

ADAPTIVE REUSE OF HISTORICAL BUILDINGS

A Revival of Sultana Malak Palace in Cairo



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Adaptive reuse of Historical Building: a revival of Sultana Malak Palace in Cairo

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ABSTRACT

As has been proven across history, adaptive reuse of old buildings and structures is fundamental not only to the preservation of cultural heritage, but also to the environmental, physical, economic and social sustainability of modern day construction. This thesis aims to apply the approaches and techniques of **adaptive reuse to a historical building** in the Egyptian mega-city of Cairo.

This book is divided into two main parts. The first part is concerned with reviewing relevant literature on the fundamentals of adaptive reuse, as well as international case studies. Examples of adaptive reuse projects in Cairo are also studied, highlighting their flaws and shortcomings. In attempt to discover the project's most appropriate functionality, further research conveyed a clear gap in the Cairene market, or rather a rising need. The thesis aims at exploring the opportunity of reviving traditional crafts in light of the revival of a historical and iconic building. Hence, adding value and displaying the products in the most special context and giving them the value that they are missing.. **Traditional Egyptian crafts**, like carpentry, leather, jewelry, textile and blown glass works have always been a cornerstone of the Egyptian market. A survey taken by a sample of average Cairene consumers brought the problem of most local crafts being agglomerated only in Old Cairo to the foreground. Results showed that even though local crafts are indeed in high demand, they are regarded by many Cairenes as inaccessible, due to the long distance and traffic between Old Cairo and most other districts in Cairo. This apparent gap provided a clear functional use for the project and brought about the question, how can adaptive reuse of a historic building be used to leverage Egyptian crafts?

In order to answer this question, more research on Egyptian history was conducted, revealing the historic Wekalas. **Wekala** is a trading place that the sultans used to be keen on building among their building complexes. It was equivalent to the modern-day shopping center, a place where they used to trade, store and craft products. Studying the Wekala concept as a model to be applied in the context of a modern-day adaptive reuse of a historic building proved to be very promising and fruitful, which leads to the second part of this book.

Part two is concerned with the application of all the research conducted in part one, including the adaptive reuse of historical buildings, Egyptian crafts and the Wekala concept, into a grounded real-life design; it is the part where the research materializes and comes to life. Part two provides a description of the site selection process and the history and current condition of the chosen site and historic building, which is the **Palace of Sultana Malak**. Followed immediately by the explanation of the project's design concept "Revival of the Wekala", delving into supplementary studies for the design, like a case study for a similar international project, as well as studies of new emergent trends in the Egyptian craft market, that are crucial design guidelines. Furthermore, case studies of interior design approaches similar to the project are presented, finally leading to the most impressive element of this book, the drawing and representation of the Craft Palace Adaptive Reuse Project. Diagrams, plans, sections, elevations, 3D renders of interior spaces and blow up studies are thoroughly presented detailing all design elements and techniques that were used to resurrect the Sultana Malak Palace from a dilapidated, falling apart school into a vibrant modern colorful craft market, buzzing with life.

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ADAPTIVE REUSE AND HERITAGE BUILDING RE-ADAPTATION

1.1 DEFINITION OF ADAPTIVE REUSE AND ITS CONTRIBUTION TO URBAN SUSTAINABILITY

To define adaptive reuse, there are several aspects that must be considered especially when it comes to historic or heritage buildings. A study in Michigan State University defines adaptive reuse as “the process of **adapting old structures and sites for new purposes**”.¹ But the practice of adaptive reuse is not done haphazardly. The adaptive reuse of buildings always follows a socioeconomic shift after the fall of an economic, industrial, or social system and the abandonment of the related structures. For a developing country such as Egypt, the challenge is even harder because of the lack of financial resources. That is when the adaptive reuse becomes an irreplaceable design strategy that will enable the government to make use of the abundance of available historical buildings while preserving their heritage. The adaptive reuse practices have recently included a sense of **sustainability** as the adaptations are not strictly permanent, they support the constant changes that happen to spaces in the modern world.² When it comes to historical buildings, the choice of interventions has to have minimal impact on the historical value of the place. Developers should have a clear understanding of the importance of their sites, as well as go after an intervention that is sympathetic to the building to breathe new life into it. “Adaptive reuse in itself is self-defeating if it fails to **protect the building’s heritage values**.”³

Architects have started promoting the retention of buildings through rehabilitation, restoration, and adaptive reuse since the 1960s when the preservation movement began. In the recent practices, the recycling of entire buildings is considered an important contribution to sustainable urban development.⁴

The benefits of adaptive reuse expands beyond the readaptation of one building, it also has its effects on the urban scale. Urban planners started thinking about alternative options for growth mechanisms in the last 40 years of the twentieth century. It wasn’t until the beginning of the twenty first century that the prevailing urban growth patterns started to be addressed. The movement of **Smart Growth** started to

1 Pape, Glenn. 2016. The basics of adaptive reuse. Michigan State University. August 15. Accessed August 19, 2020 https://www.canr.msu.edu/news/the_basics_of_adaptive_reuse

2 Camocini, Barbara, and Agnese Rebaglio. 2012. “Restoration Economy.” Interventions: Adaptive Reuse (Rhode Island School of Design) 7-10.

3 Commonwealth of Australia. 2004. Adaptive Reuse: Preservin our Past, Building our Future . Pirion.

4 Bloszies, Charles. 2012. Old buildings, new designs: architectural transformations. New York: Princeton Architectural Press. <http://site.ebrary.com/id/10520562>.

be promoted by sustainability advocates. According to the Smart Growth Network, the movement is mainly influenced by “demographic shifts, a strong environmental ethic, increased fiscal concerns, and more nuanced views on growth.”⁵ Part of the Smart Growth theory discusses growth patterns and the fact that they can change only if it takes into account fiscal concerns. The recession of 2008 made it possible for people to reconsider inner-city development because the cost of previously developed sites dropped sufficiently. To break the old habits of low-density expansion, it would require creative thinking. The Smart growth movement suggests, to everyone’s surprise, high density, mixed use developments that could be part of the existing urban frameworks. A lot of projects that follow the same kind of thinking would include the retention of existing buildings. Although it is not embraced everywhere but smart growth principles started to make their way to public policy. Historic preservation enthusiasts would take its side as it mandates retention of existing buildings because they are considered cultural resources and a place that can house human activity and it can be reused for new adapted functions. For the smart growth movement to see light, the density must increase and for this to happen, interaction of new design with old buildings has to take place. The movement suggests that instead of demolition, old buildings must be incorporated into future development plans. It is against demolition because the preservation movement made the public aware of the value of the architectural heritage. To get a building demolished, in most cities, it would require a permit accompanied by an expensive review process. Then comes the demolition itself that is noisy, dusty, and typically including abatement of hazardous materials.

As smart growth is making its way through public policy, the interaction of both new and old architecture will be more common. Linking of architecture styles will also become common to the public because they will start witnessing new additions being made to older structures. **The reuse of old buildings will lead to vibrant, diverse, and sustainable urban environment.**

The re-purposing of old buildings will have a lot of **implications on sustainable design.** When it comes to sustainability, designers always start with choosing all the strategies that could minimize energy consumption when it comes to building operations. But sustainability could have a broader definition; one that would include the energy the building was built with in the first place. Recycling a building would save this energy from being wasted because it eliminates the demolition from the process. In fact, **a new revision of the LEED** (The Leadership in Energy and Environmental Design)

⁵ Excerpt from the “Smart Growth Overview” as stated on the Smart Growth Network’s website. See www.smartgrowth.org.

certification program showed increasing understanding for this point. The credits allocated for developing an existing site were increased from eight to nineteen credits. This in itself is a recognition to the energy that was exerted into building this structure.

1.2 DEFINITION OF HISTORICAL AND HERITAGE BUILDINGS AND ADAPTION PRACTICES

1.2.1 THE APPEAL OF OLD BUILDINGS

Old buildings have a certain appeal on their audience and their users. They go beyond being just buildings, they have a very captivating effect on the viewers and that is due to many reasons. Old buildings tend to stir up nostalgic feelings and remind us of the old times. The composition and ornaments are very familiar to the eye and it also adds richness to the composition that is never witnessed in the modern-day architecture. The very idea that the building is old and has been **around for several years** contributes to why people think they are special. As illustrated in Victor Hugo's characterization of Notre Dame Cathedral: "Time added to the cathedral more than it took away. Time spread over her face that dark gray patina which gives to very old monuments their season of beauty."¹ Another reason is that old buildings are **familiar**, they are landmarks that the eye is accustomed to. They are civic attractions where important events happen daily. They also mark historic and architectural milestones. They are the very **representation of social and financial stability** and that is why they are establishments that people can trust. Some buildings acquired their reputation because they outlived their contemporaries as they are exemplary representation of their architectural idioms. As a result, these buildings are frequently used and well-maintained. They are often used as public buildings and they are associated with personal memories to citizens and individuals.

Old buildings that belong to the **classical architecture style** of the place always also have a special appeal. These architecture principles with origins going back to hundreds and thousands of years ago and they almost did not change till now. These classical composition elements are a part of civic architecture which makes the public accustomed to and fond of this style. And its mere existence allows people passionate about this style of building to advocate it. We have seen the classical styles being reinvented at several points throughout history until the emergence of modernism in the twentieth century. By then the only people who enjoyed the modernism were academics, artists and painters; those who are able to redefine the concept of space.

¹ Victor Hugo, *The Hunchback of Notre-Dame*, trans. Walter J. Cobb (New York: The New American Library, 1965), 108. Originally published as *Notre-Dame de Paris* in 1831.

Modernists were against ornamentation as demonstrated in "Ornament and Crime" by Adolf Loos in 1908. And at the time, modernist buildings that were devoid of ornaments were mostly disliked by the public. The avant-garde architecture of the twenty-first century embraced the technology and software to create an architecture that is very sculptural and beautiful but very far from the familiar classical proportions. Nonetheless, it is of great importance to acknowledge the attachment, often emotional that many people have with old buildings. The strength of this sort of attachment comes from the fact that they do not find these forms appealing because they might be facing some difficulties understanding it or that they are not clearly expressed.

Old buildings have another quality that gives them extra value in the eyes of the individuals and this quality is **that they are irreplaceable**. With this quality comes a lot of emotional as well as rational urges to preserve them and the motivation usually stems out of fear of the inferiority of a newer structure and potential personal ties to the old building itself. Others are pushed to preserve because they are fighting for the preservation of meaningful architectural qualities. The **urge to preserve** is also motivated by the appreciation of the details crafted by humans and they consider it better than the ones crafted by the machines. This idea leads to the false belief that the older buildings are built better than the newer and more modern ones. The fact that those older buildings are still standing compared to their contemporaries means that they were built and maintained better but new technologies and techniques allowed the

1.2.2 OPPOSING VIEWS ON RESTORATION:

VIOUET LE DUC VS RUSKIN

Eugène-Emmanuel Viollet-le-Duc and John Ruskin were the two most prominent architecture theorists of the nineteenth century, and they had very different opinions when it came to architectural restoration.

Viollet-le-Duc devoted his career to restoring France's middle age monuments while Ruskin appreciated the value of ruins and resisted restoration of any kind.¹ Ruskin's views on restoration were quite singular, he saw that it was an impossible process as the new construction and the original structure were separated in time. For him the definition of restoration was "the most total destruction which a building can suffer:

¹ Spurr, David. 2012. "Figures of Ruin and Restoration: Ruskin and Viollet-le-Duc." In *Architecture and Modern Literature*, 142-61. University of Michigan Press

a destruction out of which no remnants can be gathered: a destruction accompanied with false description of the thing destroyed. Do not let us deceive ourselves in this important matter; **it is impossible, as impossible as to raise the dead, to restore anything that has ever been great or beautiful in architecture.**¹ Viollet-le-Duc on the other hand was for the idea of imitating the original structure with new construction. For him restoration was **“means to reestablish [a building] to a finished state**, which may in fact never have actually existed at any given time”² Ruskin would strongly oppose any addition to buildings mimicking their original form. In fact, he would have opposed many restoration techniques adopted by modern day conservative preservationists. On the other hand, Viollet-le-Duc devoted his career to restore nineteenth century French buildings, adding extensions and structures that might have not existed and for whom there might not have been a historic precedent. The most famous representation of his approach is in Carcassonne, France, where he restored a crumbling medieval city. Viollet-le-Duc added a new gate which had no historical proof for its existence although the tower imitated the style of the surrounding structures and was perfectly harmonious. **“The resulting composition is an inaccurate, romantic expression of the past”**.³

As opposed to Viollet-le-Duc’s interventions where the new is indistinguishable from old, Ruskin argued that it would be impossible to “restore a building faithfully”. As a matter of fact, Ruskin’s principle is undeniably correct. For a design to be honest, it must be the product of its own time to which the cultural forces contributed to its existence. For him, truth equals beauty. With architecture being subject to frequent alteration and occasional expansion, it would be tempting



Castle in *Carcassonne, France* - By Viollet-le-Duc

1 John Ruskin, *The Seven Lamps of Architecture* (New York: Dover Publications, 1989), 194.

2 Eugène-Emmanuel Viollet-le-Duc, *The Foundations of Architecture*, trans. Kenneth D. Whitehead (New York: George Braziller, 1990), 195.

3 Bloszies, Charles. 2012. *Old buildings, new designs: architectural transformations*. New York: Princeton Architectural Press. <http://site.ebrary.com/id/10520562>.

1.2.3 ADAPTIVE REUSE PRACTICES AND CASE STUDIES

This section is meant to expose some case studies that deal with the reuse and adaptation of historical buildings but from the point of view of respecting the historical building and protecting the existing shell. All the interventions are very unique and distinguishable from the old shell. They are also very modern, contrasting and unique in their appearance and at the same time very specific when it comes to the treatment of this case.

1.2.3.1 SELEXYZ DOMINICANEN BOOKSHOP

This project is particularly hard as it is very hard to readapt old churches to new purposes. In most cases, these historical jewels should be saved but salvaging these structures would require creative solutions. In this case, a **Dominican church** in Maastricht in the Netherlands was taken over by Selexyz Bookshop and they commissioned Merckx + Girod Architects to convert it into their **new flagship bookstore**. The architects faced a particular design issue which was that the footprint of the church was not enough to display all their inventory of books which led them to propose **a vertical design** to utilize the height of the nave to have three levels of display instead of one. The vertical design was not only beneficial from the point of view of sales only, it also **created new perspectives to observe the cathedral** itself as well as the existing paintings on the vaulted ceiling. The black structure was carefully placed in the nave without being attached to the original structure, but it clearly spoke to it. **All the elements were clearly distinguishable within the shell as well as simple and functional.** The conversion is considered successful on several levels because the building was no longer abandoned, and it went back to serving the community through spreading wisdom as the new bookstore in town. **The church kept its heritage and identity and some of its elements were even put under the spot with the new structure in place.**¹

¹ Blozies, Charles. 2012. Old buildings, new designs: architectural transformations. New York: Princeton Architectural Press. <http://site.ebrary.com/id/10520562>.

The vertical design of the structure

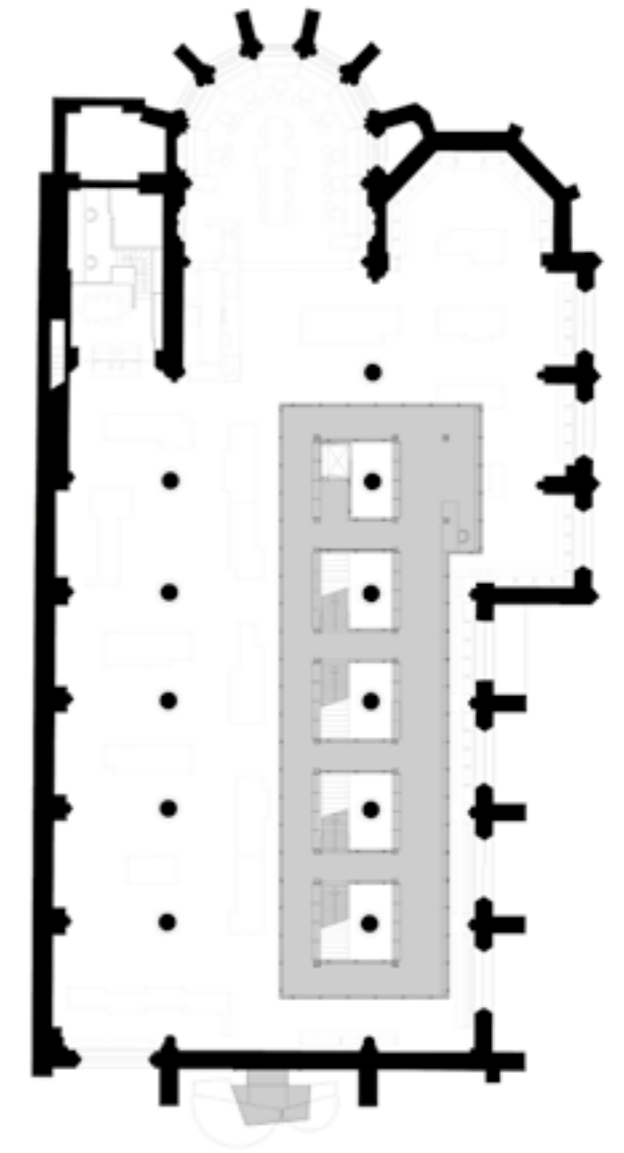




Third Floor of the structure allows better view of the church's ceiling



Ground Floor Plan



First Floor Plan

1.2.3.2 VILLAGE STREET LIVE-WORK

Adèle Naudé Santos is a renowned architect who likes to move around the US and does not settle down somewhere. She has a habit of buying dilapidated buildings and turning them into her Work-Live spaces. Relocating to the east coast, she was trying to find **“an industrial building, preferably in awful condition, one that required some great imagination.”**¹ The structure she chose was a neglected one with a long courtyard; a structure similar to one she repurposed. This house currently is her work-live space when she has to be in Boston where she served as Dean of school of Architecture and Planning in the Massachusetts Institute of Technology. She is very skillful when it comes to small scale projects and creating rooms that interact with semi outdoor space as well as artistic interiors full of artifacts from south Africa where she has roots.

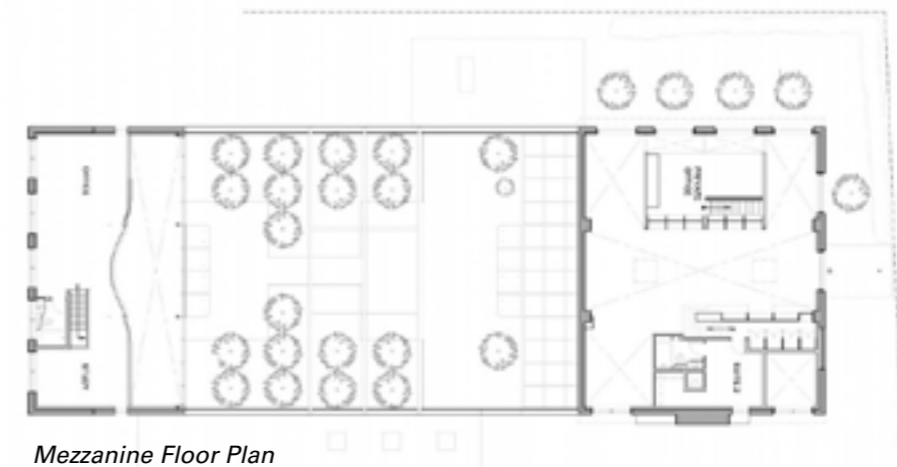
The building was originally a bronze foundry dating back to the 1860s. It is a single-story building with a rectangular plan made for industrial use. The northern third of the building is housing the casting room with a large crane supported by two steel girders running the length of the room. The room is also featured with clerestory windows that light the room. According to Bruce Prescott, principal in the main San Francisco firm, the goal was to **maintain the openness of the industrial building** and utilize the richness of the brickwork material and the fact that the existing machinery act as sculptures in the space.

