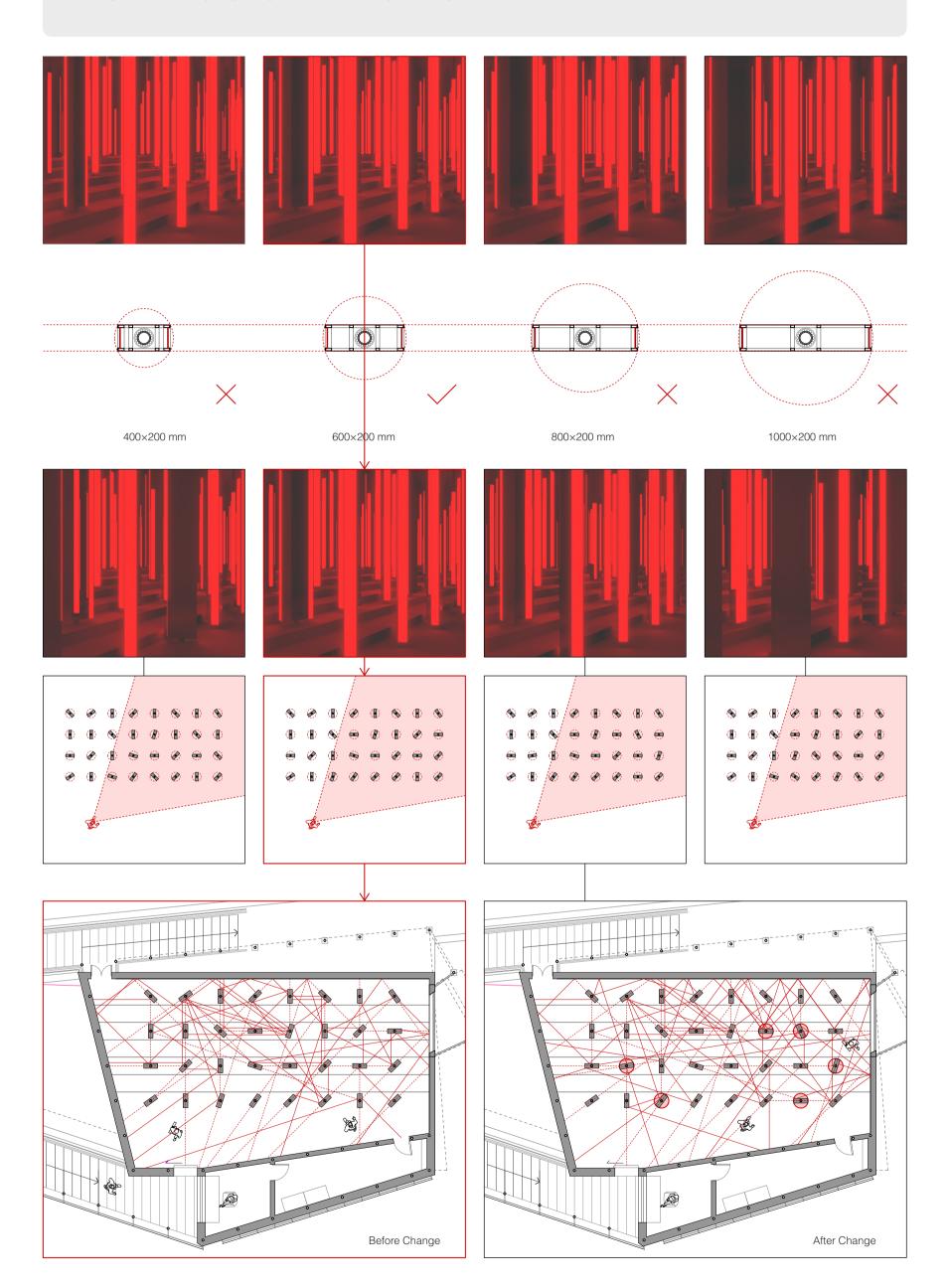
Tourists take photos of Parthenon Temple from every angle, or use it as background for selfies. People record the image of the architecture in different angles at different time, and spread them out constantly. Thus, in this project, the Parthenon Temple is translated into an interaction pavilion.





