salma_kattass

Architect Designer_ Graduate Student MS ACT

Master of Architecture and Computational technologies
School of Architecture and Design New York Institute of Technology

Architect Diploma D.E.N.A National School of Architecture, Morocco

portfolio

TABLE OF CONTENT

PROJECTS

salma_kattass

Junior Architect from Morocco, Fulbright Grantee, Graduate student MS ACT NYIT

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education

2021-2022: MS. of Architecture and Computational technologies MS ACT, SoAD at New York Institute of Technology. GPA: 4.0

2016-2017 : Exchange Erasmus: Mons University FAU, Master 1 Architecture and Urban planning, Belgium.

2013-2019 : Architect Diploma D.E.N.A - National School of Architecture Rabat Morocco.

work experience

2020-2021 :
-**Graduate Assistant,** MS ACT School of Architecture and Design, New York Institute of Technology (Fall 2021-Spring 2022)
- -Research graduate assistant.
- -Content creator and social media manager.
- -Availability to students for help outside of class time.

-**Architect, project manager** at Yassir Khalil Studio», Casablanca, Morocco. (02/2020- 07/2021)
- -Collaborated with and managed design team.
- -Worked on national design competitions : concep tual design work,research, 3d modeling, 2d docu ments,graphic work and diagrams, administrative paperwork.
- -Monitored progress on construction projects and provided CA deliverables.
- -Provided conceptual research for lead architect.
- -Worked on PD and SD deliverables for High Rise office building.

2018-2019 :
-**Student intern** at Agence d' Architecture et d' Aménagement Tahti», Casablanca, Morocco. (02/2018- 03/2019)
- -Worked on social housing and individual housing projects design.
- -Provided conceptual research for lead architect.
- -Worked on national design competitions.

2017:
-**Student intern** at GreenWish Sustainable Design and Consulting». Rabat, Morocco. (10/2017-11/2017)

-**Student intern** at Prefecture of Ain Chock» Casablanca Morocco. (07/2017)
-**Student intern** at MA²- metzger et associés architecture», Brussels Belgium, in collaboration with «Pierre Lallemand & Partners, Architectes» and «ELD». (08 / 2017)
-**Student Intern** at K2A Brussels, Belgium. Architect Stéphane Kervyn. (07/2017)
-**Student intern** at International Design, Engineering & Architecture. Architect Frederic Bekas. (06/2017)
-**Student intern** at «Sofateliers Architectes», Mons, Belgium. Architect Fabrice Sobszak (02/2017-05/2017)
2015:
-**Internship at construction site** at « Grand Théâtre de Casablanca», Morocco.
Architects Christian de Portzamparc and Rachid Al Andaloussi. (07/2015).

awards and achievements

AWARDS:

2022: **Metropolis Future 100,** selected for the top 100 architecture and design graduates of class 2022 in North America by Metropolis Magazine.

GRANTS:

2021-2022: **Fulbright Study Grant**

PUBLICATIONS:

https://blogs.nyit.edu/msact/the_museum_of_babel
https://blogs.nyit.edu/msact/interview_with_salma_kattass_by_msact

COMPETITIONS:

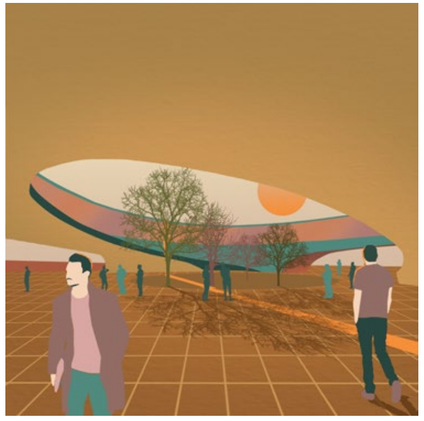
January 2021 : **First prize project:** Design of a photovoltaic solar shade for electric vehicules charging. Launched by the The Moroccan Energy Efficiency Agency (AMEE) and the Solar Energy and New Energies Research Institute (IRESEN).
Mentions:
https://lematin.ma/express/2021/design-dombrieres-solaires-amee-iresen-remettent-prix-aux-gagnants-concours/350787.html
November 2020: **Third prize project:** CONSTE-LLATION, A Series of Smart city furnitures.
Competition: Kaizhou New City International Young Designer Competition (Kaizhou, China).
Mentions:
http://kaizhoucompetition.chinabuildingcentre.com/en_result.html
November 2019: **Second prize project:** THE PORTAL - Smart city furniture.
Competition: 2nd Q-City International Student Design Competition (Xingtai.China).
Mentions:
http://www.chinabuildingcentre.com/show-114-120-1.html
https://m.weibo.cn/status/4437496269945825
https://www.pinterest.com/pin/736353445397959178/
December 2017: **First prize project:** Music Center of Salé, National School of Architecture Rabat Workshop: Double skin in debate, case of public buildings. Jury: Architects Rachid al Andaloussi, Don Murphy (VMX), Achour Mohamed, Netherlands Institut in Morocco.

skills

ArchiCad	|||||||||||
Photoshop	|||||||||||
Lumion	|||||||||||
Python	|||||
Revit	|||||||||||
Rhino	||||||||
Grasshopper	||||||||
InDesign	|||||||||||
AfterEffects	|||||||
AutoCad	|||||||||
V-RAY	||||||||

Organisation	|||||||||||
Creativity	|||||||||||
Teamwork	|||||||||||
Motivation	|||||||||||
Flexibility	|||||||||||
Critical Thinking	|||||||||||

English	|||||||||||
French	|||||||||||
Arabic	|||||||||||



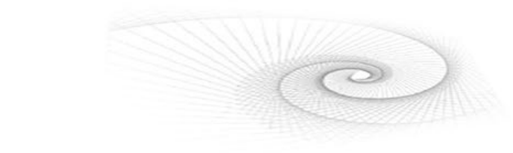
academic_work

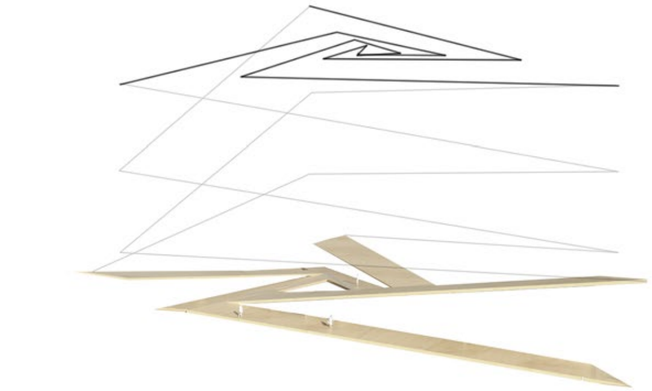
01_the_vortex

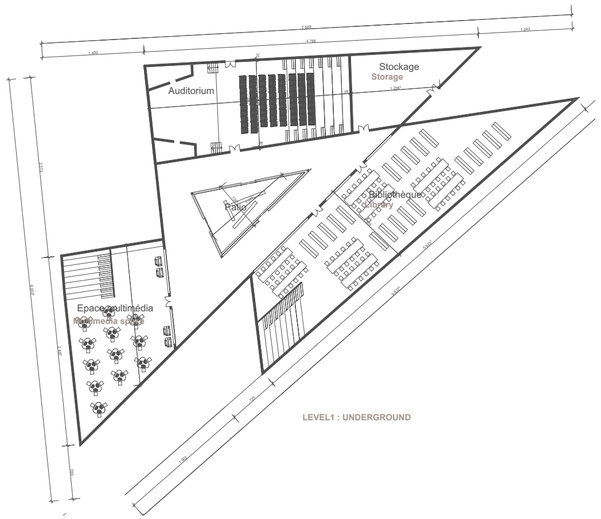
Academic individual project. 5th semester. NationaL school of Architecture.

Program: Media library
Location: Rabat. Morocco

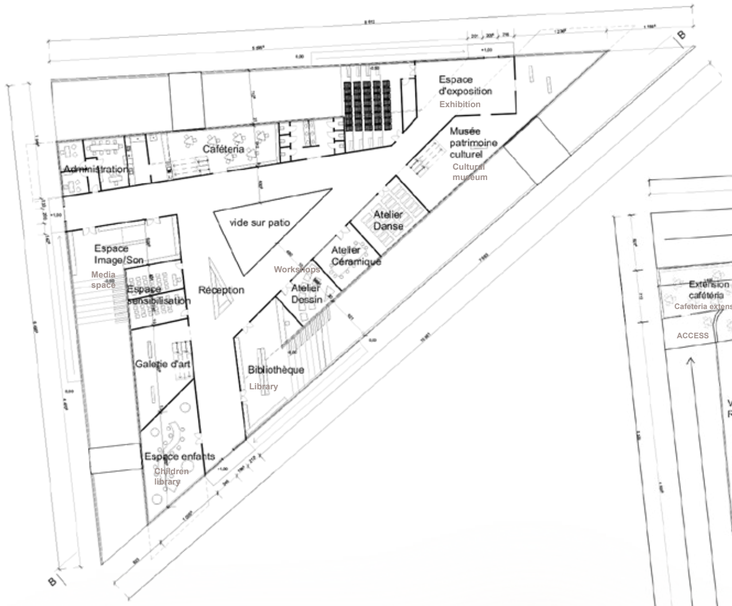
The project aims to create a new spatial topology for the Library space in Bab Rouah, Rabat, through the vortex from, which allows a particlar spatial configuration and navigation of the space, creating an inclusive and inviting built environment allowing an easy access to its spaces and services.

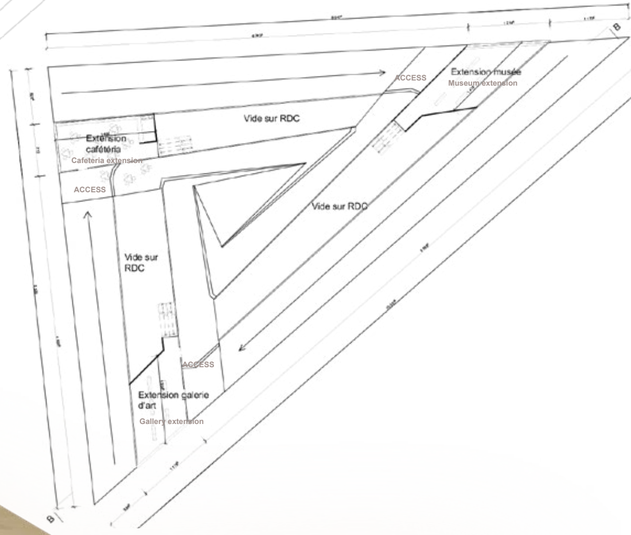


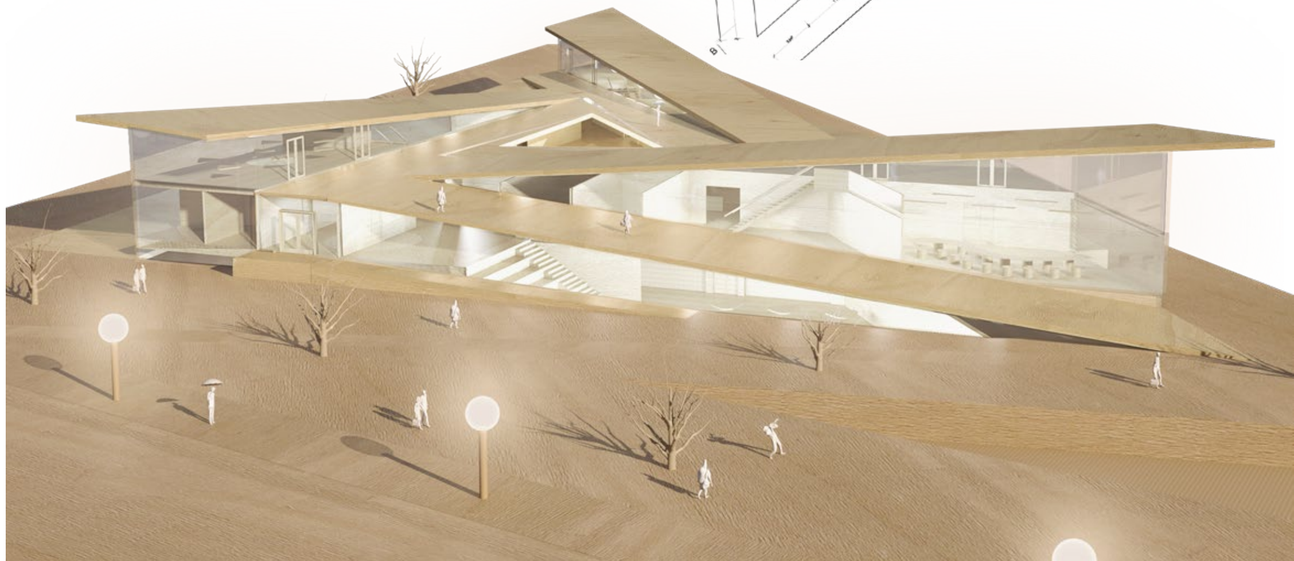




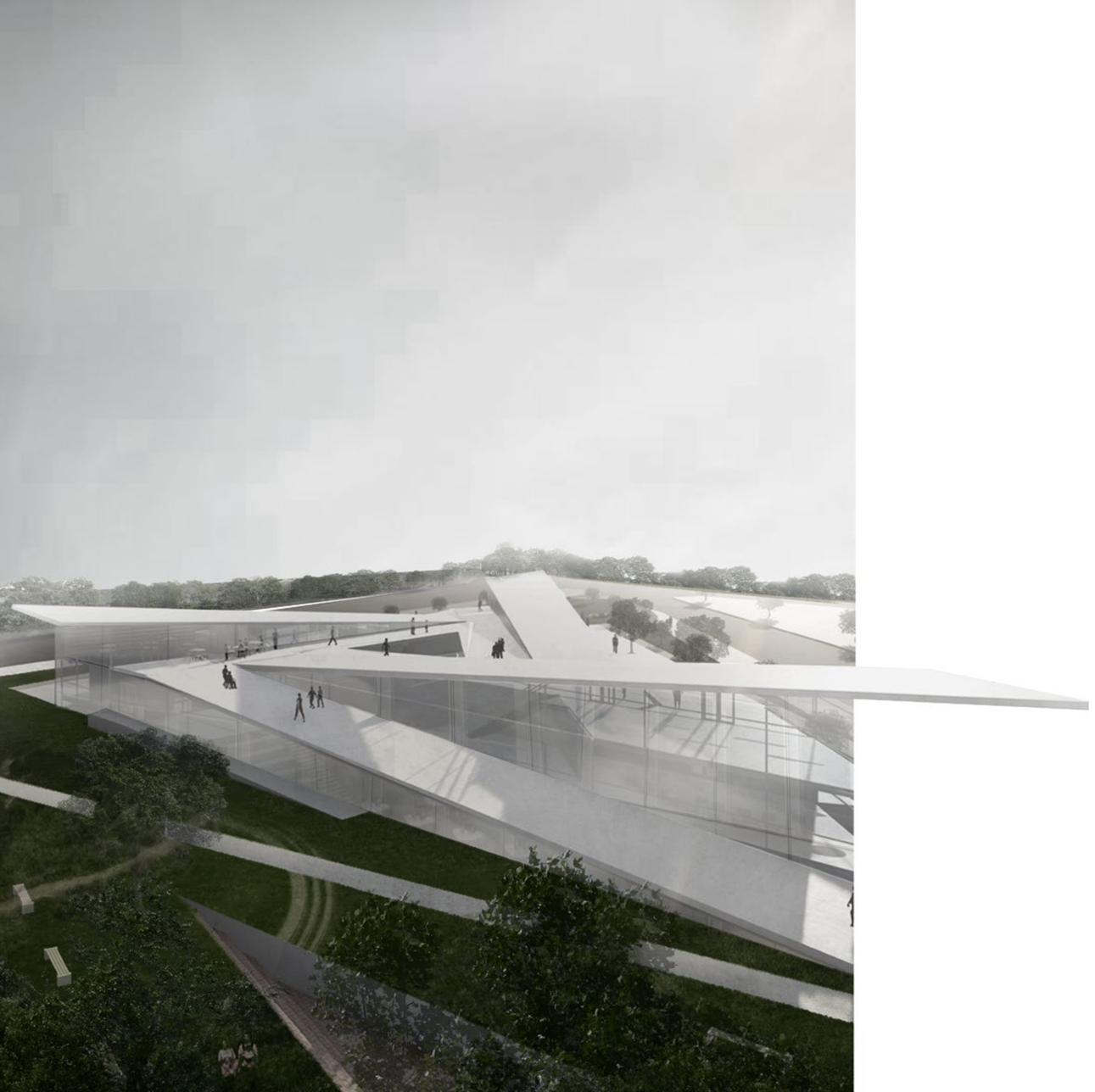
LEVEL1 : UNDERGROUND

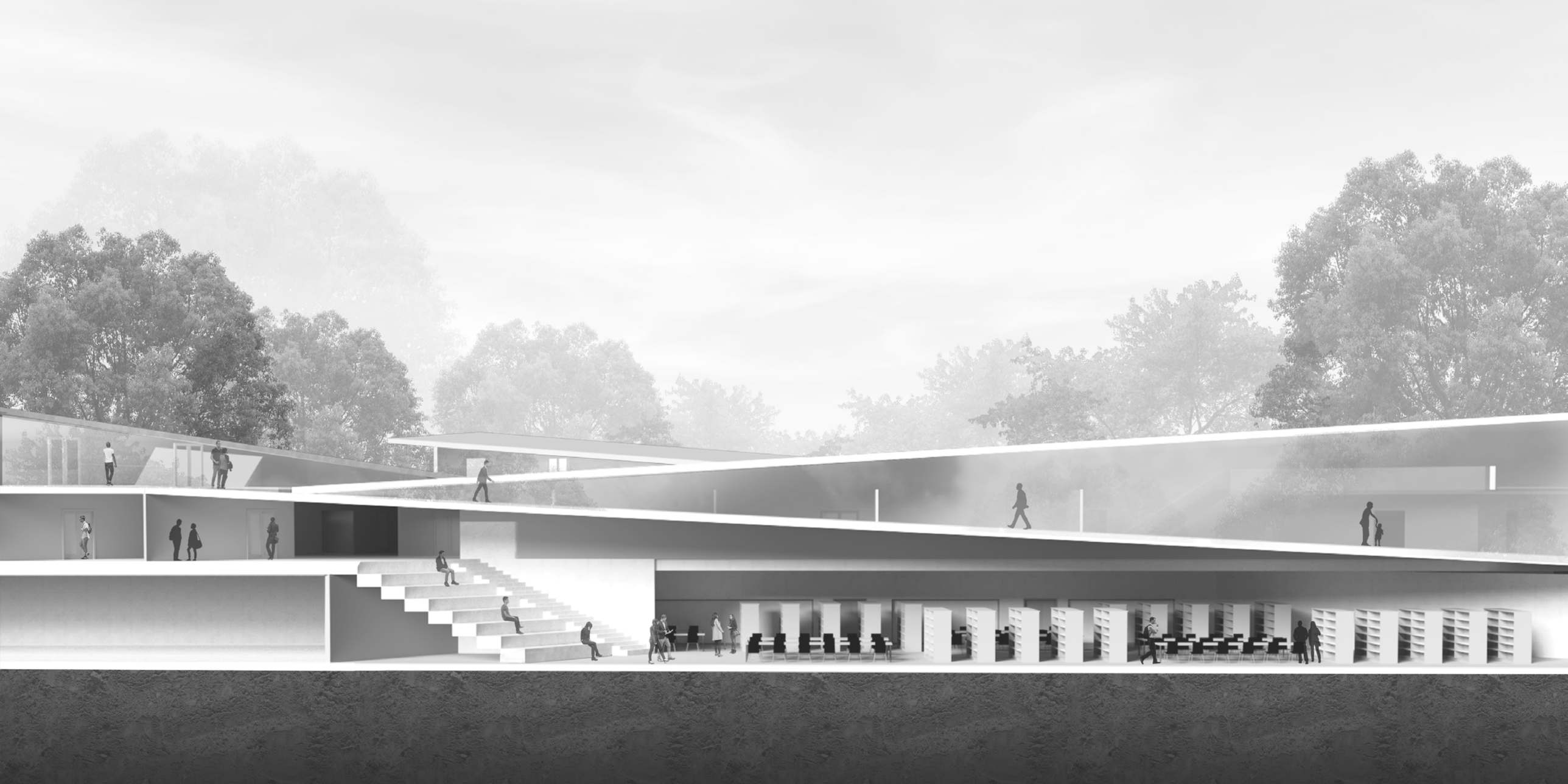






The volume evolves around itself forming a vortex that creates a strong centrality, drawing people to a place of knowledge, culture and exchange. The building type and typology allows an openess and an easy access to the media library.
The gentle ramps create a careful continuity of the promenade on the site: the ground and the roof become one, the access ramps wrap around the centre of the building to form a public space on the roof, that allows visitors to access the building through the cafeteria and exhibition spaces, and benefit from the media library services before even getting inside the building.





02_the_promenade

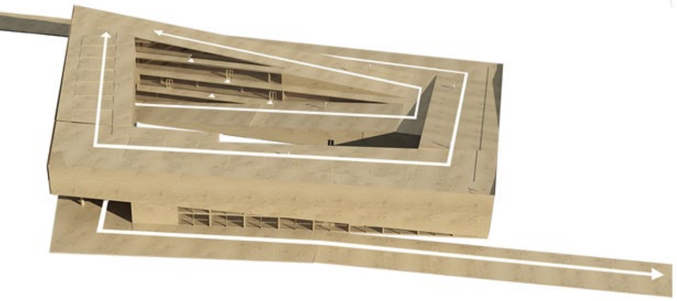
Academic individual project. 7th semester,University of Mons

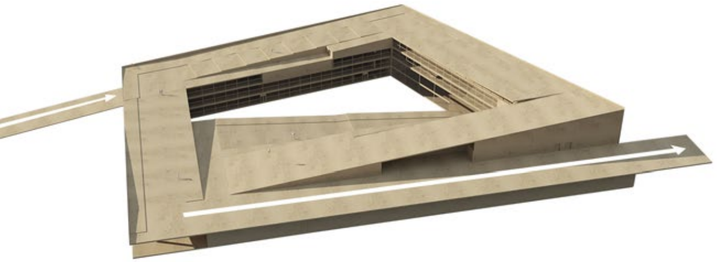
Program: Library
Location: Mons,Belgium

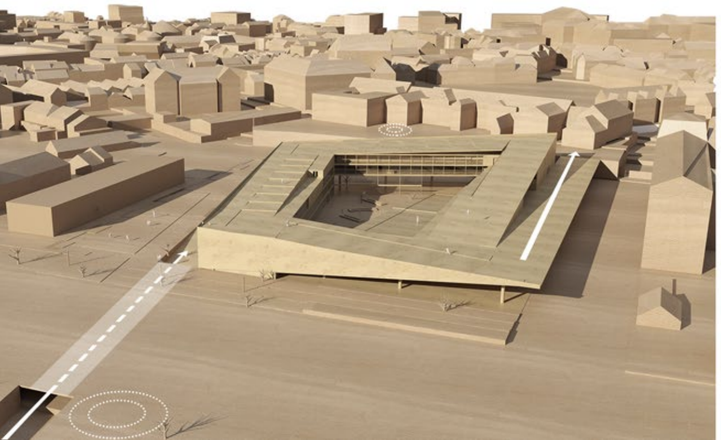
The site is located at the entrance of the city of Mons, Belgium, on which an old prison is located. The existing prison and the boulevard create a rupture within the city, and don't allow any sort of connections between the boulevard and the city center, and between the park on one side of the boulevard and the second park which is located on the other side of the prison.

The aim of the project is to design a new built environment replacing the prison building, a cultural center that helps create different connections between the city, the park and the people.

The new building is experienced as a promenade, a new landscape that is inhabited by spaces dedicated to cultural activites, all while creating links between different parts of the city, that are separated due to the topography level differences, the grand boulevard, and the buildings surrounding the area.

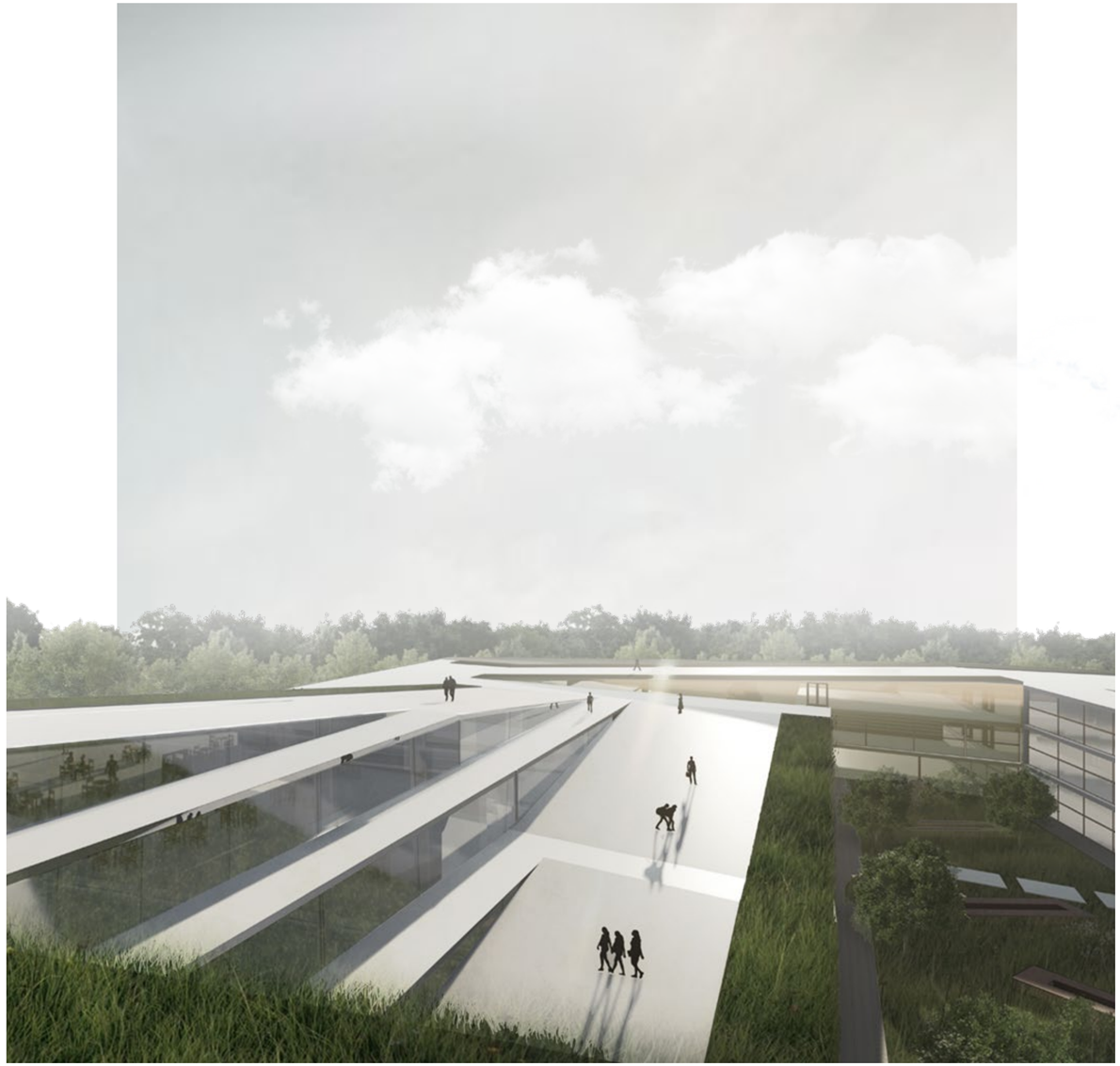




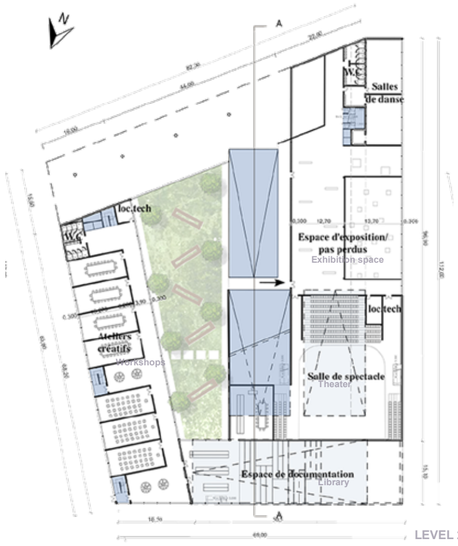


The cultural center replaces the prison and creates a continuity between the two parks: A ramp starts from the first park, goes underneath the boulevard, then connects all the indoor and outdoor spaces of the cultural center, to finally extend as a pedestrian bridge over the street to join the second park.