The casting room was converted into the main residence by filling the space between the crane rails and the exterior shell by adding floors and thus keeping the center space empty. The crane fit into the interior décor and artifacts although it was a very dominant element. The partitions employed along with cabinetry were very simple and complementing to the brick walls that were meant to be showcased. The flooring was a simple radiant-heated concrete flooring to complete the picture without overpowering any of the other elements. What is unique about this design is that **the old and the new were very distinguishable, yet they co-existed in a harmonious warm environment.**

¹ Rachel Strutt, “A Lauded Architect Rescues a Dilapidated Factory from Obscurity,” Boston magazine, Winter 2009.



Ground Floor Plan



Mezzanine Floor Plan





Residence space

Workpace



The southern third of the plan was converted to the workspace by inserting it into the brick shell while adding a roof and a glass wall overlooking the internal courtyard. The courtyard between the residence and the work area was landscaped and turned into an internal garden space. A sunroom was added to the entrance space of the casting room to serve as a thermal insulation as well.¹

¹ Bloszies, Charles. 2012. Old buildings, new designs: architectural transformations. New York: Princeton Architectural Press. <http://site.ebrary.com/id/10520562>.

2

TRADITIONAL CRAFTS OF CAIRO AND THE REVIVAL OF THE WEKALA

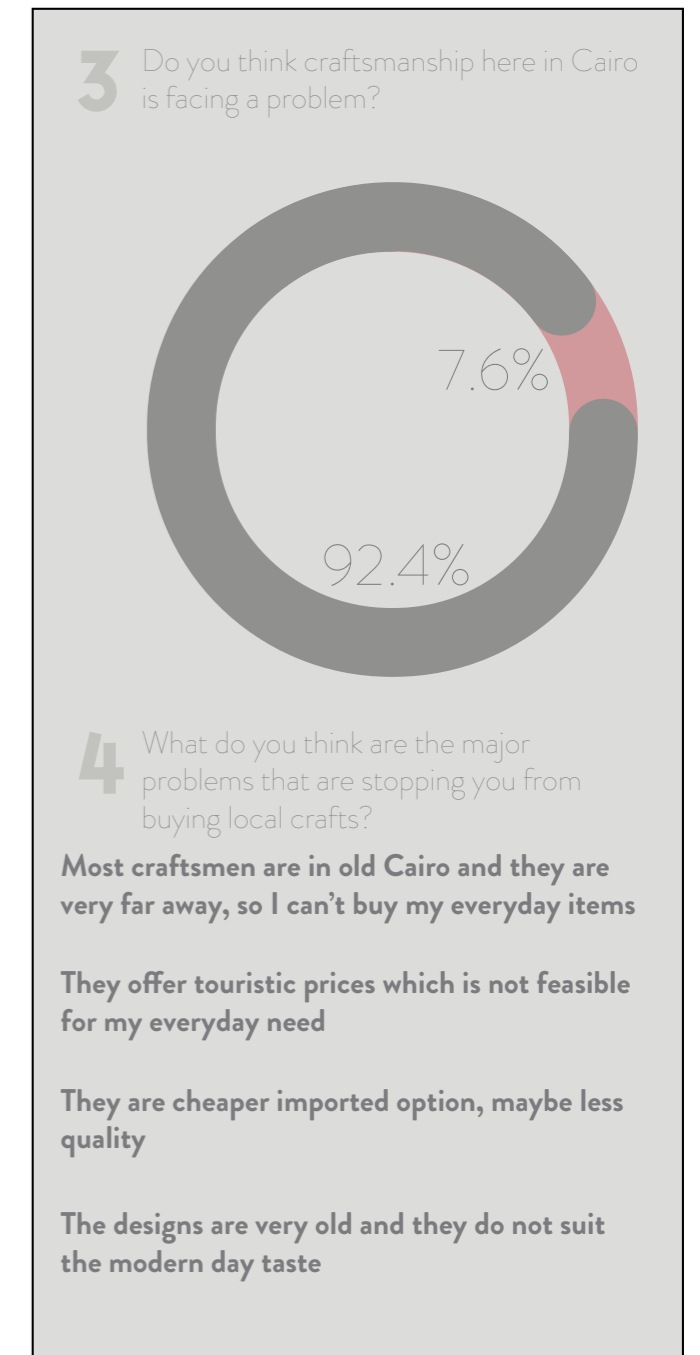
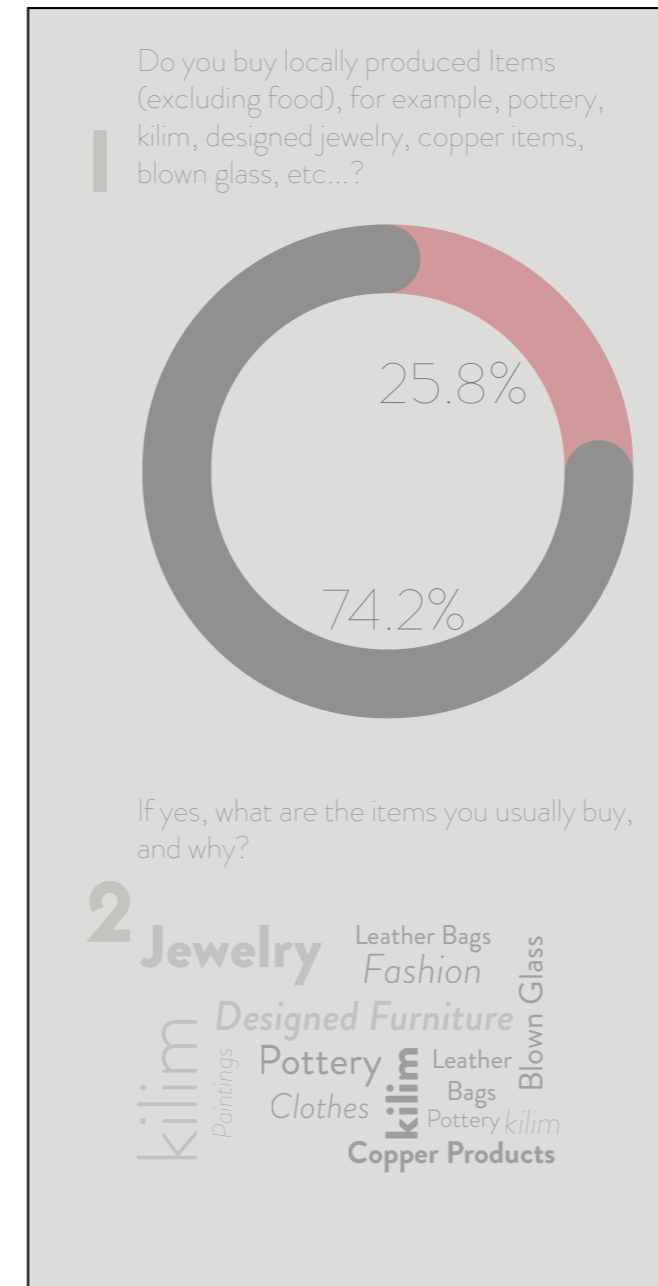
2.1 PROBLEMS FACING CRAFTSMANSHIP IN CAIRO

In attempt to discover the projects most appropriate functionality, further research conveyed a clear gap in the Cairene market, or rather a rising need. Traditional Egyptian crafts, like carpentry, leather, jewelry, textile and blown glass works have always been a cornerstone of the Egyptian market. Yet these crafts seem to be regarded by many Cairenes as **unreachable or inaccessible**. This apparent gap provided a clear functional use for the project and brought about the question, how can adaptive reuse of a historic building be used to leverage Egyptian crafts?

Problems facing craftsmanship in Cairo are uncountable. This part of the thesis is meant to explore **what products the client needs to buy locally and where their problems lie**. Egypt has several traditional crafts that could be mesmerizing to the viewer, yet it will never be bought by a local. A survey was conducted among the typical Egyptian client to better understand the problems that are witnessed here in the Egyptian market. The survey reached several 60 participants and it included 4 simple questions.

The first question was aiming to understand the percentage of individuals buying traditional locally sourced products. Results show that the majority of the participants buy traditional locally sourced products such as pottery, kilim, jewelry, copper products, blown glass...etc. 76.7% mentioned that they buy some local products. The survey also targeted the popular products the clients usually buy. The products that were very popular among responders were kilim (a specific type of hand made carpets found in Egypt), jewelry, pottery and tableware, glassware and home accessories, bags and leather products. A majority of 95% think that there are major problems facing craftsmanship in Cairo. The last question was asking about the problems that the craftsmanship is facing. The responders seem to think that the biggest problem with craftsmanship is about location. Most craftsmen are located in old Cairo which is very inaccessible to the clients. The second most popular opinion is that craftsmen offer touristic prices and it does not suite everyday buying habits. 25% think that the designs are very old because the whole touristic areas are stuck in time and are not brought into the 21st century through modernizing traditional designs. 21.7% think that there are cheaper imported options that they could go for instead of the local products. Responders were free to add any reason for the problems they saw fit. Several raised the idea that the quality of the products is not as high as it used to be.

In conclusion, since most of the craftsmen's shops are based in old Cairo, far away from the everyday clientele, their range of products remained very traditional because most of their clients are the tourists always visiting these places. This made the craftsmen stuck in time unable to change in the type of products they produce because they appeal to the clients immediately in their vicinity.



2.2 TRADITIONAL CRAFTS OF CAIRO

Egypt is famous with a very big number of traditional crafts. This section will discuss some of these crafts and will display an idea about the Egyptian culture and products.

2.2.1 KILIM

The kilim is a type of handmade flooring cover, lighter than normal carpets. They are very traditional handmade crafts in Egypt. They are made using a “Nool”, a frame with a simple mechanism that is used to hold the kilim together while it is being woven. Kilim is famous with the geometric shapes as a floor cover, but some craftsmen mastered the idea very well that they use the yarn to paint landscapes and abstract art that it is used like Gobelins as wall decor. Kilim is one of the crafts that some new designers start to see potential in and a few brands started modernizing the designs and the colors and bringing the traditional crafts to the 21st century.



2.2.2 POTTERY

The pottery craft is one of the oldest crafts known to man. It was passed on from generation to generation in Egypt and it has been a source of pride to the Egyptians and it has been a part of the culture and heritage. They are found in several museums in Cairo including the Islamic Ceramics Museum, Museum of Islamic Art, The Cultural Museum, The Egyptian Museum, The Agriculture Museum, The Ethnography Museum. Egyptian were one of the earliest cultures to develop the production of pottery as early as pre-historic eras. They mastered the crafts because it was a need at the time as they used it to store food, drinks, and grains. There are a lot of scattered shops in Cairo but the biggest attraction for people interested in pottery is called “Qaryet El Fawakhir” (the Pottery Town). The town includes 152 pottery shops.¹ Pottery is one of the crafts that was stuck in time for quite a while, but it is starting to break out of the shell. Some modern brands are rising above the crowds and modernizing the designs and products while using the same traditional techniques. Leyyah handcrafted is a new emerging brand currently selling through Instagram only and have no physical store. Leyyah handcrafted modernized the designs and the colors and it even included a new range of products made in clay that was never seen in the Egyptian market, such as sinks.



¹ Mossahel, Mohamed. 2018. « »: « » (The Pottery Town in Old Cairo: The kingdom of Pottery Jewelers). July 19. Accessed August 23, 2020. <https://www.almasyalyoum.com/news/details/1308255>.

2.2.3 BLOWN GLASS

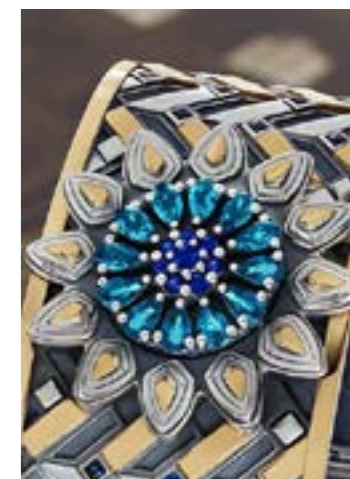
Blowing glass is an ancient craft that is performed by heating glass to a very malleable stage then blowing in it to create a volume of air inside the malleable glass. The craft is very versatile in the sense that it is used to create stained glass, in combination with wood, with copper, as well as creating tableware and lighting fixtures and traditional and colorful glass chandeliers, which are very famous among Egyptians. The Mamluk period is the time where this craft became a true Art. Nowadays, the practicing craftsmen are becoming fewer and fewer because of the severity of the working conditions because mostly the craftsman sit in front of a melting oven for over 12 hours a day. Glass blowers buy the broken glass and they do a simple trick to know what to keep and arrange them according to color and cleanliness. After discarding the unusable glass, the glass is broken further before being placed in the oven. The area that has the biggest number of glass blowers is in the area of Mamluk Sahara (the Mamluk Desert). This craft started to see a few modern adaptations including a new brand called “Kelos” that is popular in the Egyptian market.



2.2.4 JEWELLERY

The high demand on jewelry led the craft to flourish in Egypt; there has always been buyers ready to purchase. This is due to the fact that jewelry was not only used for beautification, but also for indicating social status and wealth. A simple glimpse of a woman's wrists and the amount of gold bracelets they carried was enough to convey which social class she belongs to. The investment in gold jewelry became a form of savings, as the gold can be sold in any time of need, faster than land or real estate. “A piece of gold in hand is better than an acre of land,” as is commonly said in Egypt's rural cultures. Therefore, the acquisition of jewelry became a feeling of safety and security for Egyptian women, elevating the industry's significance and increasing demand on it. Jewelry workshops were commonly organized in a medium sized room with a large window for plenty of daylighting and two long wooden benches around a table. The master goldsmith is usually seated in the center, surrounded by a couple of his junior masters, then the learners and apprentices. During the workshop, the master goldsmith teaches and supervises the process of cutting, shaping, designing, setting and polishing the jewelry pieces to the highest standard.¹

One of the oldest and biggest jewelry marketplaces since the Fatimid era, surviving till this day is Al Sagha area, in the heart of Old Cairo, adjacent to the historic touristic marketplace, Khan El Khalili. Despite the recent currency floatation and the general economic hardship prevalent across the country leading many of the workshops to shut down, the streets of Al Sagha remain relatively crowded, bustling with activities of buying and selling necklaces, bracelets, earring, etc...² It is needless to say that the craft of jewelry making remains a timeless and significant industry to Cairenes, which explains why many new brands have taken up the task of modernizing the traditional jewelry craft, like Azza Fahmy, for example, which will be elaborated upon in part 2.



¹ Fahmy, Azza. 2007. Enchanted Jewelry Of Egypt : The Traditional Art and Craft. Cairo: The American University in Cairo Press

² Ismail, Rehab. 2017. A Day at the Sagha. October 15. Accessed August 23, 2020. <https://www.egypttoday.com/Article/15/27755/A-Day-at-the-Sagha>.

2.2.5 LEATHER PRODUCTS

Leather production in Egypt is a very old craft going back to Ancient Egypt. Leather refers to tanned or tawed skin. The process was a little different in ancient Egypt as the tanning process was not really there. It was replaced by a curing with oils or minerals after fat removal and depilation. After that the skin is pulled over a beam to make it supple, then it is left in the sun to dry on a wooden stretching frame.¹

After the preparation process of the skin, comes the artistic part. The leather is carved and sewn into unique bags that are generally a work of art because of their singularity.

The existing tanneries are located in Old Cairo, especially in an area called Magra El-Oyoun. The tanneries and the associated workshops will be relocated to the city of Badr, which is in a new area in Cairo. The move was not met graciously by all the craftsmen because they are scared to lose their loyal customers in Old Cairo.²

Leather Carving and sewing



¹ Veldmeijer, André J. 2016. Leather Work in Ancient Egypt. September 29. Accessed August 28, 2020. https://link.springer.com/referenceworkentry/10.1007%2F978-94-007-3934-5_9365-2.

² Egypt Today. 2016. Inside Old Cairo's Leather Tanneries. June 12. Accessed August 27, 2020. <https://www.egypttoday.com/Article/10/3107/Inside-Old-Cairo-s-Leather-Tanneries>.

2.3 THE WEKALA AND THE TRADING IN THE MAMLUK AND OTTOMAN PERIOD

In order to answer the question of how adaptive reuse of historic buildings can be used to leverage Egyptian crafts, more research on Egyptian history was conducted, revealing the historic Wekalas.

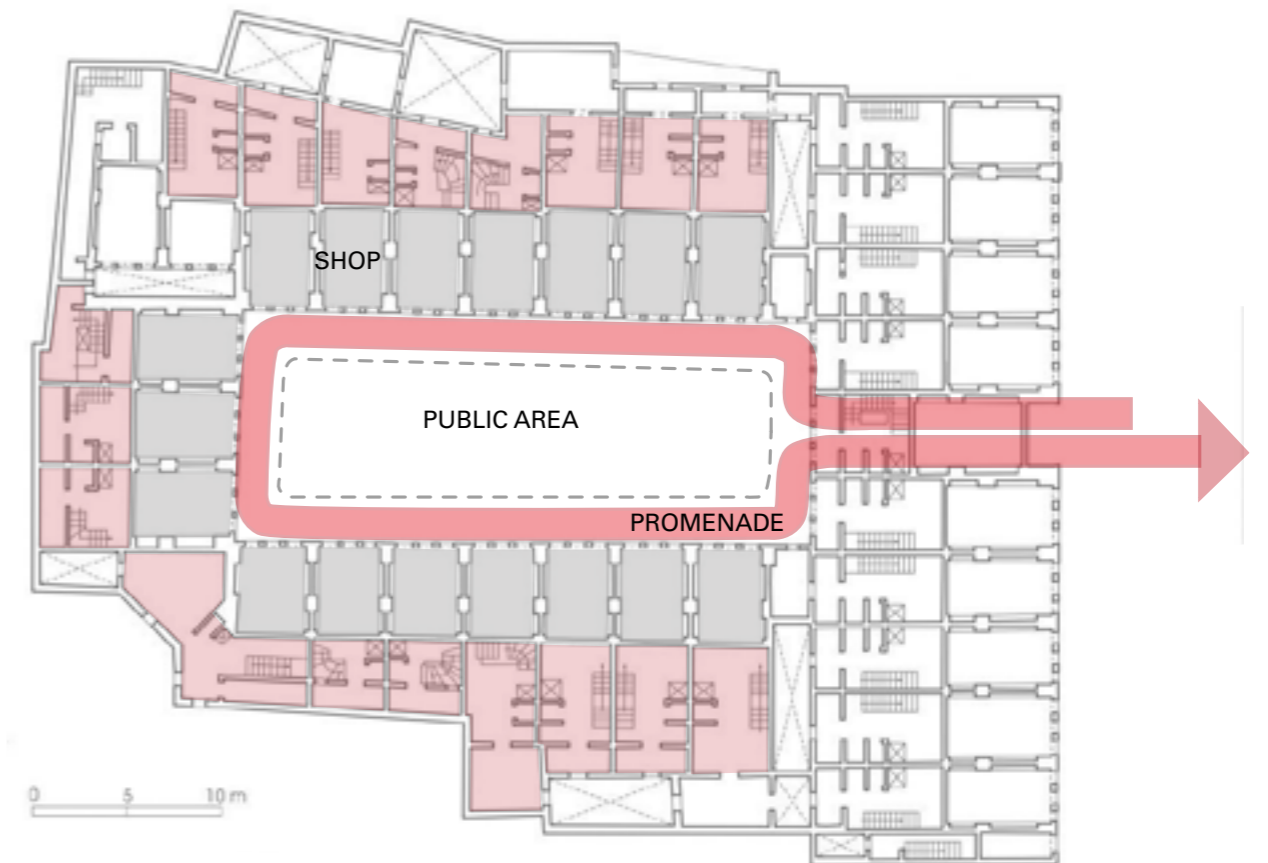
Wekala is a trading place that the sultans used to be keen on building among their building complexes. It was equivalent to the modern-day shopping center, a place where they used to trade, store and craft products. We have several Wekalas in Cairo Including Wekala Al Ghuri and Wekala Bazar'a and they all share the same typical building style going back to the mamluk period, it usually consists of an open courtyard surrounded by an arched portico divided into small shops. The upper floors were used as a caravanserai for the traders. Sometimes the trading places are called Khan, like the famous khan el Khalili in Cairo.

