REVITALISING THROUGH INTERACTION

WILHELMUS ELSKAMP

ARCHITECTURE MASTER THESIS

REVITALISING THROUGH INTERACTION

USING COMMUNITY VALUES TO TURN VACANT HERITAGE IN A PLACE FOR INTERGENERATIONAL INTERACTIONS.

Ir. Ing. Wilhelmus Elskamp

Date
18 april 2023

Master studio
Heritage & Architecture, Revitalising Heritage: Faro Convention Labs

Supervisors
Prof. Dr. Ana Pereira Roders
Dr. Ir. Wido Quist
Dr. Bruno Amaral de Andrade
Ana Tarrafa Pereira da Silva

ACKNOWLEDGMENTS

I would like to express my gratitude and thanks to those who have supported my work on this project. Special thanks to Ana Pereira Roders, Wido Quist and Bruno de Andrade for their help during both the research and design process and for their knowledge and tips. Ana Tarrafa Silva and Teresa Valente deserve the appreciation and the most sincere thanks for supporting the project and, above all, for creating opportunities for this project to come into being. Patricia Fonseca Afonso, Patricia Malobbia, and Tiago Candeias also played an important role during the fieldwork in Faro, without whom it would not be possible to obtain much of the information.

In addition, I would like to thank Carlos Queiroz for showing a different perspective on people and education and for documenting our work in the form of photography and film. Finally, I would like to thank the volunteers from the University of Algarve: Maria Sousa, Nathália Bonatto Ramos, Maria Rosmaninho, Roberta Menezes, and Joana Martins, for helping us to connect with the local community.

Delft, The Netherlands

TABLE OF CONTENTS

PART 1

CULTURAL SIGNIFICANCE SURVEY

Ing. Wilhelmus Elskamp
Sara Szulc
Marloes Drijver
Qiyang Tao
Prof. Dr. Ana Pereira Roders
Dr. Bruno Amaral de Andrade
Ana Tarrafa Pereira da Silva

Date
7 march 2023

Master studio
Heritage & Architecture, Revitalising Heritage: Faro Convention Labs

Supervisors
Prof. Dr. Ana Pereira Roders
Dr. Ir. Wido Quist
Dr. Bruno Amaral de Andrade
Ana Tarrafa Pereira da Silva

ABSTRACT

The value of nature for creating healthier environments in cities have been growing in attention. Even if there is research focused on the relation between nature, city, and communities, there is little research in the cultural significance of green places, where people like to spend time, and how it positively impacts their well-being.
This paper focuses on the neighborhood Estação in Faro, Algarve, Portugal, which nowadays contains only a few green areas and lacks connection with the Ria Formosa National Park. Assumingly, nature would primarily convey, e.g., aesthetical and ecological values, but it may also convey a broader cultural significance by the community of Faro.

Participatory methods, in particular gaming, are used in this research to reveal the values of nature in cities, by the community. Gaming is a participatory method that enables co-creation in representing, visualizing, and redesigning architecture and the urban landscape. Four participatory methods were developed to better engage with four different age groups (86 participants).

The results of each method were coded using the values framework of Pereira Roders (2007) and the attributes typologies of Veldpaus (2015). By comparing the results of the four different age groups, the ecological, social, and economic values are the most important values for all age groups. However, when triangulating with the attributes, a significant difference is noted between younger and older generations.

Keywords: Heritage Values, Public Participation, Healthy Cities, Nature

CHAPTER 1

INTRODUCTION

In economic and health crises, where stress and depression increase, society pays more attention to mental and physical health. Earlier research has proven that community well-being is influenced by nature in cities, because of a stronger emotional attachment.[1] This paper aims to research the values of nature in the city of Faro in Portugal, to understand the relationship between nature and people.

The neighborhood of Estação is an area that directly borders the Ria Formosa Natural Park. Local communities convey social, aesthetic, and ecological values to green areas in cities.[2] Though, it is believed that these areas convey much broader cultural values, and that they may differ per generation. The main aim of this research is to reveal the relation between nature in cities, and the values conveyed by people. Therefore, this cultural significance survey will investigate and explore local communities' values on nature in cities. As different generations have preferences of communication, the community in Faro was divided into four age groups and varied methods were developed to best match their preferences.