The building is open and easily accessible: all levels are accessible from the outside via the ramp. The ramp serves all the floors and leads to the suspended garden at the top of the building, passing by the indoor spaces of the cultural center: exhibition spaces, cafeteria, auditorium.



LEVEL 1: GROUND FLOOR



LEVEL 2: 1st FLOOR

LEVEL 3: 2nd FLOOR

LEVEL 4: 3rd FLOOR

03_benguerir_food_market

Academic final project. National School of Architecture.

Program: Food market
Location: Ben Guerir, Morocco

The project is part of an urban plan development of the city of Benguerir, Morocco, aiming to create urban catalyst projects within the city.

The aim of the project is to create a spacial environment where the built environement is as much important as the «void space» created around it and within it.

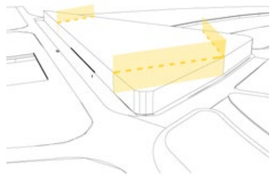
The site of the Food market project is already animated by the flow of merchants and informal commercial activities that take place on the site. The idea of the project is to create a Food market building that catalyses a new economical force in the city of Ben Guerir, while enhancing the existing commercial activities.

The Ben Guerir Food Market is a space that encourages the development of such activities, and the appropriation of space by citizens and by merchants.

The building offers a market plaza for informal commercial activities (that already exist in this area) and community gatherings.

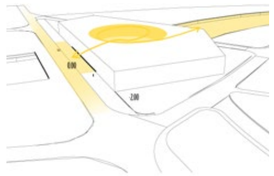
The market square is a covered space, shaped by the building, that allows the development of several activities and events.

The main objective of the project is to improve the public space of the city and reinforce the existing commercial activities on the main road. A market place created by the building can accommodate any type of activity and community gathering, making of the food market a public space open to all citizens.



1.The initial volume is truncated on all three sides to create public spaces around the building.

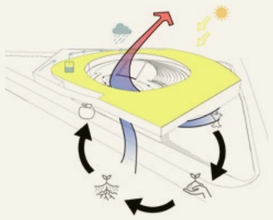
2. Public spaces around the building represent continuities of existing plazas or new plazas created to accommodate market activities.



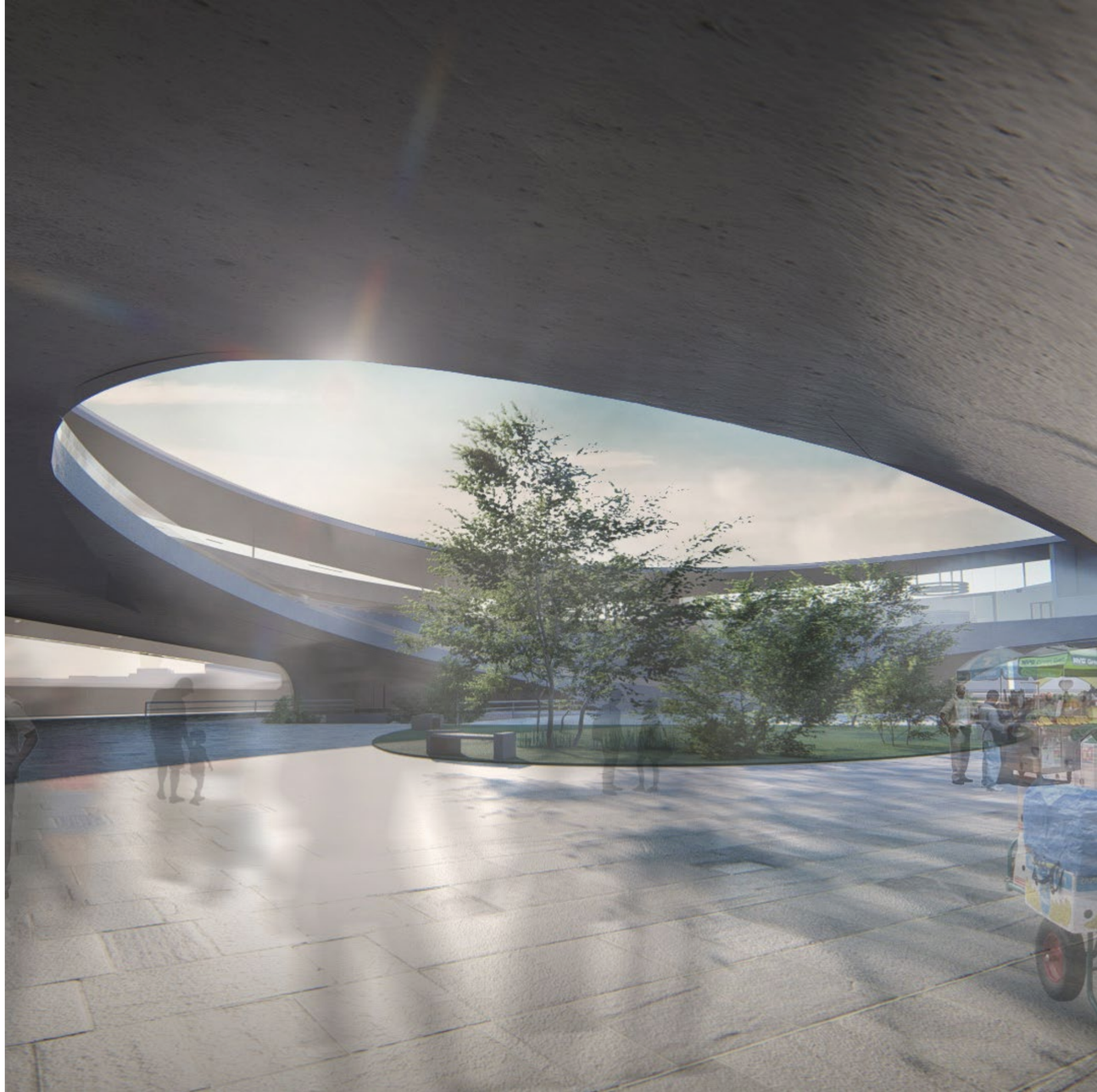
3. The central space represents a continuity of the landscap design of the river. A public square is created around the river and represents a linking space between the road, the river and the market .(the main accesses are positioned at this level).

4.The program is suspended at the level of the floor to clear the site, a market square is created at the ground floor.

5. The market square is shaped by the building, this space represents a gathering place for the community, for commercial activities, and for cultural events.

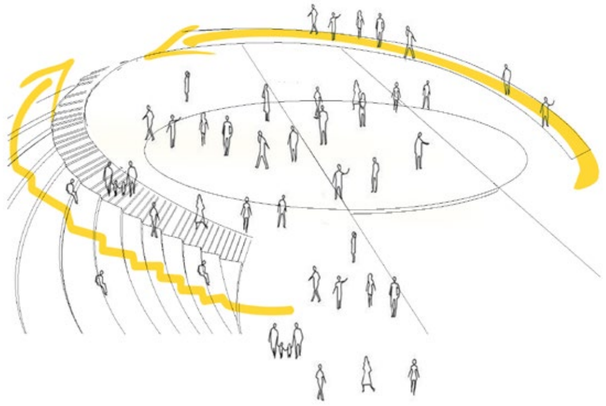


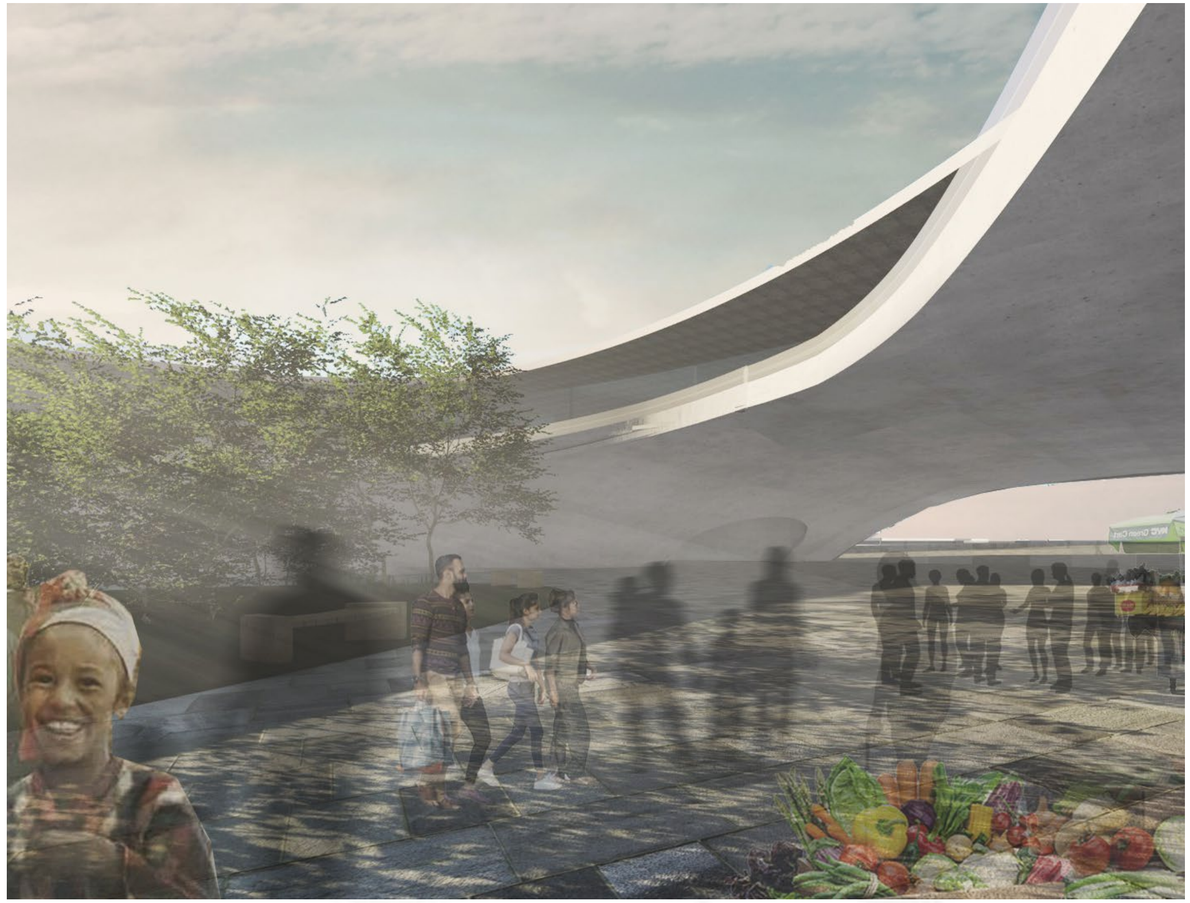
6.Environmental and social sustainability are very important in the design. The building is equipped with a rainwater and wastewater recycling system, a solar energy system, and an organic food waste management system to reduce energy consumption, as well as the organic waste produced by the market. This creates a new economy generated by the management of the organic waste resulting from the activities of the market, in order to produce natural fertilizer products, that contributes in the development of the agricultural activities of the region.

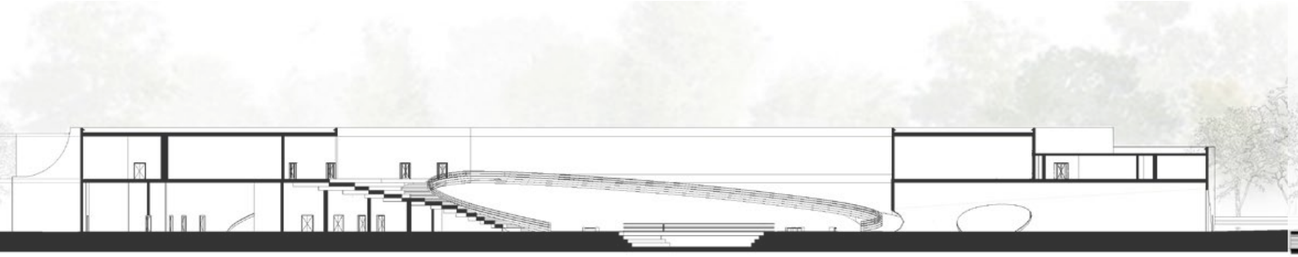


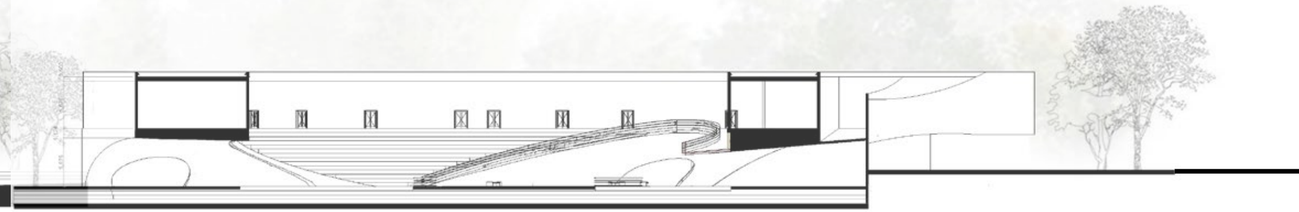
The main entrance to the market is located at the open square created around the river, creating an important centrality. This place represents a central area open to the public, a gathering place to host different events related to the function of the building, and can be operated and appropriated by citizens outside the market opening hours. The goal is to make this place an open public space, animated for and by the citizens.

The stairs and the ramp leading to the entrance of the market are in continuity with the central square and invite people to discover the market space. The stairs also serve as outdoor seating, creating a gathering space around the river.





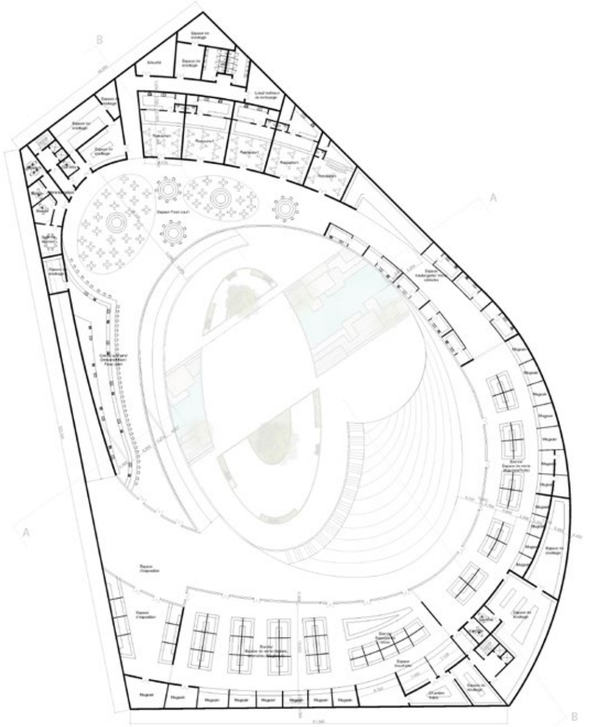




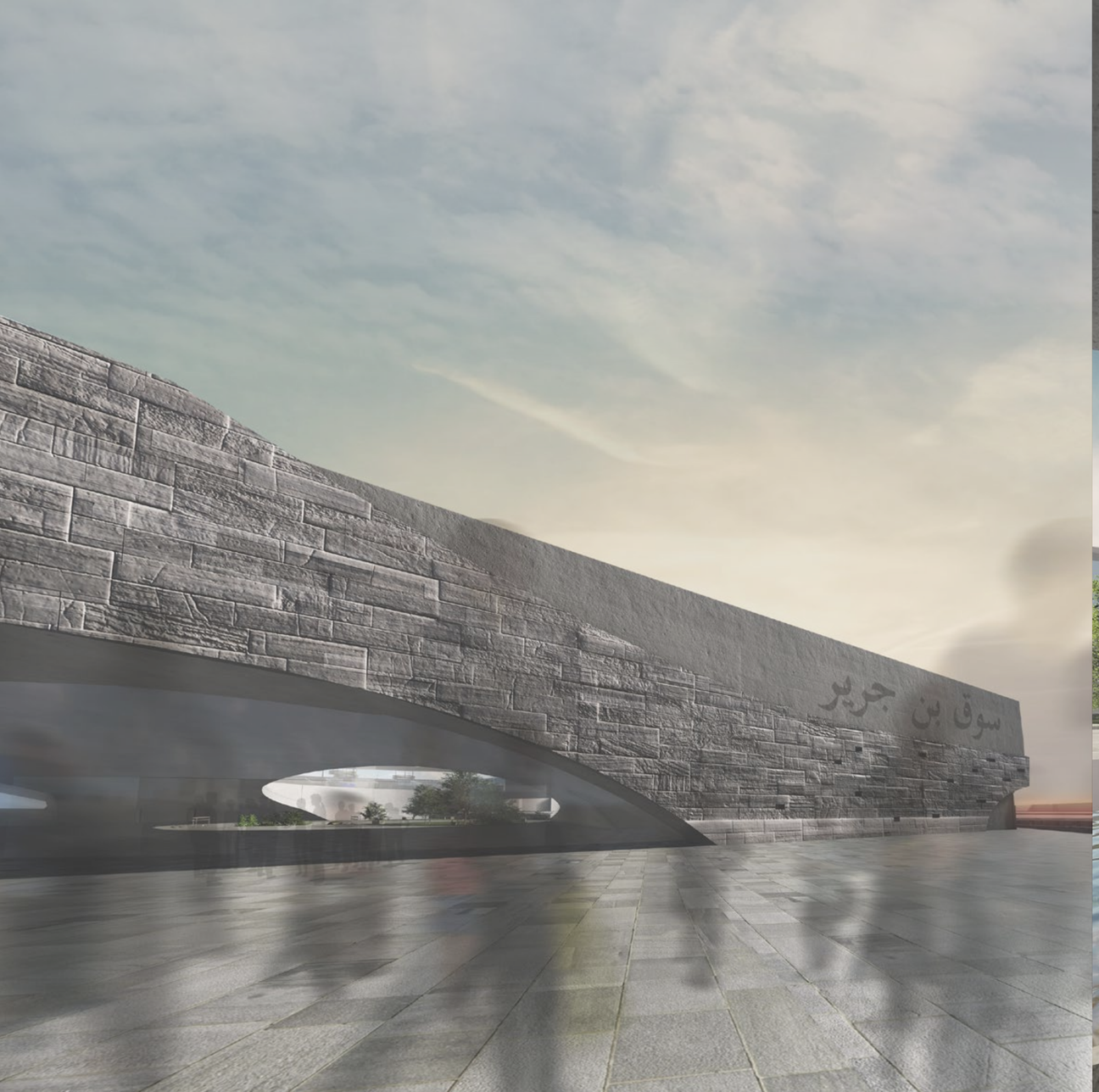
Demonstration kitchen
Cuisine de démonstration

Food court
Sales area /Espace de vente

RDC: Place du marché
GROUND FLOOR: Market Plazza



1er ETAGE
FIRST FLOOR


سوق بن جرير

04_oued_bouchane_green_river

Academic final project. National School of Architecture.

Program: landscape design
Location: Ben Guerir, Morocco

The river Oued Bouchane represents today a rupture within the city. The new spaces created in the river make it a space of gathering and meeting. The river will be the object of diversion, the bed of the river crossing the city will be redesigned as a green public space.

The Oued Bouchane River will be converted into a green river. The new space of the river will be divided into three sections, each section will be linked to one of the projects created inside the city as urban catalysts (food market, bazaar, souk T'let).

The green river represents a linking space between the existing projects of the city (Food market, Bazaar project, Souk T'let) and the neighbourhoods within the city. This section of the river will be diverted outside the city.

The river bed will be renovated as a green river, a green space with a succession of public spaces, squares, bridges and gardens animating the urban space of the city. The new spaces created will be located on the bed of the river, around the river, and on the pedestrian bridges created inside the river:

-The first section starts from the Food market. It contains green spaces and public spaces, hosting sports activities, commercial activities and seating areas.

-The second one represents an artistic and craft aisle, hosting activities related to the Bazaar project; exhibitions, art workshops, festive events, etc.

-The third section is re-imagined as flexible public spaces, able to accommodate the commercial activities related to the weekly market on the day of Souk T'let.

River section:
Soft mobility

Commercial plaza

Place Souk T'let

Temporary instalations plaza

Exhibition area

Green park

Green park

Colors garden

Open air theater

Artistic plaza

Temporary instalations plaza

Cité du Bazar

Green park

Food Market

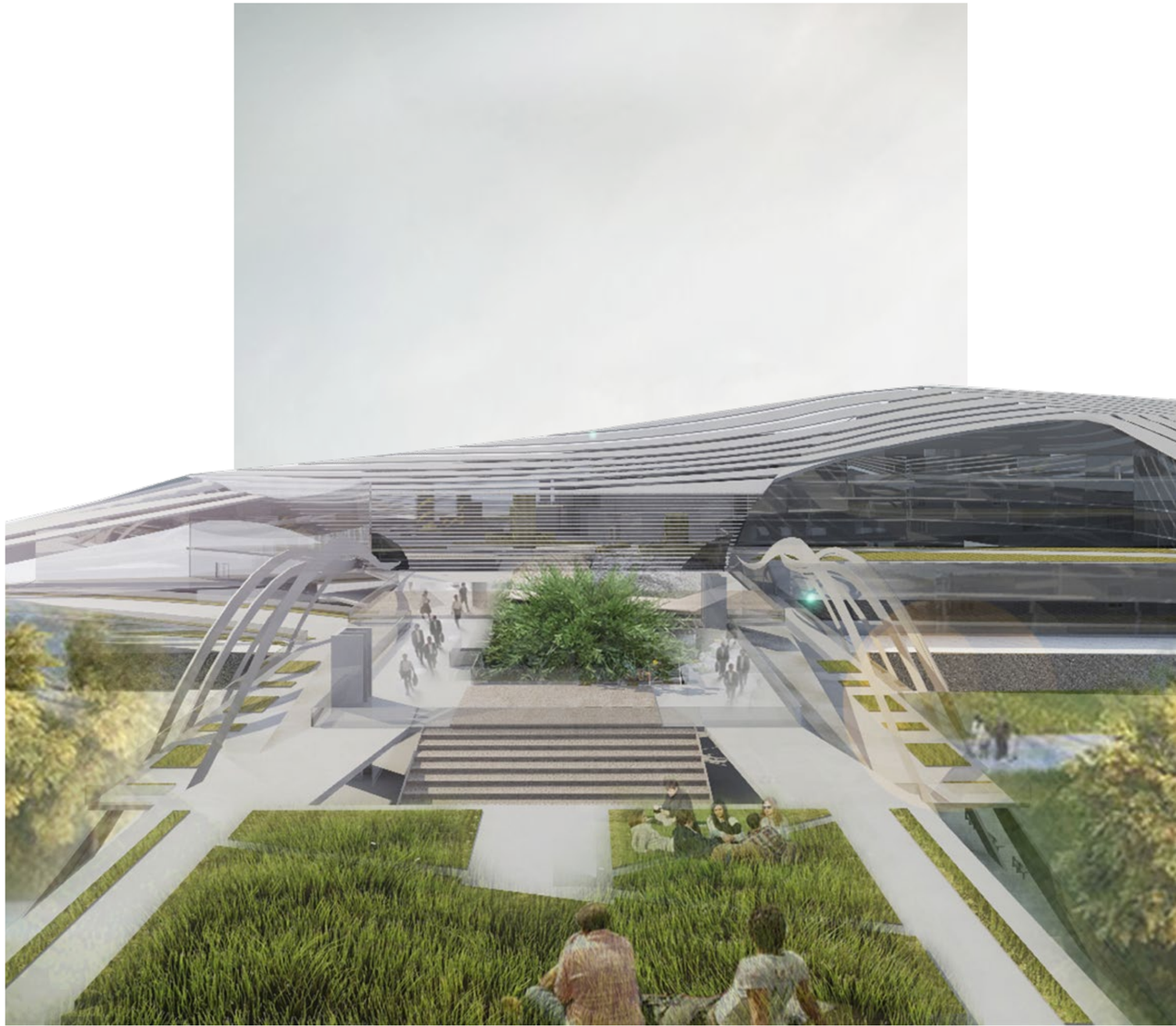
Sports area

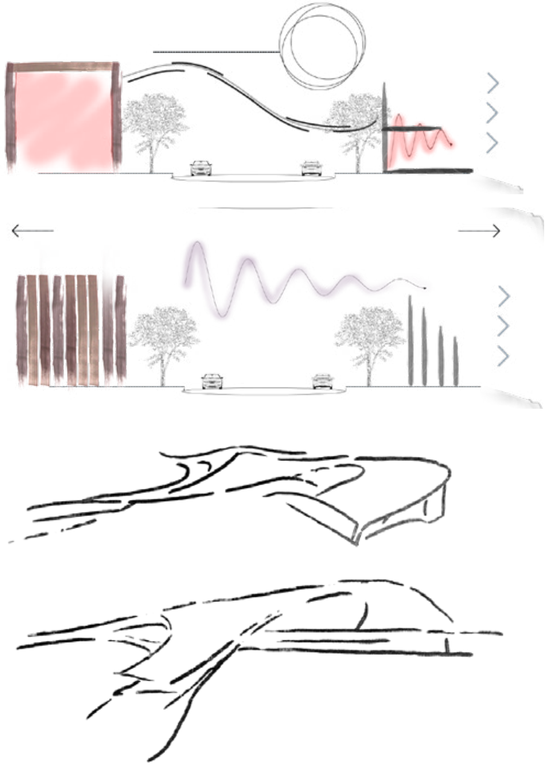
04_sale_music_center

Double skin workshop Competition projet, group project.
1st prize project.

S I T E

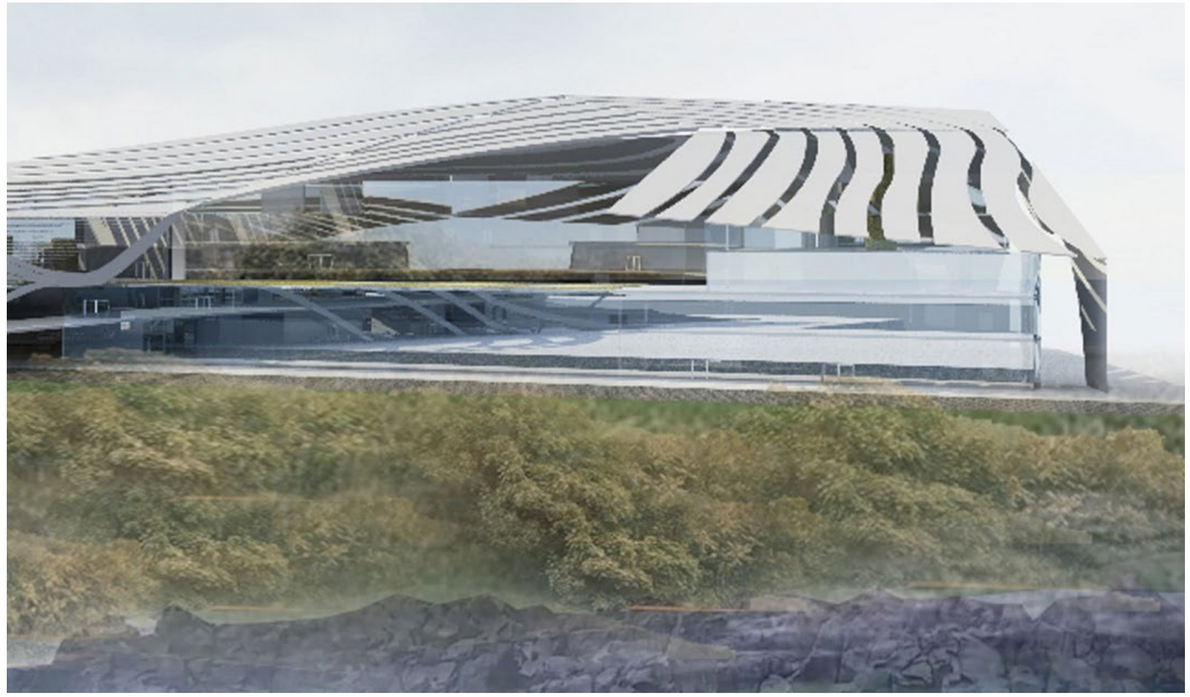
The site is located at the coast of Sale, next to the district Sidi Moussa. This choice was based on the fact that the corniche of Salé has been neglected until the early 70's by the urban planners, causing the development of pockets of slums and under-equipped residential areas. This area that seems now to be a weak point in the structure of the city is full of potential and can be used to push forward the flourishing of the city. Through observations and research, we concluded that the strategy of coast side urban development can be a mean to restructure the city and encourage more investments in the area to rehabilitate the districts surrounding it.