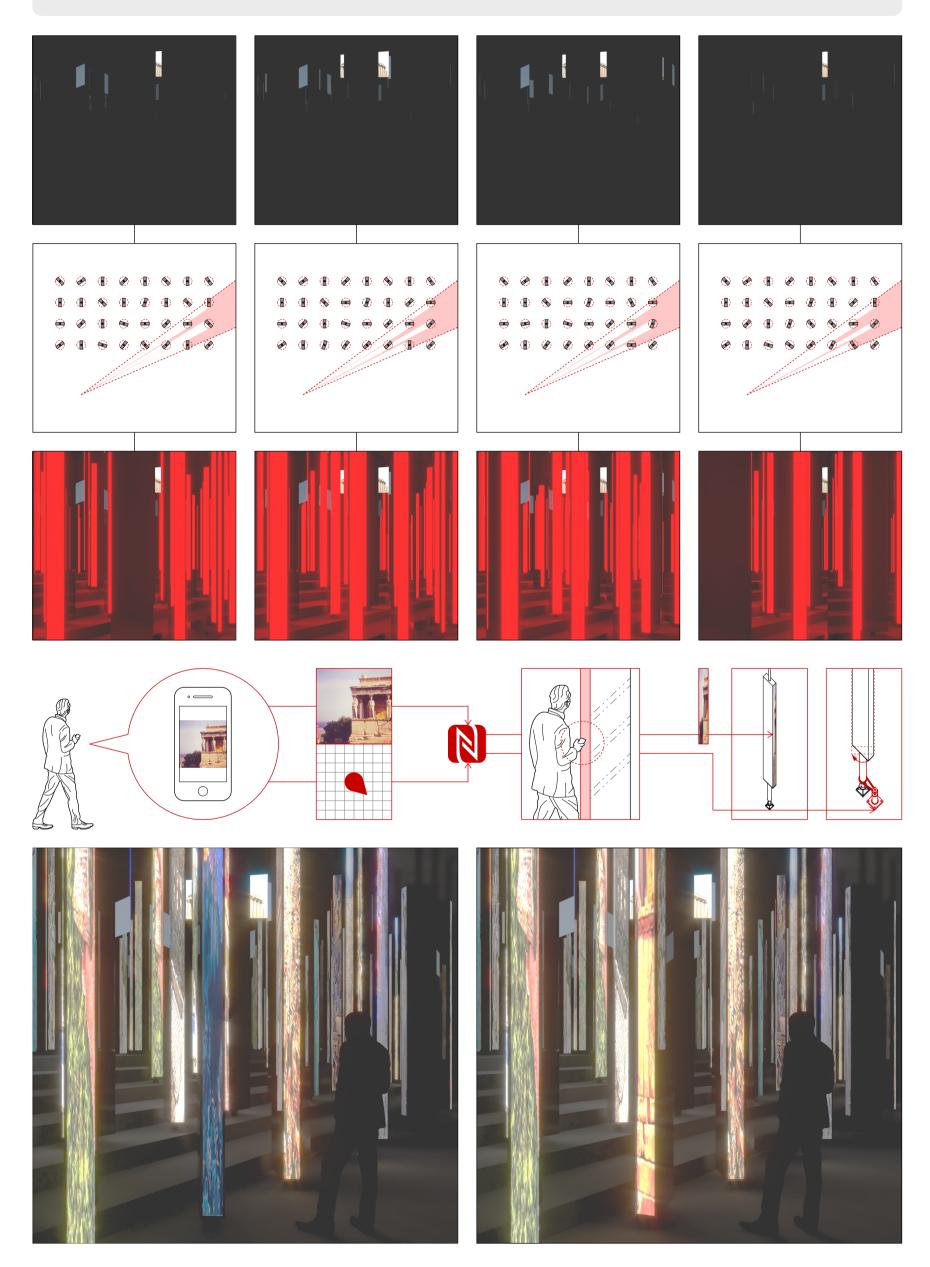
3.03 Component Test

In the analysis of the size of the rotating component, an excessively large or too small size cannot produce an optimum effect. Therefore, the size used here is 600 x 200 mm. For the rotating components, any slight angle change can make the indoor image effect change.



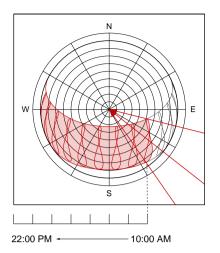
3.04 View Test

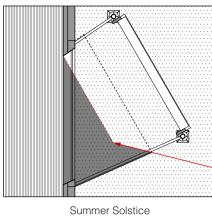
Smart phones record GPS information when they take photos. Here the architecture takes advantage of NFC technology of the phones, and convey the information to the rotatable structures in the architecture. The shorter faces of the structures install LED screens which can compress and narrow the image and show them. The longer side of the structures are mirrors, that can reflect the various images and spread them. Tourists can use their cell phones to touch the structures to upload their favoured images.

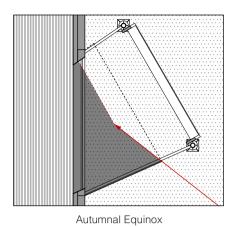


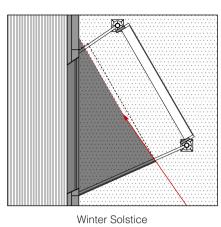
3.05 Sun Shading For Window

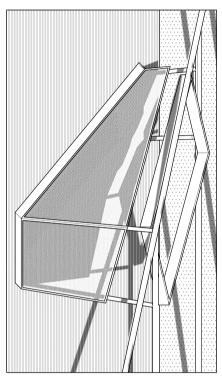
In order to prevent the direct sunlight from affecting the indoor effect, a shading device is arranged above the observation window. Combined with the analysis of the solar trajectory during the year, the shape of the sun shading can be determined.