Wekala Qaitbay



2.3.1 WEKALET EL GHOURI

Wekalet el Ghuri is part of Al Ghuri complex in old Cairo. It was built for the Sultan Qansuh Al-Ghuri, one of the last Mamluk sultans in Egypt. He was a lover of architecture and he built a lot of mosques around Cairo. Although he wasn't known as the best and fairest ruler, he was very keen on building his complex that ended up being one of the most important building complexes in Cairo. The complex included a school, a mosque, a mausoleum, a sabeel (a place where water is provided), a sufi praying area and a wekala. Some wekalas were known to sell specific products but wekala el Ghuri was a general wekala where everything was sold. The wekala is as explained an introverted building where everything overlooks the courtyard. The ground floor was dedicated to the trading shops and the upper floors were domiciles for the traders. It acted as national trading center as well, traders used to buy in bulk at the wekala and then go sell, all over Egypt. Now, the wekala was readapted in a way that suits its cultural and historic value. It was reused as a cultural center where they perform the most famous and popular folklore shows held in Cairo. ¹



¹ Alkhatib, Ehab, interview by Mahmoud Haza'. 2018. Wekalat Al Ghuri in between the Egyptian Facts (July 08).

3

ADAPTIVE REUSE PRACTICES IN CAIRO

Adaptive reuse of historical buildings practices in Cairo have mostly been limited to the functionalities of museums and public buildings, such as schools. This section is meant to highlight the most recent examples of adaptive reuse in Cairo, as well as, their short comings and flaws. Moreover, this section aims to cover the current trends of adaptive reuse strategies in Cairo concerning product design and art display, to inform the main focus of this thesis, which is basically using adaptive reuse of a historic buildings to revive the diminishing traditional Egyptian crafts.

3.1 RECENT EXAMPLES OF ADAPTIVE REUSE IN CAIRO

3.1.1 AISHA FAHMY PALACE

The Aisha Fahmy palace was built in 1907 by Khedive Abbas Helmy and designed by the famous Italian architect Antonio Lasciac to be the home of Princess Aisha, the daughter of Ali Basha Fahmy, the head of the army during King Fouad's reign. In 1978, the palace was transformed to the royal jewelry museum but when the collection was moved to Fatma Heidar palace in Alexandria, the palace was placed under the supervision of the ministry of culture to be a new home for paintings by contemporary artists.

The total area of the palace is 2700 square meters and the palace includes around thirty rooms and two large halls. It also has a basement and a roof all highly ornamented. The palace is currently run by the ministry of culture's Fine Arts department and it re-established this palace into a respected place where art and culture meet. The palace has undergone renovations worth 30 million Egyptian pounds and was inaugurated in 2017. The palace will serve as a platform for young artists to present their work in dedicated halls, as well as a hub for some other cultural events, including music concerts.¹

The palace is two-story high with the ground floor serving as an exhibition space for contemporary artists. The second floor is very special with its design because it contains rooms that were gifted to Aisha Fahmy, such as the Japanese room. The palace in itself is a true work of art with stained glass windows and very detailed interiors that show excellent craftsmanship.

Rooms of Aisha Fahmy Palace



¹ Manadily, Hossam, and Hesham Labib. 2017. 20 photos of Aisha Fahmy's newly renovated palace that opens today. May 17. Accessed August 23, 2020. <https://www.egyptindependent.com/20-photos-aisha-fahmys-newly-renovated-palace-opens-today/>.

Rooms of Aisha Fahmy Palace



The palace housed several Art exhibitions including one by the famous Egyptian abstract artist Farouk Hosni in March 2020. The exhibition included 62 of his very latest work.

After the renovations, the different interventions used to treat the space were harmless. The palace being an exhibition required special lighting as well as occasional partitions in the time of need. The place is kept in a great shape with exhibitions running back to back all year round.

Art Exhibition in Aisha Fahmy Palace



3.1.2 PRINCE TAZ PALACE

The Palace was built in 1352 for Prince Seif-Eldin Abdullah Taz, one of the prominent Mamluk princes at that time. The palace was inaugurated by the Sultan himself which is a rare event. The palace was also a witness to his dethronement and the appointment of the sons of al-Nasr Mohamed Ibn-Qalawun. In later years, the palace was a place where the removed Pashas used to stay. The total area of the palace is around eight thousand square meters with a large courtyard in the middle made specifically for a garden with the main and secondary buildings of the palace placed around it. These buildings include Haramlek, Meq'ad, the main hall dedicated for reception, building utilities and attachments, and the barn.

The palace was renovated between the years 2002- 2008 under the supervision of the Ministry of Culture and it transformed it later to a creative center and performance art center. It is also a house for workshops to scout new talents, including painters, singers, music players, and acting. This makes the palace a space where culture, architecture, history, and modern arts come together and create a new one-of-kind environment.¹

The use of the place is versatile, so again all the interventions are arranged according to the event taking place.

View From the Courtyard of Prince Taz Palace



¹ Ashark Al-Awsat . 2020. « »
[Prince Taz Palace: A jewel in the heart of Mamluk Cairo]. Asharq Al-Awsat, January 08. Accessed August 24, 2020.

Document Display in Prince Taz Palace



Musical events taking place in Prince Taz Palace

3.2 STUDIES ON ADAPTIVE REUSE PRACTICES IN CAIRO CONCERNING PRODUCT DESIGN AND ART DISPLAY

Reuse of historical buildings in Cairo has been restricted to a few minor and redundant functions. Most of the reused buildings especially after the 1952 revolution in which Egypt became a republic. Many of the palaces structures built in the time of monarchy before that were apprehended by the state and turned into museums or public buildings such as the School of Fine Art in Cairo.

3.2.1 ATHAR LINA - A MEGAWRA INITIATIVE

Athar Lina (The Monument is ours) is a conservation initiative and it aims to establish a link between the public and heritage places through their participation in conservation initiatives based on deep understanding of the monuments as an asset not a burden. The institution believes that when the cultural heritage, in this case in the form of a monument, is beneficial to the community, it will respond back and start being active participant in the conservation process. Athar Lina sees the conservation as a very inclusive process one that allows users of the place to be part of its re-habilitation. Athar Lina is run by The Built Environment Collective (Megawra) which is a twin organization including an NGO and an architecture firm.¹

Exterior view of Al athar lina DesignThinking School



¹ Athar Lina. n.d. Mandate. Accessed 08 23, 2020. <https://atharlina.com/about/>.



Al athar Lina DesignThinking School, science experiment

Athar Lina is using up the space of an old unfinished mosque, so the place ended up being a gated courtyard with a semi shaded space. The plan of the space is rectangular with a semi shaded space that is usually used for presentations and projections. The place is not only used for the program, so it had to be very versatile when it comes to the use. Tables and chairs are arranged according to use and there is no fixed furniture.²

Starting out in this project, Athar Lina started building on the experience and research done by Megawra in Khalifa area. Athar Lina has been working with the heritage of al-Khalifa since 2012 in collaboration with the ministry of Antiquities and Cairo Governorate. The school has taken under its wing the initiative of developing the creative, cognitive and life skills of youth, craftsmen and designers through teaching them design thinking methodologies so they have the tools to transform the tangible and intangible aspects of their heritage into new products and activities. The school is open for three months in the summer and they also offer a six months practical training and research work in the remaining time. They offer programs for children (age group 7 to 13), youth (age group 14 to 18), and Professionals (age group 18 to 35).

² Elsayy, Heba, interview by Gannah Elsabbagh. 2020. Architect in Megawra Institution (August 23)

Al athar Lina DesignThinking School, setting for the lecture in the kids program

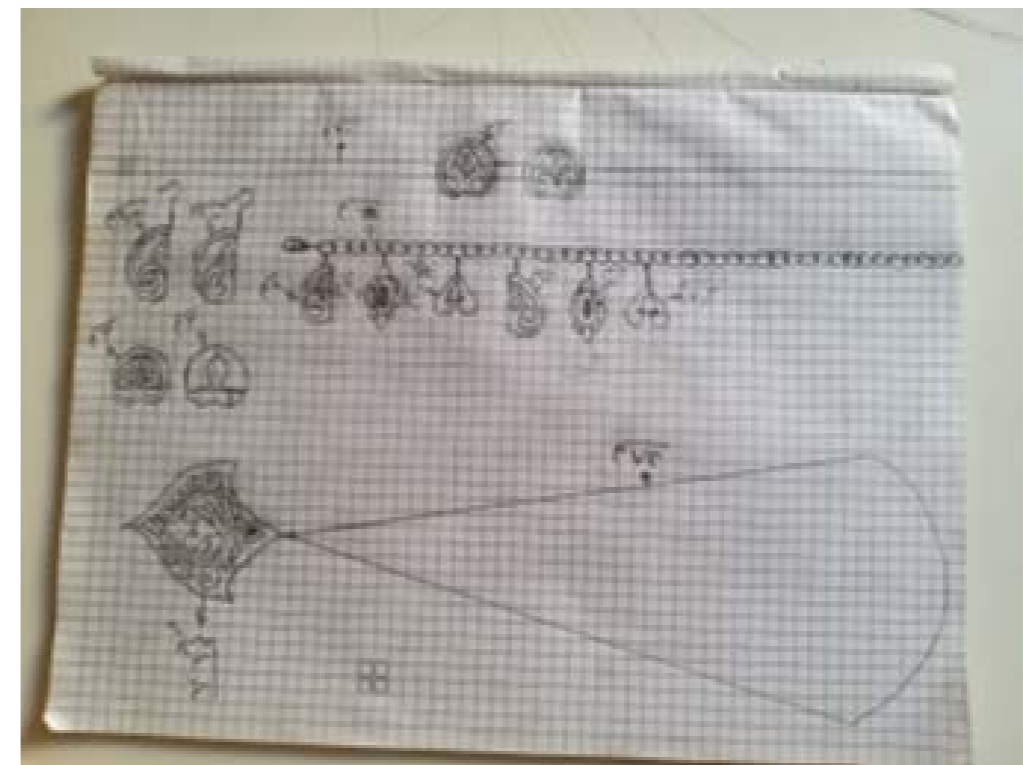


The school works on the design thinking methodologies and historical research as the basis for their work. They implement several modules varying between tangible and intangible. These modules include but are not restricted to wood, textile, tour-guiding, and storytelling. The content is delivered through lectures, reading, activities, and field trips. After all, the project aims to build a network of designers and craftsmen that could develop a line of products that are inspired and realized to benefit al-Khalifa area and old Cairo.¹ Their products are a true witness of the value of the Egyptian heritage. As an example, one of the girls enrolled in the youth program wanted to develop a piece of jewelry inspired by the carvings on the Minbar (a higher platform where the Imam/ priest of the mosque stands to speak to the people in the mosque) of Ibn Tulun Mosque. The girl developed several sketches and then the instructors tried to teach her the importance of choosing a target group and how this could affect her design choices. By the end their event, Spend the Day in Khalifa 2020, Athar Lina had already its own line of products such as coasters, keychains, accessories, and wallets and all inspired by the place that helped create it all. During this event they displayed all of them neatly with a clear description of the design process and the different uses.

Minbar of Ibn Tulun Mosque



Sketch by one of the students designing jewelry inspired by the Minbar of Ibn Tulun Mosque



¹ Athar Lina. n.d. Athar Lina Heritage Design Thinking School. Accessed 08 23, 2020. <https://atharlina.com/projects/athar-lina-heritage-design-thinking-school/>.

3.2.3 ART D'EGYPTE

Art D'Égypte is a platform created by Nadine Abdel Ghaffar and its sole purpose is to promote Egyptian Art while putting our Egyptian Heritage under the spotlight as well as preserving it. Art D'Égypte organizes an art exhibition every year in a different historical place. By doing so, they are promoting Egyptian Heritage and encouraging donations and their preservation through a new partnership between private and public sectors. Art D'Égypte also performs a lot of activities to support art and heritage. They provide art consultancy services, both corporate and private. And in the last year they managed to collaborate with many entities to create art scholarships and residency program. They also organize public events and free talks to make Art accessible to everyone. They also try to film documentaries in a trial to have a part in preserving Egypt's heritage. The team is also very aware of the gap between Egypt and the rest of the world, that is why they are trying to maintain international relations that could serve and help their purposes.¹

Manial Palace Art Exhibition



¹ n.d. Art D'Égypte. Accessed 08 22, 2020. <https://www.artdegypte.org/>.

Manial Palace Exhibition

The Second Exhibition by Art D'Egypte took place in Manial Palace under the name "Nothing Vanishes, Everything Transforms". The exhibition was inaugurated with a night in the manial palace Museum under the supervision of the Ministry of Antiquities. The collection included works by twenty-eight of Egypt's contemporary artists curated by the founder Abdel Ghaffar herself.

Manial Palace Art Exhibition



Mu'iz Street Art Exhibition

Mu'iz Street Exhibition

The third art exhibition done by Art D'Egypte was established under the title of "Reimagined Narratives". The event was held under the supervision of the Egyptian ministry of Antiquities and was able to bring together twenty eight contemporary Egyptian artists who designed and installed a collection of specifically designed art installations and pieces in a first of its kind exhibition in Egypt along the whole street of Mu'iz li-Din Allah Al-Fatimi Street (A UNESCO world-heritage site) in old Cairo. The exhibition included four main locations along the street including Bayt El Suhaymi, Qalawun Complex, Moheb El-Din Hall and Maq'ad.¹

¹ Art D'Égypte. 2019. Reimagined Narratives. November. Accessed 08 22, 2020. <https://www.artdegypte.org/copy-of-nothing-vanishes-everything-1>.

Mu'iz Street Art Exhibition



2

4

PROJECT UNFOLDING TRADITIONAL CRAFTS CENTER

4.1 LOCATIONS AND SITE SELECTION

Based on the survey demonstrated in the previous section 2.1, many clients expressed their willingness to buy locally crafted goods because of their authenticity and originality and in many cases because of true artistic value of the crafted products. but the main concerning issue that was raised by most of the interviewees is the inaccessibility of the area of old Cairo which houses almost all the craft centers with all their affiliated performances. So the search for a place focused on the main areas that houses the main clientele targeting the locally sourced products. Taking that into consideration, the three main areas chosen to look for a site suiting the adaptive reuse of historical buildings were Maadi, Zamalek, and Heliopolis. These three areas are centered between the new developing areas and old Cairo, they also have an abundance of old buildings that could be reused.

The Maadi area was excluded because the area is relatively new and the buildings are not considered historical. The Zamalek area was more promising as it contained a lot of historical buildings. It was also central between the new developing area in West Cairo and old Cairo. Unfortunately, after further investigations, it showed that most of the already existing historical buildings in Zamalek area were reused as embassies of foreign countries in Egypt.

Heliopolis was the area with historical buildings that is now under the microscope by the government and is starting to reuse several of them. For example the Baron Empain palace was just inaugurated after renovations. It was open to the public as a touristic attraction in 2020. The Baron Empain Palace inauguration was significant because his palace was the first palace to be built in Heliopolis area. The Baron himself was the one who helped develop the metro in Paris. So upon moving to Egypt he wanted to build himself a palace and offered to build it in an empty area where he could develop transportation and create a new town. The new town was called Heliopolis and the second place that he built was a palace for the wife of the current Sultan Hussein Kamel at that time. The Sultana Malak Palace was built right in front of the Baron Empain Palace and then the rest of the town of Heliopolis was built.