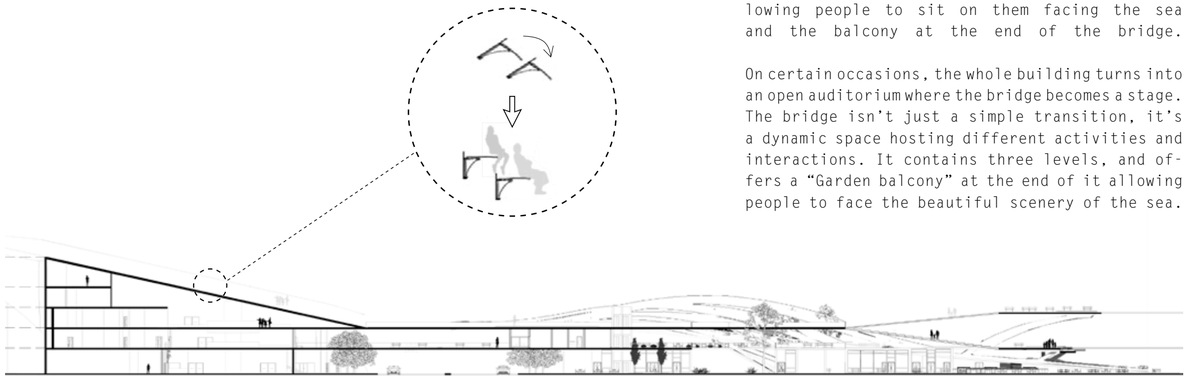




The site involves two parcels: Zone A and Zone B. Zone A is located in a dense area, while Zone B is waterside. Both spaces are separated by the Sidi Moussa Avenue. The building is formed by two contrasting parts. A closed, dense and formal part on Zone A and a light, open and transparent part on Zone B, according to the activities they host. The aim is to create a link, a transition between these two paradoxical parts.

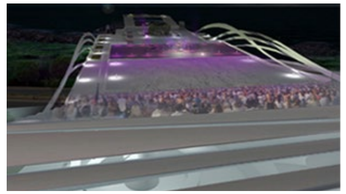
The double skin is the core of the project. It sculpts the building to its smallest details. It also materializes the evolution from closed to open. The function of the bridge does not end here. It will also help create a new image by making of it a landmark, an icon known across the city and beyond.

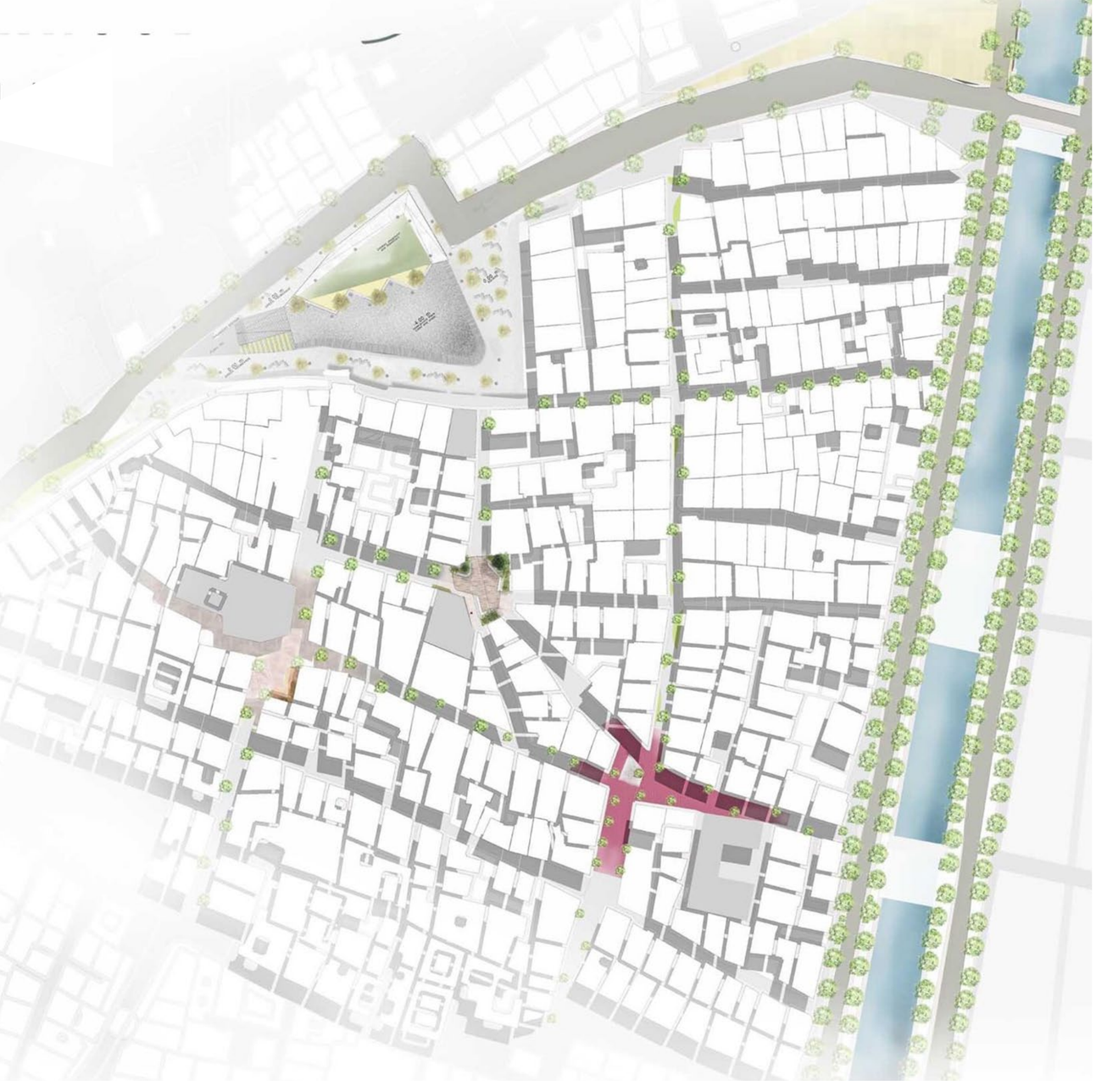




The double skin moves according to its function. It moves to create seats allowing people to sit on them facing the sea and the balcony at the end of the bridge.

On certain occasions, the whole building turns into an open auditorium where the bridge becomes a stage. The bridge isn't just a simple transition, it's a dynamic space hosting different activities and interactions. It contains three levels, and offers a "Garden balcony" at the end of it allowing people to face the beautiful scenery of the sea.





11_benguerir_eco_neighbourhood

Studio project, 9th and 10th semester, National School of Architecture.
Group project.

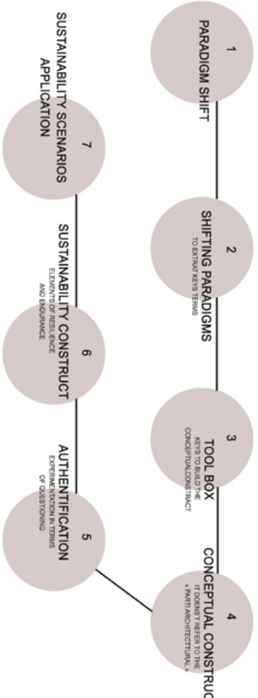
This is a project that consists of a research work within an architectural studio, to redefine sustainable design based on a giving context (city of Benguerir, Morocco). The research work helps set up a design diagram. The design diagram is taken as a layout for the site analysis in order to set the triggers and outcomes of the design. This will later be translated into action points and interventions, that will help create the eco neighbourhood of Benguerir.

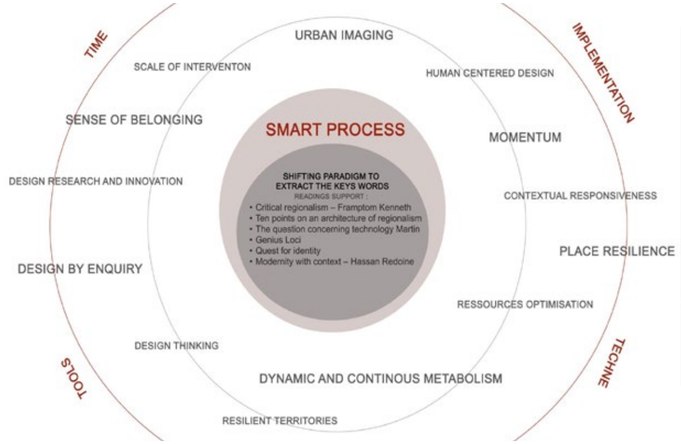
1. RESEARCH WORK:

The process of designing is about facing and solving problems, understanding intecedants, adapting and adopting to get an answer. Variables are evolving the design. The context is not static, it is in fact a changing environment, therefore, a design has to be responsive, by taking into account the variables of the context, a design by inquiry that results of investigating, exploring and researching. The aim here is to redefine the concept of sustainable design, by exploring the existing forces of the context and its variables .

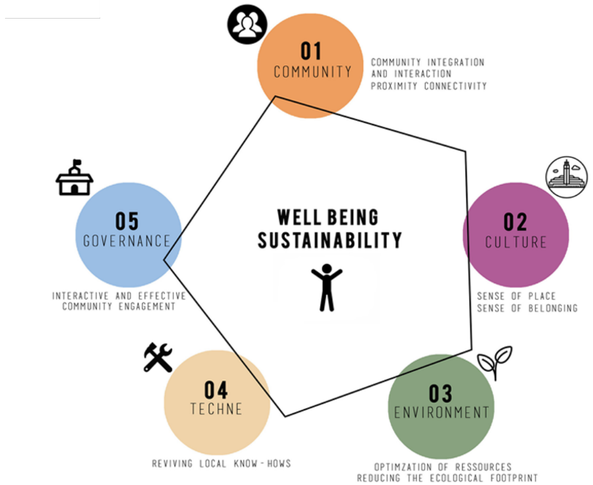
PARADIGM SHIFT:

The well-being of human kind is the target to be achieved. It requires the integration of five essential elements: culture, environment, governance, techne and community. In the context of globalization, the specific elements that enrich each group of people tend to disappear. Rooted perceptions differentiate cultures and give the opportunity to give a mark on a landscape or an object and to create uniqueness and resist to the global pressure. Local cultures should be resilient while adopting some substances to improve it. The environment that surrounds us cannot be neglected. Constaints in the physical surroundings are to be considered but it cannot be denied that all the ressources are estracted from the environement. The past centuries have demonstrated the abuse of it. The actors in the fields maintain the keys for a better organization in the place of work. The structuration of the different complementary tasks should place optimization of the ressources at its right place for the benefits of the future generations. Each person working for the benefits of all can then model his work taking into consideration the specific needs of the people. Technology and know-how are tools to be used with poesis to meet the utmost function of improving human's life conditions. A sustainable design is an integrative design, taking into account the variables of the context in order to reach the well being of present and future generations.

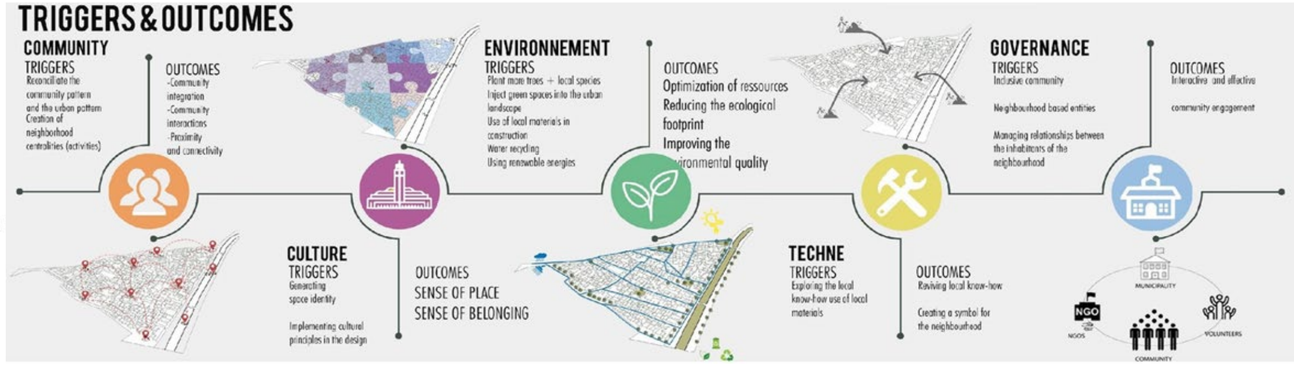




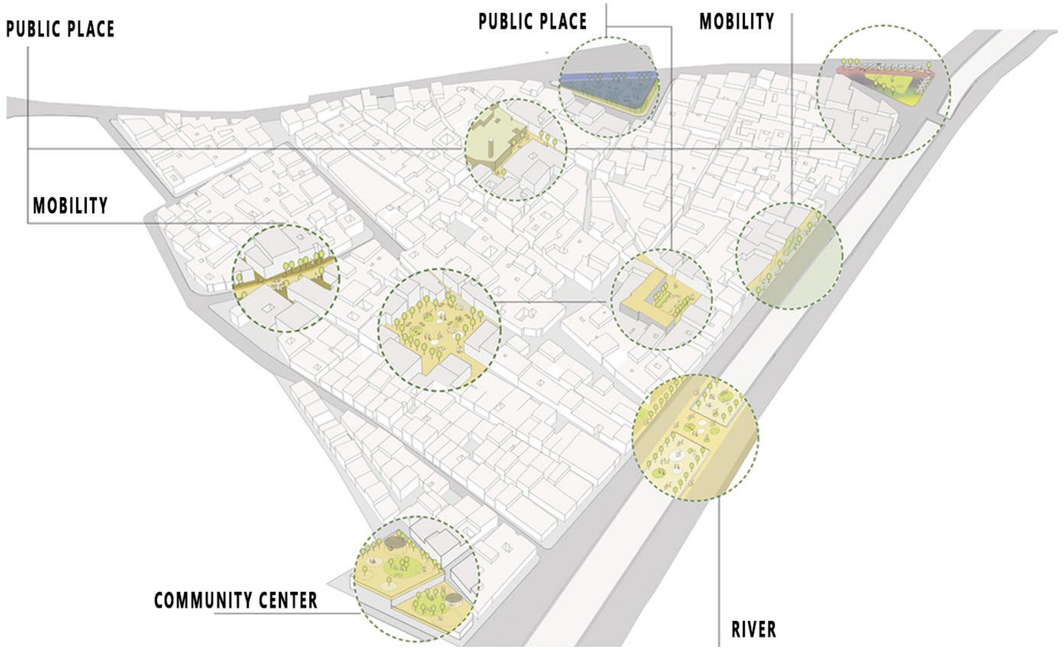
DESIGN DIAGRAM :



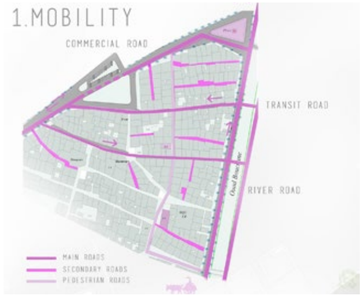
2. NEIGHBOURHOOD ANALYSIS :

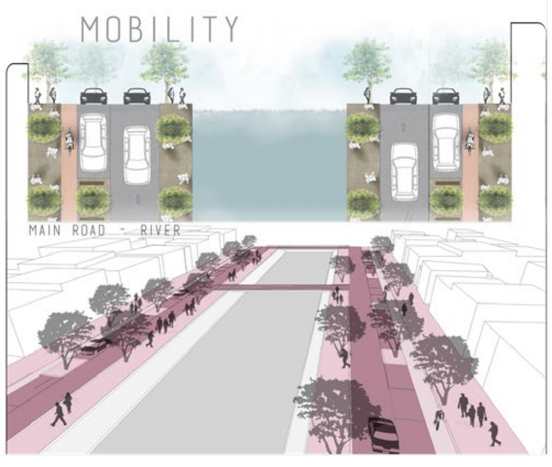


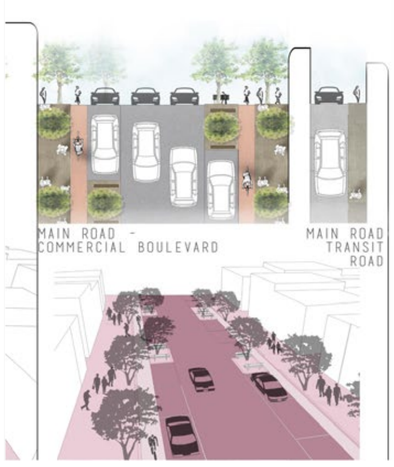
3. PROJECTS / INTERVENTIONS :

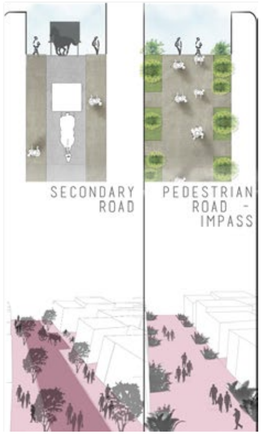


The project is about creating an eco neighborhood and a sustainable eco lifestyle. Which means involving directly the inhabitants in the process in order to implement a metabolism in the neighborhood that will sustain our actions.
The finality is to make from the existent neighborhood a desirable one.
The interventions will cover different scales based on The community pattern: public places, squares and the urban landscape which means houses.
As a major outcome, we want to create a sense of belonging in the whole city by connecting neighborhoods, we already have a geographical opportunity which is the river.





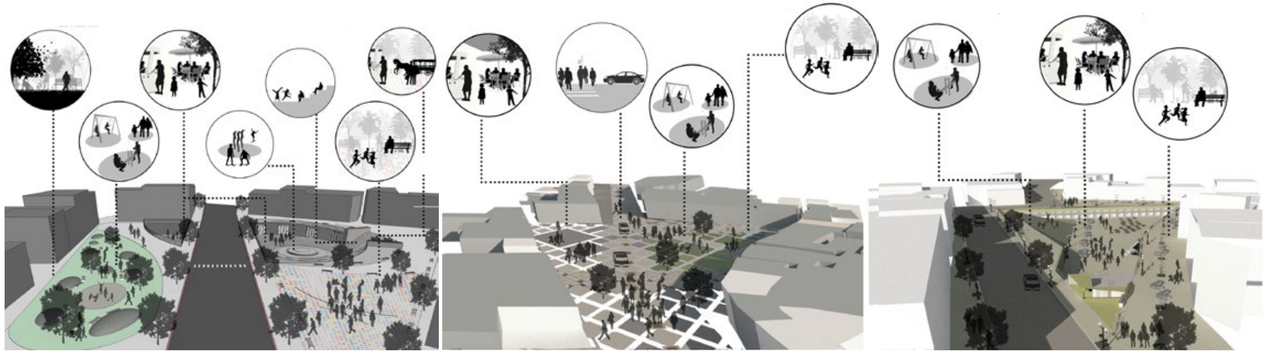


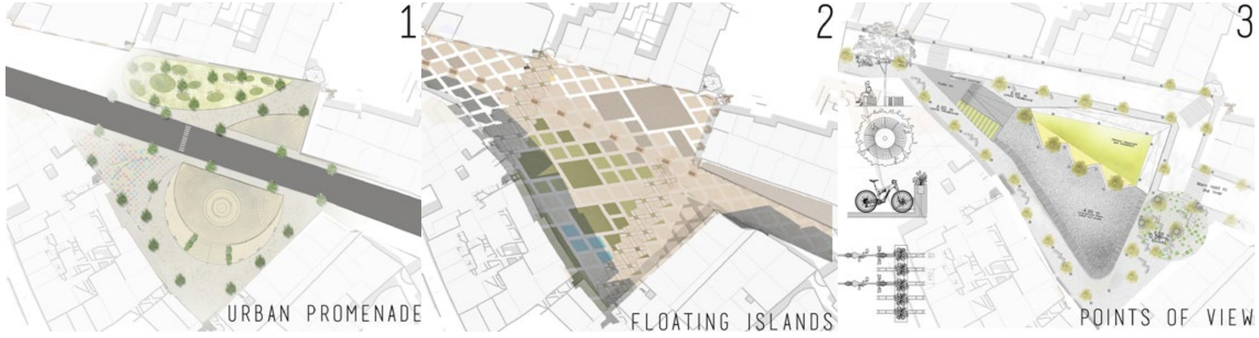


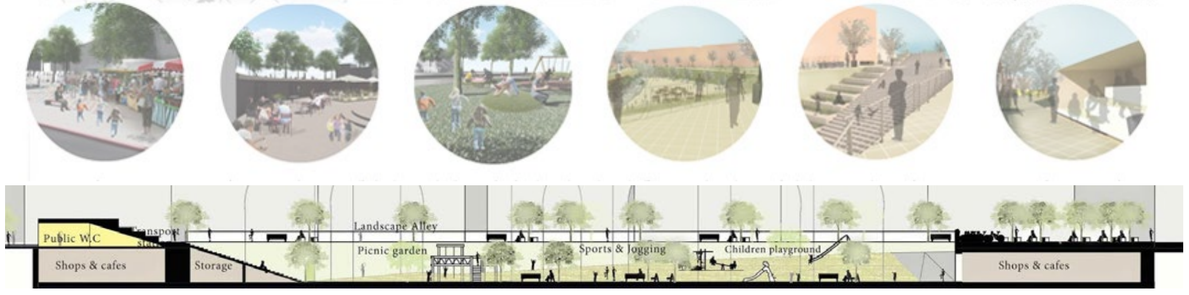
We see the project of econeighbourhood as a project that emerges from its context and not as a standardised concept. We translate our principles of sustainability into actions and projects that will help us establish a sustainable project of ecodistrict, starting from mobility to public places to architecture;
1.First of all we worked on a sustainable mobility in the neighborhood allowing a balance and efficient mobility of cars, people and local mobility,
2.then we created a grid of amenities that represents the beating heart of the project and help structure the neighbourhood,
3.we also worked on the public places on different scales, from circulation nodes to cohesion centers,
4.on the creation of a community center as a structuring and inclusive building and finally on the urban facade based on the existing and people's practice of their places.

Our aim is to create a sustainable, balanced and efficient mobility that will upgrade the hierarchy of the road network.
1.We created main roads that are suitable for cars and for soft mobility(pedestrians and bicycles),containing parking areas and public green places to create a balance between all means of transportation. We also created two roads that cross the neighbourhood for security and accessibility reasons.
2.The second type of road network is secondary roads that are created specifically for the local mobility, containing places suitable for charts parking and circulation and stations.
3.The third type of roads are pedestrian (mostly impasses)where we provided green spaces in front of the houses to encourage the inhabitants to contribute in the creation of their public place.

COHESION CENTERS

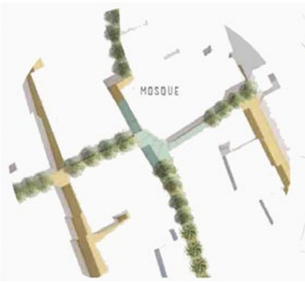




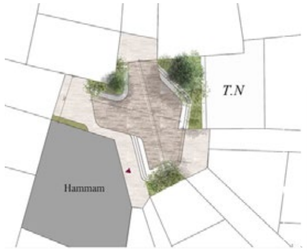


MEETING POINTS - HAMMAM - MOSQUE

SCENARIO 1



SCENARIO 2



IN BETWEEN PLACES

For the public places, we wanted to create a cohesion center based on how the citizens imagine their public places (use of vegetation, colors, etc), giving them a unique experience and preserving the initial function of the plaza (commercial activities). We also worked on circulation nodes such as hammam and mosque plazas. Our third intervention was on the «in between places» with ephemeral installations for activities such as children playground, sport activities, etc.

COMMUNITY CENTER

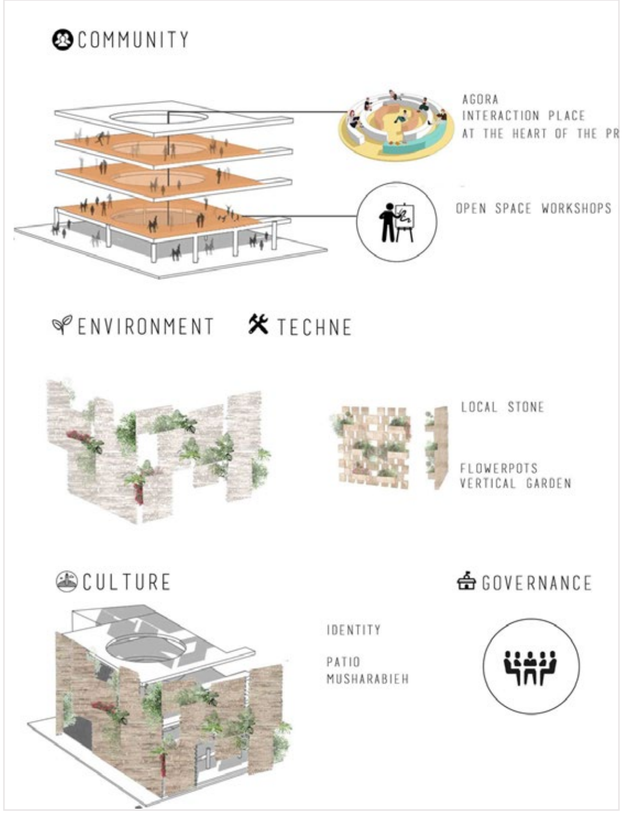
The renewal of the district also involves around creating a landmark : a community center, as a catalyst of development.

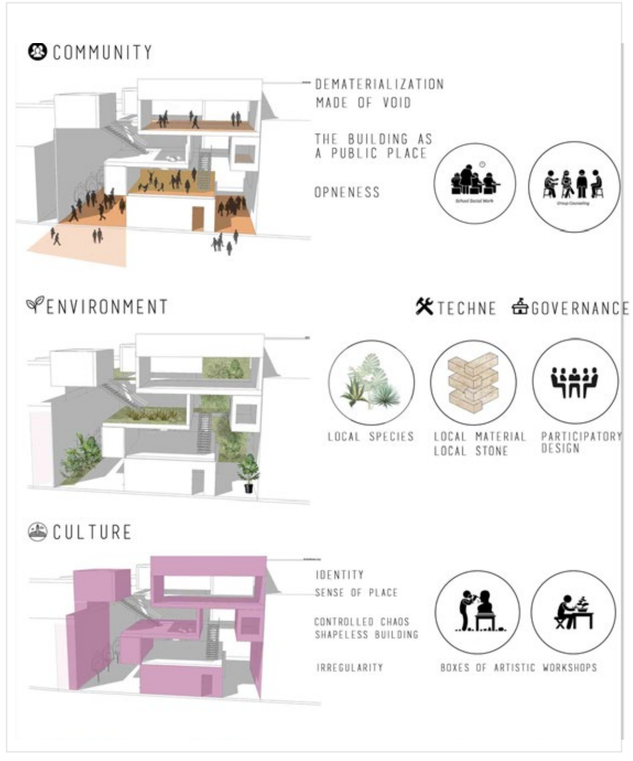
The community center comes first to answer a major need : creating activity, by offering a space for educational, cultural and social activities and workshops. It targets mainly youths, and people of all ages, in order to strengthen the sense of community, already existing in the neighborhood.