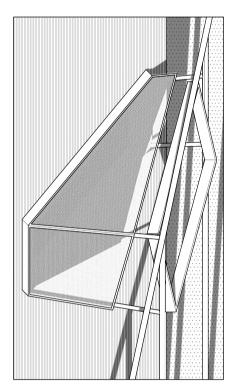


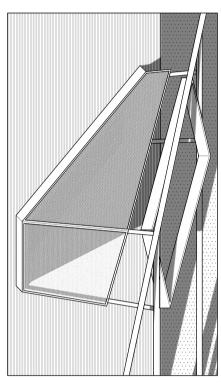


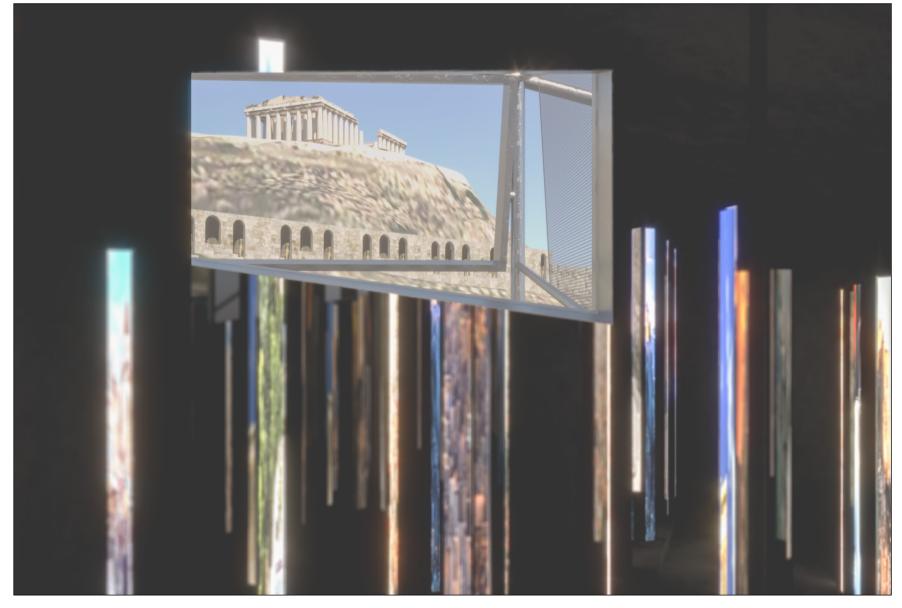






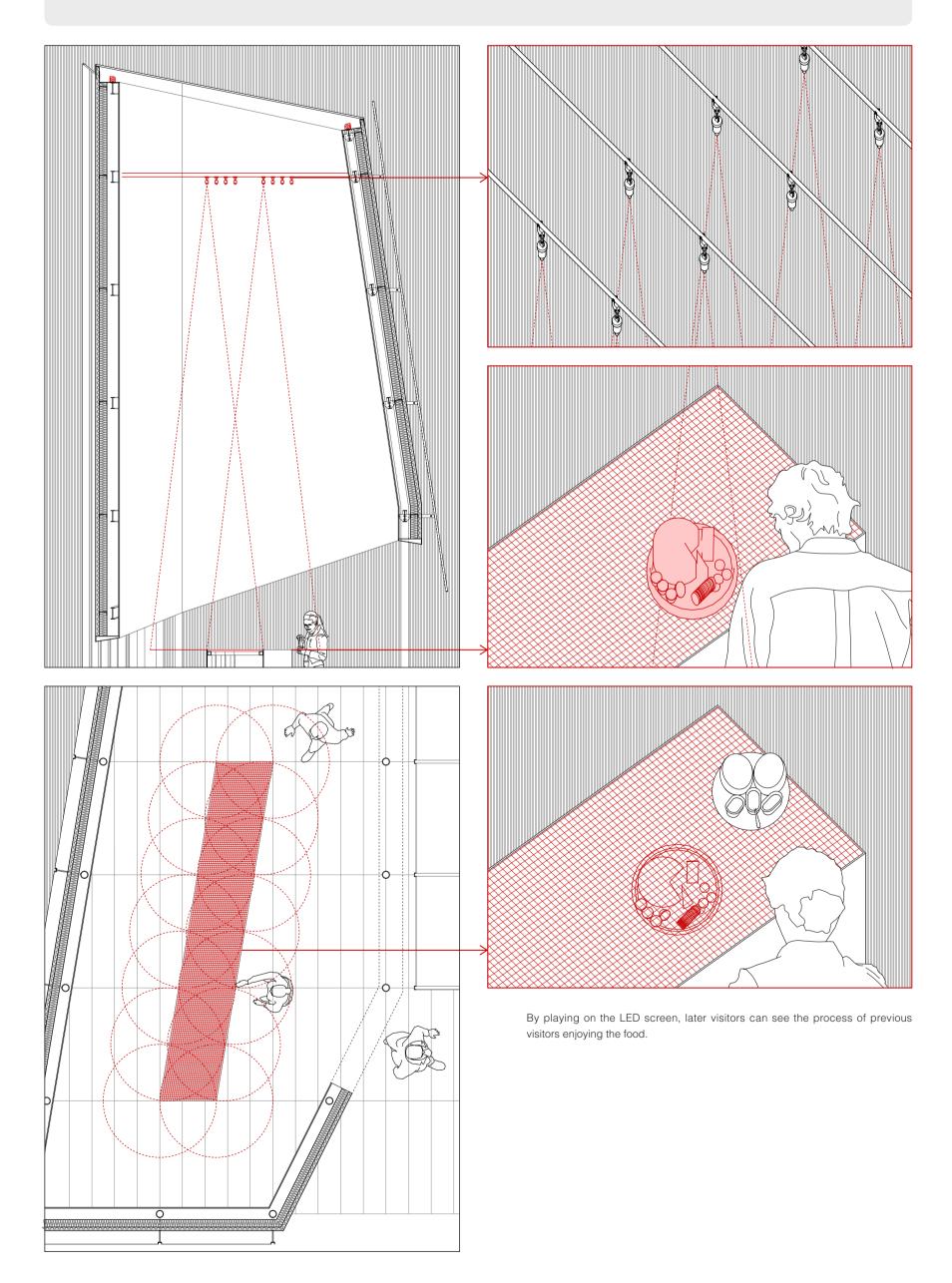






3.06 Interaction Of Restaurant

The floor of the restaurant is the same height of the plaza. Skylights above utilize frosted glass to create gentle light, and avoid too much lighting. LED table in the middle of the restaurant is jointed with polished stainless steel plates on the four surrounding sides to emphasize the effect of LED.