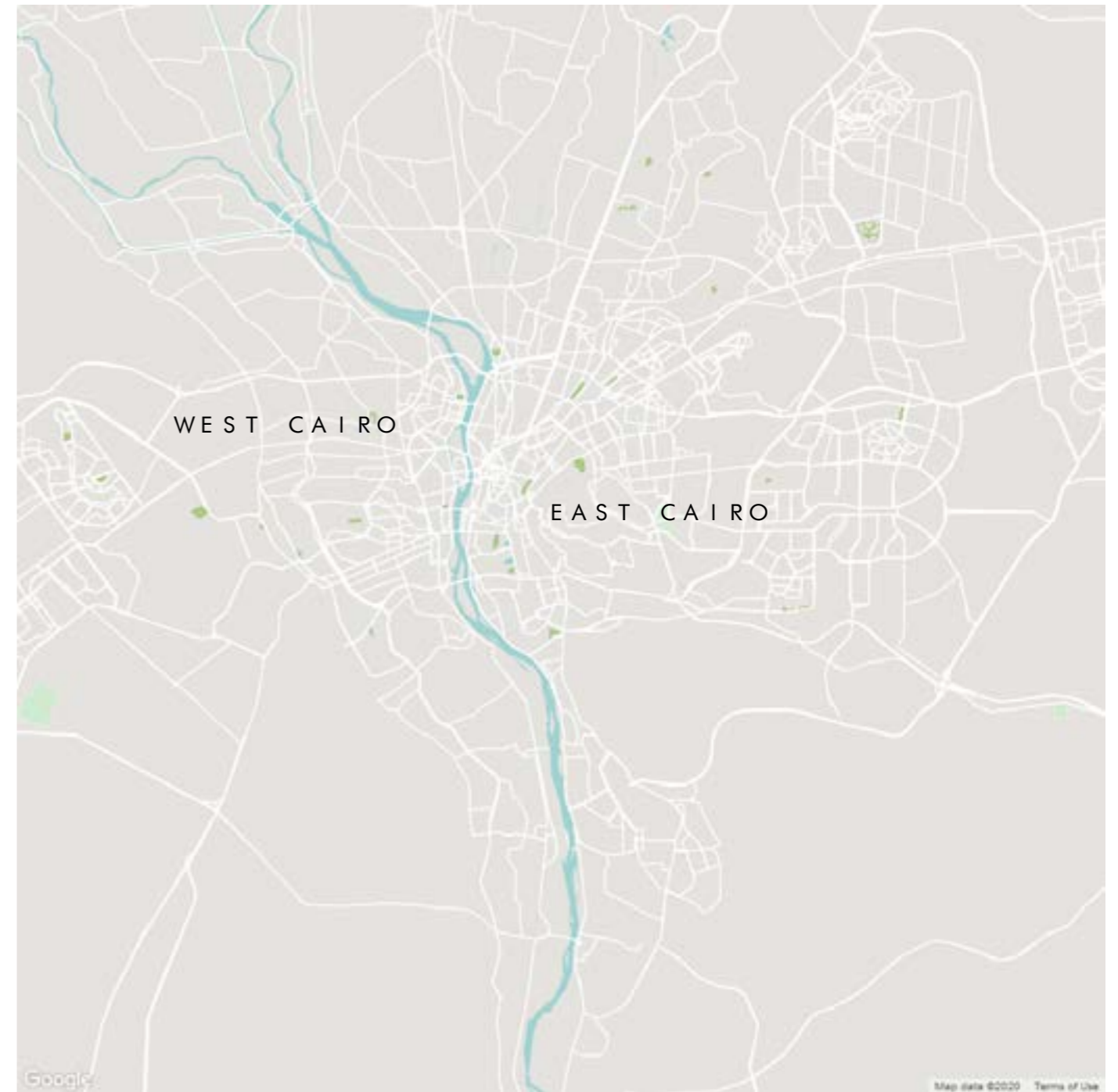
Baron Empain Palace



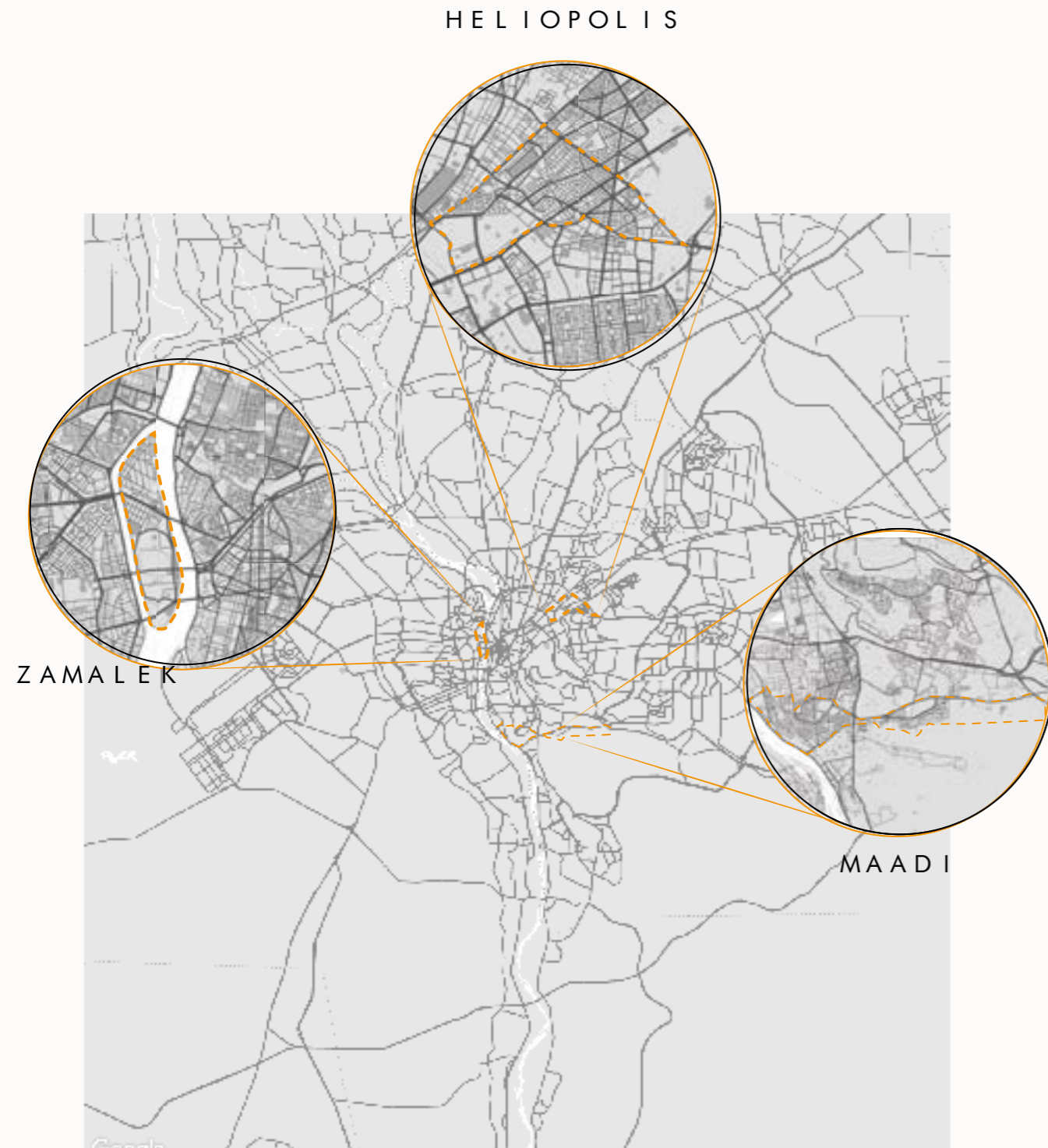
Sultana Malak Palace

CAIRO

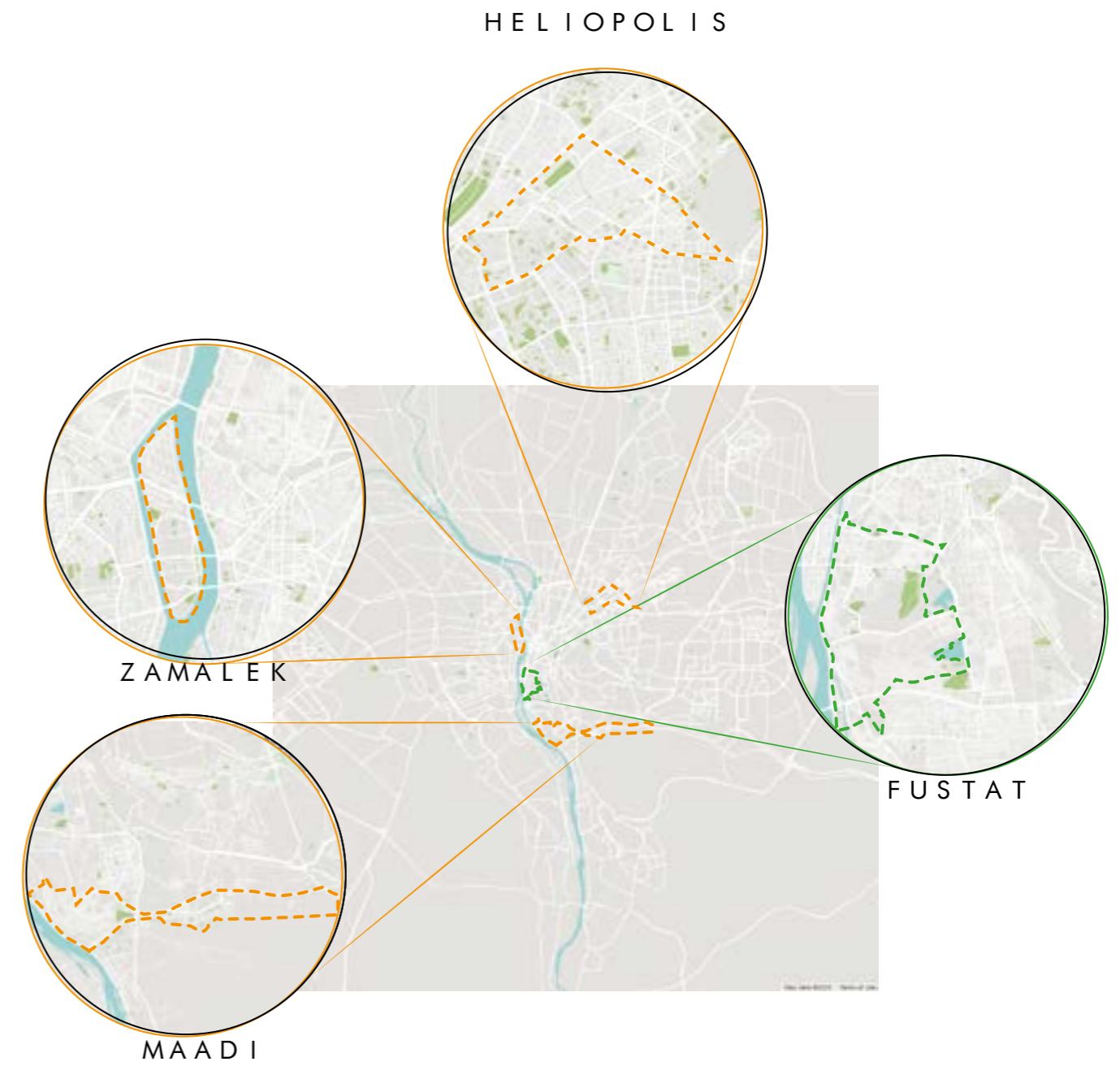
The Nile River divides the city in two: West and East Cairo. Both areas have older origins and newer developments attached to it working their way east or west.



Map of Cairo



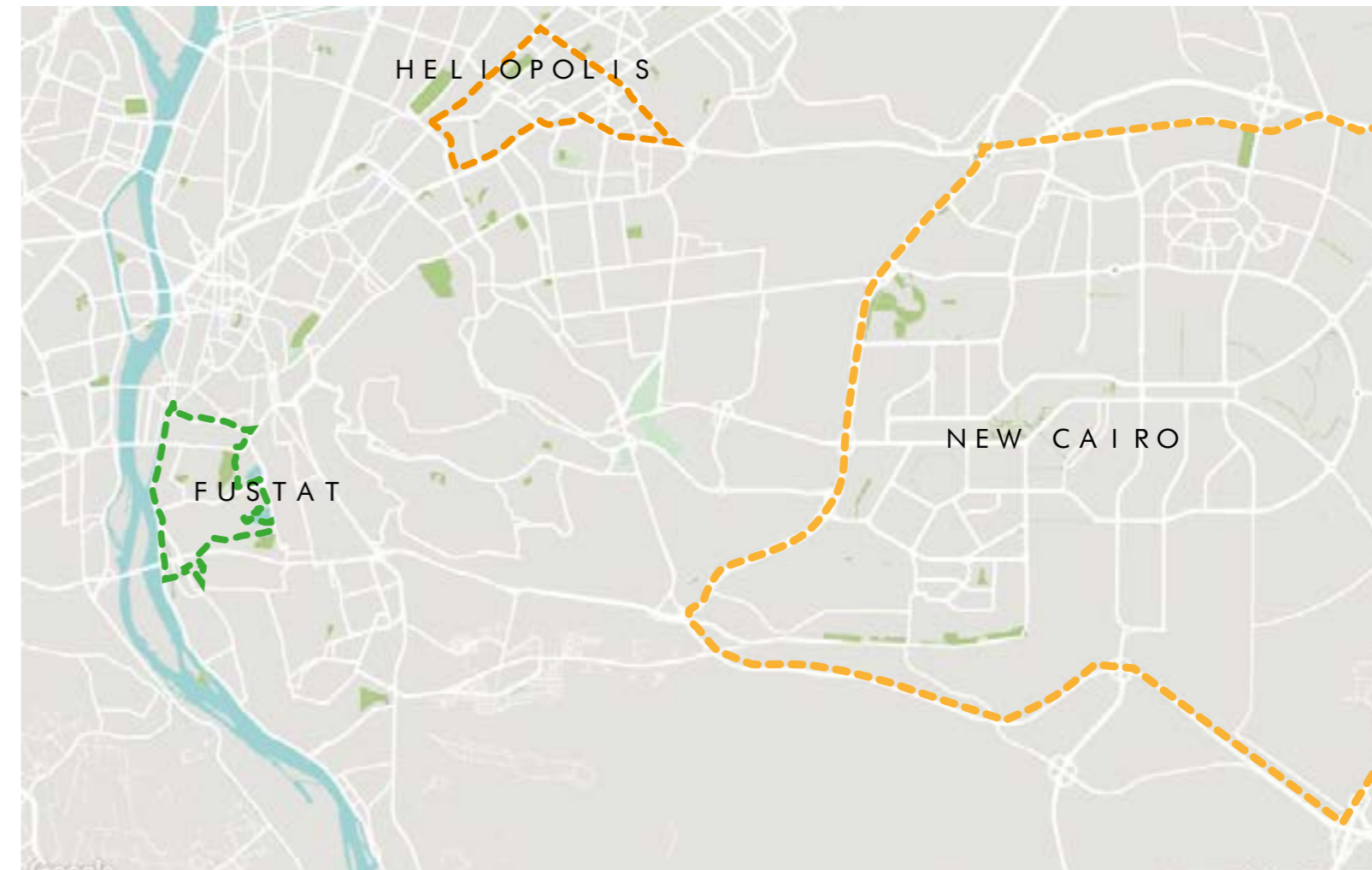
Three main areas with old abandoned buildings in Cairo that are close to the clientele



Three main areas in relation to Old Cairo "Al Fustat", the Craft Center

HELIOPOLIS

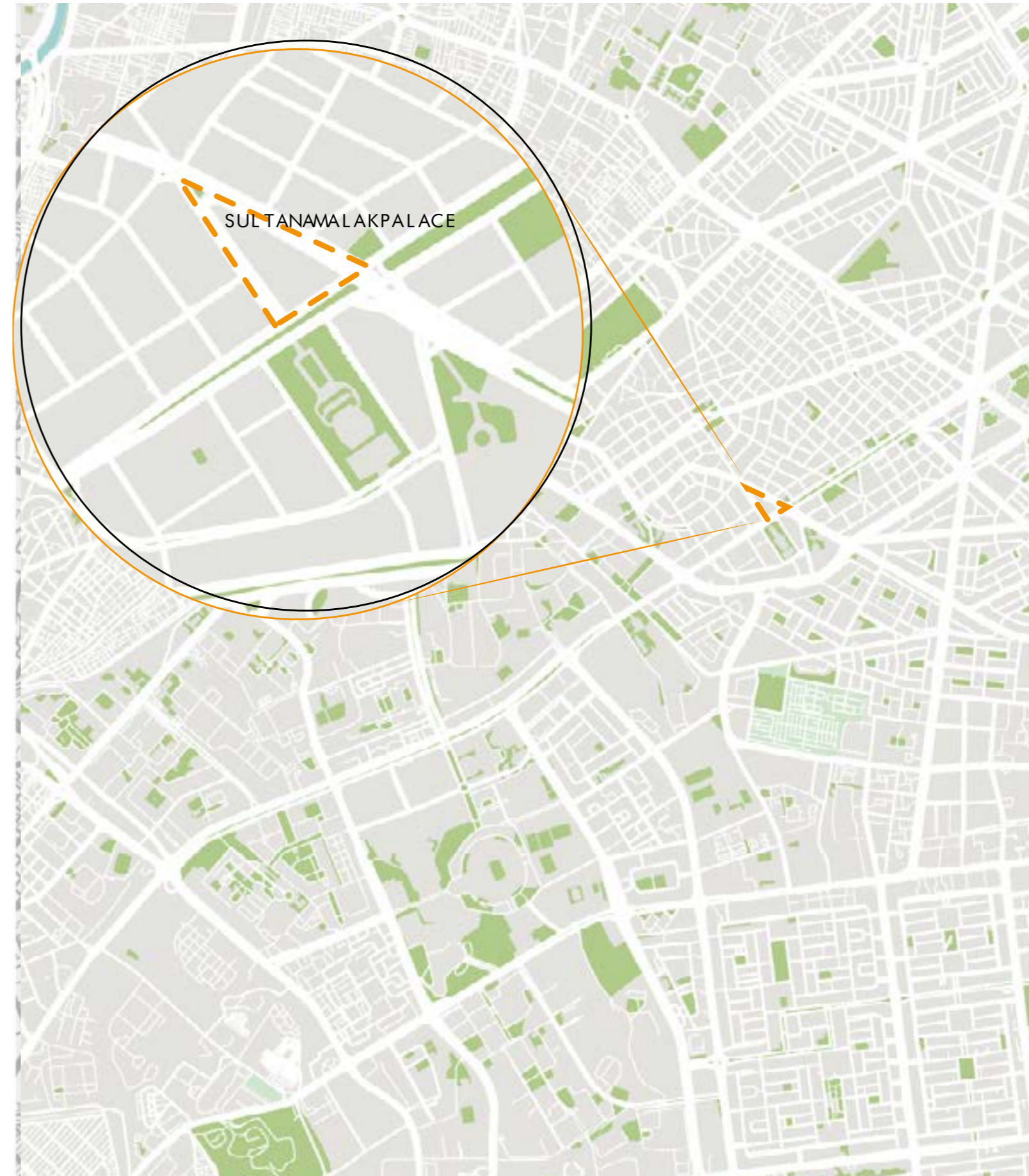
In eastern Cairo, Heliopolis is the old neighborhood central between Fustat area (old Cairo) and New Cairo which is the new developed area in Eastern Cairo. The choice of Heliopolis was quite ideal because, at the end and based on the survey conducted, it had the clientele targetted for this project as well as being in close proximity from the New Cairo area. These signs made the choice successful as the accessibility of this site is much better than the Fustat area. The Fustat Area being part of old Islamic Cairo was not built for cars, nor to accept all these numbers and traffic.



Heliopolis Centered between Fustat and New Cairo

SULTANA MALAK PALACE

Sultana Malak Palace in Heliopolis is across the street from the Baron Palace, the first palace built in Heliopolis.



4.2 HISTORY OF SULTANA MALAK PALACE

Heliopolis is a central area between Fustat and the clientele living in East Cairo, in Heliopolis and its ramifications into New Cairo. The Sultana Malak Palace being one of the first palaces that were built in the area of Heliopolis. The Sultana Malak Palace is a historical palace in Orouba street facing the first Palace built in Heliopolis, Baron Edouard Empain Palace. Sultana Malak Palace was commissioned by the Baron himself as a gift for Sultan Hussein Kamel that he later appointed for Sultana Malak, his second wife. The palace was transformed into a school in the sixties of the last century. The palace was registered as a historical monument among the Islamic and Coptic heritage buildings in 2000.

The building marries two architectural styles, the Mamluk and the baroque, which appears in the exterior facade with the tower (the tower recalls the classic Minaret, the tower of the mosque) and the baroque dome that highlights the main atrium in the palace. This mix does not apply only to the facade it is also very clear in the interiors. The main atrium has a very Islamic design and the rooms are characterized with the exaggerated baroque ornaments.

The story of the palace started when Sultan Hussein Kamel and wife Sultana Malak Jasham visited an international convention for architectural design in Paris in 1900 and they saw three designs by the French architect Alexandre Marcel. Back then, the Sultan had a good connection with the Belgian millionaire Edouard Empain. When Empain was starting with building Heliopolis, they both had Alexandre Marcel build them the first palaces in town. The palace ended up being the residence of Sultana Malak, the second wife of Sultan Hussein Kamel, and her three daughters from 1909 till 1914. After the appointment of Sultan Hussein Kamel ruler of Egypt, they all moved to Abdin Palace (the residence of the ruler of Egypt) until the death of Sultan Hussein Kamel in 1917. Sultana Malak continued living in the palace with her daughter Samiha Hussein until the death of the Sultana and the expropriation of the palace.¹

¹ Elkanany, Abdelhady. 2020. Sultana Malak Palace. 08 26. Accessed 08 28, 2020. https://a5bart7yamasr.com/2020/08/blog-post_49360.html.



4.3 PALACE CURRENT CONDITION

After being a school for several years the palace suffered a lot under these circumstances. The children treated the palace very roughly because of their lack of understanding of the value of such building. The building is badly damaged with writing on the walls caused by children. It is also suffering from the maintenance itself. When the building was given away to the school, its maintenance was not given the same budget as before, so it was done unprofessionally. A lot of ornaments and walls were found repainted in different colors and in inconsistent ways. The building is currently being renovated by a private construction company under the supervision of the Egyptian Government. The original colors were uncovered and currently being restored to their previous state.

The building is a sign of beautiful craftsmanship as it has an amazing level of details that show architecture craftsmanship. The dome in the central atrium has impressive stucco detailing with Islamic geometry and its drum is resting on stalactite pendentives common in the Mamluk architecture.

The interiors also mix between the Baroque style ornaments as well as the Islamic in the same space and in adjacent ones. It is very impressive how in that time, the two cultures were fusing into one.

The rooms were also a host to several direct wall paintings. Some of the ceilings were painted by hand which prevented the addition of ceiling mounted lighting interventions. There were also several paintings crafted directly on the walls surrounded by wall mouldings, including an original Romeo and Juliet painting, unsigned.