The architectural expression that we developed is deeply rooted in its context, by reinterpreting the characteristics of the city of Benguerir.
We explored the concepts of the controlled chaos, the unfinished, the absence of the facade, by using local materials that are conforming to the uses of the inhabitants of the district.

THE HONEYCOMB

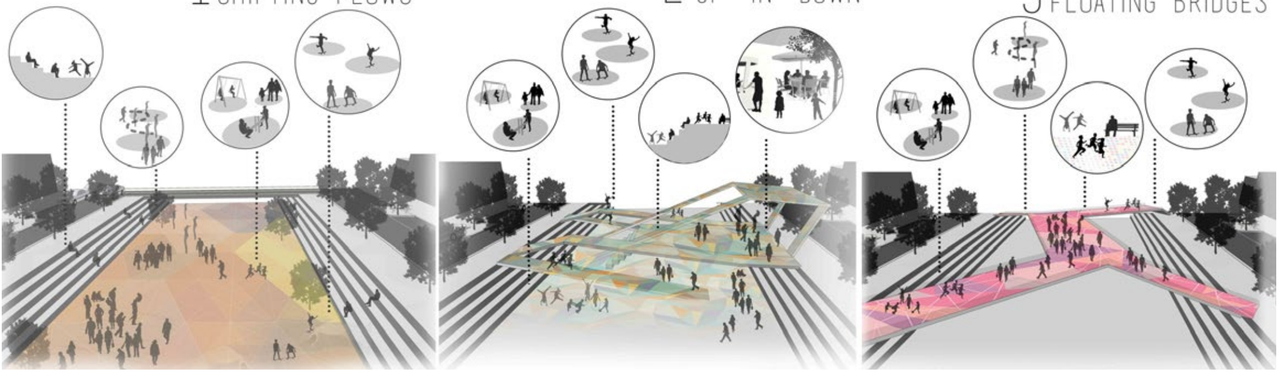
UPLIFTED GROUNDS



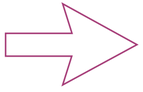


THE SHELTER

THE RIVER

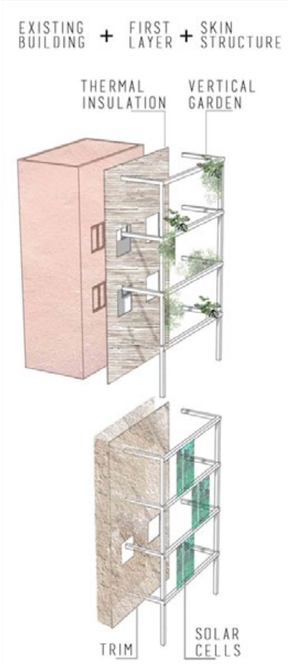


We thought that it was crucial to work on the river as part of the eco neighbourhood project because it's a very important component of the city.The river is also a solution to the lack of public places inside the neighbourhood so we want to project public places in it and make of it a meeting point between inhabitants from different neighborhoods.
1.The first scenario is called shifting flows, where we transformed the bed of the river into a colorful public place(open air theater, ephemeral installations for children playground and bazaar exhibition...),these installations can be removed during the flood season and re-installed after, hence the name Shiftingflows.
2.The second scenario Up In Down is the creation of a multi level bridge hosting different activities (coffees, children playground, shaded places) in connection with the public place on the bed of the river.
3.The third scenario is a Floating bridge where we have different public places for multiple uses. The river can be transformed into an exhibition of pedestrian bridges where inhabitants can contribute into making each one of them special.



URBAN LANDSCAPE

In order to bring a new image to the district, we developed a system of facades, added on the existing buildings to give them more character. Through variants possibilities, the proposition is composed with a first layer of thermal insulation, a trim made of local materials added to a structure, which can support solar cells, and vegetable gardens. This structure also creates a buffer zone, and gives the inhabitants the possibility to create indoor spaces in front of their doors (gardening, green spaces, commercial activies), these activities are already practiced by most inhabitants.



SCENARIO 3 : BAMBOO SKIN

SCENARIO 4 : STONE SKIN

SCENARIO 1 : STONE AND BAMBOO SHADER

SCENARIO 2 : STONE WALL SHADER

personal_work

06_waste_to_opportunities

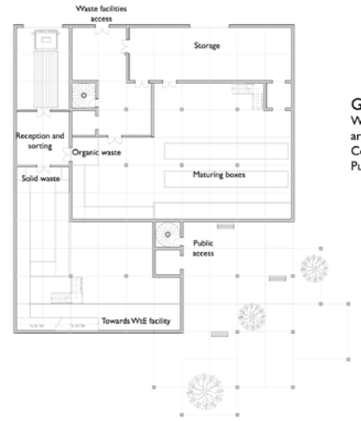
LaFargeHolcimAwards Competition projet, individual.

The tremendous rise of solid waste in urban areas has led to increasing public concerns with regards to the resultant health and environmental impacts of waste disposal. Today, the waste of about 3 billion people is still disposed of in an uncontrolled manner, creating several problems and challenges such as shortages in power generation, limited space for landfills, and greenhouse gas emissions from inappropriate waste disposal. The WtO project is a facility that is implemented within neighbourhoods, where domestic waste (mainly organic waste and solid non recyclable waste) is turned into a building that is dedicated to urban farming, energy generating, community gathering, and place making. The goal of the project is to turn the challenge of domestic waste disposal into opportunities that can benefit all the citizens of the neighbourhood, incorporating the waste into a sustainable cycle that generates energy, food, public spaces, and numerous opportunities for the community. This local treatment of solid waste within WtO facilities inside neighbourhoods makes the process of waste treatment easier in urban areas, and limits the negative impacts of waste disposal on the environment, as the waste doesn't leave the neighbourhood, and is turned into different forms of energies and materials instead.

The structure of WtO is formed by cubic units of 3m that provide a flexibility of the spaces created within the facility. Different activities, beside gardening, can take place on the upper levels of the facility (placed above the composting and WtE facilities), depending on the communities' needs: workshops, recycling units, cooking areas, shops, and activities that can generate revenues for some members of the neighbourhood community.

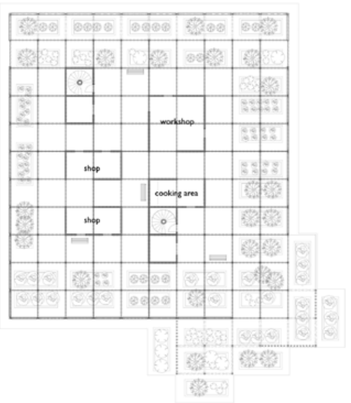
The project provides a new type of platform that is made by flexible living spaces. It is animated by the citizens of the neighbourhood, meeting their needs for public spaces and community gathering facilities, while generating energy, food and revenues.

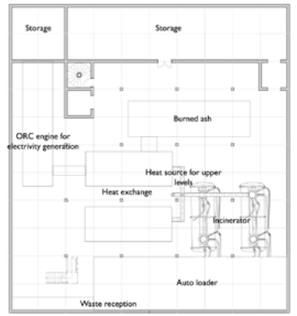
The main function of the WtO facility is a vertical farm that feeds from the energies produced from the treatment of household solid and organic waste. Organic fertilizer, heat and electric power are used to create soil farming and hydroponic gardening activities in order to produce local food and plants for the community of the neighbourhood in question. In order to add more value to the facility, more spaces and activities can be created, beside gardening, depending on the needs and requests of citizens of the neighbourhood. The WtO becomes a source of opportunities, of a sense of place and a sense of belonging for the neighbourhood's community.



GROUND FLOOR

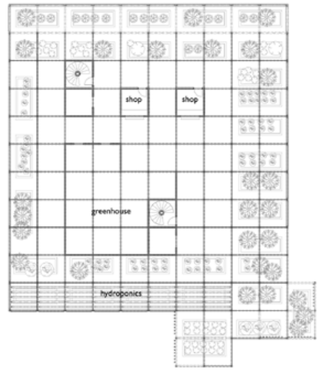
Waste reception and sorting areas
Composting facility
Public access to upper floors

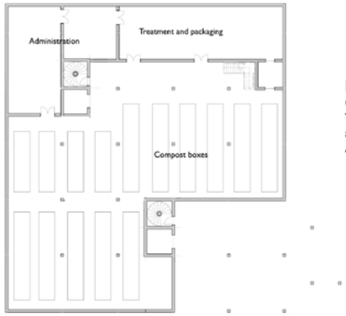




UNDERGROUND FLOOR

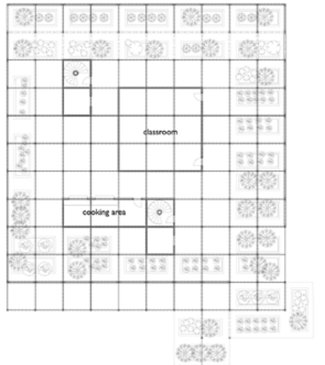
Solid waste reception and sorting areas
Waste to Energy (heat and electricity) facility
Storage areas

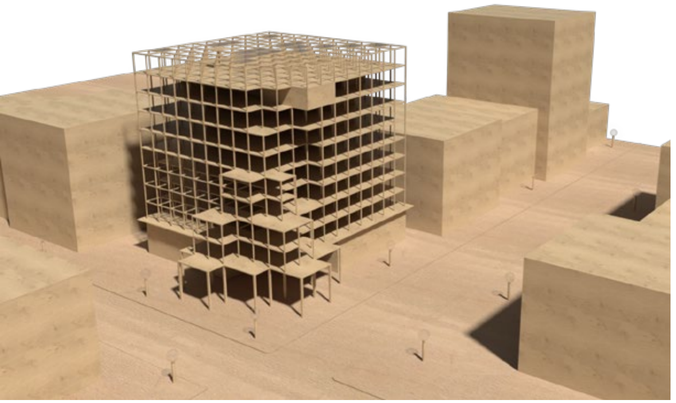


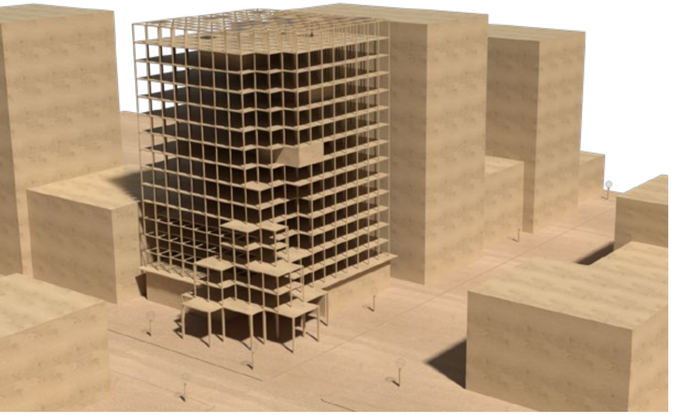


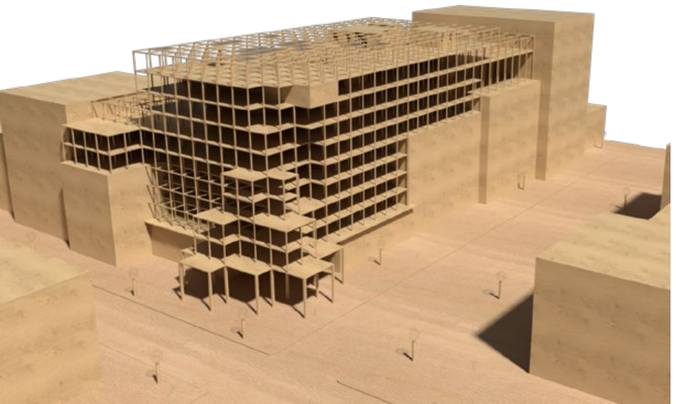
FIRST LEVEL FLOOR

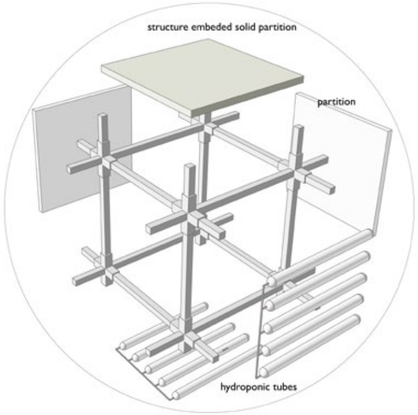
Compost boxes
Treatment and packaging areas
Administration





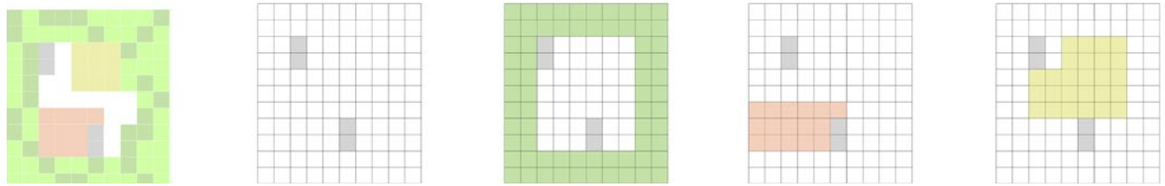




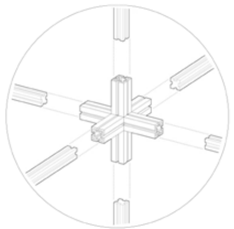


Space Unit

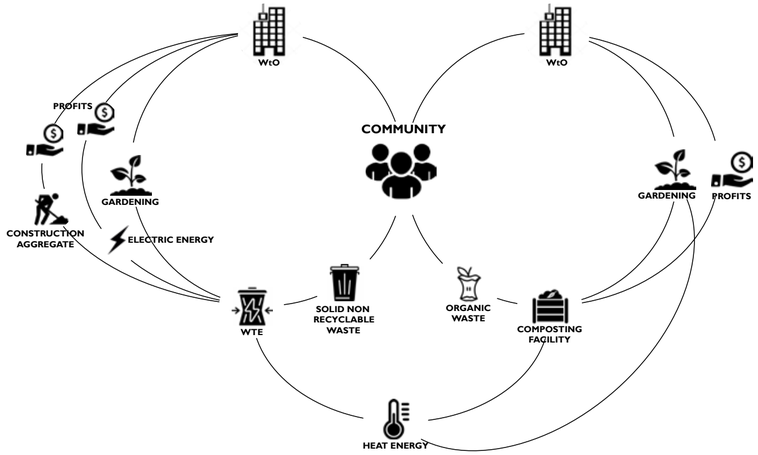
The flexible and scalable structure system of the WtO facility makes the implementation of it inside neighbourhoods easy as it can adapt to any plot available within the neighbourhood. The modularity of the design helps also improve underused places and can be built within the air rights of the neighbourhood. Its flexibility makes the project customizable to whichever space it is applied to. The facility can also grow as the population, the waste or the needs grow as well, adapting to the development of the urban area in question.
As the modules would make the building easy to construct and disassemble, The metalic columns and beams can be easily added, removed, and moved to other neighbourhoods in case the facility needs to grow or new activities need more spaces. The recycable structure makes the construction and the expanding of the space created within the WtO facility easy and affordable.



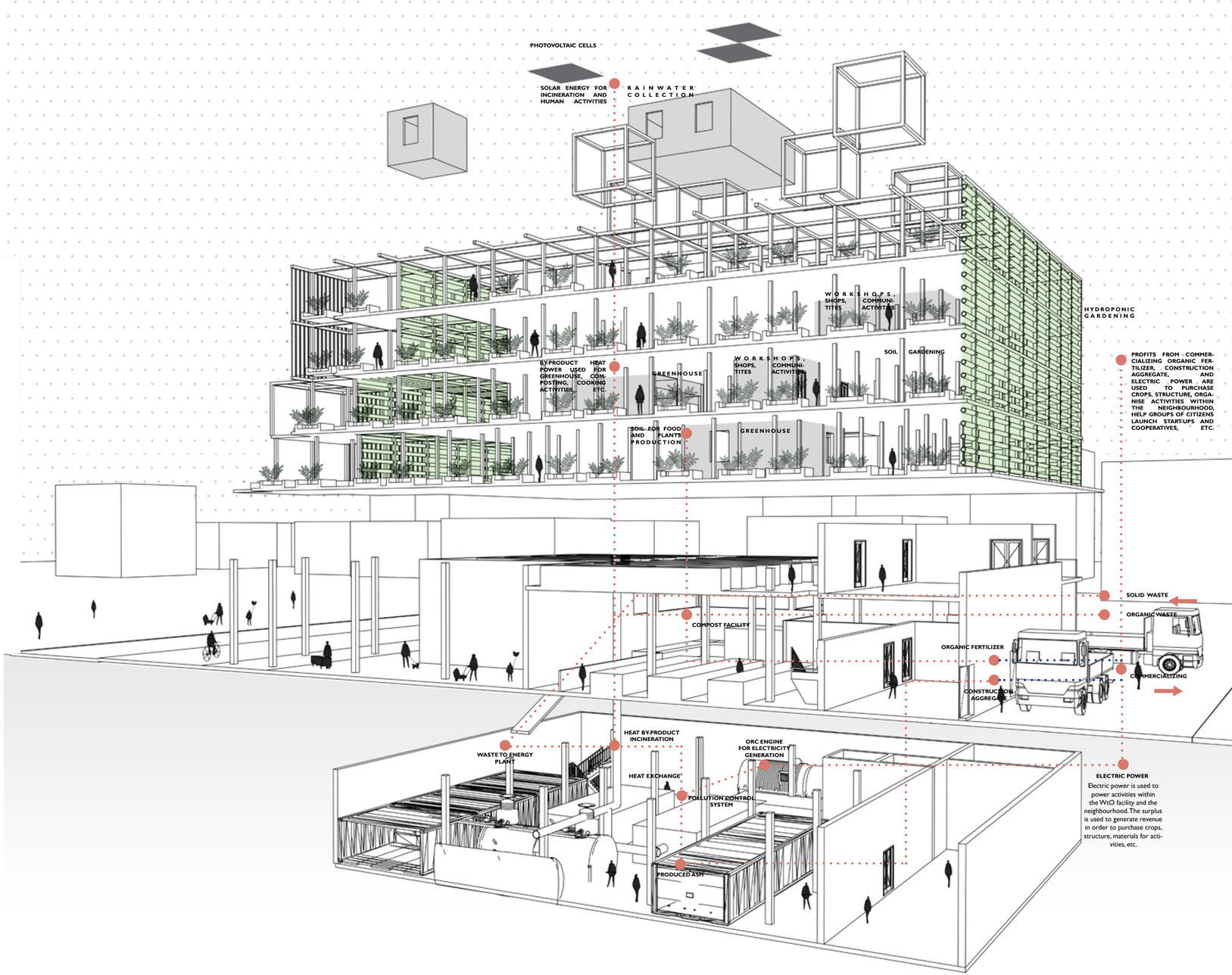
Each upper floor is mainly dedicated to gardening areas (70% of the floor surface). Activities and places that require heat energy (greenhouse, cooking ares, etc.) are set to be positioned near the heat energy source, that is generated in waste treatment facilities on the lower floors. The rest of the floor is dedicated to other activities and public spaces such as workshops, shops, learning centers, etc.



Structure assembly



Circular economies generated from the neighbourhood's waste benefiting the neighbourhood and its community



The world's population gets bigger, and so does waste generation. By 2050 the amount of household waste will grow by 70 percent reaching 3.4 billion tons a year, which means that that waste generation will actually outpace population growth by more than double.
The modular, scalable facility can be implemented in every neighbourhood in order to limit the solid waste impact on the enviroment and the citizens health, turning this challenge into a group of facilities that help promote urban farming activities, and creates shared public spaces for communities.

07_the_portal

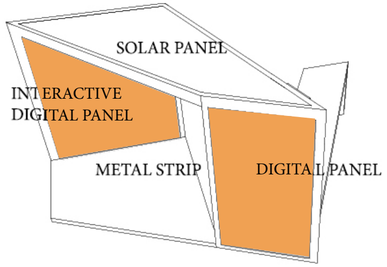
2nd Q-City International Student Design Competition projet, individual.
2nd prize project.

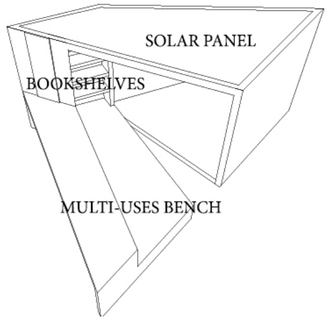
Smart urban furniture design as a way to increase the attractivity of public spaces by providing public services, information, and connectivity, while enabling the collection of valuable data for optimizing processes and reducing costs.

The site where the design will be set up is located in Qiaoxi District, in the northeast corner of the intersection of Gang Tie Road and Quan Bei Avenue. The plot is supposed to have functions as a park green space.

The suggested design is a smart city urban furniture that would be set up in the future urban park as a multi use and efficient furniture that is offered to the population of the area.

The area is surrounded by colleges and office buildings. The design is created in order to give people a small outdoor space that can host different activities, and help create more opportunities for people gatherings and social interactions.

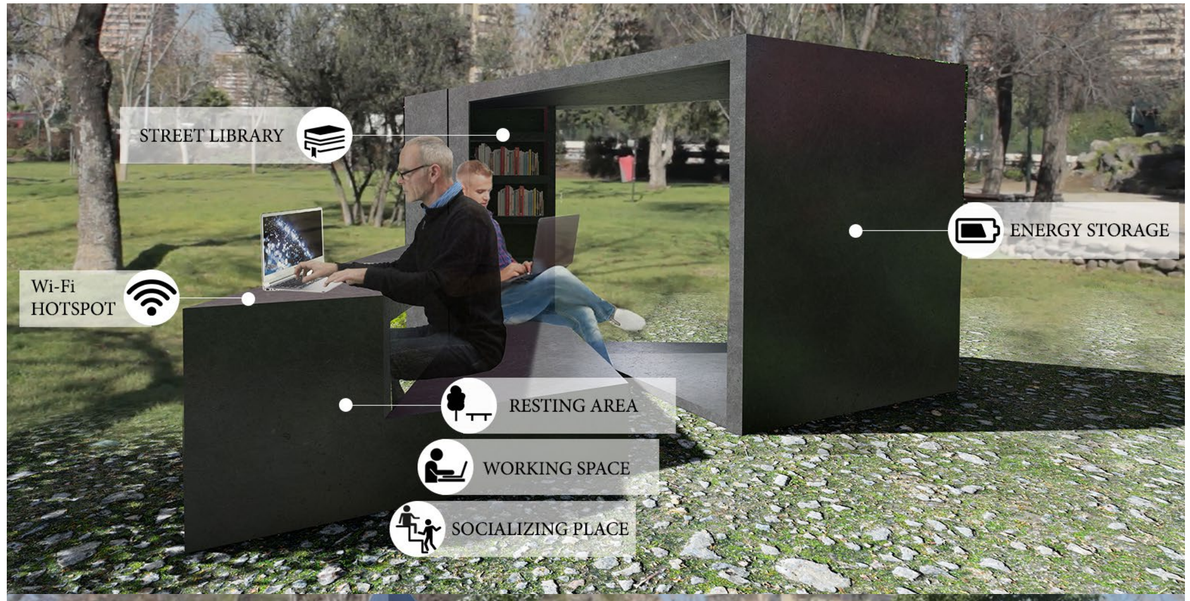


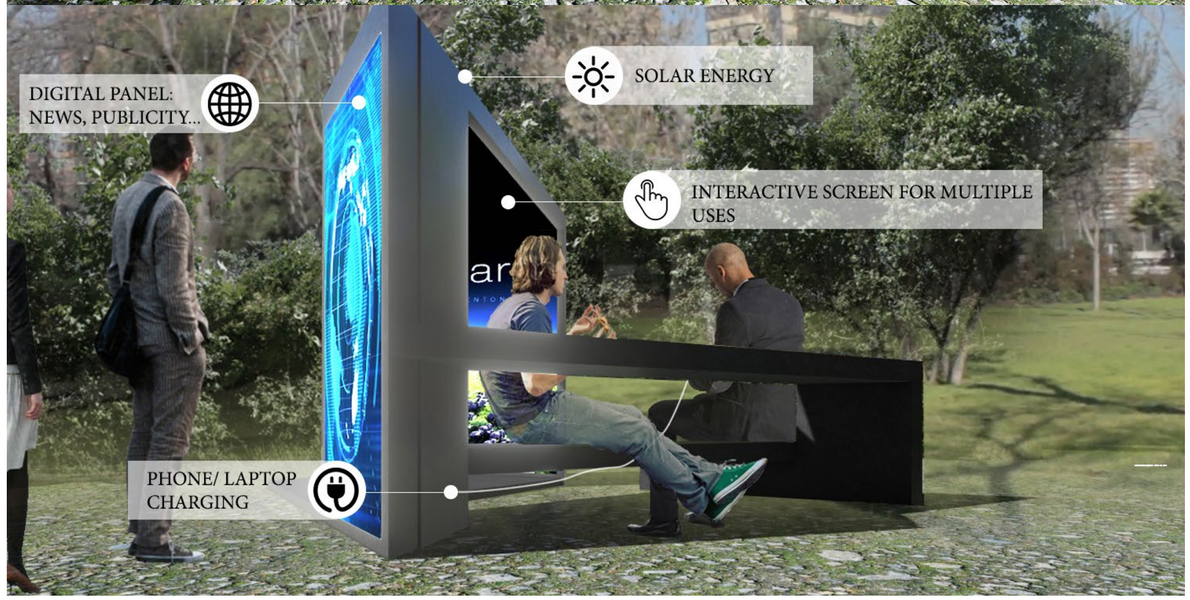


The furniture is run by solar energy, and helps store energy for days when there is no sunshine and during the night in order to supply the energy source and the digital screens attached to it.
The main function of the furniture is a street library where citizens can exchange books by borrowing or leaving books in the bookshelves. People can also have a seat in the bench attached to the bookshelves and benefit from the peacefulness of the park.

People can charge their devices from a solar-powered park bench. They can also benefit from the Wi-Fi hot spots. The bench is also equipped with an energy source for laptops and phones charging.

The outside screen is a digital information screen that provides citizens with the latest news, events, government information, etc. It can also be used for advertisement.





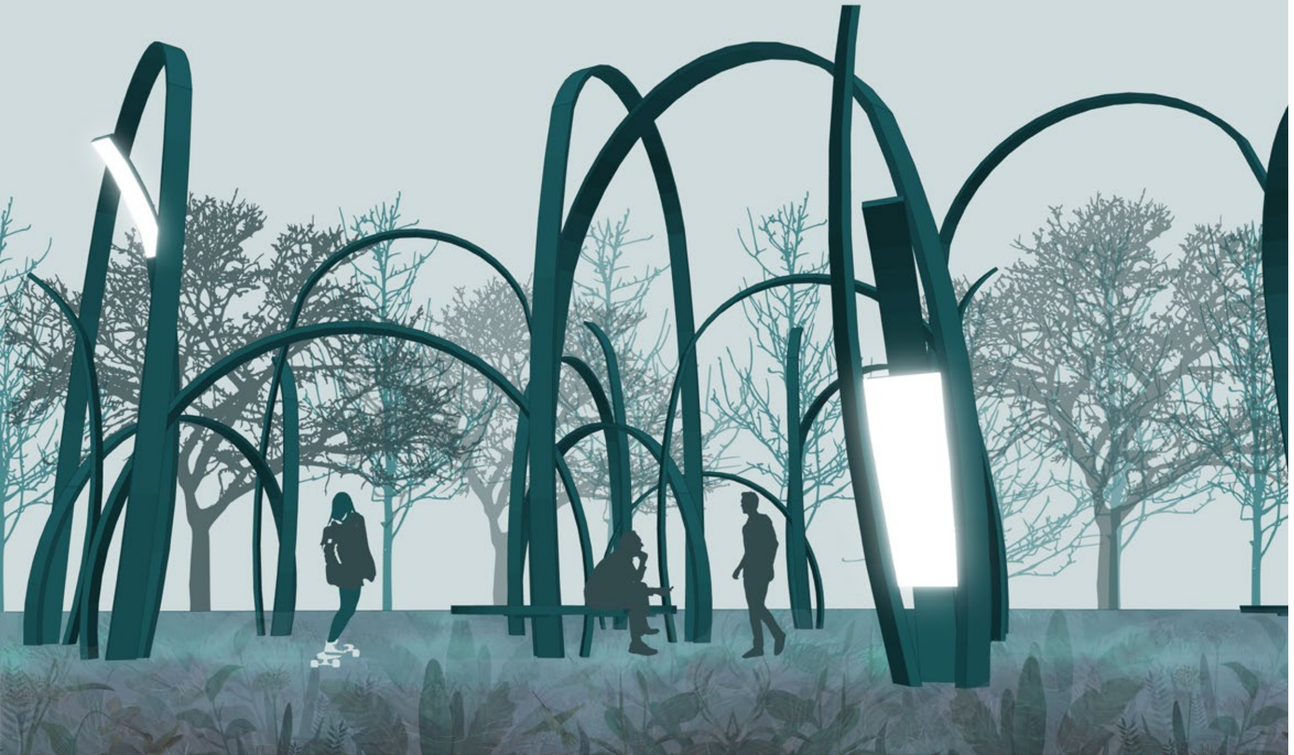
A PORTAL

The inside screen is an interactive digital screen that can be used for different uses (internet researches, cinema, etc.). On normal days, the screen is turned into a beautiful scenery that creates a peaceful mood for readers and people seated in the bench. The sceneries displayed on the screen attract people's attention to this tranquil outdoor place and creates a bubble of peacefulness and concentration for people using the furniture.