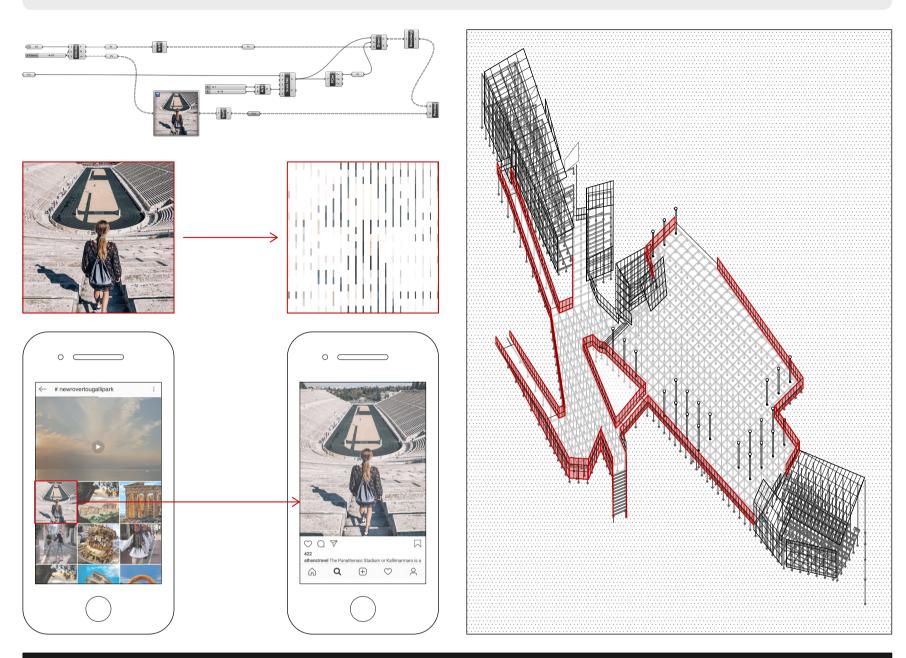
3.07 Photomerge Test

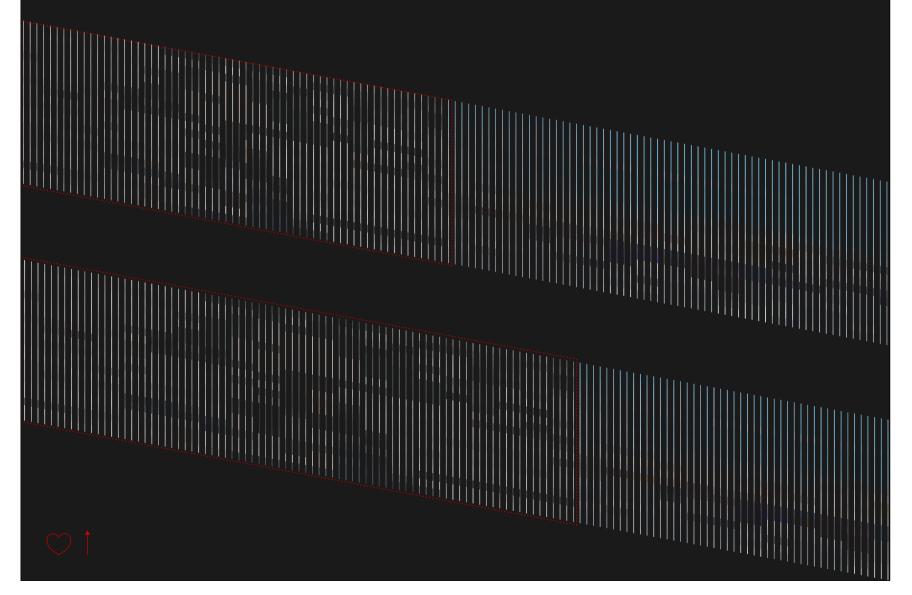
Photomerge technology has been widely used in the production of street scene images and panorama pictures, is a very mature technology. In my personal test, even using pictures taken with a mobile phone and photomerge in Photoshop can easily put together multiple pictures.



3.08 Interaction Of Entrance

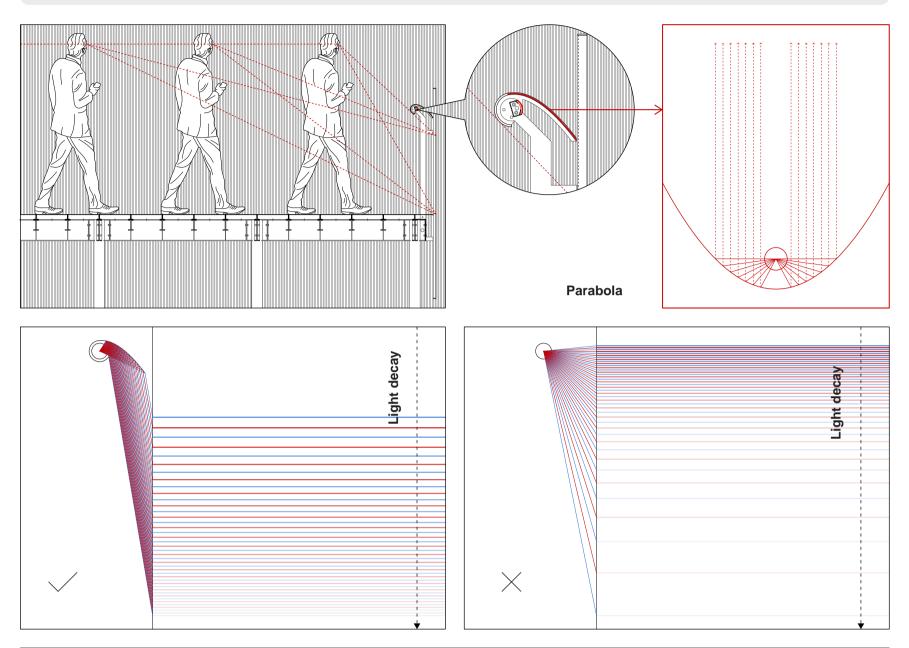
Combined with previous research, photos uploaded by mobile phones can be converted into color frames with simple processing. These color frames can be projected by a lighting device on a perforated metal plate on the armrest. This also means that previous visitors will influence future visitors in this way. The more popular the picture, the larger the space occupied by the visual.

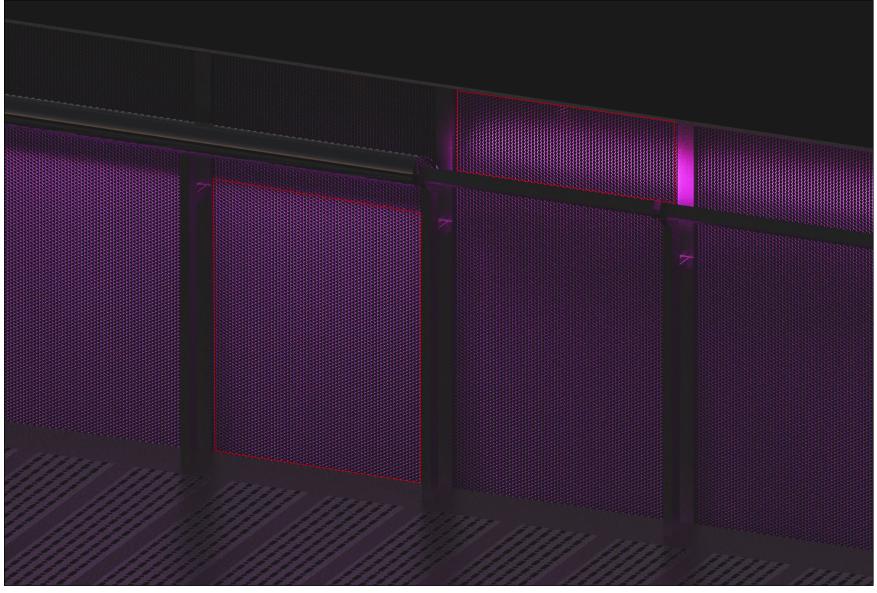




3.09 Illumination Analysis

The design of the handrail utilizes the principle of parabola in the design of the details. Any light that passes through the parabola focus will be parallel after reflection. This feature makes the light emitted in this way more tidy than other methods. And because of light decay in the air, the projection formed by this method becomes more clear.