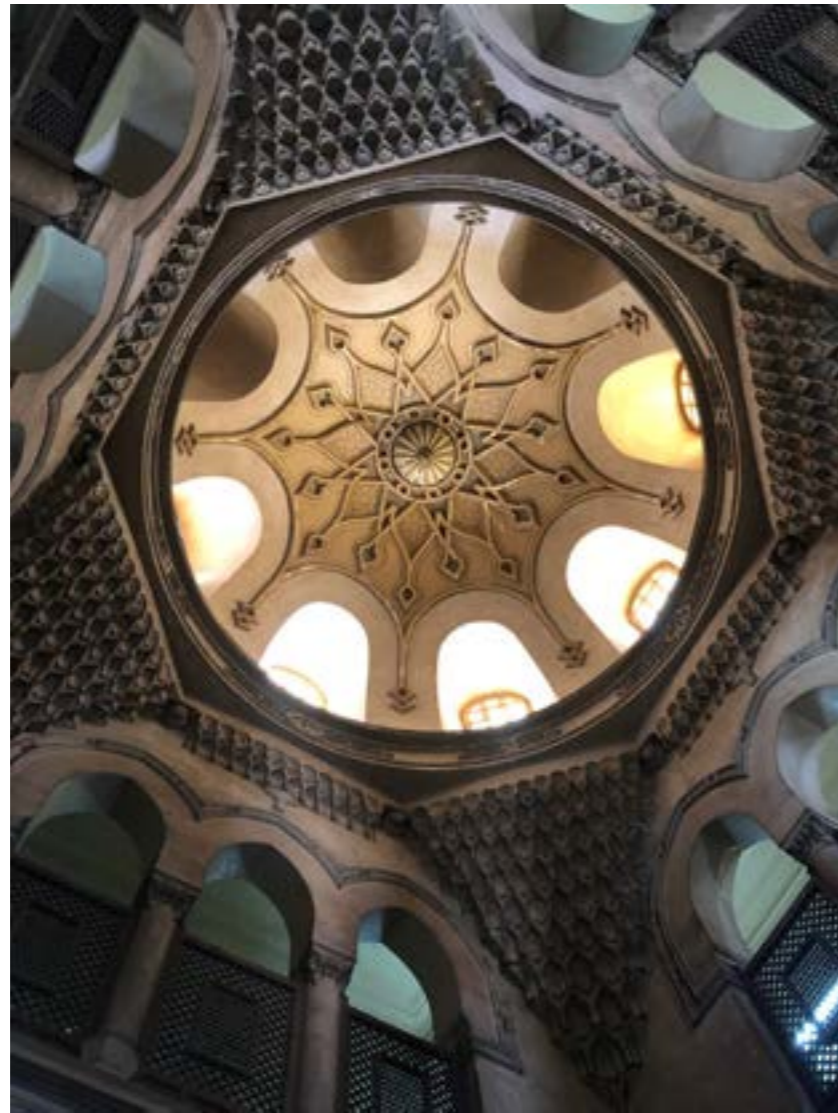




Damages to the Walls and Doors



Damages to the Marble Fire Place



Central Dome on Stalactite



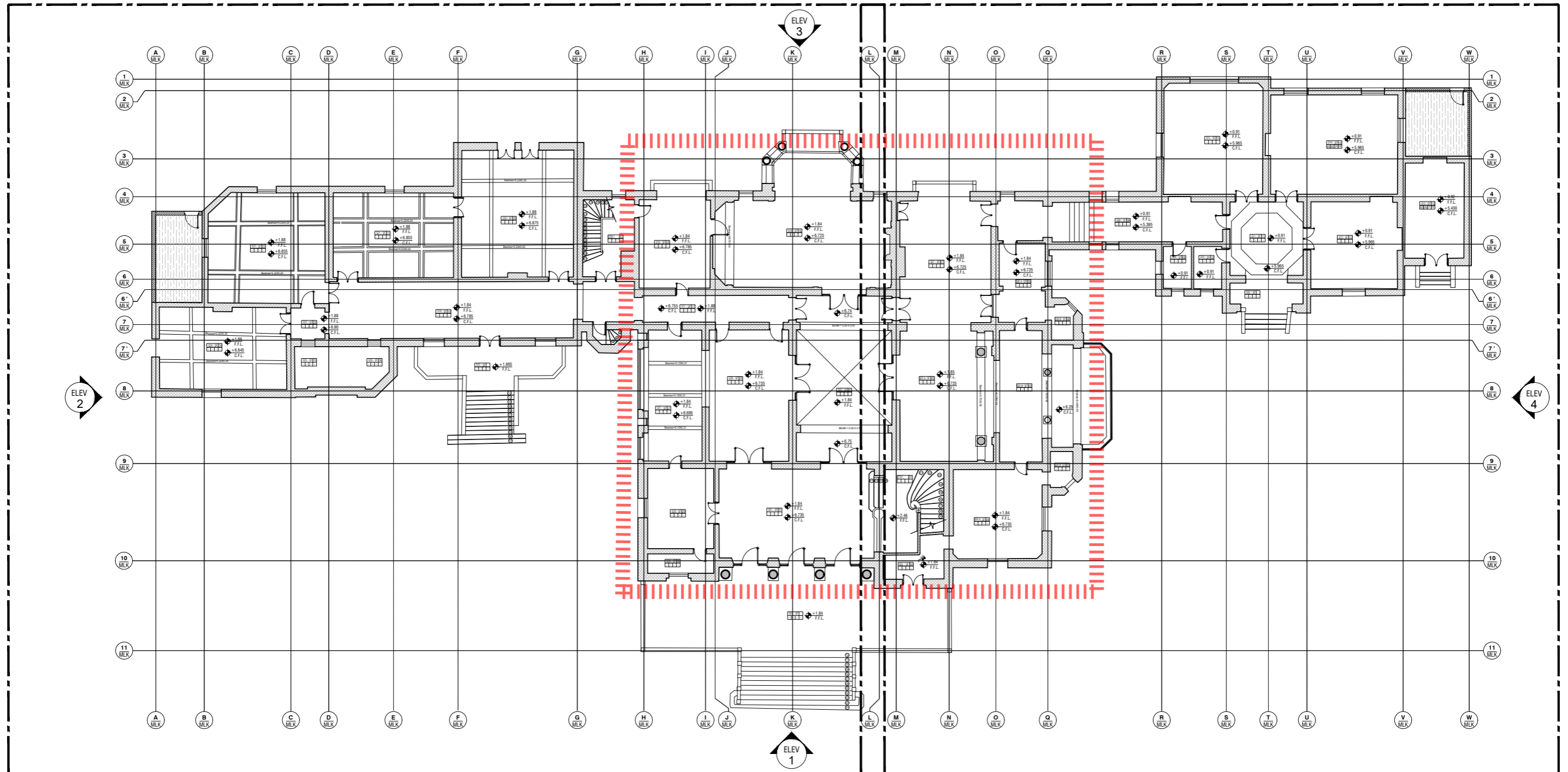
Inconsistent Painting of the Ornaments and the Ceiling



Original Romeo and Juliet Wall Painting

4.4 PROJECT LIMITATIONS

The palace consists of two main floors and a basement. The ideas used to execute the design could be reproduced to do the same tailored form and space generation for the rest of the palace. The project is very expandable and could be repeated easily because of the consistency of the design method. The limitations chosen for the project is the central area around the main atrium with the area and the rooms adjacent to it. It was chosen to facilitate the introduction of the design.



Ground Floor Plan Of Sultana Malak Palace With Highlighted Limitations

5

SITE SELECTION AND SITE IN CONTEXT

5.1 CONCEPT INTRODUCTION

This project is dealing with the idea of revival of an old Palace, in this case the Sultana Malak Palace. The palace is left in a bad shape and it will be revived through adaptive reuse. The project also goes beyond just the revival of the palace but also the revival of the old traditional crafts of Cairo and how they are modernized and presented in this new frame of work that is very unique both culturally and from the point of view of craftsmanship. The project will also deal with the revival of an old architectural concept, al Wekala, which is an old trading place going back to the Ottoman and the Mamluk periods in Egypt. One of the most interesting case studies dealing with revival of an old image was the case of a church in Limburg, Belgium and it will be discussed further in the following section.

5.1.1 BETWEEN THE LINES CHURCH

Gijs Van Vaerenbergh - Limburg, Belgium, 2011

“Reading between the lines” is see-through church built in Limburg, Belgium by an Architecture Office centered around Landscape Architecture.

This project is a part of “Pit”, an artistic trajectory with works done by ten artists in the region of Borgloon-Heers (Limburg). The two architects “Pieterjan Gijs” and “Arnout Van Vaerenbergh” started collaborating together since 2007 on projects where their primary concerns are experiments, reflection, a physical involvement with the end result and the input of the viewer.

On the “reading between the lines” project, they revealed their construction in a rural landscape area, that can be reached by a cycle route.

This case study is an inspirational starting point of our project. The idea of having a transparent architectures that although it is a **non-complete picture** of a church, it communicates the full image of it. Our mind tend to fill the void-gaps and have a full reading of the space.

The concept of transparency or void within a massive steel building feels like a revival of the church in the natural landscape.

The church is ten meter-high, constructed from one hundred layers of weathered steel plates and two thousands columns of steel.

The uniqueness of this construction is that it changes depending on the viewer’s perspective. It is either perceived as a massive building, or it disappears or dissolves partly into the landscape. Seeing from inside the church gives the viewer a third reading which is admiring the landscape shaped through the abstraction of the construction lines of the church.

A View Showing the Church as a Whole





An Outdoor View of the Church

The architects chose to go for a traditional design inspired by the multitude of churches in the region, but interpreted in their own way, through the use of horizontal steel plates. The concept of the traditional church is transformed into a transparent object of art that takes presence in a green landscape.

The project brings a church to life in the middle of nowhere. Although the church does not have a well defined function, it focuses on a more visual experience.

Still on the architectural level, the construction exposes every construction detail, its transparency makes the viewer understand its different construction steps.

Only 10% of the church volume is used to build it, the other 90% is air. The wall has a certain thickness and the light falls sideways which makes it dark inside of the church most of the time which lightens up the landscape that the viewers see through the lines. The church was built on several stages, because it was impossible to transport such large pieces in one go. All the layers were brought and welded on site.

“Reading between the lines” is a project that communicates strong design details and physical techniques and at the same time it presents an artwork that appears and dissolve in a natural landscape.

A View Through the Church



A View showing the technique of the construction of the church



A View From the Inside of the Church

5.1.2 WEKALA TRANSLATED

The wekala concept mentioned before is the main intervention in the space. taking into consideration that any intervention happening inside the palace has to hold a sign of its time. So having a wall that is built in an old technique will not help the situation. But the idea of having a familiar image that you know in your head and is familiar to the eye and then building it in a new unique way sounds very appealing. The idea is to recreate the wekala wall with the archade along with the same kind of privacy hierarchy and apply them in the palace. The project is aiming to create the same experience with the open, street-like feeling inside the space.

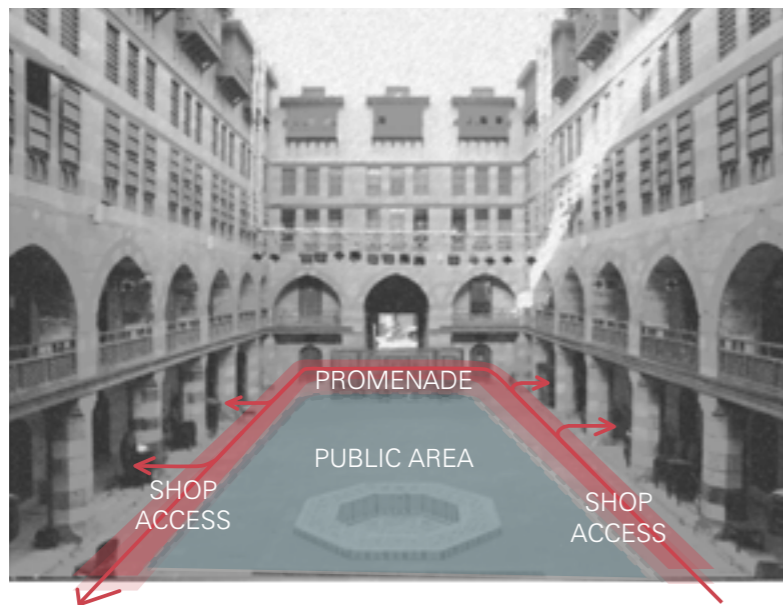


Diagram Explaining The Privacy Hierarchy Inside the Wekala

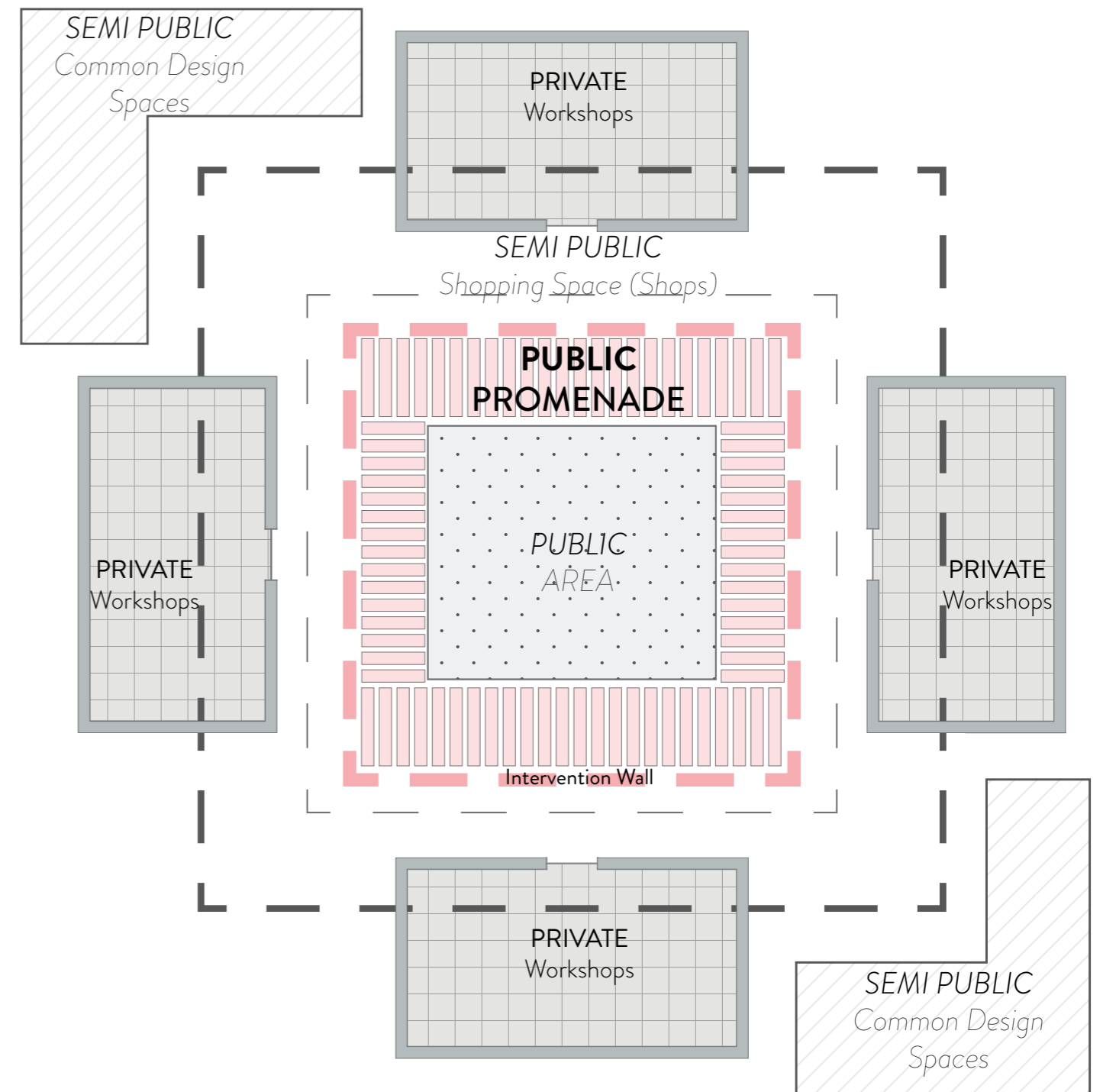


Diagram Explaining The Privacy Hierarchy Implemented in the Design

The wall works mainly on subdividing the spaces inside the main central area creating a hierarchy of space that mimics the one of the original wekala. The internal atrium already highlights the central public space. Later the wall highlights the promenade around the central public space. The wall also defines the areas of the shops as well which are semi-public spaces. The shops are later connected to the private workshops and the semi-public common design spaces.