Theoretical framework

Intergenerational research involves people of different generations, researching their perspectives and relation between them. For the purpose of this research, the different generations are clustered into four "age groups", based on Laslett's theory (*see figure 1*).[3] The "age groups" are not separated due to a specific age, but by a period characterized by lifestyle and needs. Accordingly, first age concerns the period of childhood dependency and socialization. Second age, the period off responsibility and work life. Third age, the period of fulfillment. Fourth age, the period off dependency and frailty.

Furthermore, this research used two theoretical frameworks to code the cultural significance of nature in cities by communities in Faro.[4] Cultural significance is defined by two concepts: values and attributes. The values refer to why something is important. It is "the importance or worth of something for someone."[5] Attributes are "a quality or characteristic that someone or something has."[6] Values can be "Aesthetic, historical, scientific, social or spiritual value for past, present or future generations. Cultural significance is embodied in the place, its fabric, setting, use, associations, meanings, records, related places, and objects. Places may have a range of values for different individuals or groups."[7] The values framework used in the research includes eight fundamental values (*see figure 2*). According to the attributes taxonomy made by Veldpaus, varied categories of attributes are divided into tangible attributes, asset, area and all; and intangible attributes, product, societal, process (*see figure 3*).[8]

Figure 1, Intergenerational division of stakeholders (adapted from Laslett, 1996).

1 *Price, M., Keynes, S., & Woodhouse, G. (2020). Review of Heritage, Health and Wellbeing. The Heritage Alliance. London.*

2 *WHO (World Health Organization). (2007). Global Age-friendly Cities: A Guide. World Health Organization.*

3 *Laslett, P. (1996). A Fresh Map of Life: The Emergence of the Third age. Macmillan.*

4 *Tarrafa Silva, A., & Pereira Roders, A. (2012). Cultural Heritage Management and Herit-age (Impact) Assessments. International Conference on Facilities Management, Procure-ment Systems and Public Private Partnership, Cape Town, South Africa.*

5 *Cambridge English Corpus. (2022). Attribute. In Cambridge Dictionary. https://dictionary.cambridge.org/pl/dictionary/english/attribute.*

6 *International Council on Monuments and Sites (ICOMOS). (2013). The Burra Charter, Australia, Charter for Places of Cultural Significance. ICOMOS.*

7 *Veldpaus, L. (2015). Historic urban landscapes: framing the integration of urban and herit-age planning in multilevel governance. Technische Universiteit Eindhoven.*

8 *Pereira Roders, A. R. (2007). Re-architecture: lifespan rehabilitation of built heritage - cap-itellum. Technische Universiteit Eindhoven. https://doi.org/10.6100/IR631784.*

Research question
This research aims to reveal the values on nature in cities of the different stakeholders in the context of emotional attachment. The research question is: How can the values on nature by different generations influence the emotional attachment to the neighbourhood of Estação, in Faro - Portugal?

The municipality of Faro funded this research to underline the importance of the Faro Convention for society. This framework aims to put people and their values at the center of cultural heritage management and highlight the potential of urban heritage as a source for sustainable development and community's well-being.

Figure 2, Values framework.

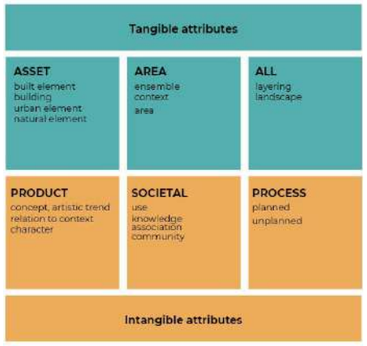


Figure 3, Attributes framework.

CHAPTER 2

METHODOLOGY

The research sets out to gather information about all age groups with the most suitable participatory gaming methods. *Figure 4* illustrates the matrix of age groups and methods, indicating how the chosen methods and collected data contribute to our further understanding on the cultural significance (values and attributes) of nature in cities. There is still a gap in using participatory methods during the design process in architecture and heritage research. Avrami[9] stated that it is generally agreed that bottom-up participation by the community will lead to better choices for values-based conservation. However, the applications still need to be further studied. This values-based approach aims to reveal the interests and perspectives of different stakeholders regarding the cultural significance of places, by assessing the values held by different generations.