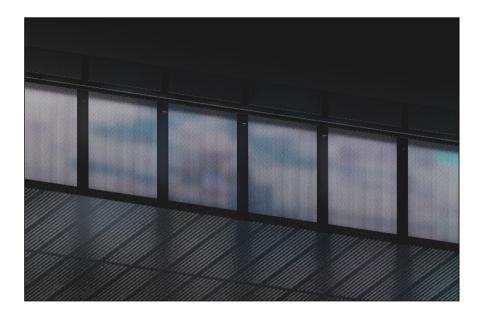


3.10 Interaction Between Visitors

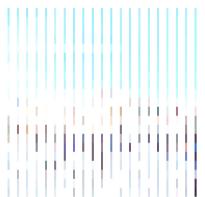
The popular map will appear more in the projection, so visitors can influence the travel experience of Athens in their own way. This also means that previous visitors will influence future visitors in this way. The more popular the picture, the larger the space occupied by the visual.

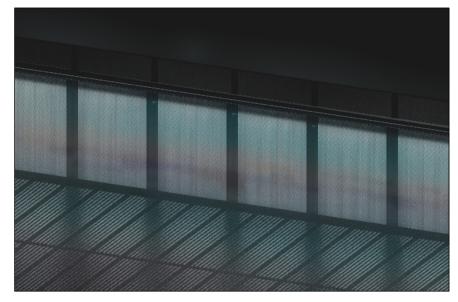




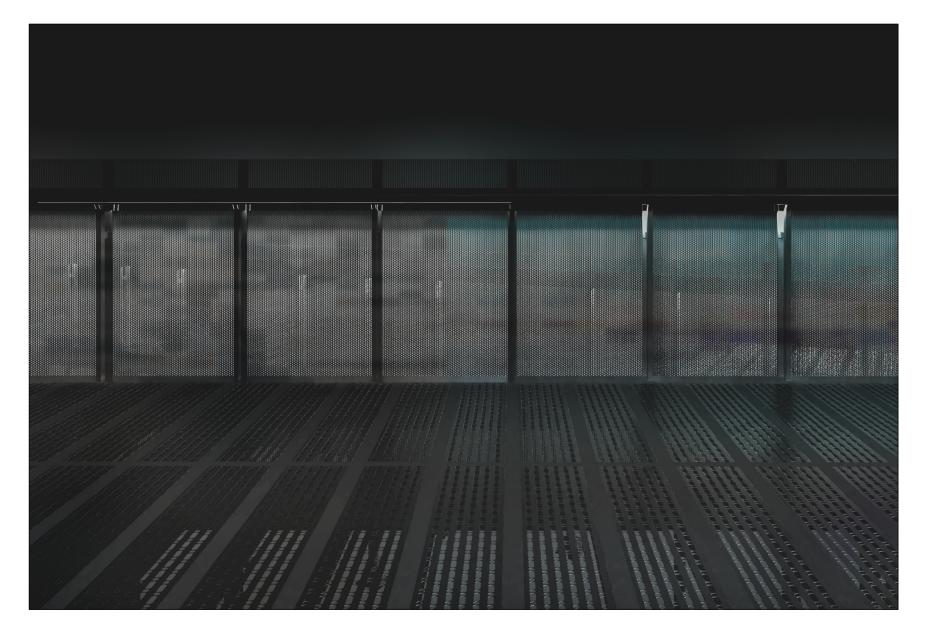






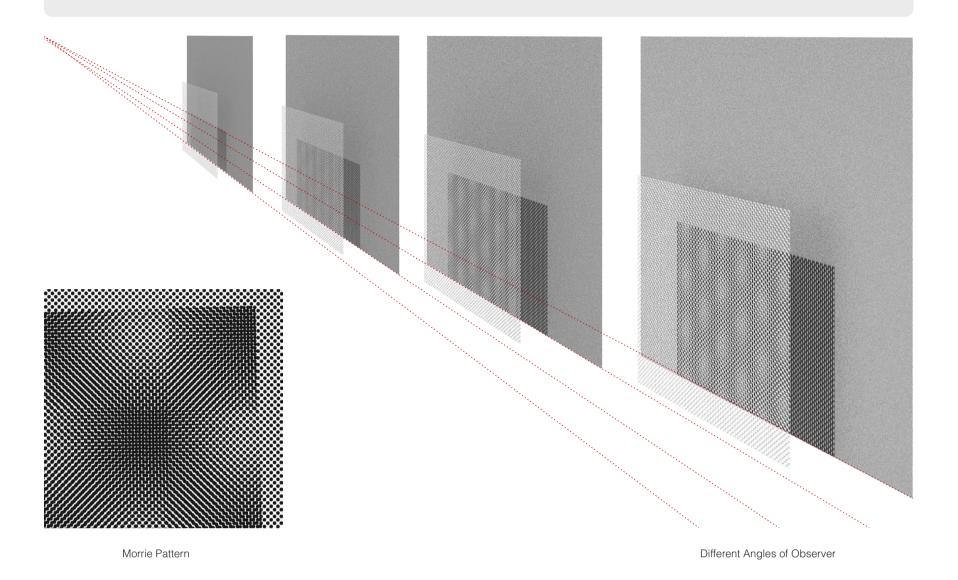


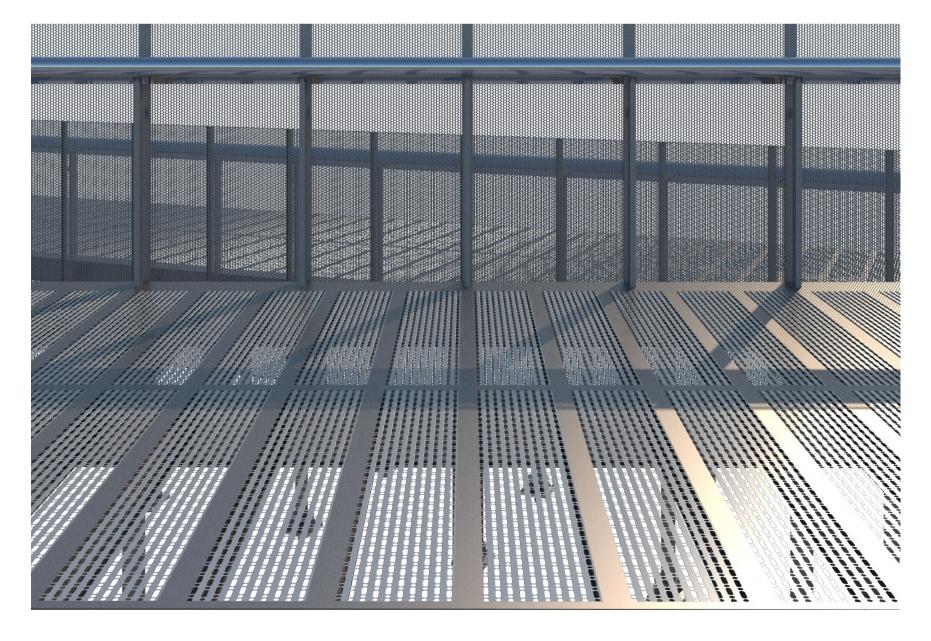
From images to colour frames



3.11 Material Performance

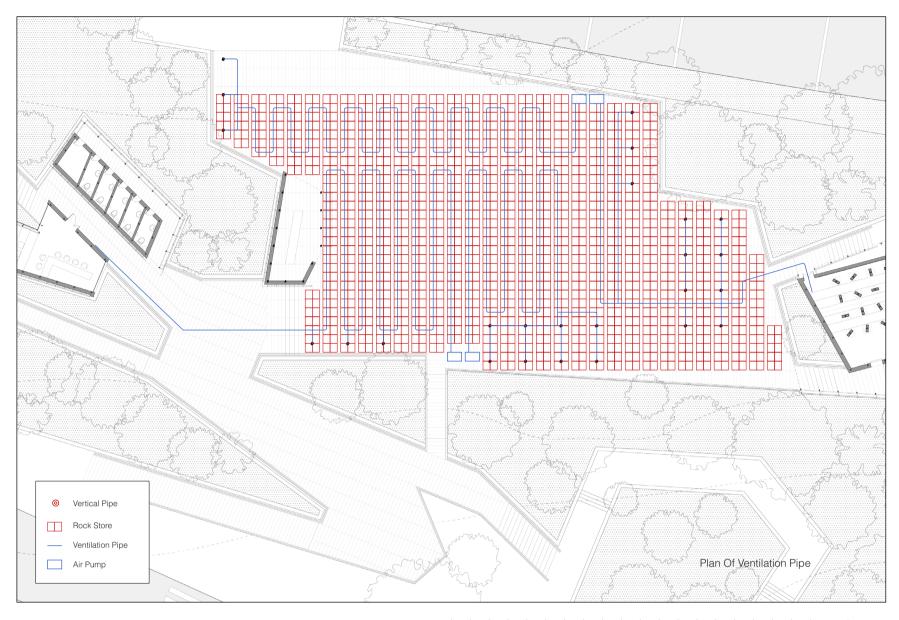