The Wall Crossing the spaces and dividing them

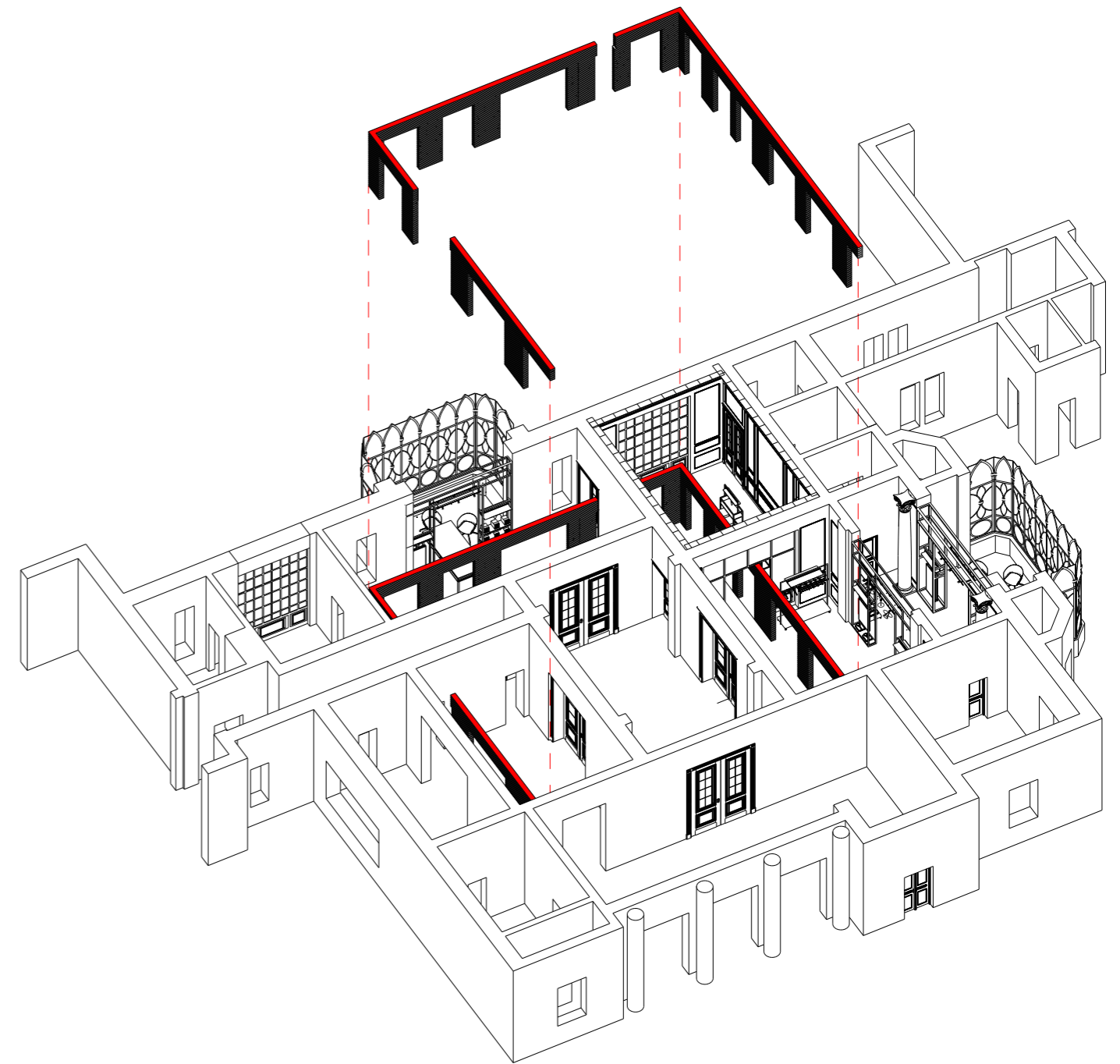


Diagram Explaining how the wall is affecting the Space Division

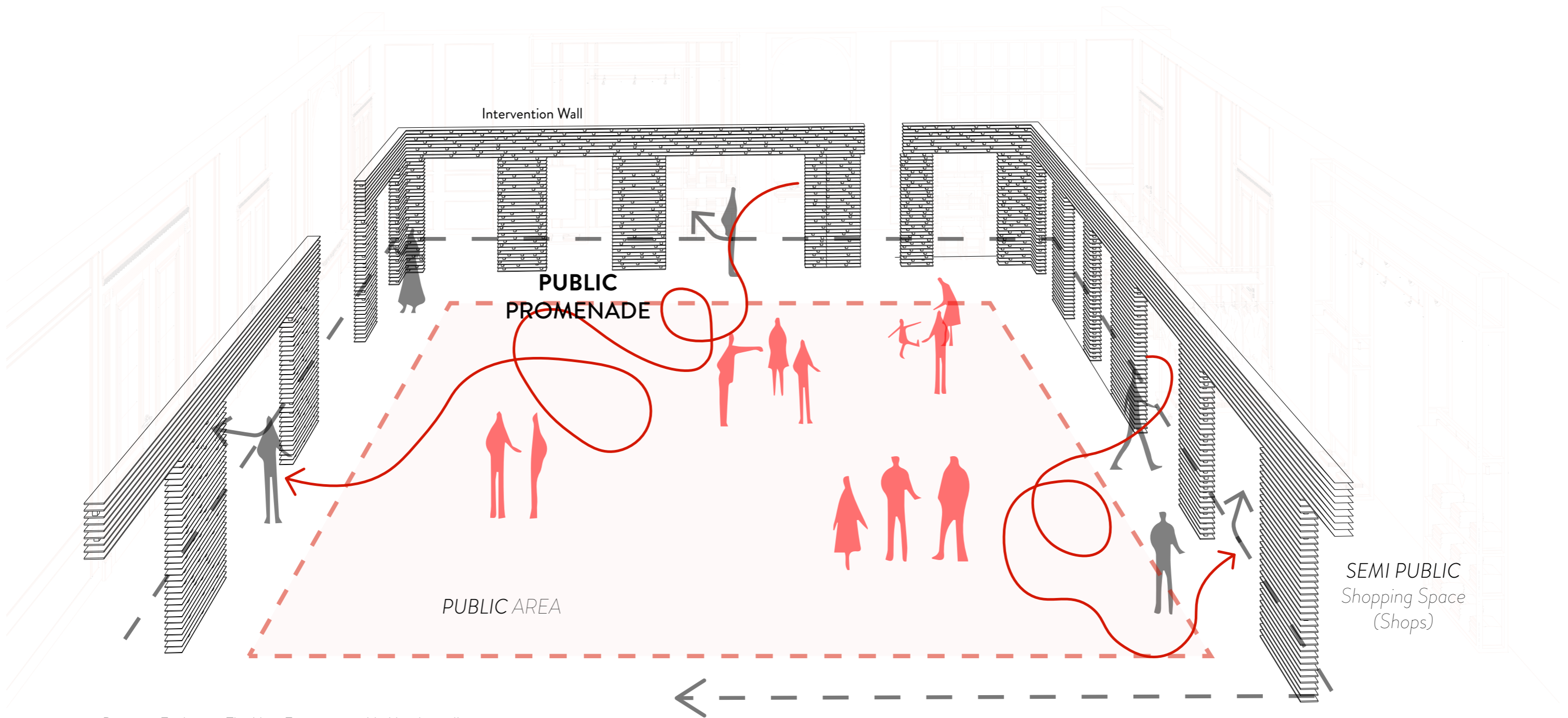


Diagram Explaining The User Experience added by the wall

5.2 TREND ANALYSIS AND NEW EMERGING AND SUPPORTING BRANDS

Being on the topic of revival, various new Egyptian local brands have been flourishing the trend of reviving old traditional crafts. These new emerging brands have been generally taking traditional designs and modernizing them with contemporary twists. Ever since their emergence, the brands have proven to be in high demand with rising popularity amongst the Cairene market. The following are a few examples of popular new emerging brands, some even excelling to international success.

5.2.1 OKTHEIN

BACKGROUND

The Okhtein bag challenges the status quo and offers a different design aesthetic; setting a trend not following one. On the cover of Forbes' 2017 edition features the two sister founders, who take pride in establishing the high-end Egyptian handbags and showcasing their detailed pieces to the world. The vogue 2016 fashion prize winners combine unique raw materials like leather, straw and cotton that have artisan feel, yet rendered in a contemporary way.



Brand advertisement

DESIGN MANIFESTATION

The unusual dome bags with its intricate details are very much inspired by Cairo's heritage, the pieces are infused with many cultural associations to the Fatimid era's bold geometric shapes.¹ For instance, the collection labelled revival of the dome is a tribute to Cairo's thousands of domes that cover the old city.² The sisters seek mixing new materials like leather with detailed brass metal inspired from the old Islamic Fatimid facades. The brand in general is a balance between reviving historical heritage motifs and setting trends.³

¹ EBRD Press Office. 2019. Okhtein: made in Egypt. European Bank for Reconstruction and Development. November 28. Accessed August 25, 2020. <https://www.ebrd.com/news/2019/okhtein-made-in-egypt.html>.

² Deif, Ingy. 2017. Three years after their debut, famous fashion duo Okhtein open flagship store in Egypt. Ahram online. May 21. Accessed August 25, 2020. <http://english.ahram.org.eg/NewsContent/7/0/269201/Life--Style/0/Three-years-after-their-debut,-famous-fashion-duo-.aspx>.

³ Okhtein . n.d. Okhtein Home Page. Accessed August 25, 2020. <https://eg.okhtein.com/>

Okhtein looking at the future see themselves amongst the international high fashion, whilst continuing their effort to collaborate with local NGOs to support skilled female workers. The philanthropic approach is based on the desire to involve more handmade leatherworkers to assist them with unstable income.¹ In addition, the sisters are raising awareness of expertise of Egyptian traditional artisanship that tends to dissolve in the supply chains of the fashion industry.²



A Fatimid carved Ivory box with lid, displayed at the Museum of Islamic art, Cairo

Bag Designed by Okhtein Inspired by Fatimid Art

¹ Kaaki, Lisa. 2017. From Egypt with love: Find out why handbag brand Okhtein is flying off the shelves. Arab News. October 31. Accessed August 2020, 2020. <https://www.arabnews.com/node/1186001/fashion>.

² Enigma Magazine. n.d. Okhtein: Egypt's Designer Sisters . Accessed August 25, 2020. <https://www.enigma-mag.com/okhtein/>.

5.2.2 TEMRAZA

BACKGROUND

Farida Temraza is the first international award-winning Egyptian fashion designer, quickly becoming the well-known in the middle east for her unique designs.¹

Temraza's perfectly sculpt designs that are fabricated with the finest materials aims to make the ladies feel confident. The young talent is the first Egyptian to successfully participate in New York, London and Paris fashion weeks.²



¹ Egypt Today. 2015. Talk of the Town: Farida Temraz. July 19. Accessed August 25, 2020. <https://www.egypttoday.com/Article/6/2883/Talk-of-the-Town-Farida-Temraz>.

² The Fustany Team. 26. Temraza: The Journey of an Egyptian Luxury Brand to International Fame. May 2016. Accessed August 25, 2020. <https://fustany.com/en/lifestyle/interviews/temraza-the-journey-of-an-egyptian-luxury-brand-to-international-fame#slide2>.



DESIGN MANIFESTATION

Temraza's powerful collection draws inspiration from the Egyptian culture, with the use of detailed embroidery and the finest material, the designs tell a story about the Egyptian women. One of her collections titled The Xecutive, the designer portrays the image of modern professional working Egyptian women. Temraza explains that her designs "celebrate women as the main pillar in any society" and designs for all body types inspiring women to embrace their own silhouette.¹

¹ Moriatis, Ioanna. n.d. Farida Temraz '12 Empowers Women, Puts Egypt on Global Fashion Map. Accessed August 25, 2020. <https://www.aucegypt.edu/news/stories/farida-temraz-12-empowers-women-puts-egypt-global-fashion-map>.

COMMUNITY

Temraza not only works on her designs for international recognition, but also strives to give back her knowledge to empower women in the community. The designer set up workshops and competitions for young talents with the aim to spread fashion education in Egypt.



5.2.3 AZZA FAHMY

BACKGROUND

The Egyptian pioneer woman Azza Fahmy, reinvents the Egyptian heritage, designing and crafting detailed, one of a kind pieces of jewelry. The internationally successful brand is extending a traditional craft as old as the pyramids into a new modern innovative way.

Fahmy is one of the biggest names in fine jewelry in the Middle East and has over than a dozen outlets all over the world, opening her first store back in 1981. The journey began in her early years in the 60's when she came across a book of Islamic Medieval jewelry, that inspired her to work as an apprentice in Egypt's ancient jewelry district, Khan el Khalili, defying all gender stereotypes at the time.¹



Azza Fahmy



Cuff and Earrings designs inspired by the Qalawun Complex, The Mamluk Collection



Pharaonic Cuff Design

TRADITIONAL ARCHITECTURE MANIFESTED IN JEWELRY

Fahmy took the role of translating the Egyptian culture to the world through her extensive research about Egypt's ancient jewelry. The designer is now a trend setter for jewelry making in Egypt, introducing contemporary concepts inspired by Islamic, Pharaonic architecture and Arabic calligraphy.¹ Each jewelry piece tells a story centered around a motif such as the Mamluk Islamic architecture in Cairo, where the intricacies of the geometric forms of the past made through modern design. Her collection was inspired by one of the most important elements of this era, the muqarnas, the most sophisticated one can be seen on the Palace of Emir Qawsun. The simple composition is manifested in striking detailed designs in her collection.²

¹ Primo, Valentino. 2018. Azza Fahmy: The First Lady of Egyptian Jewelry. November 09. Accessed August 25, 2020. <https://scenearabia.com/Style/Azza-Fahmy-The-First-Lady-of-Egyptian-Jewellery-Designer>.

¹ Deif, Ingy. 2018. Egyptian designer Azza Fahmy's pieces feature in Dutch museum's jewellery exhibition. February 05. Accessed August 25, 2020. <http://english.ahram.org.eg/NewsContent/7/47/289365/Life--Style/Style/Egyptian-designer-Azza-Fahmys-pieces-feature-in-Du.aspx>.

² Azza Fahmy Team. n.d. Mamluk Reimagined. Accessed August 25, 2020. <https://www.azzafahmy.com/eg/mamluk-collection>.

WORKSHOP

After her long journey of designing, Fahmy became a mentor inspiring women and designers to pursue their career in jewelry by establishing her very own making institute, The design studio by Azza Fahmy.¹ The workshop employs over 180 people, incubating their design ideas and aiding young talents to ultimately become professional jewelers. The studio not only puts Egypt on the map as a design hub, but also is culturally responsible for transmitting and preserving the ancient craft from one generation to the other. The collaborations are not only limited locally, the designer has successfully cooperated with renowned international designers placing Egypt as a prestigious jewelry hub.²

Jewelry Workshop organised by Azza Fahmy



¹ Yasser, Nayera. 2015. British Council hosts Azza Fahmy's Global Experience. February 17. Accessed August 25, 2020. <https://dailynewsegyp.com/2015/02/17/british-council-hosts-azza-fahmys-global-experience/>.

² Fahmy, Azza. 2015. An Everlasting Lustre: A Thousand Years of Monitoring Egypt's Jewelry Industry. Accessed August 25, 2020. https://rawi-magazine.com/articles/everlasting_lustre/.

5.2.4 EMELI

BACKGROUND

Emeli is a local brand established 60 years ago that specializes in premium leather goods, serving the younger generation. The traditional leather store got re-branded recently, introducing new contemporary designs. The carefully hand-crafted brand, with fine grained leather, launched premium quality designs with affordable prices. The brand is keen on reviving the leather making tradition by producing stylish diverse bags.¹



¹ Hashish, Dina. 2018. This New Egyptian Leather Brand Might Be The Next Best Thing. February 02. Accessed August 25, 2020. <https://scoopempire.com/brand-might-be-the-next-best-thing/>.



Brand advertising

5.3 INTERIOR DESIGN APPROACH CASE STUDIES

The idea of having a historical building as a housing place for the project is intimidating and challenging at the same time. The historical shell requires the utmost respect to their structure and their value at the same time. The case of the Neues Museum in Berlin approaches this concept in a very interesting way.

5.3.1 NEUES MUSEUM IN BERLIN

An international competition for the Neues Museum Berlin exhibition was won by Michele De Lucchi's studio, AMDL CIRCLE. The exhibition area is extended over four floors, with 48 rooms around two spacious courts, giving a total exhibition area of 13,000 m². The museum houses an impressive Ancient Egyptian and prehistoric collection.

The most important aim of this project was to respect the history of the building and strictly avoid getting in the way of its heritage-rich decorations and walls. Therefore, the project's greatest objective was to provide visitors with the opportunity to fully enjoy each artefact, as well as the historic significance of the building they are in, which will enhance the experience in Neues Museum Berlin altogether.

The architect designed a functional system of showcases and plinths, that can display information, offer protection and have the flexibility to allow for future reorganizing of the museum display when needed. The showcases and plinths are independent architectural structures that display a harmonious visual identity, without getting in the way or distracting from the artifacts or the building. They are laid out longitudinally in the room, as isolated islands (unattached to any wall or window) to improve circulation. Furthermore, the showcases are standardized for easier mass production, arrangement and maintenance.

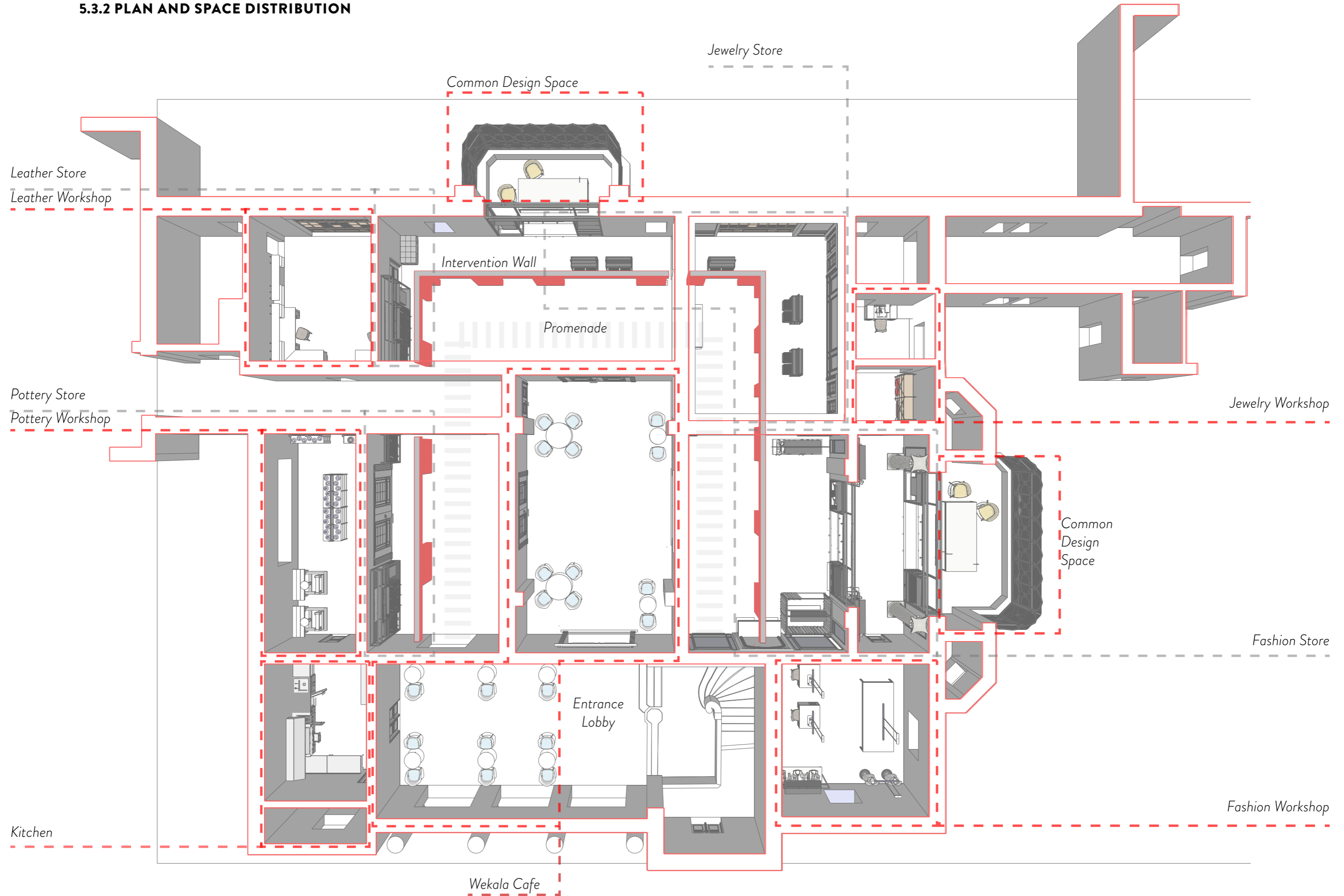




The exhibition display system is composed of two major families, the monolithic stands and table display units. The monolithic stands are basically large vertical showcases on pedestals made of either cement, sand-colored stone or marble for rebuilt rooms, or bronzed brass in the case of original rooms. As for the table display units, they are composed of black, bronzed brass tables of varying depths and lengths, that can be installed and assembled modularly adding great flexibility to the display. Besides the two main families, special display units are individually provided for outstanding artifacts, like the 4 meter high showcase for the Nefertiti bust, the vitrines housing the mummy masks and the display cases in the sarcophagus room.