On special occasions, the space is turned into an open air cinema where documentaries, sport events, movies and videos can be displayed allowing people to gather around the furniture and share moments of laughter, cheers and joy.

Accelerating urbanization triggers our need to "stay connected", connected with people, with the city and with the information. The design is seen as a space of connectivity where all these systems can interact with each other ; a place of knowledge and interaction.

The smart furniture will help create opportunities of social interactions, connectivity, and the creation of a sense of belonging for the citizens of the district, by vitalizing the urban space of the district and by offering people the opportunity to use the public place as they please.



08_conste-llations

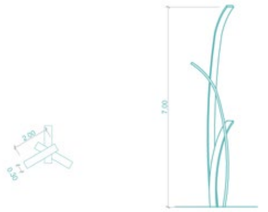
Kaizhou New City International Young Designer Competition (Kaizhou, China)
3rd prize project

Competition projet, Individual.

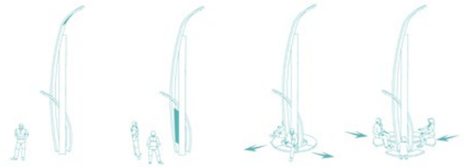
The project is premised on the importance of design as a catalyst of place making, generating spaces for exchange opportunities, social gatherings, and allowing the transformation of the public space into a place of social events.

The suggested design is a series of smart city urban furnitures that would be implemented in the Central Park of Kaizhou New City, as multi use and efficient furnitures that are offered to the population of the area.

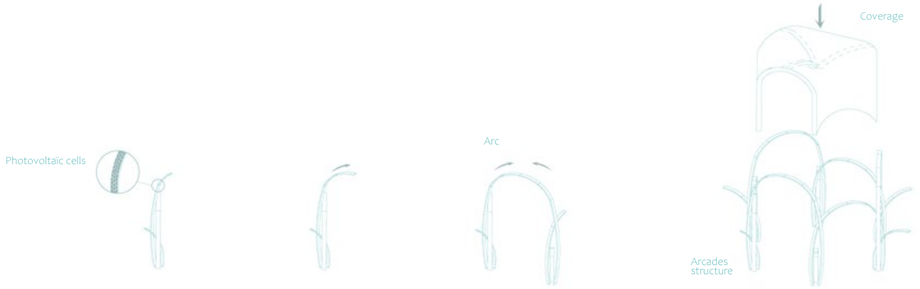
The design blurs the ligne between art installation /urban furniture/pavilion/structure: The series of urban furnitures is initially seen as a landscape installation, taking forms of plants emerging inside the park and creating a beautiful scenery within the public space. These installations have different purposes (3types) that varies from street lighting, convertible sitting areas, and digital interactive screens used to display the latest news, events, government information, or for advertisement. The screen is also interactive and can be used for different uses (internet researches, cinema, etc.) .



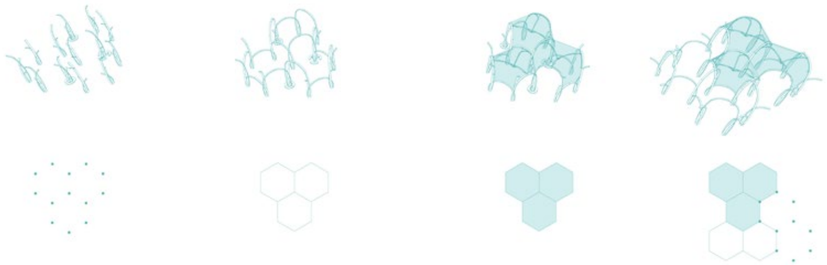
PLAN, ELEVATION 1/100



TYPES OF FUNCTIONS : lighting, interactive digital screen, benches



FROM SEPARATE UNITS TO A ONE SPACE



STRUCTURE EVOLUTION: The structure develops following an hexagonal grid.

The upper part of each unit can be extended creating half an arc, that connects to the other half of the unit next to it creating a full arc. The whole ensemble creates then a space within, made by the succession of arcade structure. The structure can be used for numerous social and urban events, whether to host public exhibitions, an area for children playground, or a pavilion hosting a cultural event. The structure can also be turned into a covered and protected space that can host different activities such as weekly markets or temporary community center.
The metallic furnitures are run by solar energy. People can take the advantage of Wi-Fi hot spots of the benches, that are also equipped with an energy source for laptops and phones charging.

The project aims to redefine the use of urban furniture within the urban contexts, as a catalyst for public space improvement, urban events generating, and community gathering opportunities. In this project, the smart urban furniture is seen as a way to increase the attractiveness of public spaces by providing numerous public services, information, and connectivity, while at the same time enabling the collection of valuable data for optimizing processes and reducing costs. This series of urban furniture is seen as an urban catalyst that can create variety of spaces from open, to semi-open, to closed, and can develop from an ensemble of independent installations, to an open structure, to a protected outdoor space that morphs and changes based on the changing of the community's needs.

The name of the installation "conste-llation", best describe the essence of the project, as a series of units with independent functions, when connected together, they can turn into a whole space that can have different meanings and functions for the citizens of the city.
Accelerating urbanization triggers our need to stay connected, and to think about the uses and the temporality of the spaces we design. The installation will help create opportunities of social interactions, connectivity, and the creation of a variety of temporary spaces using permanent units, helping vitalize the urban space and offering people the opportunity to use the public place as they please, a place of connectivity, interaction, and adaptation.

09_post_covid19_housing

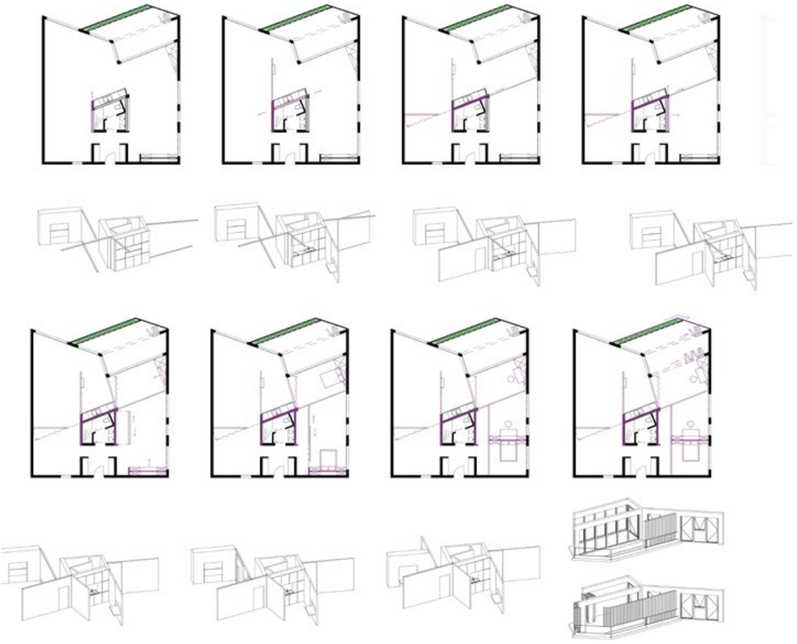
Competition projet, Individual.

The COVID-19 pandemic has forced us to reconsider the way we live and build in the future. As lockdown made citizens stay in their homes now more than ever, a spotlight has been cast upon the way residences can accommodate the demands of this new, unforeseen era.

This housing project aims to create new living space models that take into consideration four crucial elements, that are seen as fundamental elements for the housing post Covid19: outdoor/indoor relationship, sense of neighborhood and community, resources and energy consumption, and the flexibility of spaces and their adaptability to the lifestyles of users.

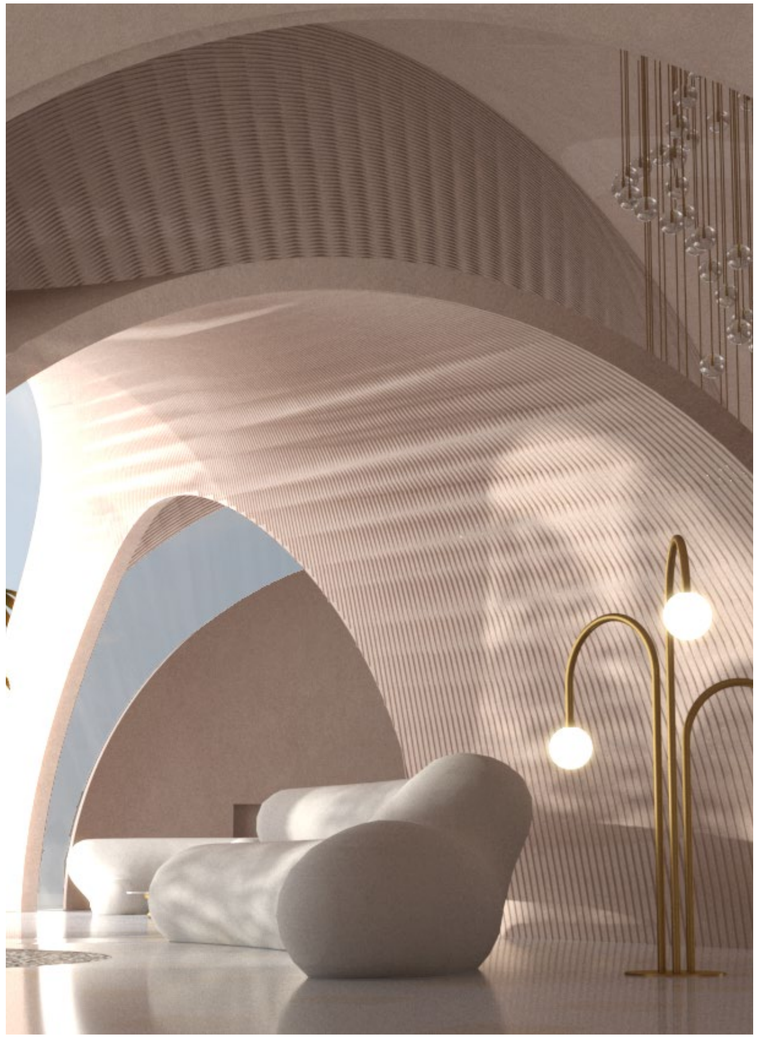
Since the start of the pandemic, our appreciation of the outdoors and green spaces seems to have increased significantly. The design of the master plan incorporates hierarchical public spaces of different uses, dedicated to neighborhood residents, connecting them to to public spaces and streets surrounding them. Within the neighborhood, public spaces are dedicated to all residents: shared gardening spaces, coffee shops and restaurants terrace areas, areas for outdoor sports activities, etc.
These spaces make it possible to create places of socialization and events that animate the neighborhood. Within the buildings, public space infiltrates the middle of the building in the form of «internal alleys», thus creating an open and living space inside each residential building. In this case the circulation space takes on a new form, that of an outdoor space. The openness of the circulation space makes it possible to make this space healthier by natural ventilation, with the possibility of planting extensive terraces in front of each housing unit.

The spatial organization makes it possible to create intimate spaces separated from the corridors at each terrace. The arrangement of these terraces allows residents to meet while keeping their safety distances: “distant Socializing” instead of “Social distancing”. Inside each housing unit, a terrace with a planting space is integrated into the design of the living space, allowing residents to be outside while staying at home. The terrace can be integrated with the interior space, as it can be enlarged with removable partitions.
The integration of shared spaces inside the residential building doesn’t only allow residents to be in touch with nature and the outdoor spaces, it also helps strengthen the concept of neighborhood and the sense of belonging inside the neighborhood. When we think of resilience, we also need to think of social resilience. These spaces help promote meeting, socialization, sharing and solidarity between the inhabitants of the neighborhood. Thus, the inhabitants do not feel alone but rather feel as part of a larger whole.



The project offers «living» living spaces, capable of morphing and changing in order to meet the needs of residents in terms of spatial flexibility by integrating the principle of temporality of use. Most inhabitants don't have the privilege of having a separate office allowing them to work or study easily from home, nor the luxury of having a gym or a children's playroom, etc.
The project offers living spaces designed as temporary spaces, which can change during the day, so that each space is appropriate in a different way during the day without having «obsolete» corners, but which can also adapt in the long term, following the development and evolution of the lifestyle of the inhabitants.
The apartment is made up of two types of spaces; "A servant space and a served space" (Louis Kahn).
The servant space is made up of:
- entrance to the apartment: a clearly defined transitional space.
- Servant unit consisting of bathroom, WC, kitchen equipment, and moveable partitions.
The space served is a space free of any separation or structure, which extends to the terrace.

The moveable partitions allow to separate the different spaces into day spaces and night spaces, allowing to have different interior design scenarios: fully open or closed living space, possibility of having one, two or three bedrooms, bedrooms with built-in furniture that transforms into an office for teleworking, a dining room that turns into a games room or sports area, the terrace that becomes an artistic workshop, etc. Operable partition walls can be easily manipulated by residents who can modify the layouts of their living space to meet their needs for the short and long term.



furniture+ living space
interior concept design

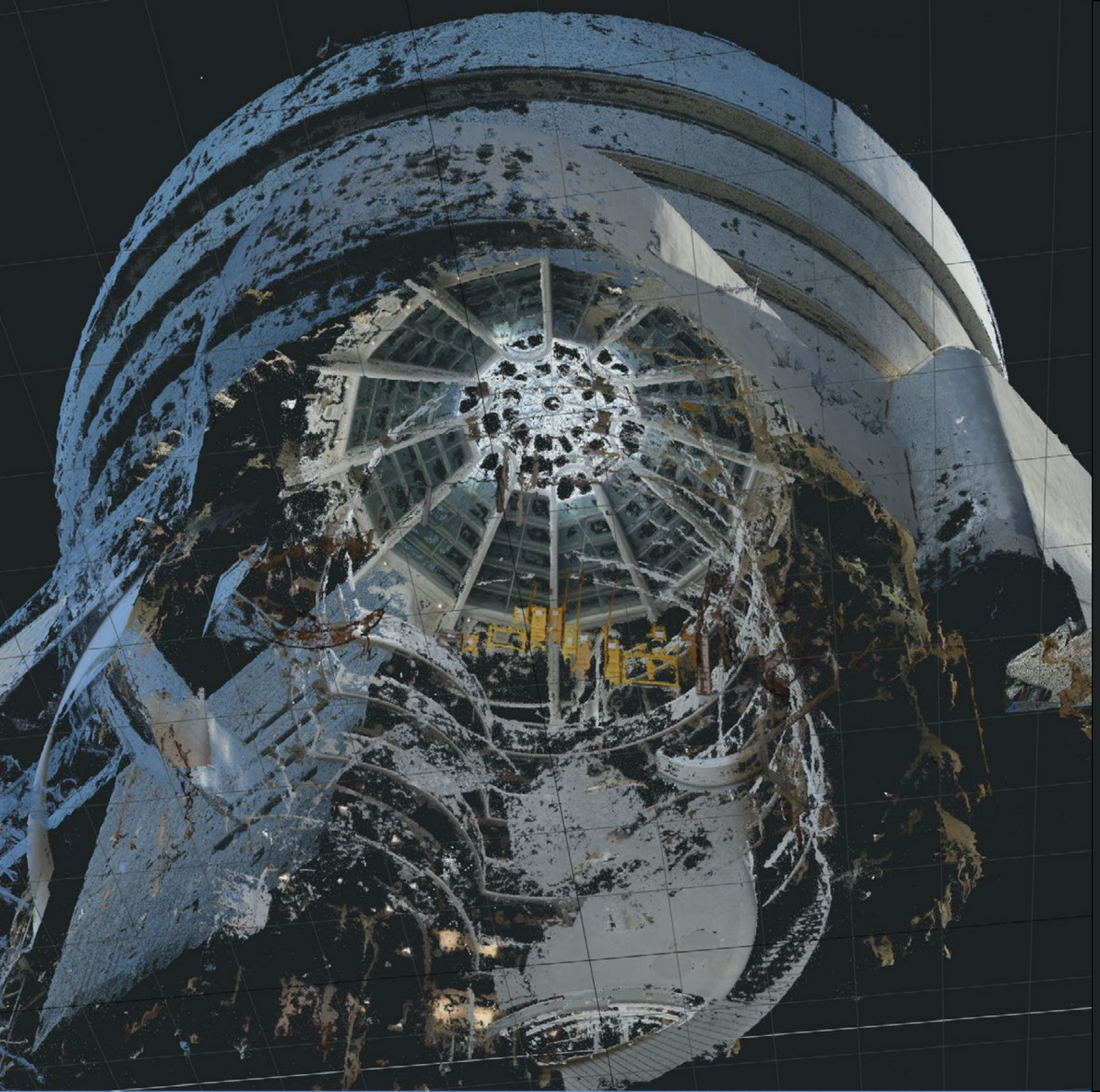
computational_design

11_museum_of_babel

Studio project, MST ACT NYIT

ARCH 701B Computational Design Studio I
Professor: Pablo Lorenzo-Eiroa

The project proposes correlations between the physical experience of the Guggenheim Museum in NYC expanded through an augmented virtual reality platform that aims to expand on the idea of infinite space; building-up on the idea of spacial continuity and infinity of Frank Llyod Wright's ramp. The new space is an infinite space of navigation and art discovery, retrieving inaccessible and stored archived paintings and works of art from multiple museums that co-relate to the exhibited artwork.
The project is a reconstruction of the space of the museum, a new spatial configuration that connect the user, the artwork and the space of display in a world of constrant change and discovery, layered by multiple infinite of art, space and navigation.



a. Big Data acquisition

First part of the project consists of 3D scanning acquiring real spaces (the Museum Mile urban fragment of the city of New York, more specifically two buildings; the Guggenheim Museum NYC and the Metropolitan Museum of Art) through photogrammetry and implementing Big Data processing.

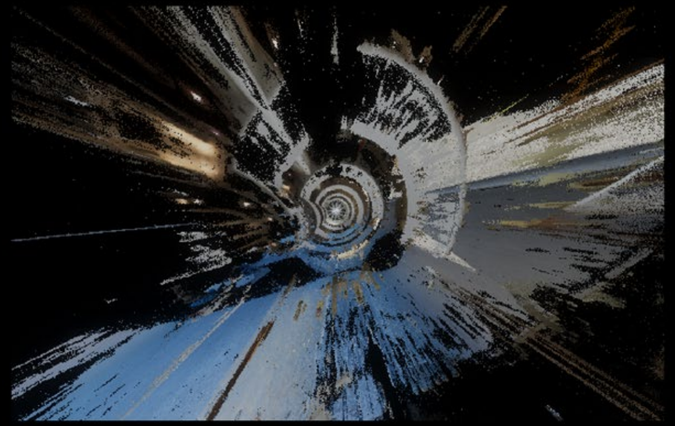
In this first part of this work, concepts of spatial infinity, extension and transcendence are portrayed using point cloud collection and representation to highlight existing spatial characteristics, as well as looking at them through a different lens, triggering new concepts of spatial representation, spatial infinity on a physical level, perceptual level, and use/programming level.

Guggenheim Museum Point Cloud

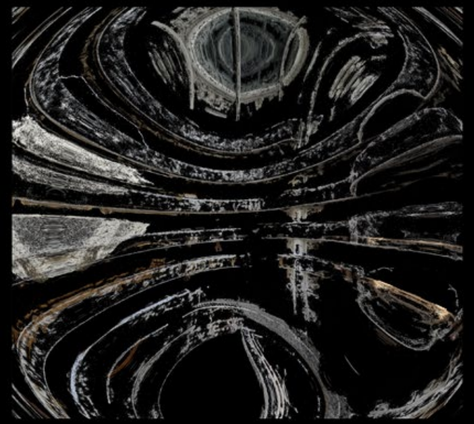
https://www.youtube.com/watch?v=EKboJDDYB5U

The MET Point Cloud

https://www.youtube.com/watch?v=6dP85lgEhjs



Perspective, vanishing point



Fish eye, camera distortion

Perspective, vanishing point

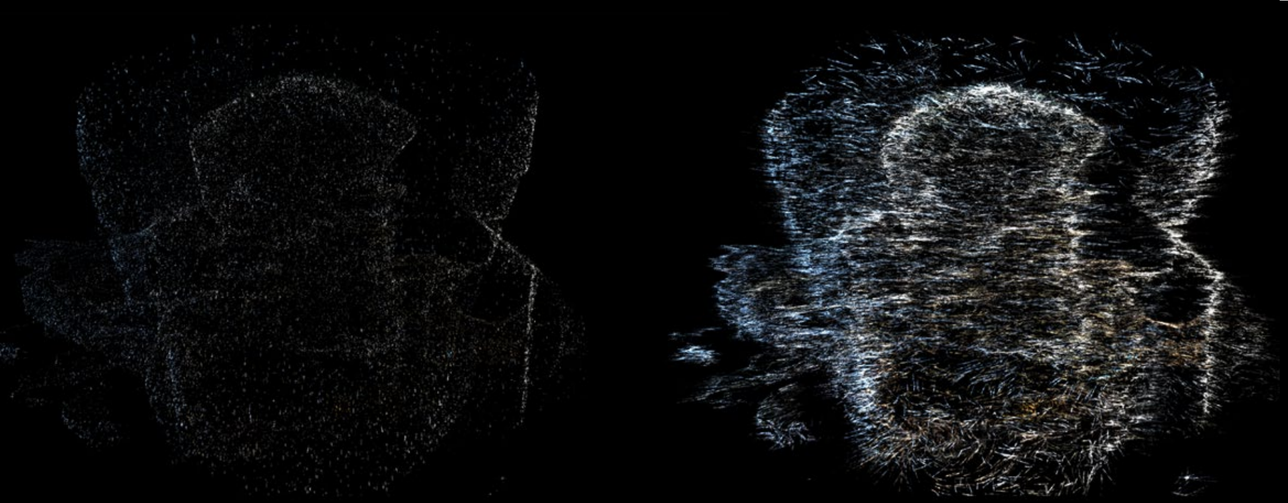
Perspective, hall

Orthogonal view, hall

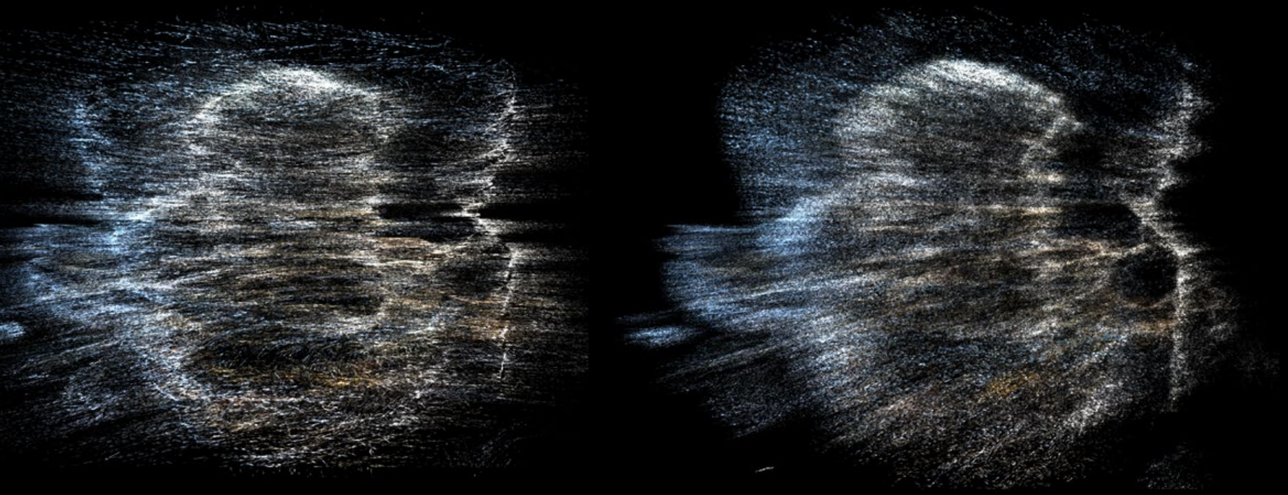
b. Point Cloud representation

The point cloud is represented to reflect the different aspects of the spacial qualities and experience inside the buildings.

1.Perspective, vanishing point, pictute plane space



POINT LINE SURFACE VOLUME MASSE/SPACE

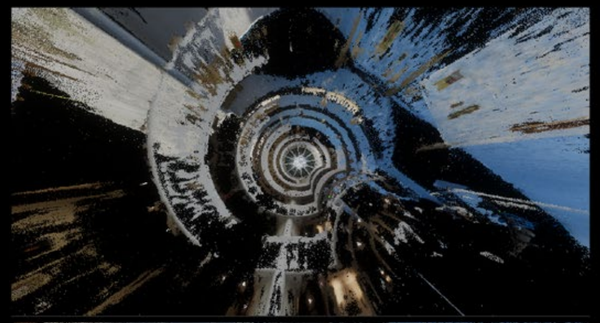
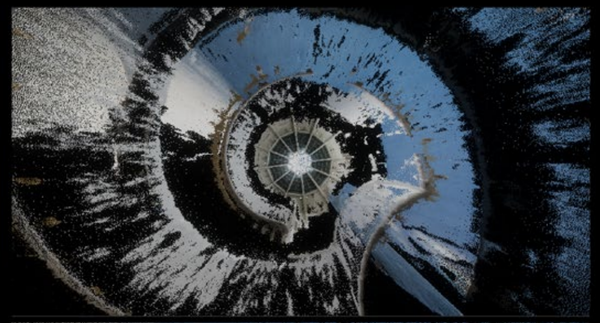


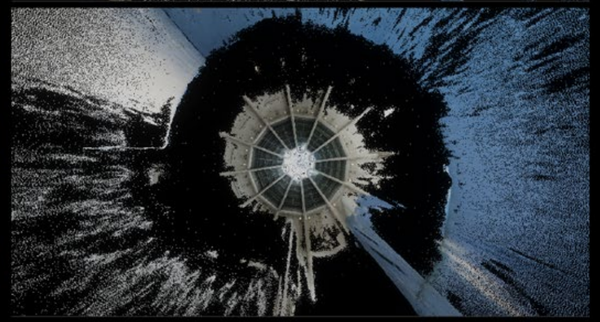
POINT LINE SURFACE VOLUME MASSE/SPACE

b. Point Cloud representation

The point cloud is represented to reflect the different aspects of the spacial qualities and experience inside the buildings.