The regular perforated plate will form a similar regular shadow on the back surface after being exposed to sunlight. When superimposed, the morrie pattern will be formed. This phenomenon will also become different in the movement of the observer.

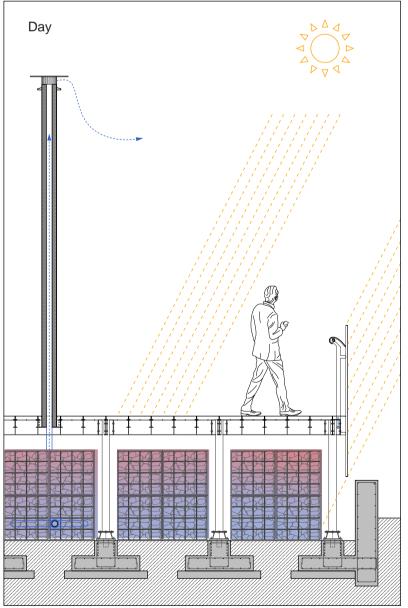


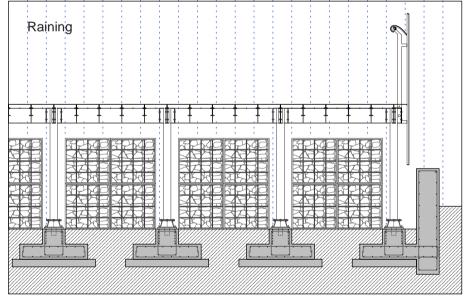


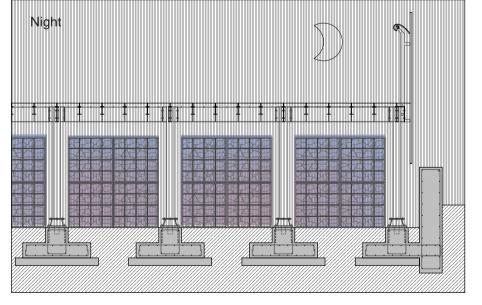
3.12 Gabion Rock Store Cooling

The project can take advantage of south wind and Gabion Rock Store in the foundation to improve human thermal comfort. Gabion Rock Store will discharge heat at relatively cool nights, and absorb part of the heat in the hot daytime. Ventilating ducts are embedded in the rock. Hot air will be cooled down after being compress into the ducts through air pump, and flows into the building to achieve indoor thermal comfort.