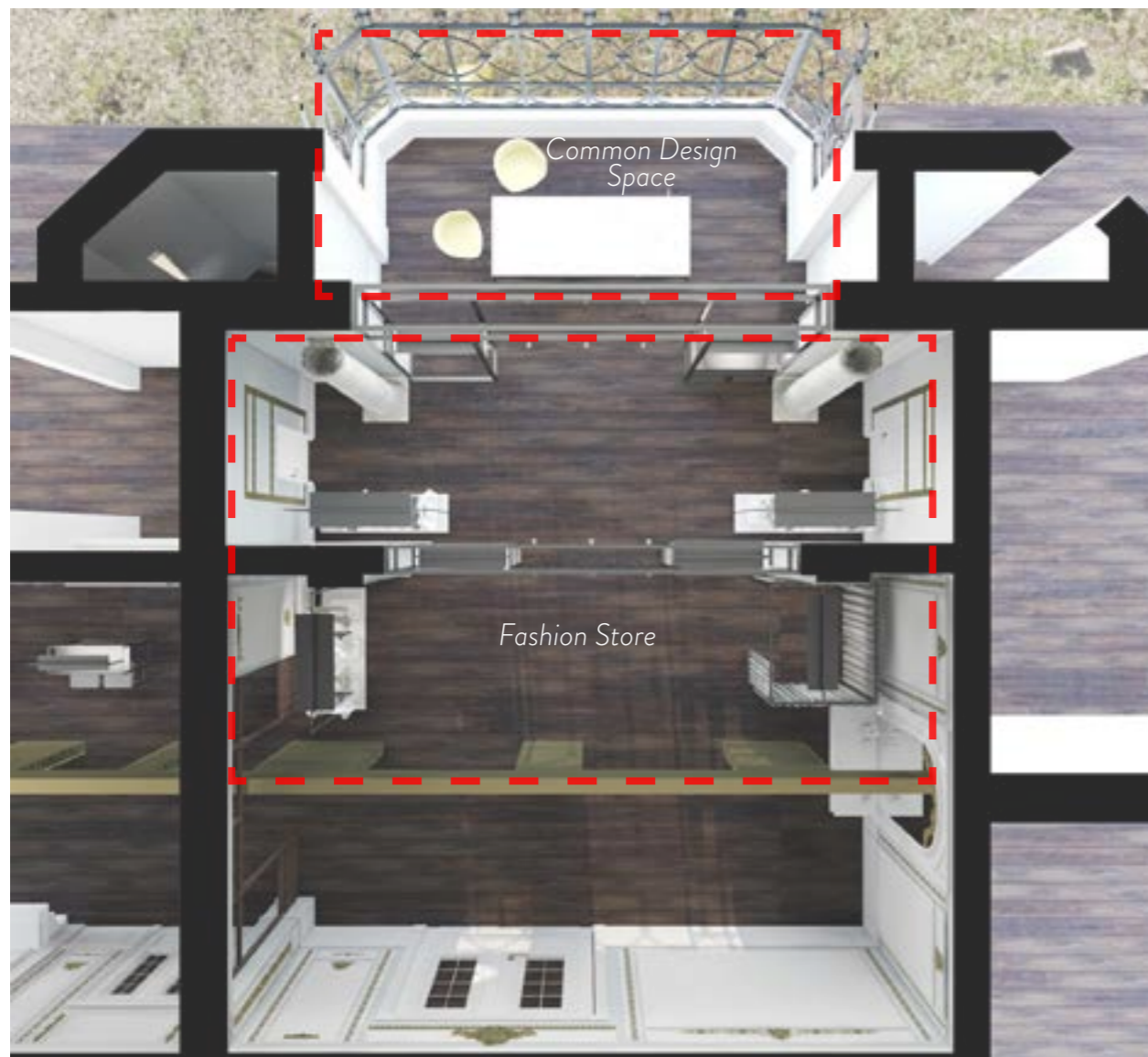


5.3.2 PLAN AND SPACE DISTRIBUTION

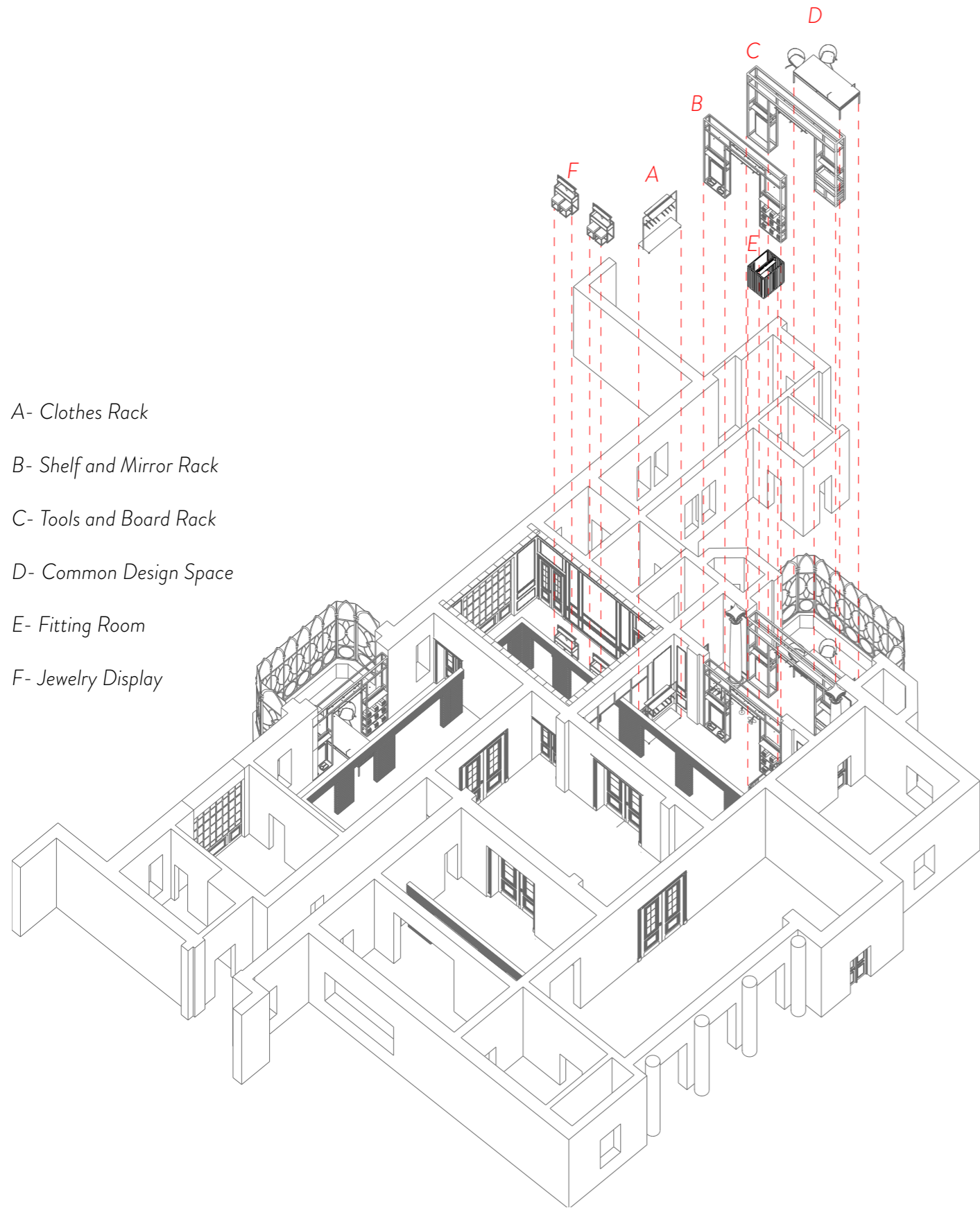


5.3.3 FURNITURE SETTINGS- FASHION STORE

The display furniture are designed as independent free-standing islands, with no contact whatsoever with the walls or ceiling of the palace. Most furniture sets are created specifically for their functions using seamless metal frames, aiming to not distract from the products on display or the building itself. The furniture settings are divided into five main families, clothes racks, shelf and mirror racks, tools and board racks, common design spaces and fitting rooms. Each family's dimensions are standardized for the sake of easy mass production, assembly and maintenance, and designed to the last detail according to their respective specific function and use.





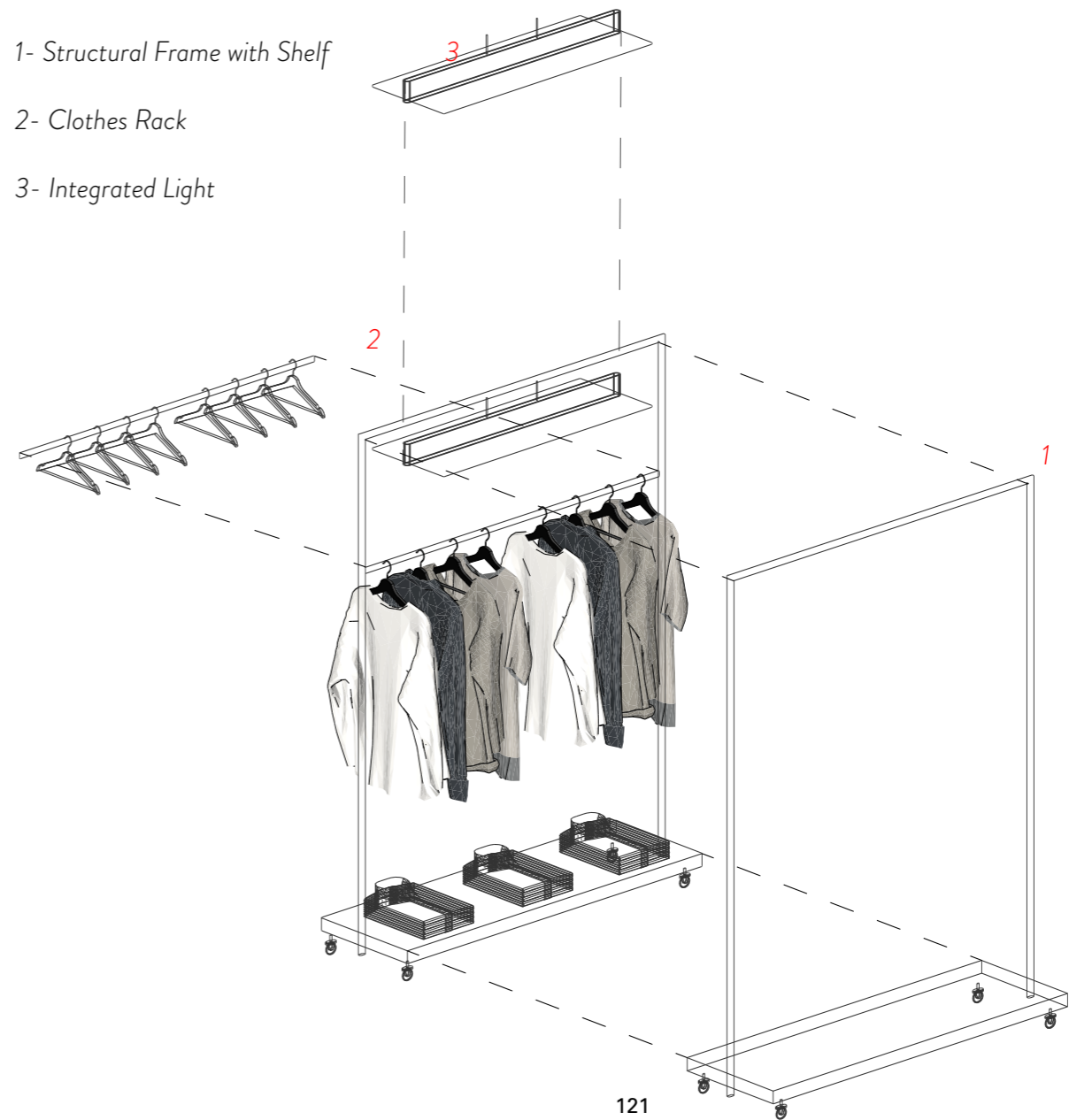


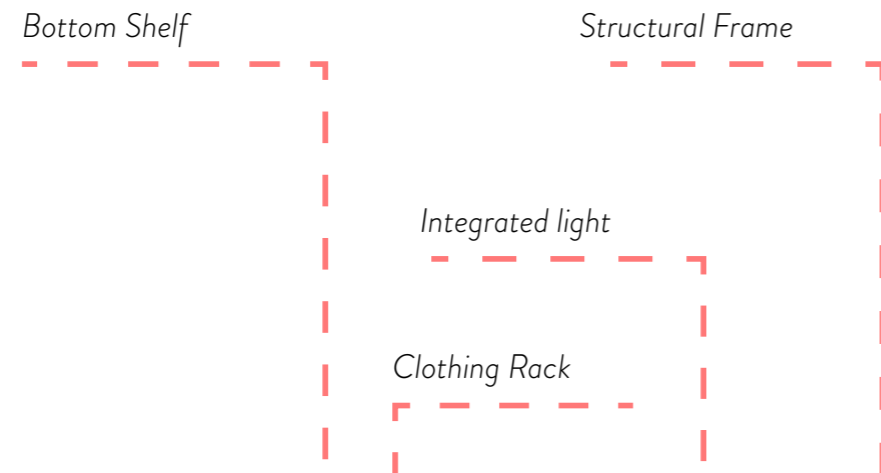
- A- Clothes Rack
- B- Shelf and Mirror Rack
- C- Tools and Board Rack
- D- Common Design Space
- E- Fitting Room
- F- Jewelry Display

CLOTHES RACK

The clothes rack family are basically composed of a structural metal frame with a bottom shelf and wheels for flexibility of movement, a clothes rack and integrated top light for added visibility of the displayed products. The clothes rack set is meant to provide optimum product display, while maintaining a large degree of flexibility.

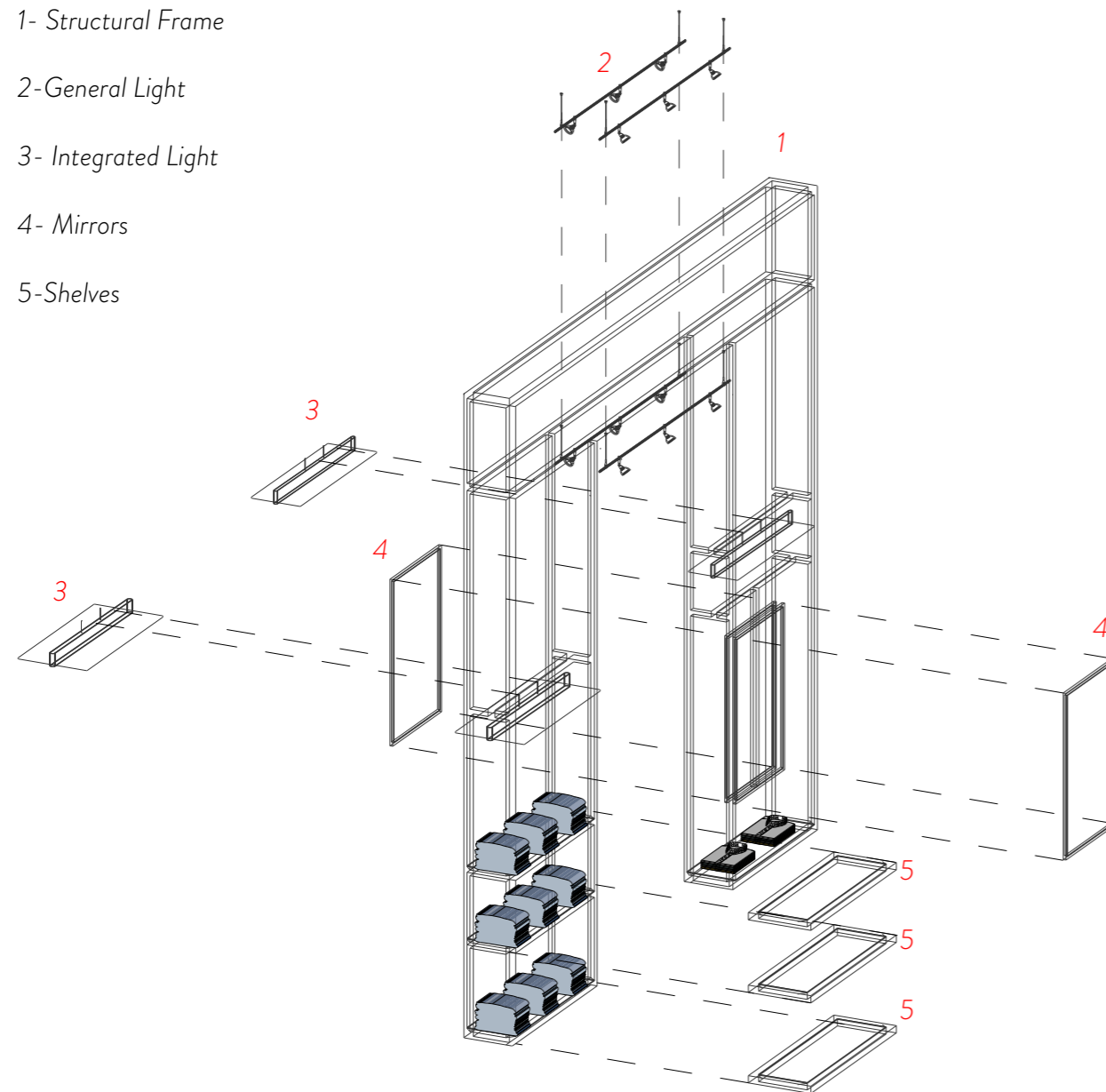
- 1- Structural Frame with Shelf
- 2- Clothes Rack
- 3- Integrated Light





SHELF AND MIRROR RACK

The Shelves and Mirror rack is meant to be in use by shoppers. It is composed of five main components, a metal structural frame with both integrated and general light from on top for better visibility of the merchandise on display. A mirror for shoppers and buyers to be able to see the products on themselves. Shelves for the display of folded items.



TOOLS AND BOARD TRACK

The tools and board rack is meant to be in use by both designers and shoppers, as it integrated both finalized products and craft tools. It is composed of six main components, a metal structural frame with both integrated and general light from on top for better visibility of the tools and merchandise on display. A mirror for shoppers and buyers to be able to see the products on themselves. A board for the use of the designers, for conceptual drawings and diagrams for their products. And finally, storage drawers for big tools and supplies.