2.Tectonics of project through point cloud



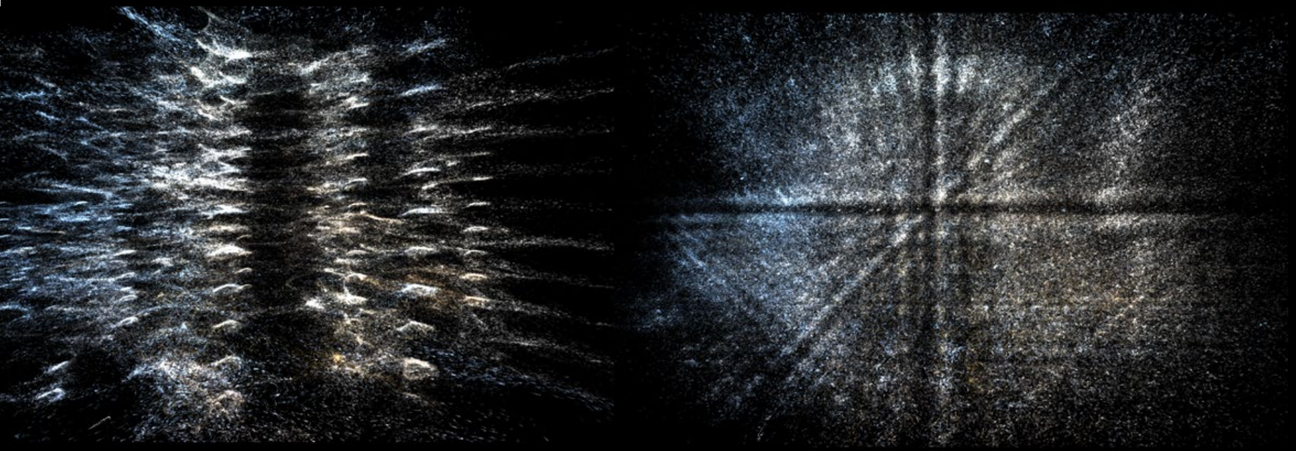


b. Point Cloud representation

The point cloud is represented to reflect the different aspects of the spacial qualities and experience inside the buildings.

3. Subject Object relationship, deep space, layered space

Transparency, density, force



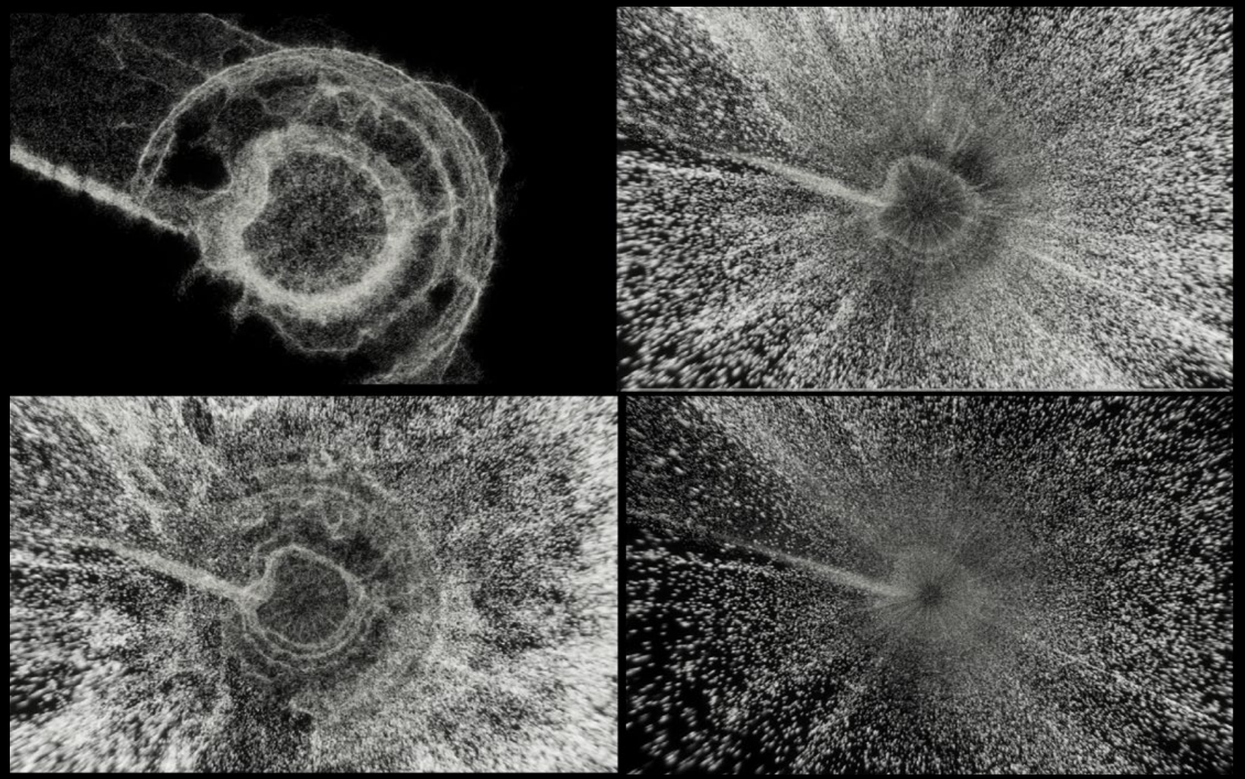
Vector field force xy, xyz

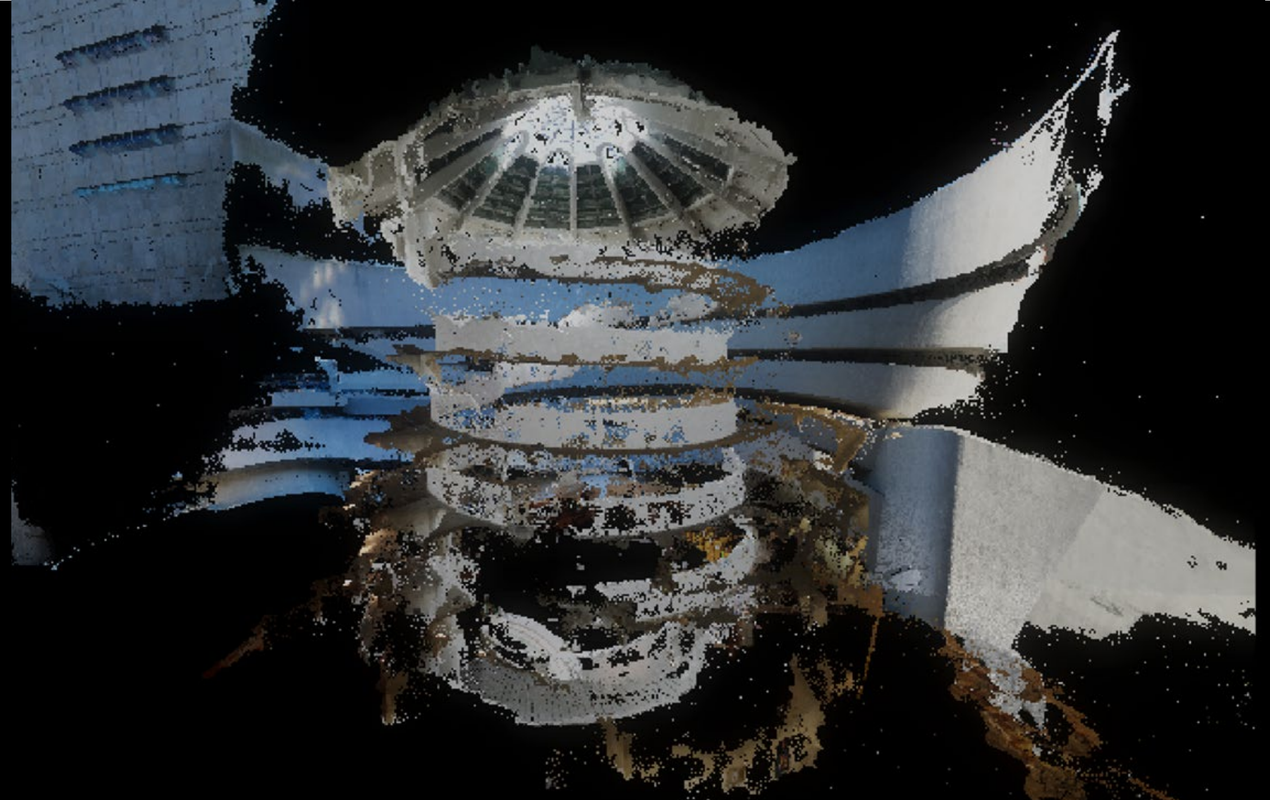
b. Point Cloud representation

The point cloud is represented to reflect the different aspects of the spacial qualities and experience inside the buildings.

4. Possibilities of point cloud representation with the point as an index, through application of vectorial forces and transparancy

https://www.youtube.com/watch?v=5hS3zAJ6Ags





Ramp as gravitational force of the building, connection infinities

b. Point Cloud representation

The point cloud is represented to reflect the different aspects of the spacial qualities and experience inside the buildings.

5. Reality/ realism
Representing the experience of the ramp as a way of achieving an infinite space experience.
The ramp being the gravitational force of the building

b. Point Cloud representation

The point cloud is represented to reflect the different aspects of the spacial qualities and experience inside the buildings.

5. Reality/ realism
The infinite experience is also felt inside the met through the repetition inside the space, and the movement from one building to another, through thresholds and special spaces where the art becomes the space, create aspect of the infinite.

Transcendance

Space- Frame-Space-Frame-Painting-Space-Frame-Space

Space- Frame-**Space-Frame-Painting**-Space-Frame-Space

Transcendance

Space- Frame-Space-Frame-**Painting-Space-Frame-Space**

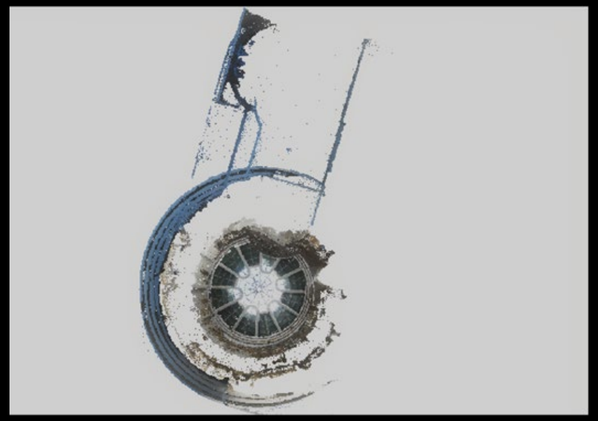
Transcendance

b. Point Cloud representation

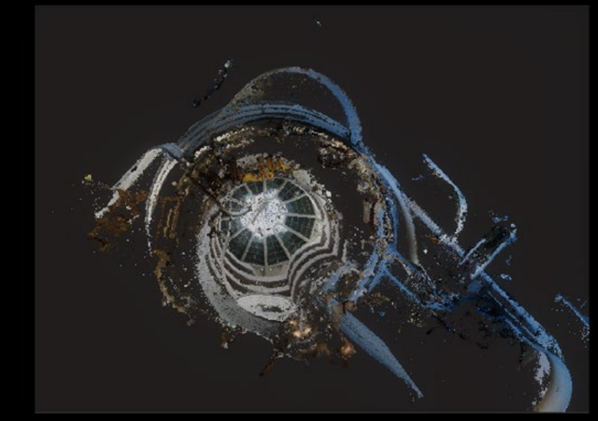
The point cloud is represented to reflect the different aspects of the spacial qualities and experience inside the buildings.

6. Real Space, Virtual Space, Representation Space

Transcendance of artwork from space to framed space to frame ro art to space, blurring the lines between representation and space of representation



Delicate tensions, by Kandinsky, by Frank Llyod Wrigh



Circles, by Kandinsky, by Frank Llyod Wright

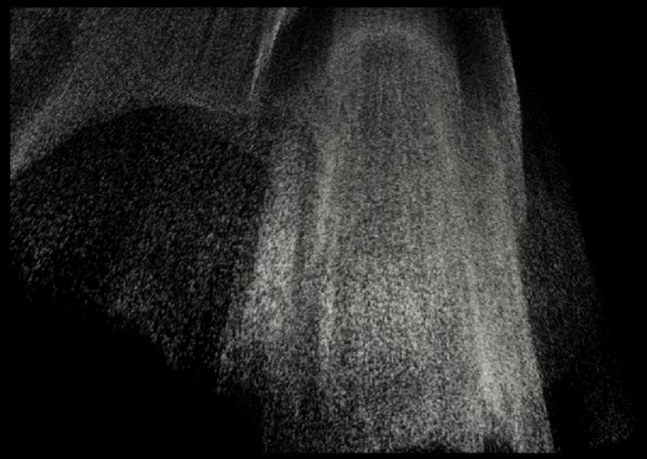
b. Point Cloud representation

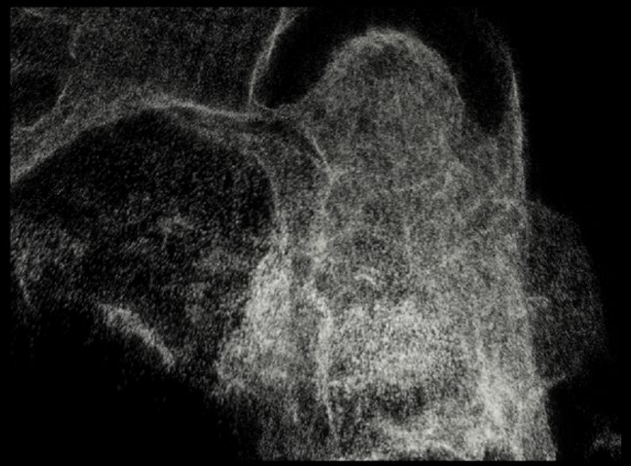
The point cloud is represented to reflect the different aspects of the spacial qualities and experience inside the buildings.

6. Real Space, Virtual Space, Representation Space

Transcendance of artwork from space to building, representing the building as an interpretation of Kandinsky art by the architect through the building of the museum.

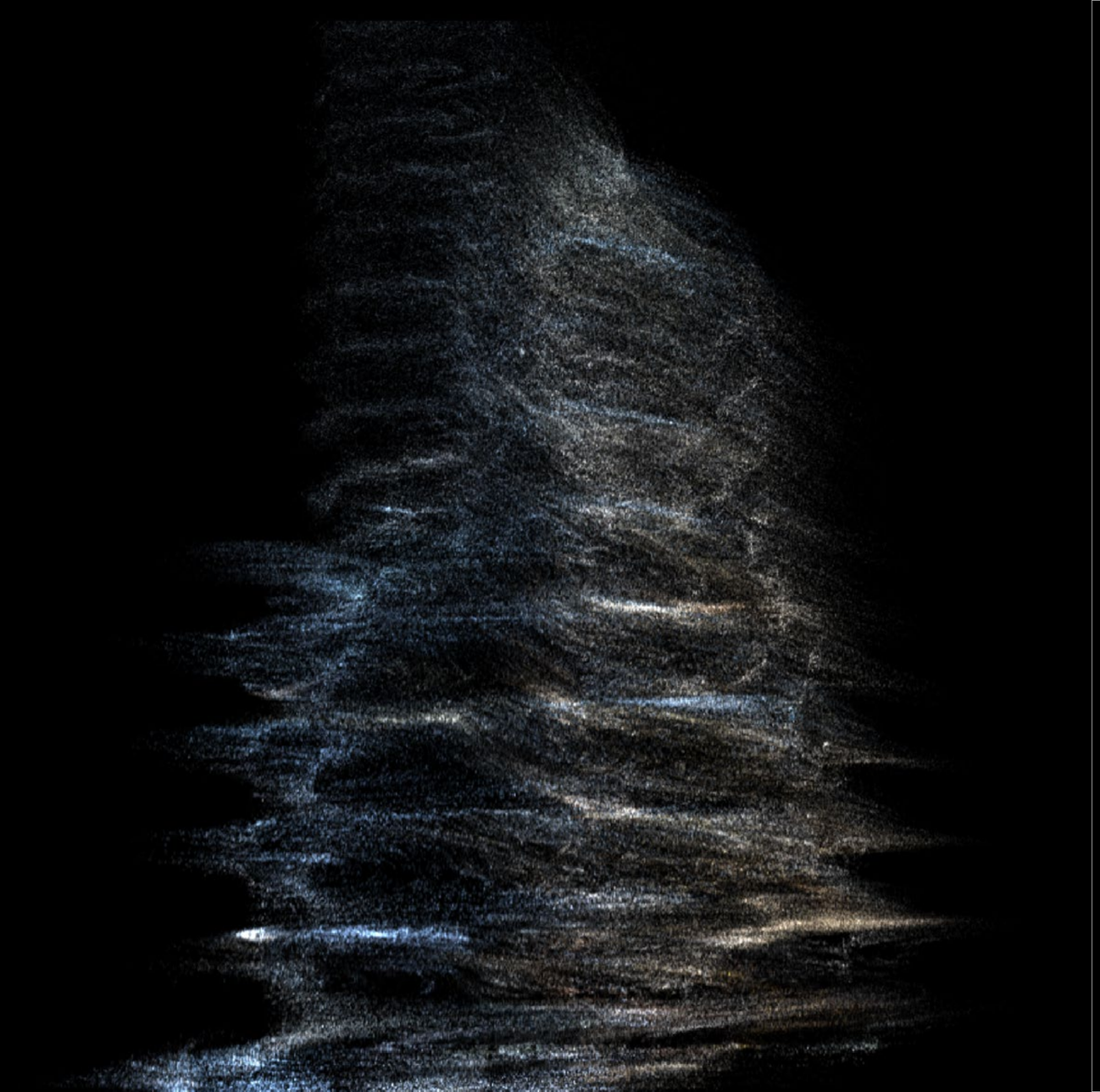
Inside Out





b. Point Cloud displacement, point as an index.

Intuitive displacements of the pointc clouds using the point as index by applying AI algorithms to create new spaces of the museums.



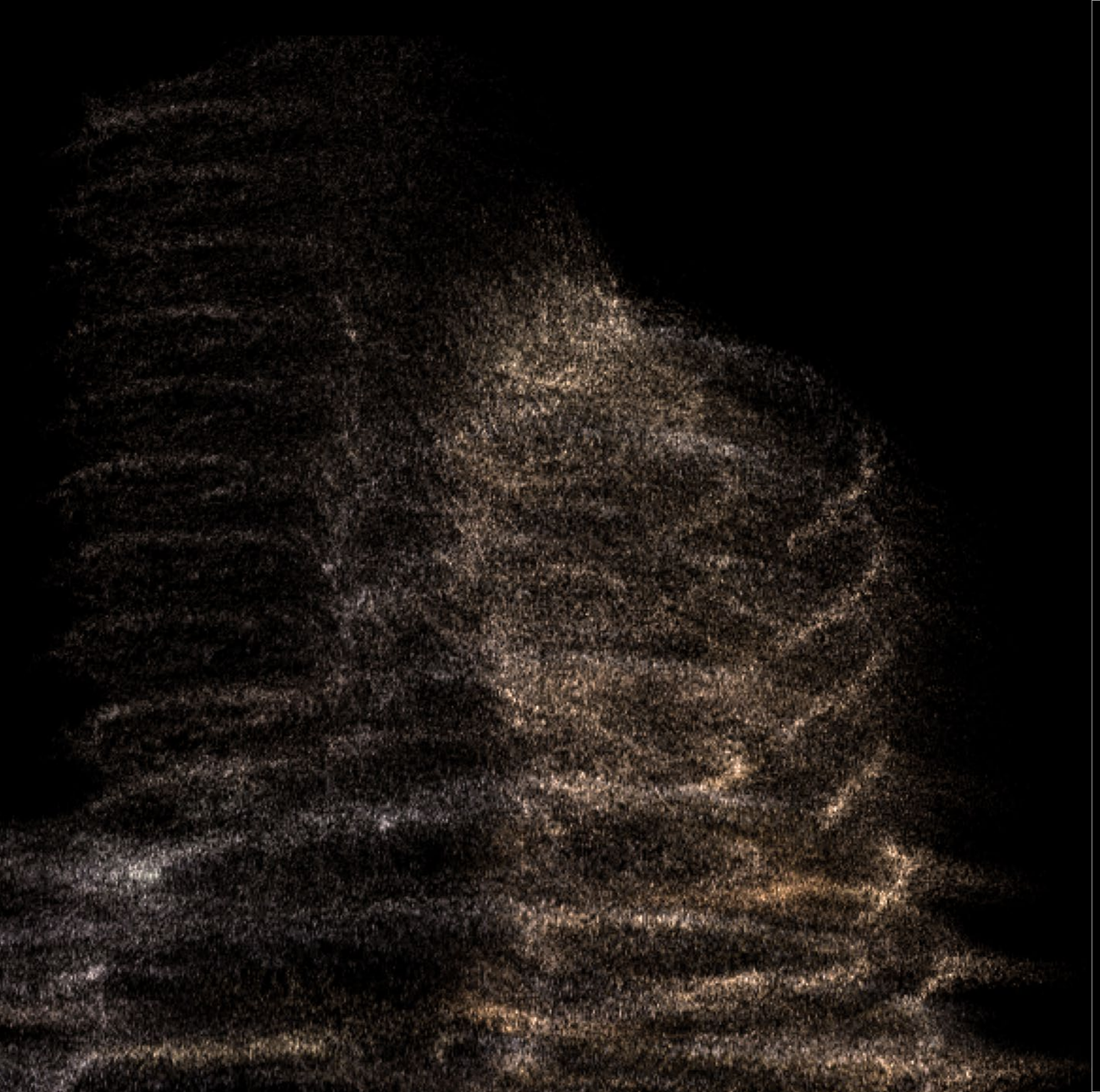
b. Point Cloud displacement, point as an index.

Intuitive displacements of the pointc clouds using the point as index by applying AI algorithms to create new spaces of the museums.

Spiral extension

https://www.youtube.com/watch?v=WOgW9qaOqLo

https://www.youtube.com/watch?v=LOGrPyKNOdk

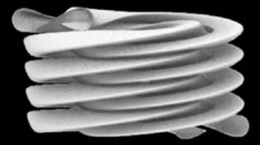


11_museum_of_babel

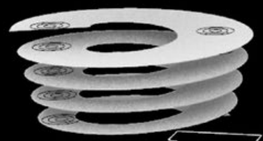
The different aspects of spatial endlessness, unlimited growth, transcendence between art, architecture and space, lead to the idea of a spatial typology that helps attain a certain degree of spatial infinity, blurring the lines between both museums, between art and space, between the physical and the virtual, between reality and realism. The ramp of the Guggenheim museum is an interesting aspect of the building as it is the gravitational force of the space, creating a continuous spatial experience inside of the building where the user is moving vertically while walking horizontally , creating a sensation of an endless space of movement. The ramp becomes a threshold between two vanishing points, between the exterior space as a first infinite, and the space of the building itself being a second infinite. During the data collection process of the MET, the ‘Ancient Rome’ painting by Giovanni Paolo Panini came in mind as the Realism of the MET, a display space of seamless extension between space of representation and representation itself, a building connecting the world through art, including different pieces from the globe and from different time periods. The space itself becomes a display (Egyptian temple), a column in painting is later on seen as an architectural physical component of the space…The distorting of both buildings, combining the spiral form of the Guggenheim, and the realism of the MET, leads to reflections about a new spatial typology of the ‘Museum of babel’, a hyperspace that transcends space, time and reality.

art collection
paintings collections,
portals

polymorphic
space



paths



MUSEUM OF BABEL

GUGGENHEIM
MUSEUM SPIRAL,
INFINITE SPACE

THE MET
FRAME,
TRANSCENDENCE

JORGE LUIS BORGES
Library of Babel, The book of Sand , The Garden of Forking Paths

"The universe (which others call the Library) is composed of an indefinite, perhaps infinite number of hexagonal galleries."
Jorge Luis Borges, The Library of Babel

Library = Infinite galleries,
Books, combinaisons of letters and characters

Book of Sand=infinite book, no beginning no ending

Museum = Infinite galleries,

Museum of forking paths, individual experience

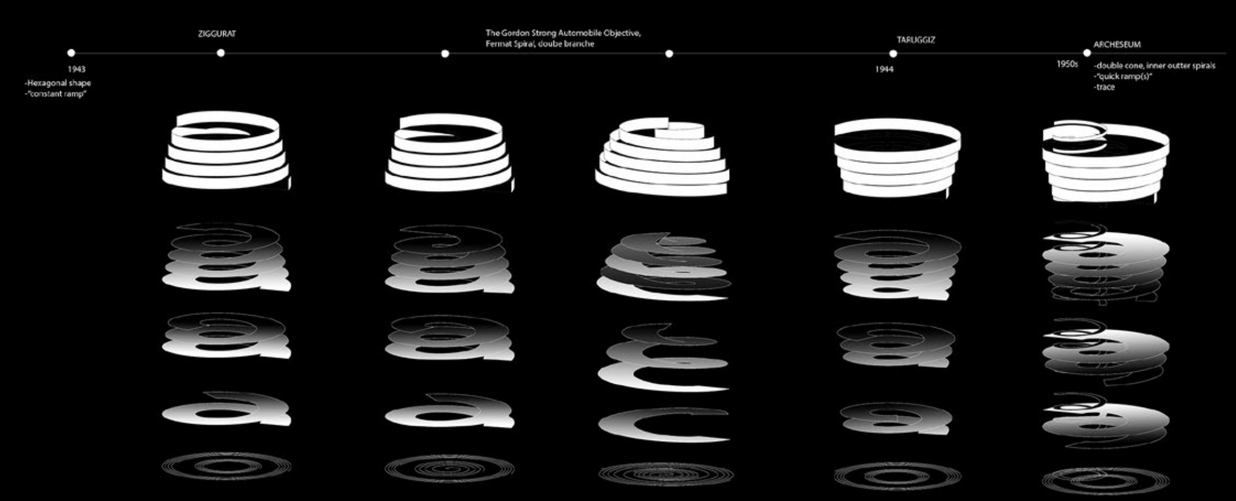
Painting= Infinite paitings, Museum = Painting= Space

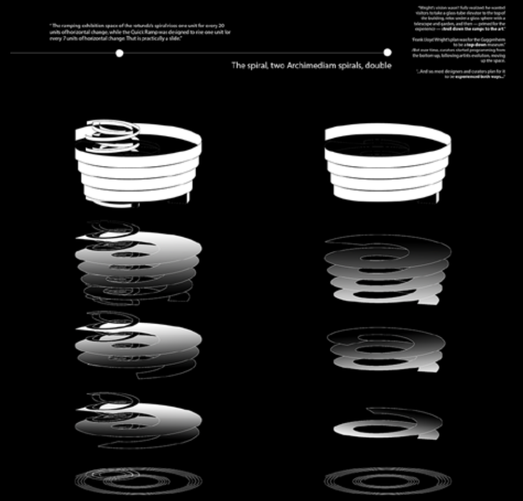
c. Museum of Babel, space of layered infinites

The distorting of both buildings, combining the spiral form, infinite aspect of the Guggenheim, and the realism of the MET (different building, multiple art work, transcendence of space and art), leads to reflections about a new spatial typology of the 'Museum of babel' A third space, that is not the Guggenheim Museum, that is not the Met, that is both, that is neither.

Concept of infinite was explored through Jorge Louis Borges readings «Library of Babel», «The Book of Sand», and « The Garden of Forking Paths».

The Museum of Babel is a layered space, where infinite combinaisons of paths, polymorphic spaces and painting collections, collide to create a new space of experiencing and navigating art, where representation and space of representation are equally important to create an immersive expe-rience.
A new Augmanted Reality space of infinite galleries, existing at the same space, at different times.





c. Museum of Babel, space of layered infinites

A study of the history of the spiral as a concept and as a space of experience was conducted in attempt to understand the idea behind the spiral, the architect's realised intentions and unachieved ideas, in order to build up on the idea of the spiral as it was seen conceptually and how it was built and experienced physically.

The conclusion of the study is to think about the spiral as a new space of eternal growth, experienced not only from bottom-up or top-down, but from multiple beginnings and ends, providing multiples experiences that are specific to the user at a certain times and space. The space of the new Museum of Babel is an individual experience where two people can be in the same spot, but experience different aspects and times of the space, an experience that differs from one person to the other, from one time to the other, from one visit to the other.

c. Museum of Babel, space of layered infinites

Paths, itineraries and threshold:

The first layer constructing the Museum of Babel is the paths.