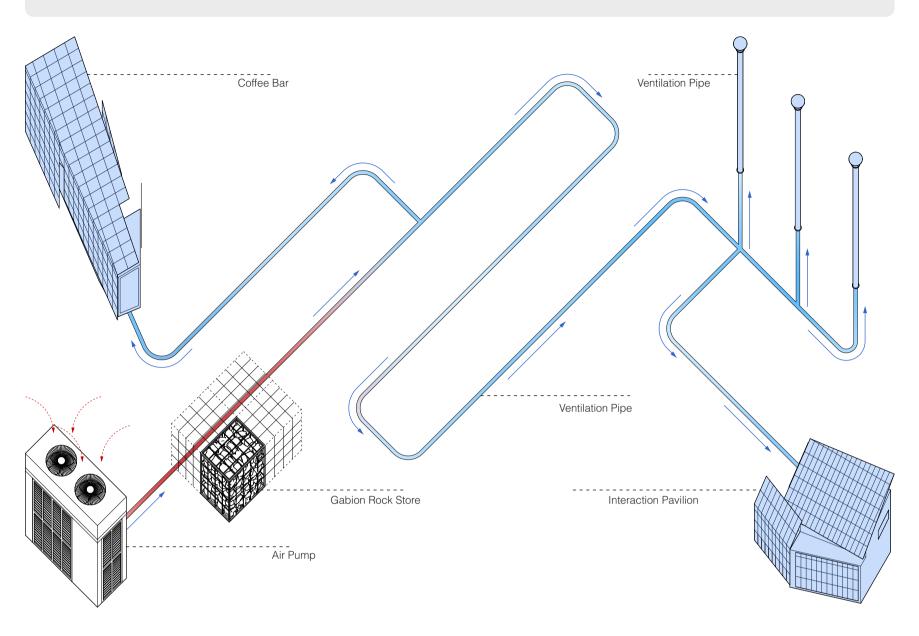


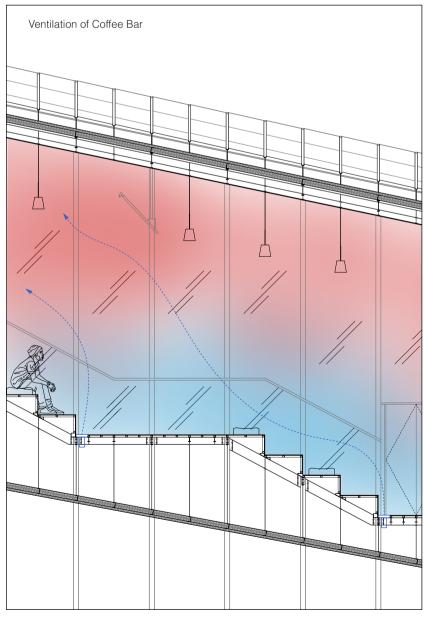


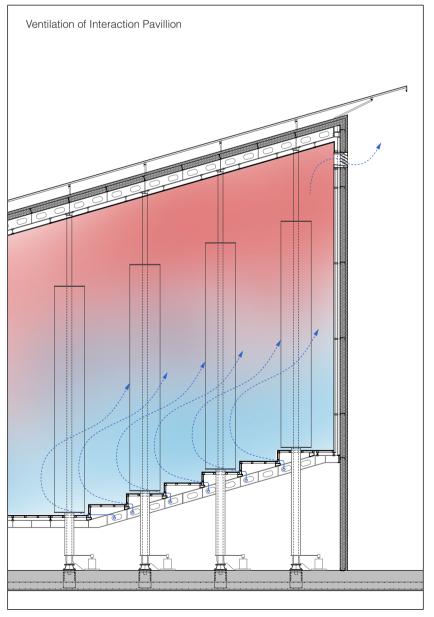


3.13 Rock Store Performance

The ventilation pipes are curved so that they can stay in the rock store for a longer period of time and have achieved better cooling. The cooled air enters the interior of the building, thereby ventilating and improving the thermal comfort of the interior.







Section 4 (15%)

Entrepreneurialism & Delivery

4.01 Procurement method

4.02 Building Delivery4.03 Local Planning Context & Wider Picture

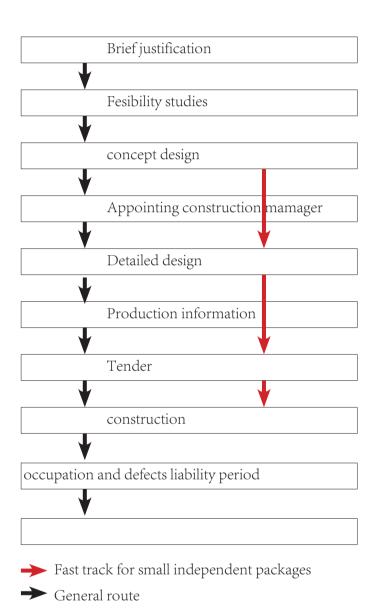
4.01 Procurement method

The nature of the project

As the building is construted in a wider conservational zone of the acropolis and pnyx, the project need to tarckle unique nature of the Rovertou Galli Park. A careful study was required to understand the complex array of activities and procrsses that are involved with the procurement process so that they can be appropriately managed and archieve the key objetives.

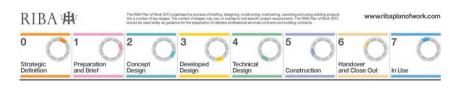
Considering the client's goals on improving the interaction between tourists and their innovative expierence to Athens. After a thorough study of vatious procument routes, Construction Management route will be applied for this project.

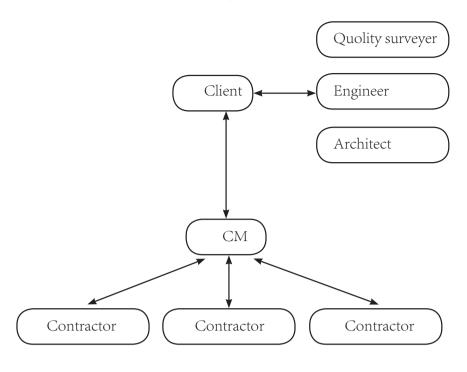
In this procument route, the client will emoply a construction manager who will take over the responsibility of the management of various packages of work and directly engage with contractors to carry out the entire scheme. The construction manager is responsible for instructing and co-ordinating the contractors to achieve clients expectations.