1- Structural Frame

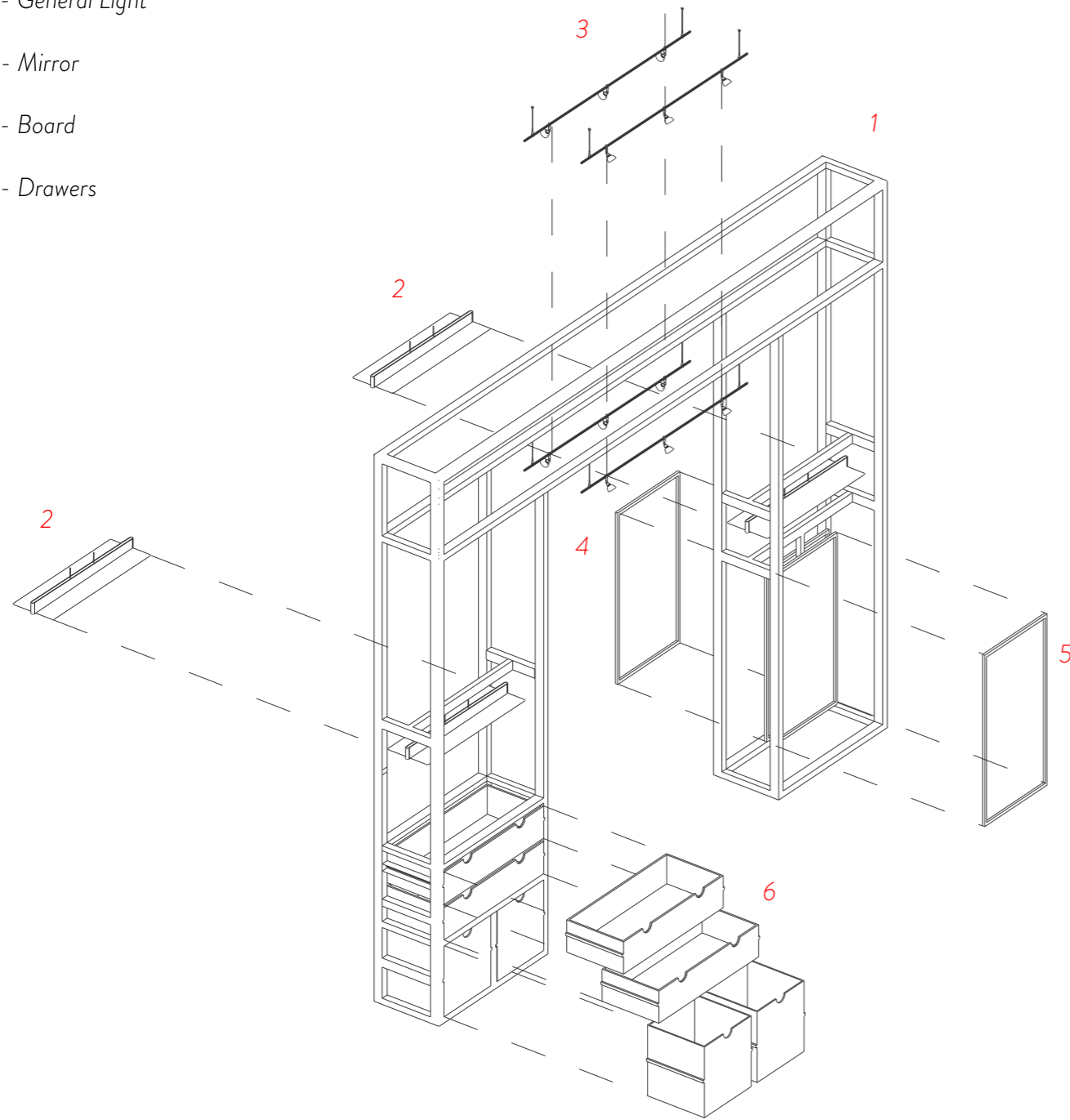
2- Integrated Light

3- General Light

4- Mirror

5- Board

6- Drawers



Board For Designers Use

Movable Task Light

Drawers For the large tools and Sup-

Drawers For the tools

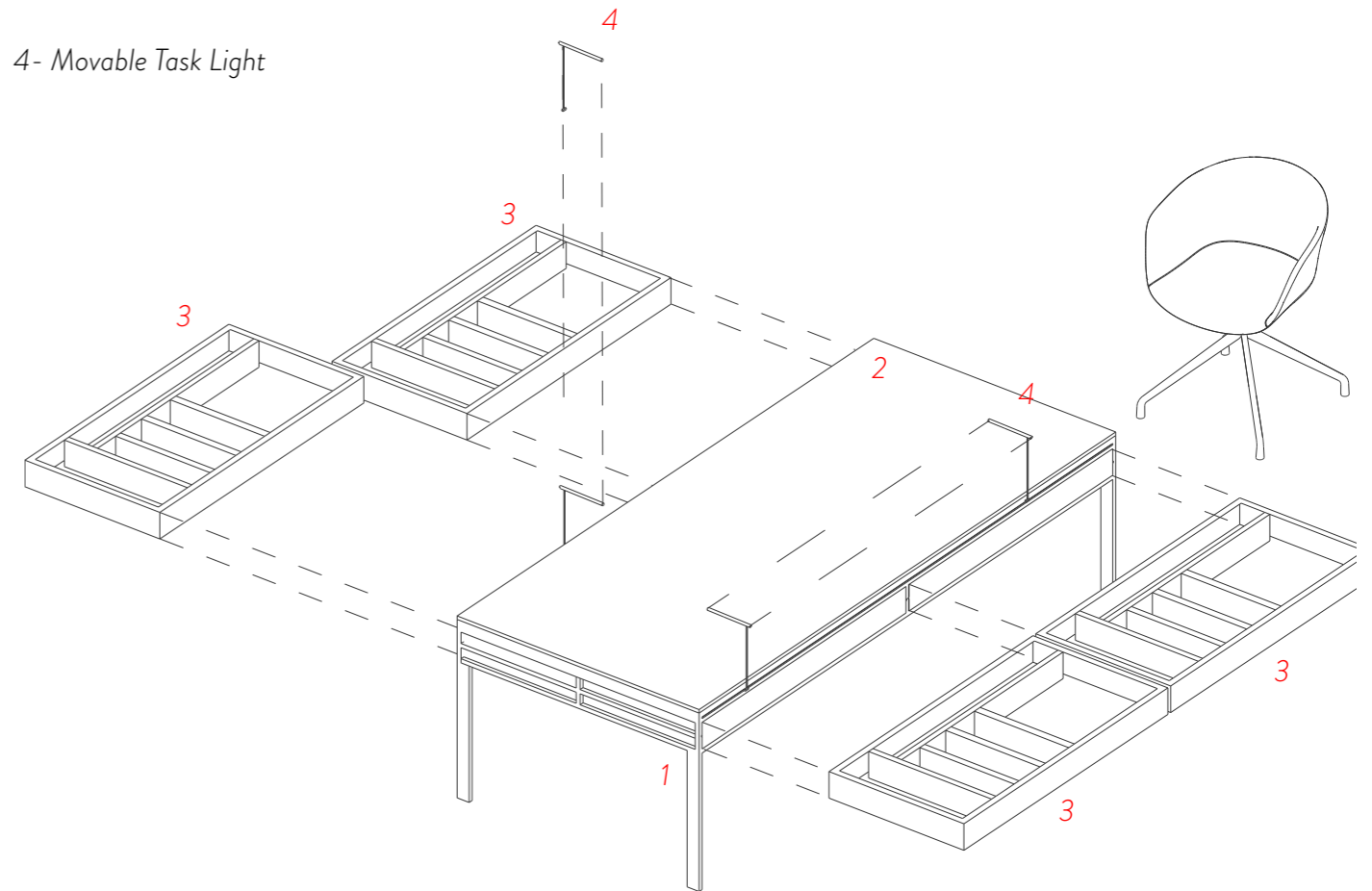
Integrated Light



COMMON DESIGN SPACE

The common design space table units have a metal structural frame and a marble table top for high strength and durability. They are equipped with small drawers for small craft tools and movable task lights for when designers need to work on details, or any activity requiring high light exposure. The tables have a large surface area to allow for several activities to be performed simultaneously.

- 1- Structural Frame
- 2- Marble Table Top
- 3- Small Drawers
- 4- Movable Task Light



JEWELRY DISPLAY

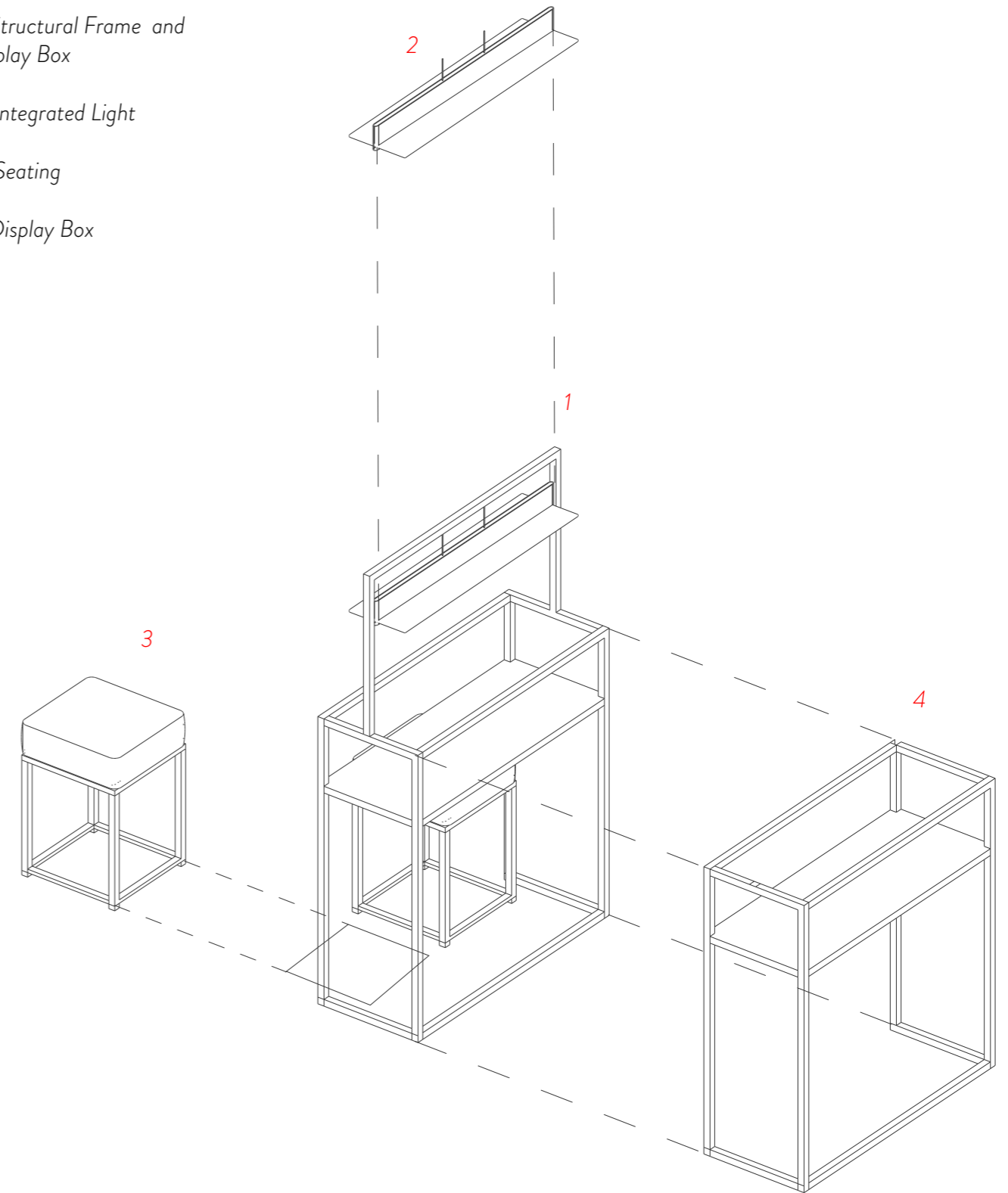
The jewellery display set is composed of a main display structure of metal and glass, to provide protection and visibility to the products in display. Furthermore, a top light shelf is connected to the main display structure. Moreover, chairs fit underneath in case needed by the designers while showing and explaining their jewellery products.

1- Structural Frame and Display Box

2- Integrated Light

3- Seating

4- Display Box



Jewelry Display

Seating For Clients

Integrated Light



FITTING ROOM

The fitting rooms are composed of a structural metal main frame equipped with rails to accommodate privacy curtains. It was also necessary to add integrated light from on top. As well as, built in mirrors on one of the four sides for customer use. It also has an integrated place to hang the belongings of the user. The fitting rooms can be used in any space flexibly.

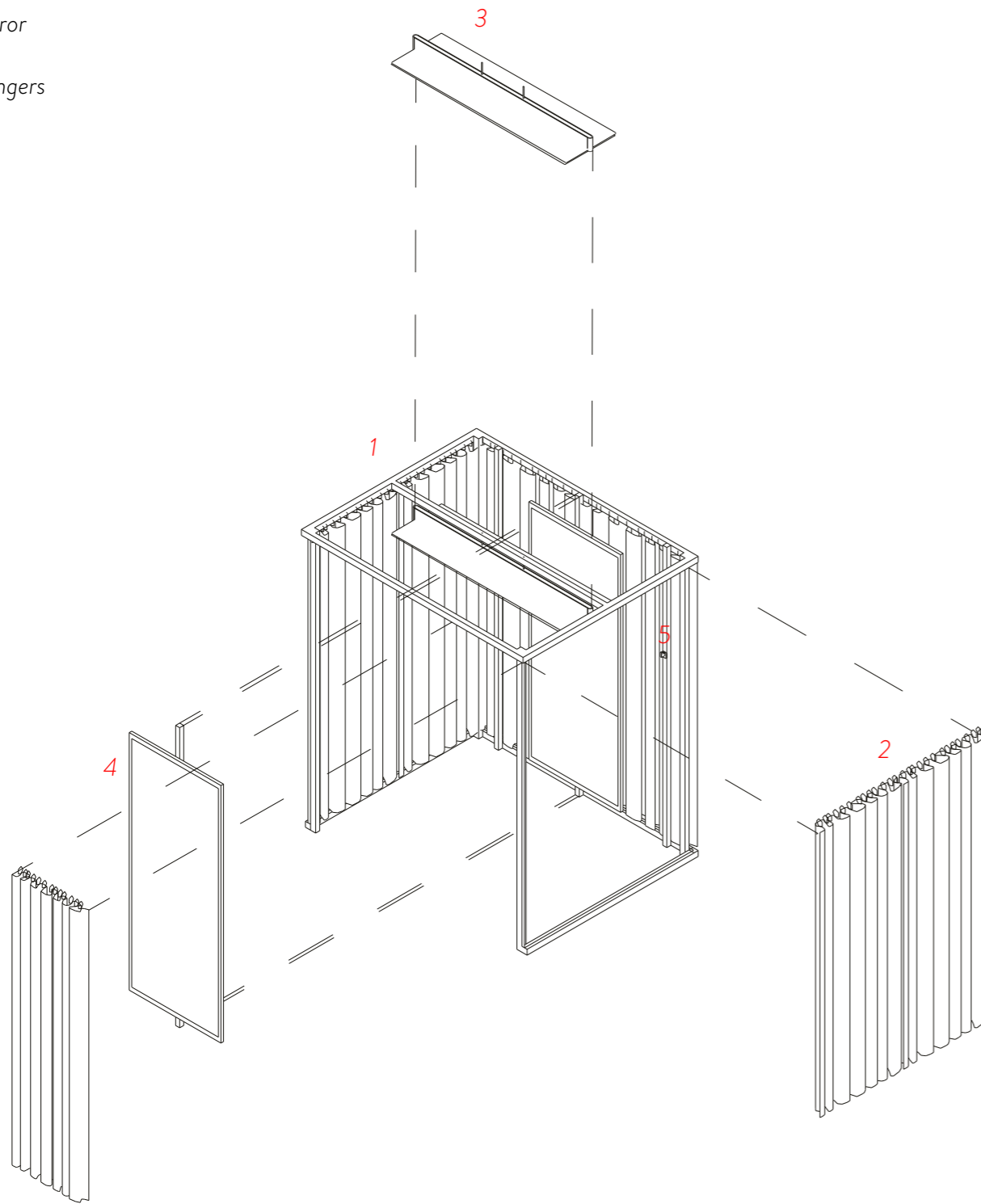
1- Main Structural Frame

2- Privacy Curtains

3- Integrated Light

4- Mirror

5- Hangers



Integrated Light
Shelves for the Clothes

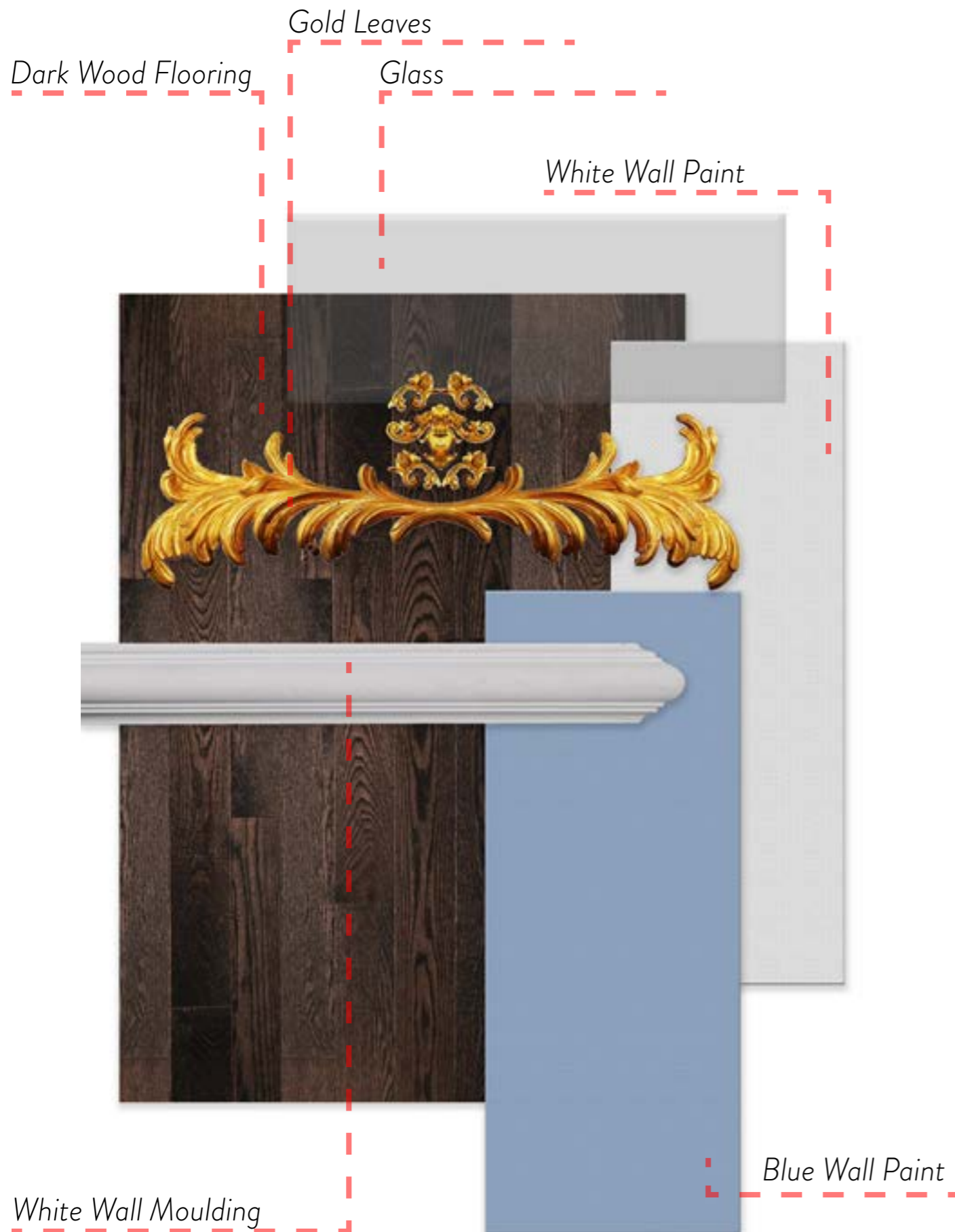
Integrated Light

Fitting Room



5.5 MATERIAL BOARD

EXISTING MATERIALS



NEW MATERIALS BOARD



PROJECT MATERIALS

The material choice in this project was of the highest importance because it does not start with a blank canvas. The project already has its own character and identity. The Palace is already full of intricate details in gold leaves and the walls are painted white and light, greyish blue. The new choice of material had to be simple, complimenting but distinguishable and identifiable. The Intervention wekala wall was done in brushed brass which is a very traditional material used by craftsmen in Egypt. It links the wekala back to its heritage and origins as well as recalls the touch of gold already existing in the shell. The matte, black metal was chosen because of the modern, minimalistic effect that it has. The metal also allowed the opportunity to accommodate all the different variations in the activities and uses. The marble was chosen because of its durability and the color because it recalls the existing white shell as well as the different kinds of marbles already existing on site.

CONCLUSION

The Sultana Malak Adaptive Reuse Project is about more than just resurrecting a historic building from being an old dilapidated school into a vibrant modern colourful craft market, buzzing with life. This project is a multidisciplinary approach combining many elements of history, culture, traditions, heritage, market gaps and the physical environment together. The concept of adaptive reuse was used in this project on many different levels, going beyond the physical building itself. The historic building of the palace might have been intelligently adaptively reused, but dying traditional crafts and historic architectural concepts (the Wekala concept) were adaptively reused as well. In other words, this project was successful in integrating the adaptive reuse of the built environment, cultural skills and architectural concepts simultaneously.

Naturally, to achieve such a challenging integration was anything but easy, but it can most accurately be described as a journey. A journey in time and space, efficiently tying together the loose ends of history that the modern world forgot and left behind. Despite the enjoyable nature of this journey, it has also been extremely complex and multi-layered. Hence, it is not yet complete; this project is the first drop in the ocean of marrying adaptive reuse on multiple levels. More work and research are needed to understand more about this complex field.

Furthermore, due to the time constraint of this project, it has a few limitations. Given more time, more research could have been done on interior design approaches directly related to the project informing its design and of course more spaces inside the palace could have been blown up and designed individually applying the Wekala concept to them. Furthermore, a set of generic guidelines could have been developed to be applied in any other historic building.

Last but not least, it is recommended for other historic buildings to be studied in a similar fashion and have the Wekala concept applied to them. This will bring us one step closer to perfecting multi-layered adaptive reuse practices in Cairo. It is also recommended to give the project a minimum time span of two years to allow it to reach its optimum depth and maturity.

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**ADAPTIVE REUSE OF HISTORICAL BUILDINGS
THE REVIVAL OF SULTANA MALAK PALACE**



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