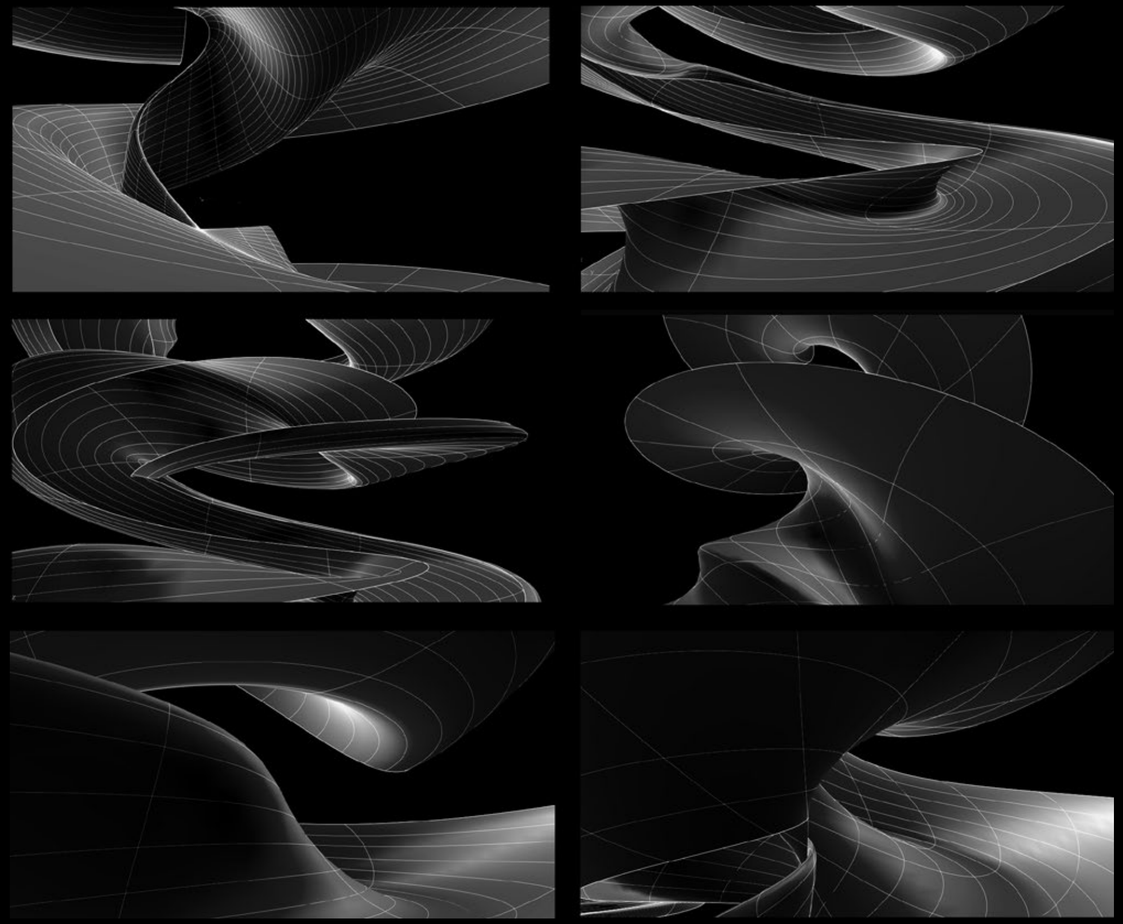
The museum of babel includes 2 spirals (quick ramp(stairs included in the space of navigation), and the main ramp), with 8 thresholds, distributed in the space. The multiple permutation between these points creates the itineraries of the building, One itinerary is defined by the visit of all these points. All possible orders of visits (around 300 000 possible itineraries) construct multiple versions of the space as every path is activated and constructed when a person reaches a specific threshold point.

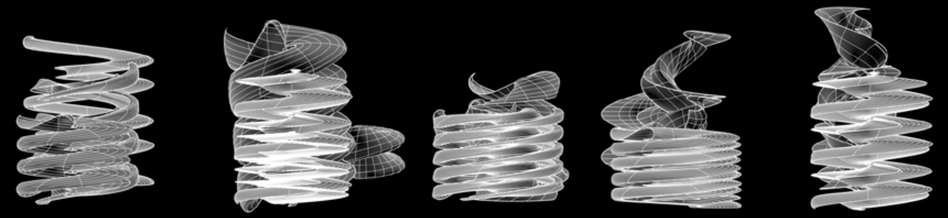
c. Museum of Babel, space of layered infinites

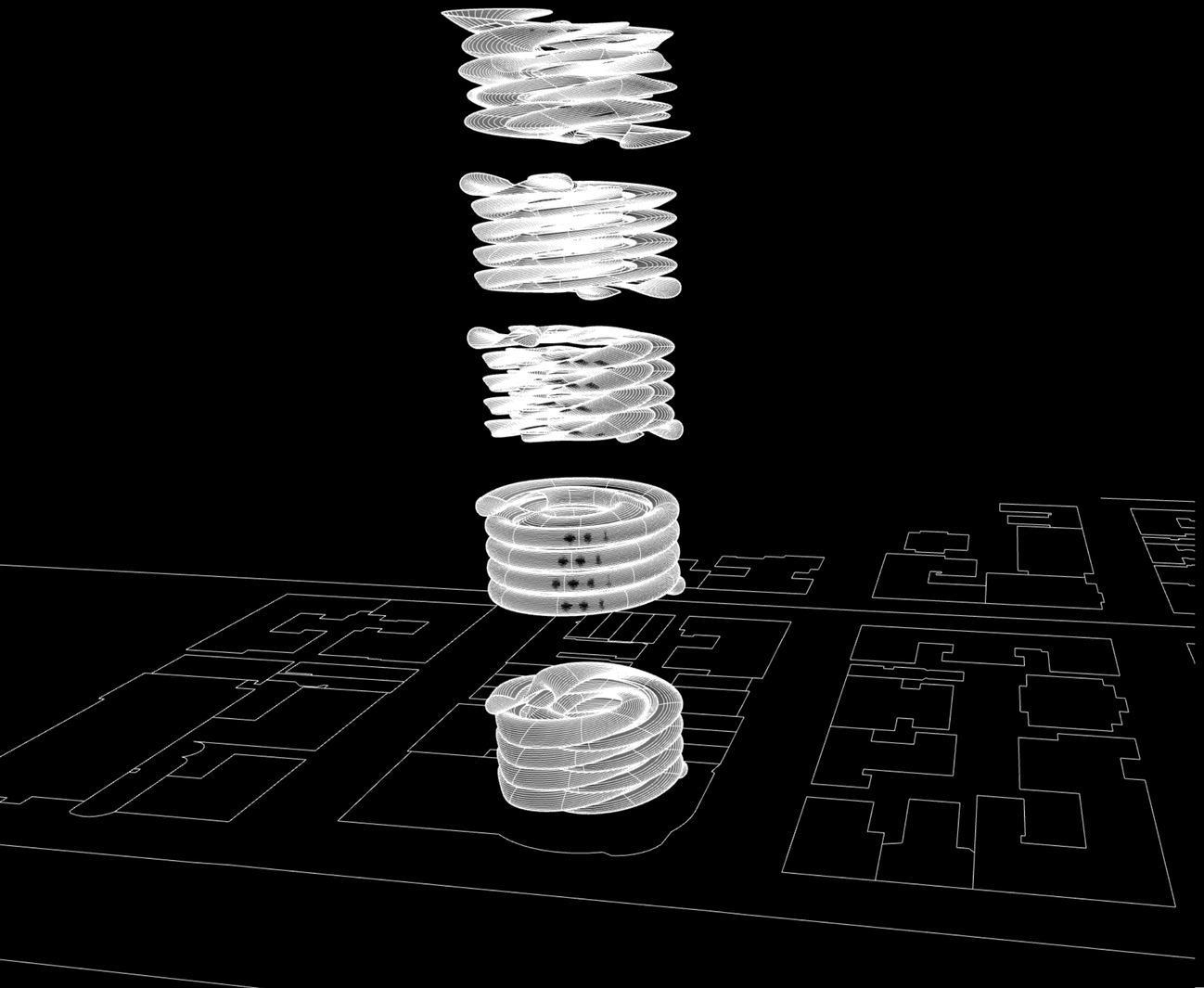
Polymorphic space :

Another research was conducted to create a new spatial typology using mathematics and parametric variables to construct a polymorphic space of the spiral.

Different attempts using parametric equations of klein surface and helicoid surface to code a new form using parametric mathematical equations.





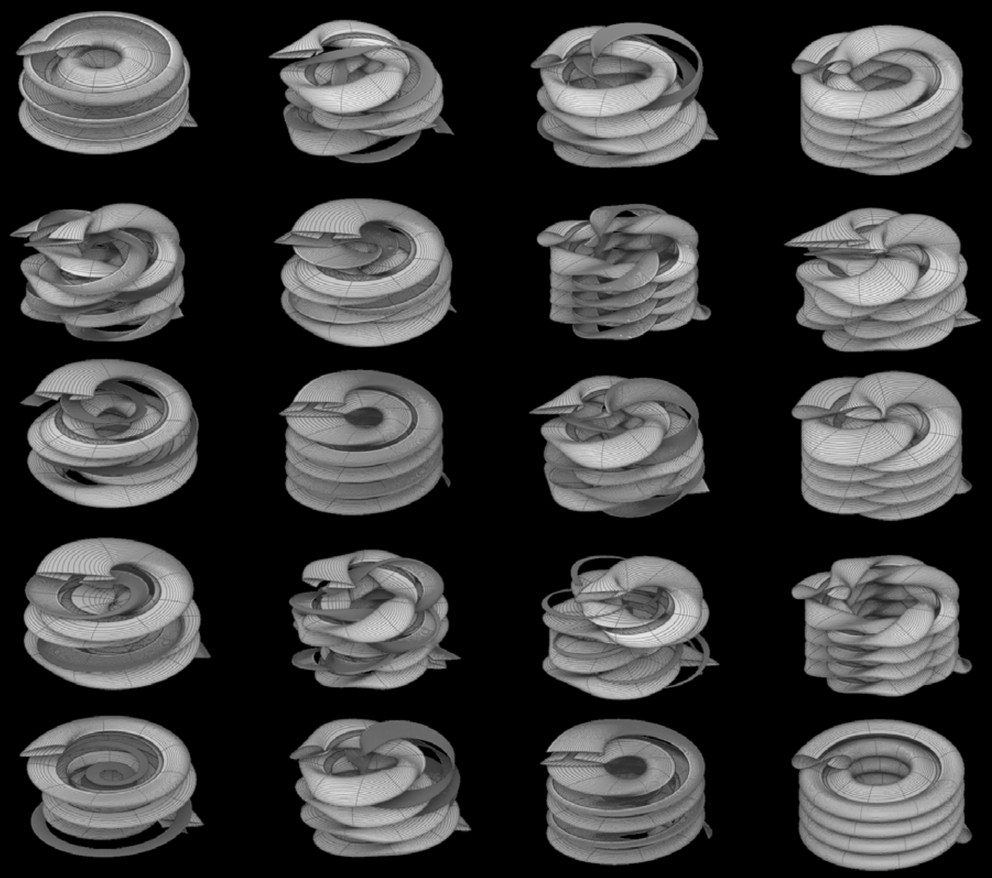


c. Museum of Babel, space of layered infinites

Polymorphic space :

Result

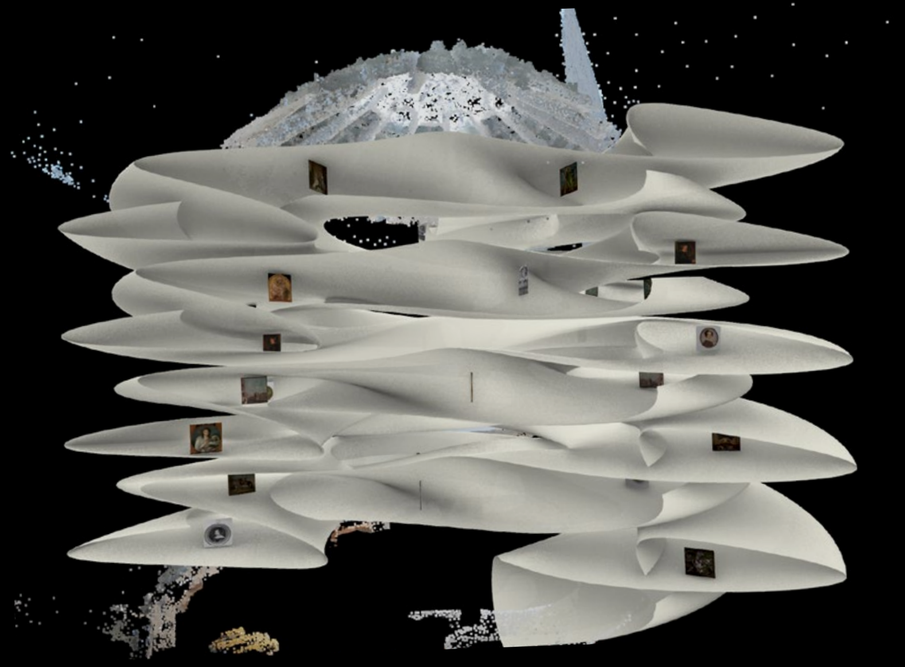
The ramp become a morphing geometry using mathematical equation which parameters are linked to the different itineraries, each path between 2 thresholds activates one variation of the space, creating a space that keeps morphing and shifting while navigated.

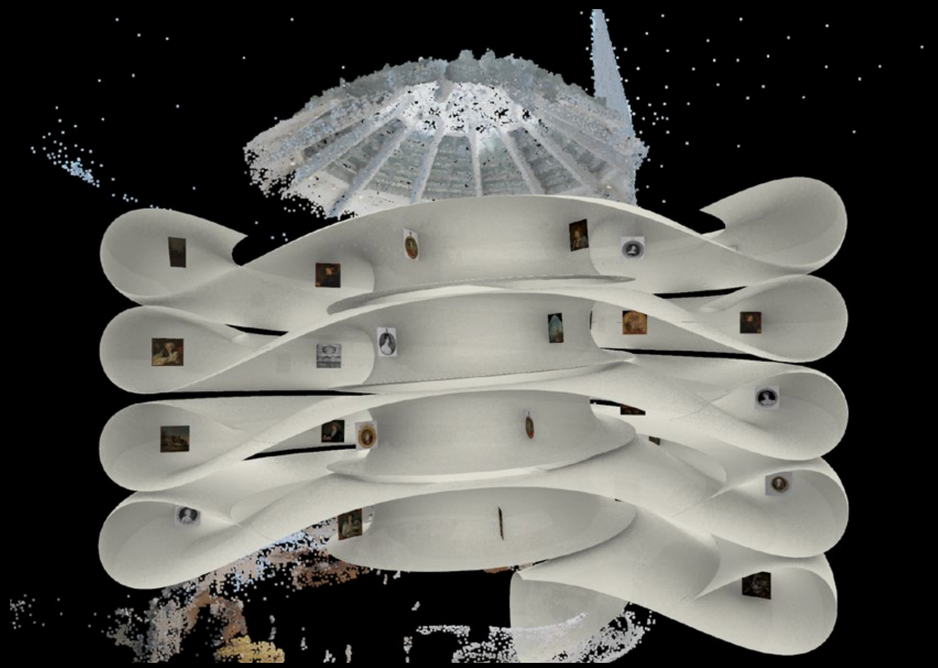


x(u,v)= c*((b+ cos(u*x)*sin(v) - sin(u*x)*sin(2*v))*cos(u))

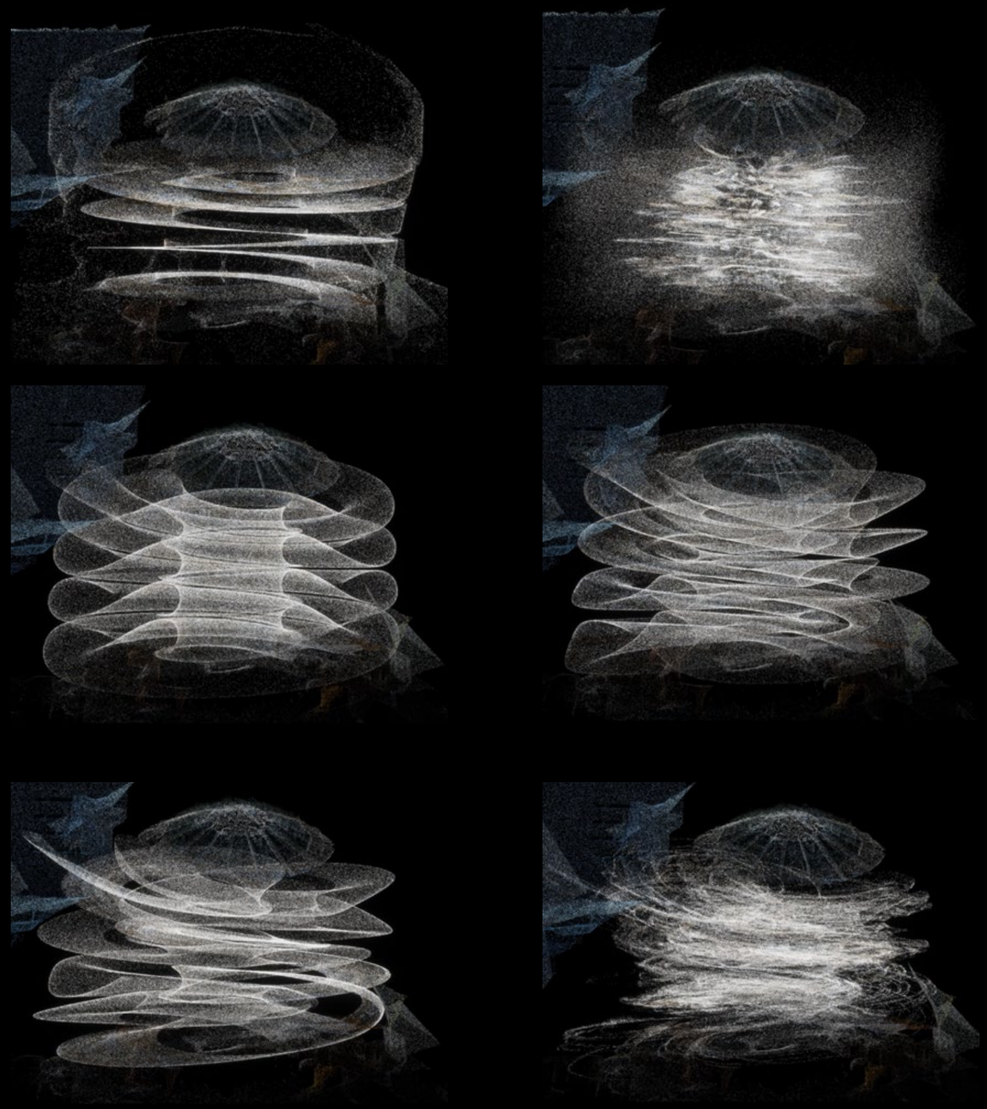
y(u,v)= c*((b+ cos(u*x)*sin(v) - sin(u*x)*sin(2*v))*sin(u))

z(u,v)= 1.7*(sin(u*x)*sin(v) + cos(u*x)*sin(2*v))+3/5*(cos(a)*v+sin(a)*u)





https://kattasssalma.wixsite.com/portfolio/links

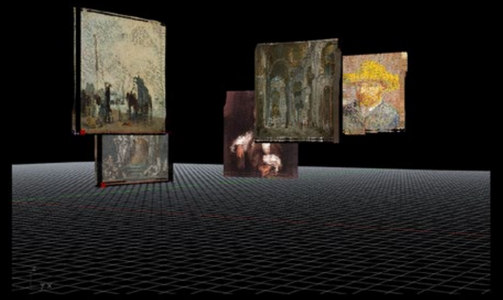


```
url_departments_objects= f'{endpoint}objects?de-
partmentIds={departmentId}'

result2=requests.get(url_departments_objects)
departments_objectIDs=result2.json()['objec-
tIDs']
print(len(departments_objectIDs))
departments_objectIDs_divided=departments_objec-
tIDs
print(departments_objectIDs_divided)


archived_objects_ids_list=[]
archived_objects_titles_list=[]
archived_objects_artists_list=[]
archived_objects_primaryimage_list=[]
archived_objects_dimensions_H_list=[]
archived_objects_dimensions_W_list=[]


for i in departments_objectIDs_divided:
    url_objects=f'{endpoint}objects/{i}'
    result3=requests.get(url_objects)
    objects_infos=result3.json()
    if objects_infos['GalleryNumber'] ==»»:
        archived_objects_ids_list.append(ob-
jects_infos['objectID'])
        archived_objects_titles_list.append(ob-
jects_infos['title'])
        archived_objects_artists_list.append(ob-
jects_infos['artistDisplayName'])
        archived_objects_primaryimage_list.ap-
pend(objects_infos['primaryImage'])
        archived_objects_dimensions_H_list.ap-
pend(objects_infos['measurements'][0]['element-
Measurements']['Height'])
        archived_objects_dimensions_W_list.ap-
pend(objects_infos['measurements'][0]['element-
Measurements']['Width'])
```



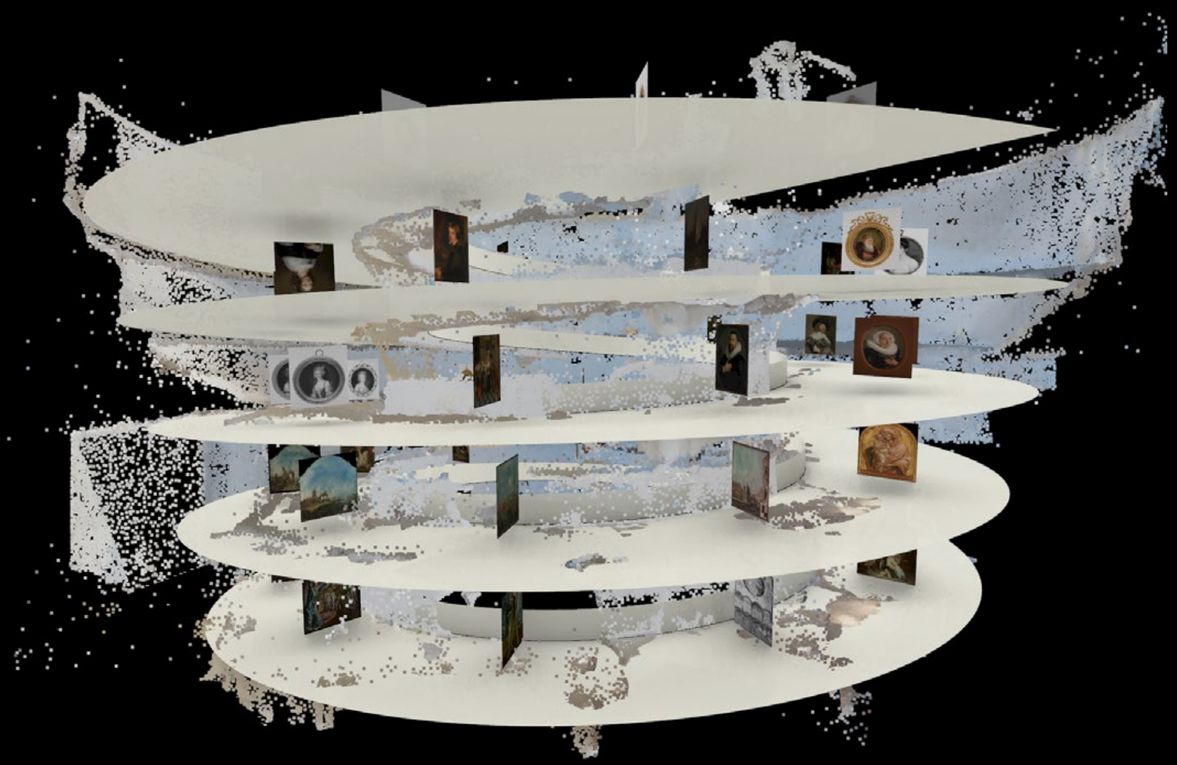
c. Museum of Babel, space of layered infinites

Paintings, hyperlinks, portals :

A data set of met collection using Web scrapping and API is collected to create multiple collections of the artwork, whether displayed or archived.

Layer of hyperlinks displaying artwork from different artists, periods and parts of the world. One hyperlink can be one painting but also include other paintings, creating multiple museums inside of each painting hyperlink. The «Library of Babel» becomes «the Book of Sand».

Web scrapping using the MET API collection, as well as social media scrapping, were used to create multiple collections (popular art work,- displayed/archived art, paitings from different periods, artists, etc)



```
met collection.py 1 ×
C: > Users > katta > OneDrive > Bureau > python > codes > met collection.py > ...
  1  #link https://metmuseum.github.io/
  2
  3  import requests
  4  from urllib.parse import urlencode
  5  import json
  6
  7  endpoint='https://collectionapi.metmuseum.org/public/collection/v1/'
  8
  9  #departments
 10  url_departments=f'{endpoint}departments'
 11  result=requests.get(url_departments)
 12  departments=result.json()
 13  #print(departments)
 14  #european painting department id for example
 15  departmentId=departments['departments'][9]['departmentId']
 16  #print (departmentId)
 17
 18
 19  url_departments_objects= f'{endpoint}objects?departmentIds={departmentId}'
 20
 21  result2=requests.get(url_departments_objects)
 22  departments_objectIDs=result2.json()['objectIDs']
 23  print(len(departments_objectIDs))
 24  departments_objectIDs_divided=departments_objectIDs[:50]
 25  print(departments_objectIDs_divided)
 26
 27
 28
 29  objects_titles_list=[]
 30  for i in departments_objectIDs_divided:
 31      url_objects=f'{endpoint}objects/{i}'
 32      result=requests.get(url_objects)
 33      objects_titles=result3.json()['title']
 34      objects_titles_list.append(objects_titles)
 35  print(objects_titles_list)
```

```
}bort, (I)gnore, (R)etry or retry (F)orever?
```

c. Museum of Babel, space of layered infinites

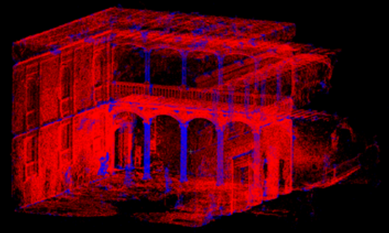
Paintings, hyperlinks, portals :

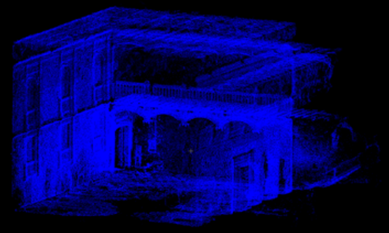
Parallel worlds, spaces

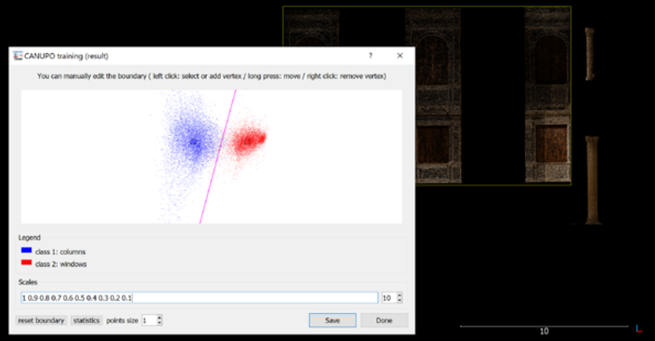
AI is used on the artwork data set to expand the space of the museum and create generative art collections of the existing painting, creating another parallel virtual world of the data set.