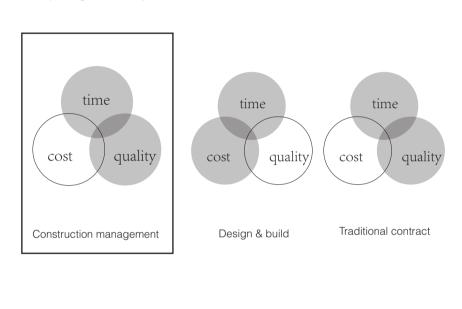
The role of Architect

The archietct in this method is responsible for the deisgn, submission of drawings to the aurthorities, quality control and co-ordinating the design team wheras other contract administration duties rest with the construction manager who is also responsible for construction coordination.





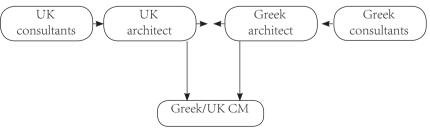
Comparing different procument mwthods



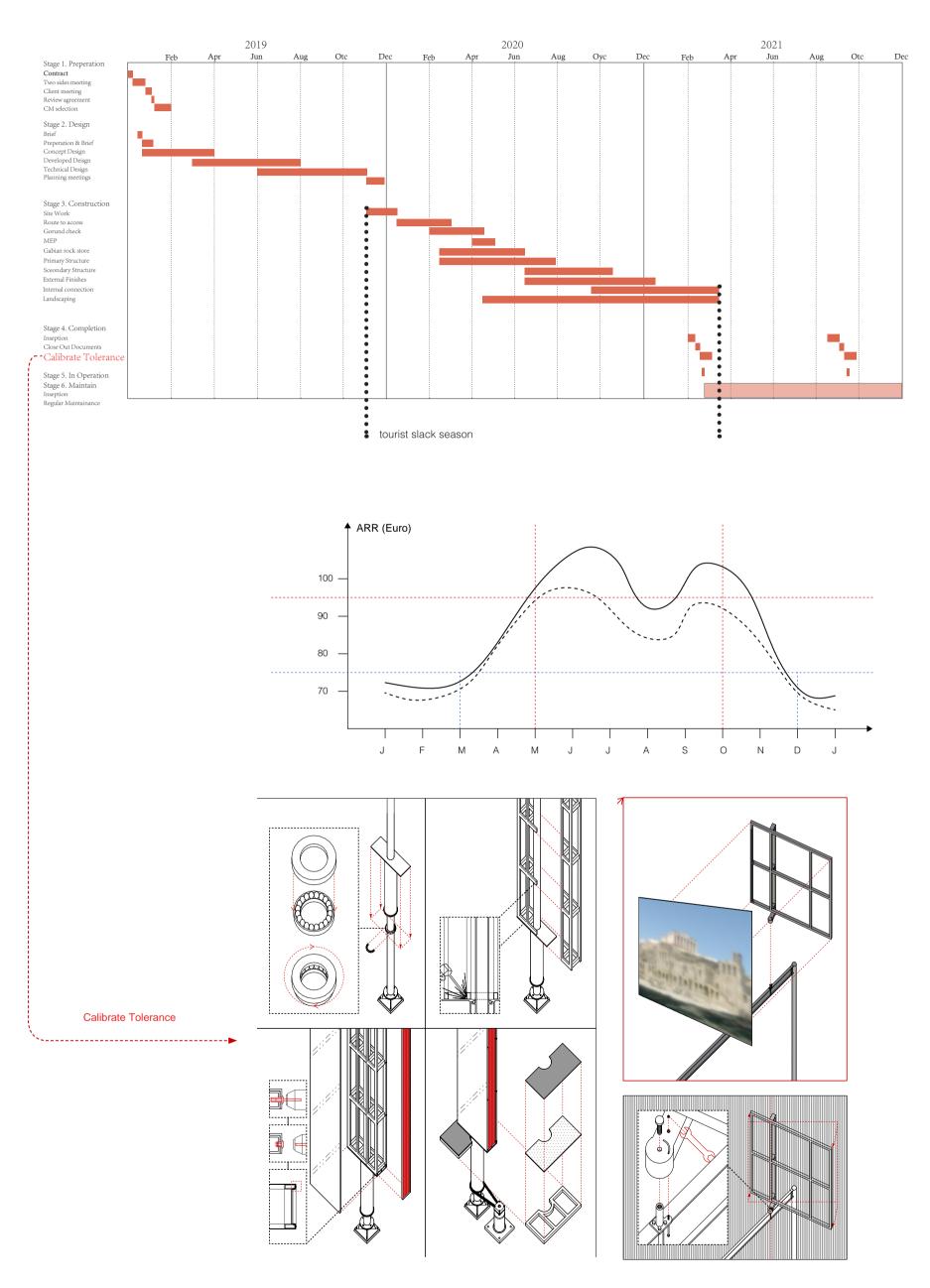
	Client Risk	Contractor risk
Constrcution management		
Traditional contract		
design and build		

UK and Greek Architects collabration

Due to the site is in Athens, the code of architect is differnt which require british architect and greek architect to work in parallel.



4.02 Building Delivery



4.03 Local Planning Context & Wider Picture



Greek is a country who' fiancial income is depending largely on tourism, Athus is one of the most popular toursit detination. The Greek Naional Tourism Oranisation is the authority who deal with the tourism income in different season. During the countries financial crisis, the organisation is seeking for larger income to sustain the entire financial market.



The win win situation

If Greek National Tourism organisam and instgram work together, to build the new park will not only liberate the expiernence of Athens better and also benefit from advertisement industry. No doubt a win win combination. Greek will be loaded with toruist around world and instgram bloggers will discover more and more hidden beauty under this historical city. Wheras for instagram, this investment will promote the advertisement indutry further and consolidate instgram as the NO.1 photo and video sharing social networking on APP store.



Travelling insgram bloggers have become a very popular proffession. People who into travel will post their captures, video shots and comments on insgram pages. Certain companies use this pheonaminar as busisness oppuinities and see instgram as a platform to publish their product with beautiful tourist destinaitons. Mnay hidden site becomes extremely popular by this way.



General Arrangement Drawings

Plan - Section - Detailed Section