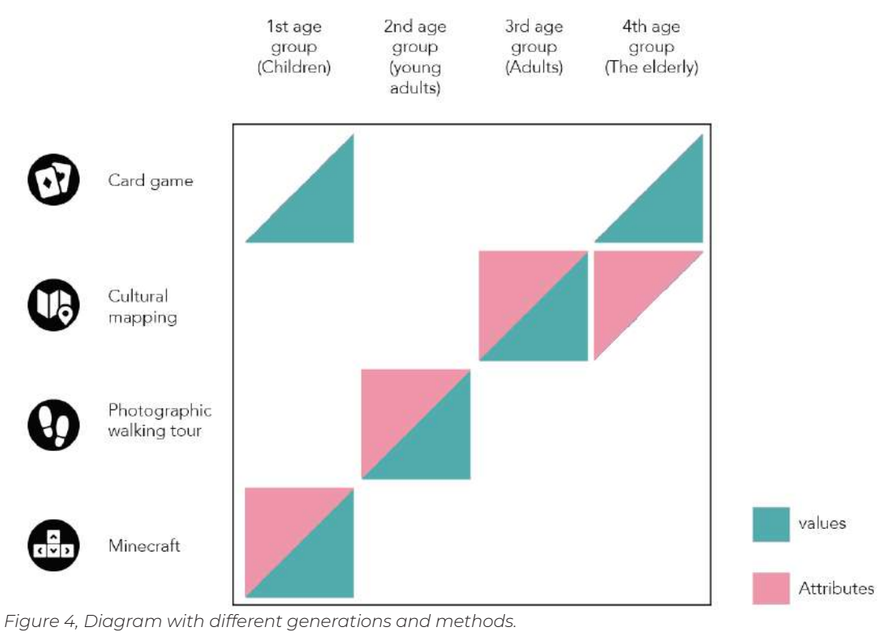


Figure 4, Diagram with different generations and methods.

9 *Avrami, E., Macdonald, S., Mason, R., & and Myers, D. (2019). Values in Heritage Management: Emerging Approaches and Research Directions. Los Angeles: The Getty Conservation Institute.*

Card game
The card game was developed (adapted from the game "Reigns")[10] to understand the values of both 1st and 4th age. The game is set around proposal cards that need to be accepted or declined. The proposals on these cards contain actions to take in regard to the city of Faro, e.g., organizing events, making changes to buildings, or changes in city policies. These proposals are based on nature-based solutions (NBS) from the Urbinat catalogue[11] and are completed with other actions that might want to be explored further in the design phase. Each of these proposals has been classified according to the values/attribute framework, e.g., the NBS green walls have been related to ecological values. Seventy wo cards are equally distributed among the values to ensure that the results will not be biased towards one or more values and to increase the chances of recognizing the diversity of values.

Minecraft
The workshops based on Minecraft engages the 1st age group to provide their perspective on the neighborhood and input for architects to develop more inclusive designs. The workshop aims to determine which values and attributes are essential for this age group. Each participant will be given a set of cards with pictures of different places in the neighborhood, focusing on nature, vacant buildings, and public spaces. The images were selected based on the neighborhood's diversity of attributes. The cards aimed to answer the question "How important is the element in the photo?" and "Why?". The cards seek to learn about the values and attributes essential to the 1st age group. Secondly, they will redesign the vacant building and its area using Minecraft. Participants will be asked to make the building and the area greener and give the building a new function.

10 Reigns game. (n.d.). Reigns: The Council. https://reignsgame.com/.
11 Urbinat. n.d. https://urbinat.eu/nbs-catalogue/.

Cultural mapping
Cultural mapping is suitable for 3rd and 4th age groups familiar with the Estação neighborhood. During the interview, the participants will be asked first to write down what they like or dislike in the area from three perspectives: environment, activity, and meaning. Then, they will write the answers on sticky notes, simultaneously marking them on the map. The second step is to invite participants to answer "yes" or "no" to five questions like "whether I love Estação" and "I want to stay here" to measure their level of place attachment, and to better explain the concept "place attachment" to them. Based on the number of yes and no answers, they will be asked to choose the same number of positive and negative attributes to support their choice. The values most related to place attachment can be further coded based on the explanations.