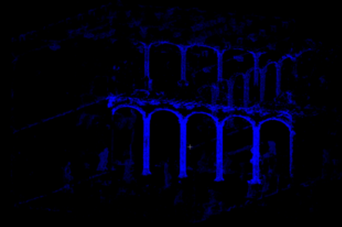
- ML code trained using Panini's paintings to generate a new space of Ancient Rome

(Work in progress)







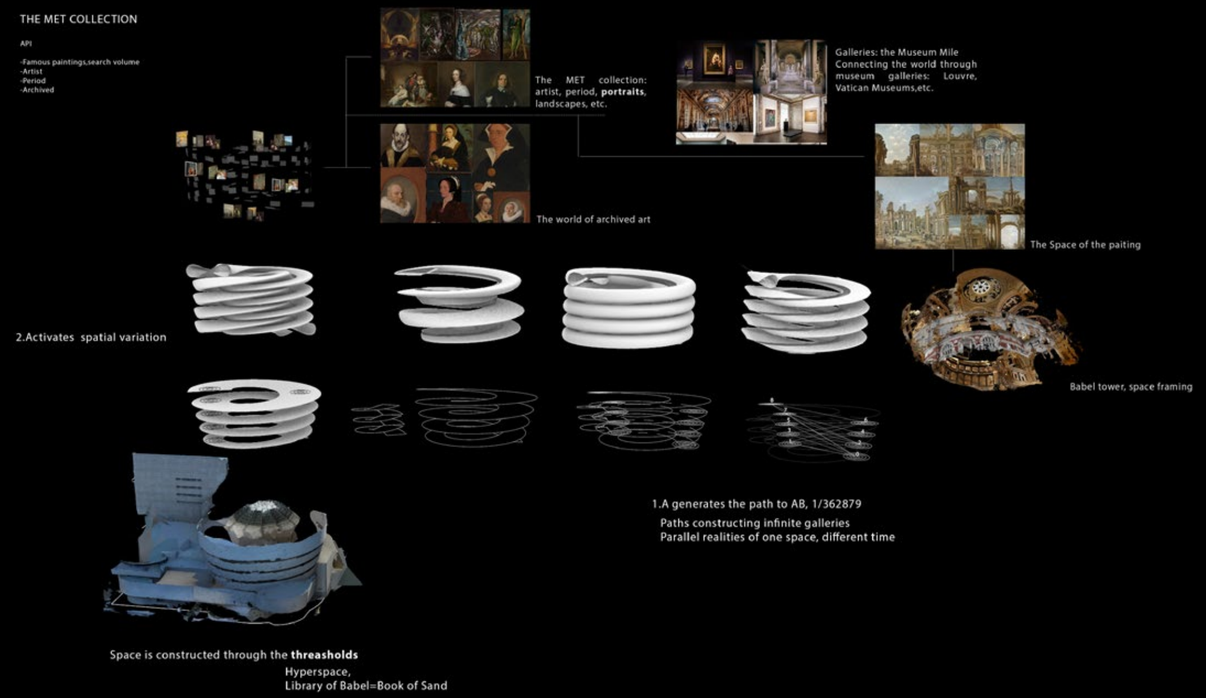


c. Museum of Babel, space of layered infinites

Paintings, hyperlinks, portals :

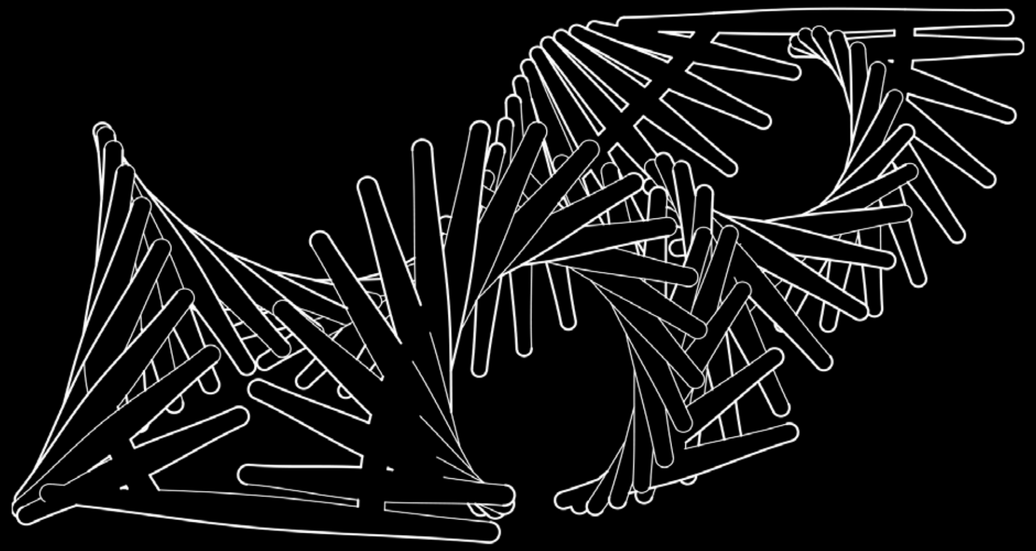
Parallel worlds, spaces

Point clouds of displayed spaces and architectural objects are also displayed in the new space of the Babel museum, And using machine learning and AI classification and sementic segmentation to create collections of artwork(collection of history of buildings and civilisations around the spiral, historical columns collection, etc), generating new spaces inside the spiral)(example of the catle of velez blanco that is constructed inside the spiral space),and enhancing the dialogue between the painting and the displayed space as the latter becomes the framing of the painting, or rather an extension of the painting on the space of the museum.



c. Museum of Babel, space of layered infinites

The Spatial nfinity of space is constructed through the layers of three infinites, and the multiple combinaisons.



THE WAVE

12_the_wave

Studio workshop project, MST ACT NYIT

ARCH 761 Studio Workshop 1 Computational Design
Professor: Pablo Lorenzo-Eiroa, Dr. Nelson Montas Laracuente

The aim of the project is to design a flexible chaise longue, an adaptative furniture that morphs into different shapes allowing multiple uses, experiences and sitting positions.

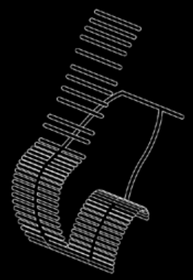
1. Initial form around which the chair is created

2. Initial seating forms

3. three seating areas combined into one

4. Final from

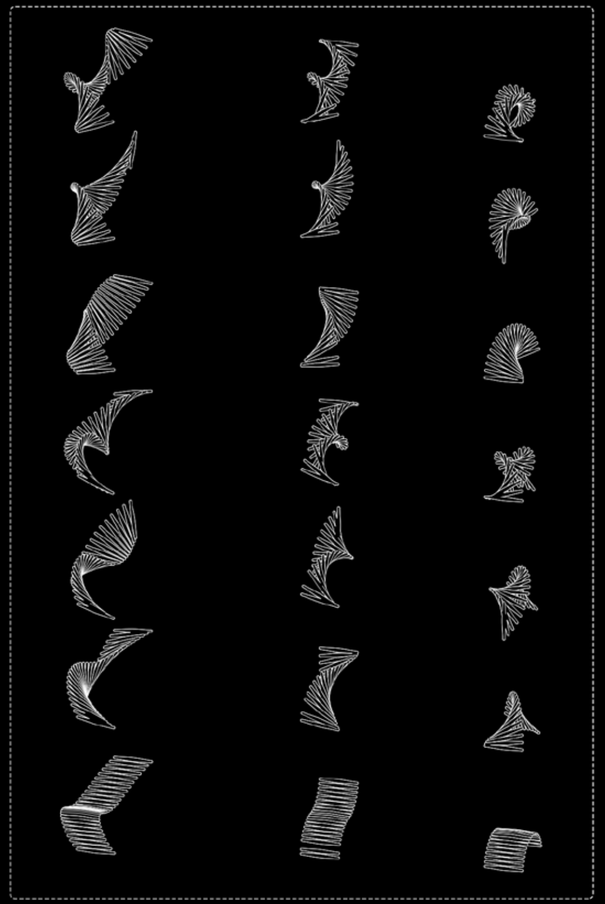
5. Structural form, the "spine" of the chair

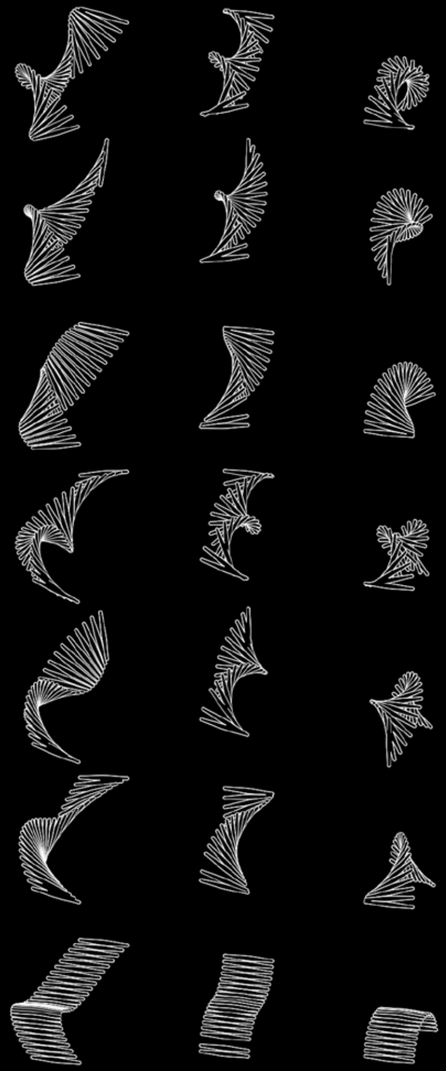


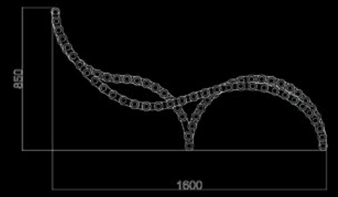
6.Pipe created around the "spine"

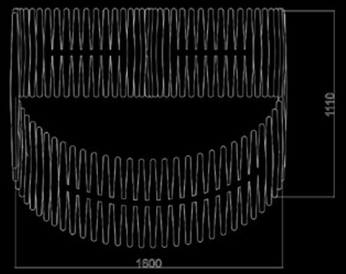
7.Initial position of the pipes

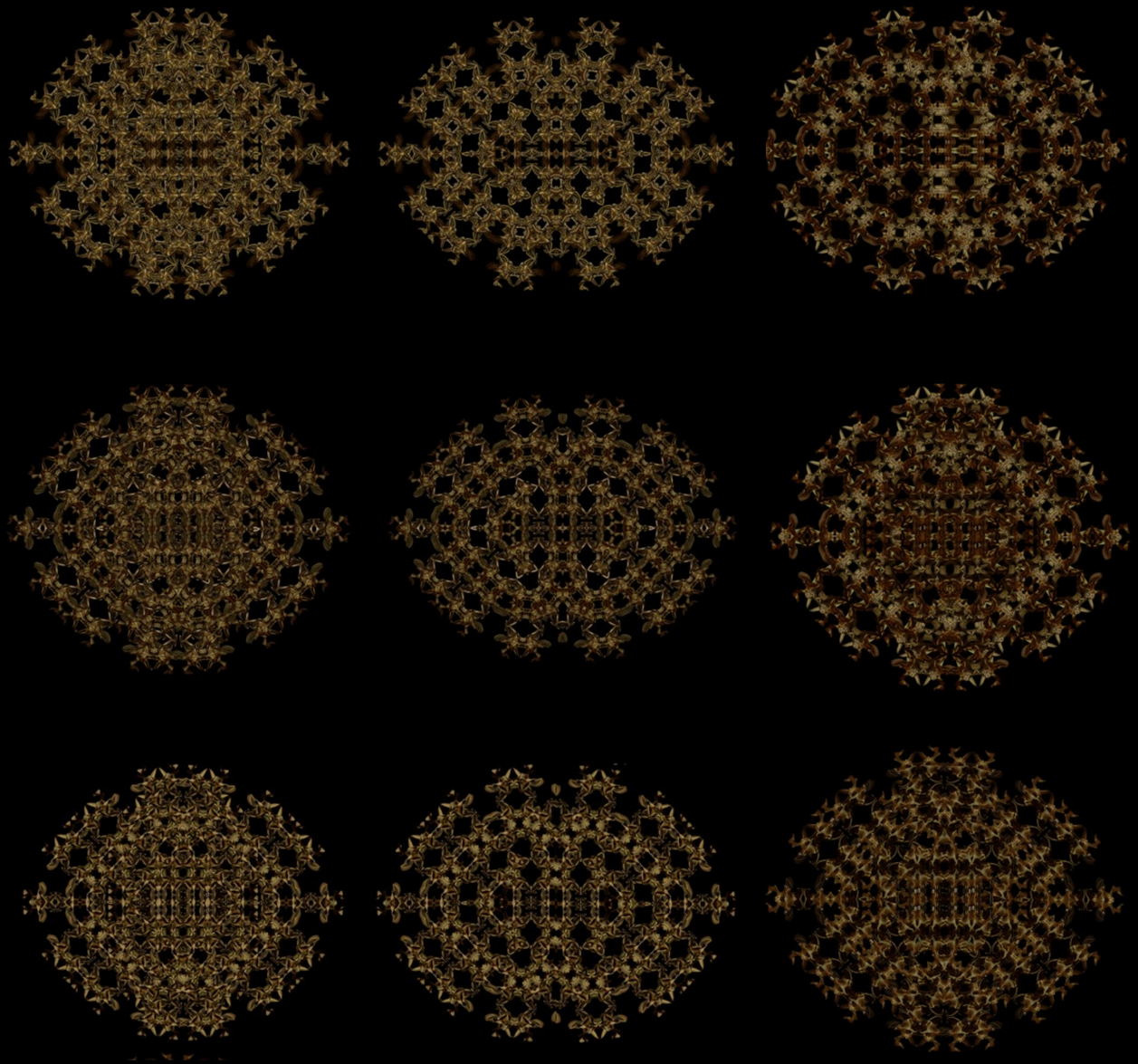
8.Rotation of the pipes around the spine structure creates multiple shapes and seating positions for the chair






850
1600


1110
1600



12_generating_pattern

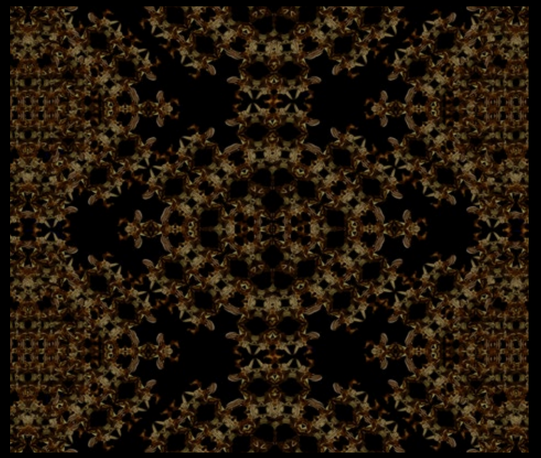
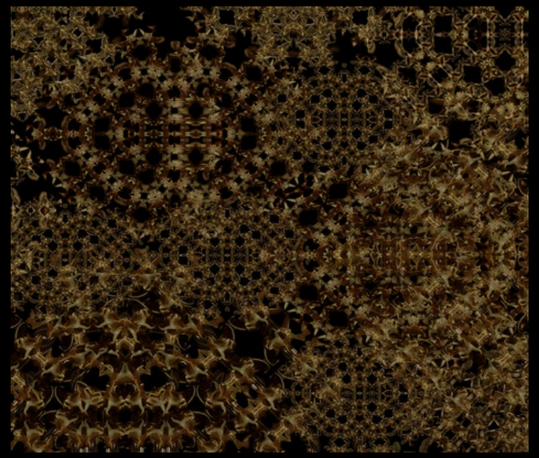
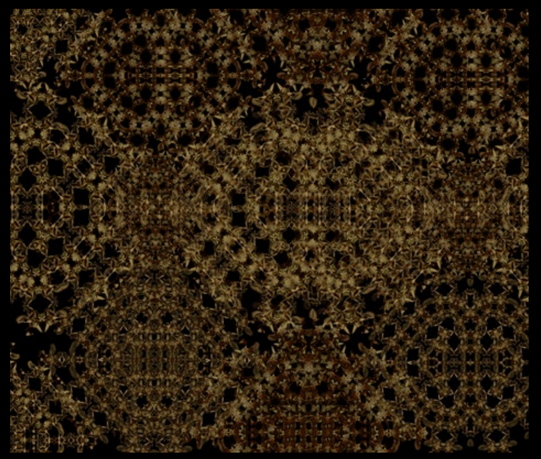
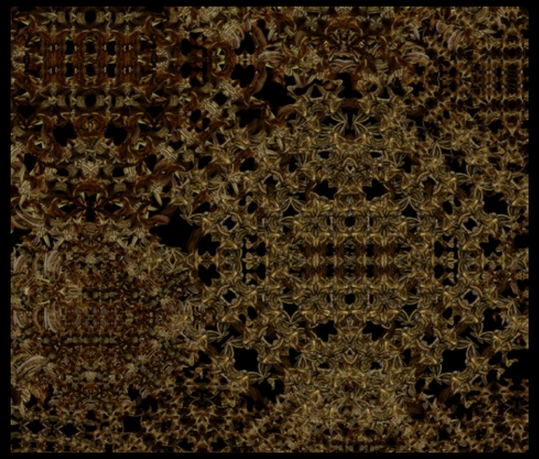
Elective Seminar project, MST ACT NYIT

ARCH 781 Elective Seminar 1 Computational Design
Professor: Sandra Manninger

The aim of the project is to generate patterns using Maya modelling and Machine learning of Renaissance paintings.





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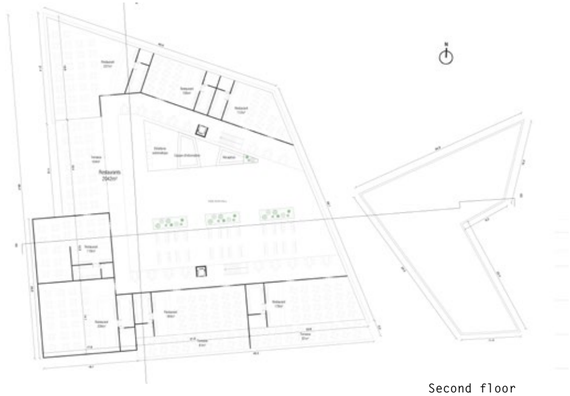
professional_work

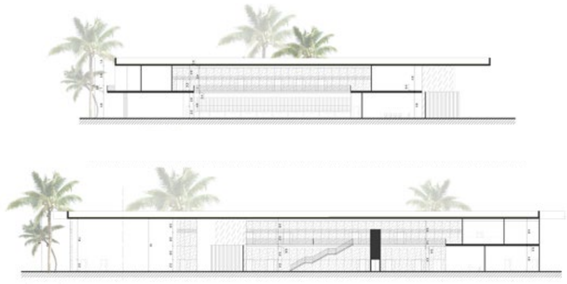
kenitra_road_station

National Competition projet. 2020. YKS Studio

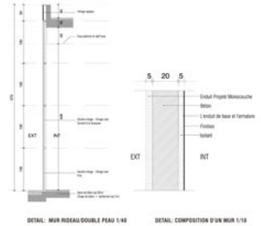
First floor

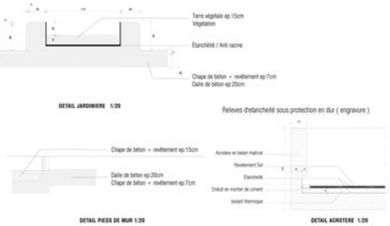


Second floor



Sections

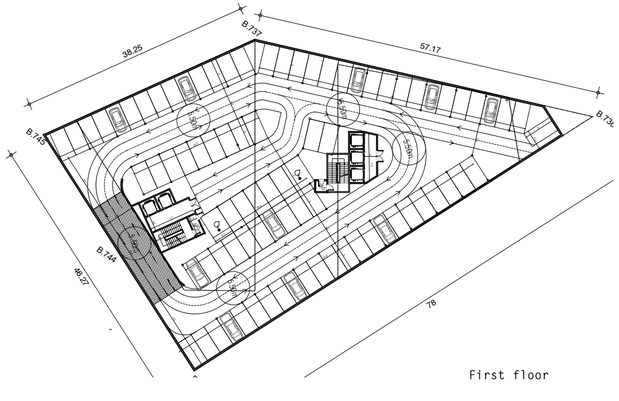




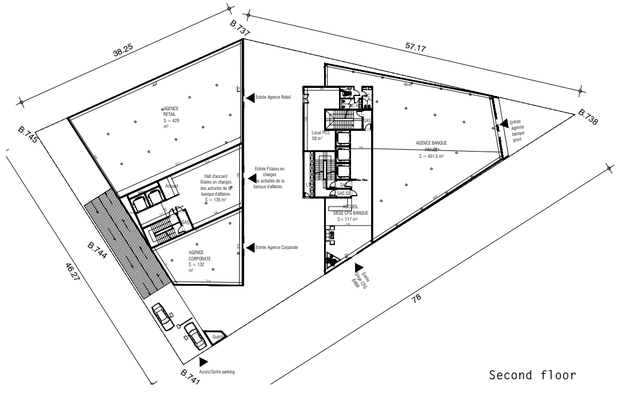
Construction details

CFG_bank_headquarters_building

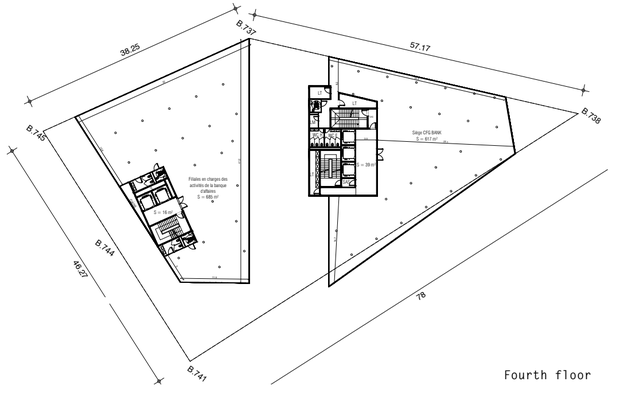
PD and SD deliverables, 2021. YKS Studio



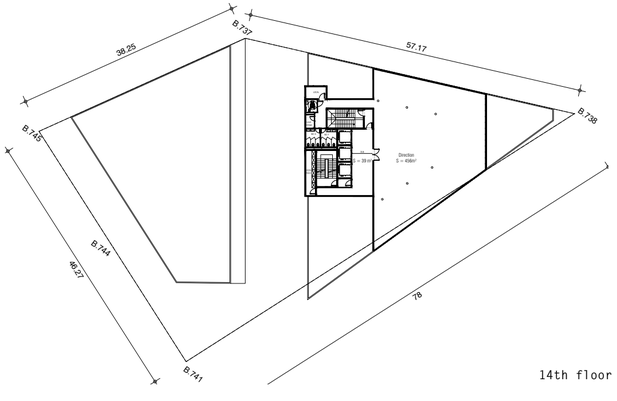
First floor



Second floor



Fourth floor

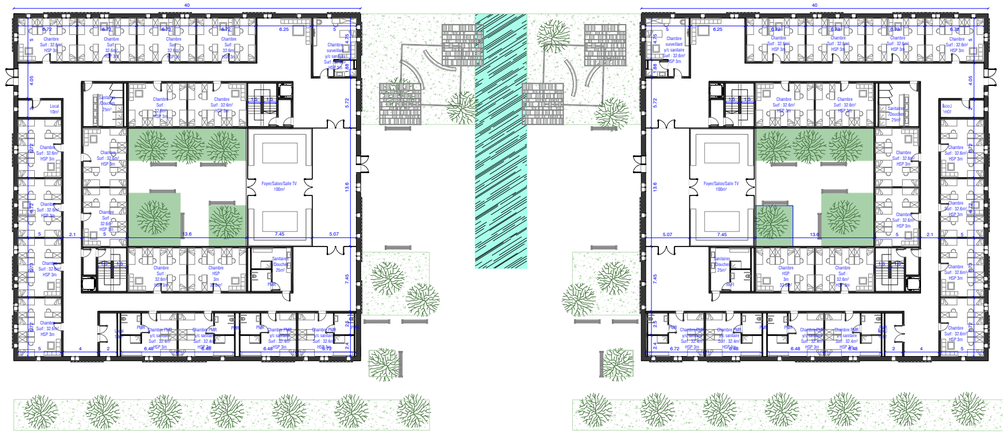


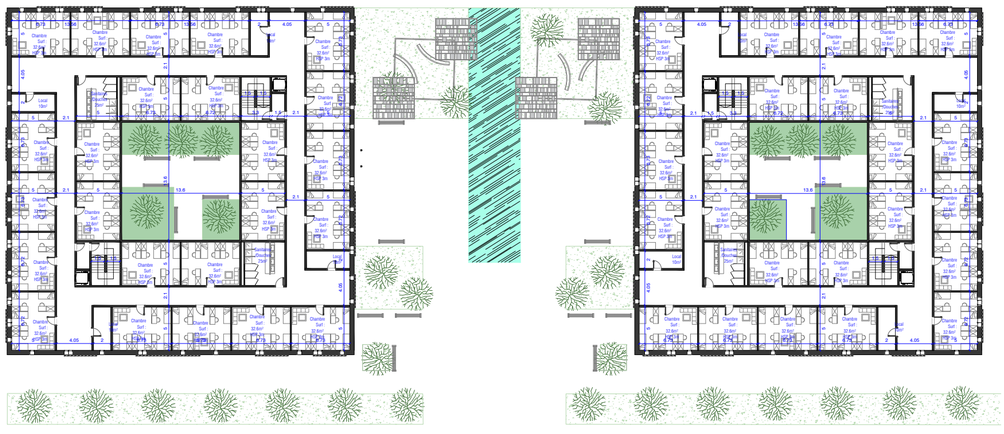
14th floor

cite_des_metiers_marrakech

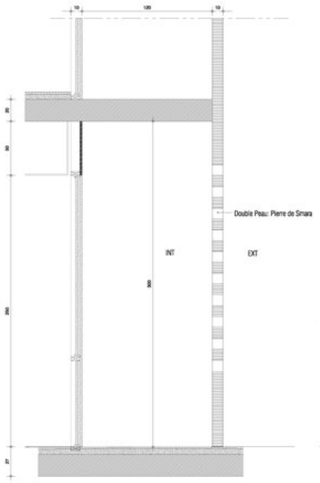
National Competition projet, 2020-2021. YKS Studio

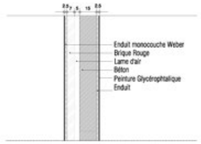
master plan

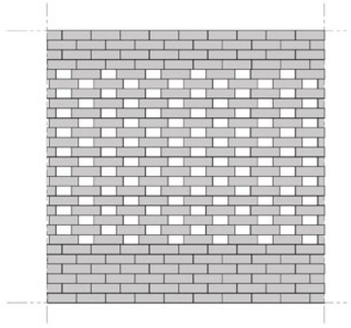




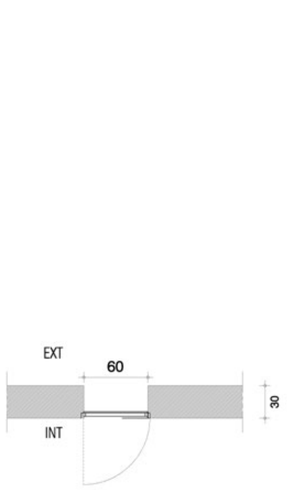
students housing building
1st and 2nf floors plans

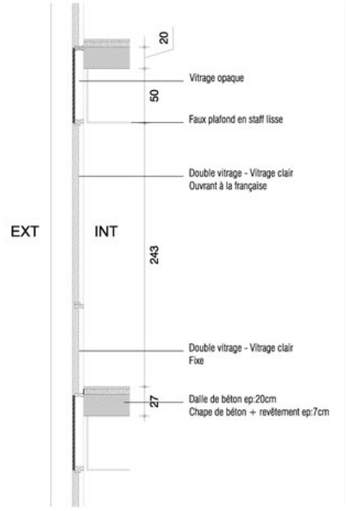






DETAIL: COMPOSITION DU MUR ET DOUBLE PEAU 1/20





DETAIL: BAIE VERTICALE 1/50

digital_design

salma_kattass

Architect Designer_ Graduate Student MS ACT

Master of Architecture and Computational technologies
School of Architecture and Design New York Institute of Technology

Architect Diploma D.E.N.A National School of Architecture, Morocco

portfolio