Photographic walking tour
The focus of the photographic walking tour will be to identify the relationship between emotional attachment and natural attributes in the area for the 2nd age group. The tour will lead through Estação for approximately 45 minutes along a fixed route. People will be asked to take photos of natural elements in their neighborhood to which they feel emotionally connected based on their memories. During the introduction of the tour, the five different senses wherewith nature can be observed will be explained to make the participants aware of the different perspectives. To collect each participant's data, the app 'Wikiloc' will be used. The participants can take a photo with this app, and the tool will automatically assign the exact location of each image. They will also be asked to add a short description to each photo to explain why it was taken. This way, both attributes and values of emotional attachment towards nature will be derived during the tour.

CHAPTER 3

EMPIRICAL RESEARCH

Applications

The 1st age group was consulted through a mixed method workshop. The group consisting of 22 participants was divided into two groups. The duration could not exceed 90 min. due to the school's decision, and was split in two slots of 45 minutes. This way, playing the card game and Minecraft was possible. The groups exchanged activities, so that everybody could experience working with a different method (*see figure 5*). After a quick explanation of the game, they played for about 30 minutes. Afterward, the results were discussed to understand better why they had chosen specific cards.

Participants quickly adapted to the workshop during activities and understood the research goal. They were devoted to developing appealing designs, and it was visible that they enjoyed the workshop. The card game allowed them to use many of their assets, like discussing ideas or finding the correct arguments. Additionally, they expressed their empathy for others, by being willing to find solutions and make decisions that would benefit everyone.

The photographic walking tour was promoted by leaflets and posters on the streets in Estação to invite 2nd age group to take part in the research (*see figure 6*). However, it was hard to find participants because of the high population of the elderly and the quiet streets. So then, the focus of promoting the event locally in the neighborhood switched to more general throughout Faro. Eventually, with the help of volunteers, the Municipality of Faro, and social media, six local participants applied for the walking tour. Still, this number was too small, so it was also decided to run the walking tour with six non-locals. This engagement resulted in an interesting opportunity to compare the results of the locals and non-locals. The walking tour was held two times, the first with locals and the second with non-locals. After a short introduction about the tour's goal and when they all successfully downloaded 'Wikiloc', everybody received an overview of the route and the tasks. Participants were told to take approximately twenty photos to make the data comparison more coherent.

Figure 5, Workshop with 1st age group.

Figure 6, Poster and the walking tour with 2nd age group.

Since Estação is a neighborhood with a primarily elderly population, it was hard to find a large sample of 3rd age group during the day. As solution, the cultural mapping street interviews focused on engaging people relaxing in cafes, during the evening (*see figure 7*). It was always easier to approach people in a less formal way, through which people were more open to sharing their opinions and memories. Daily talks with people working in shops around the neighborhood was another interviewing strategy, resulting in 12 participants interviewed.

Even though the 4th age group is the most common age group in Estação, they were the most difficult to interact with, given the language barrier, even if solved with translators, assisting the interview. Therefore, the original cultural mapping method evolved into a simplified street interview, during the fieldwork. Similarly, the card game was also adapted to support shorter one-on-one interviews (*see figure 8*). Instead of asking the participants to pick cards and negotiate in groups, they were given half of the cards and asked to divide them into yes and no piles. In the end, three walking tours and one workshop in an elderly home, resulted in 40 participants.

Figure 7, Street and shop interviews with the 3rd age group.

Figure 8, Workshop with the 4th age group in Faro.

Values

Figure 9 shows each value type with the percentage of positive responses from each age group. From there, the average response to each value type is calculated. The highest-rated values on average are ecological (26%), social (25%), and economic (19%).

The pie charts illustrate the division of the value types. The most significant values per age group are as follows: 1st group: ecological and social; 2nd group: ecological and aesthetical; 3rd group: social and economic; 4th group: social and almost at the same level ecological, aesthetical and economic. Although some value types have similar responses from all age groups, they differ in dividing secondary value types. Therefore, the secondary value types graph shows the average of the four age groups. Disparities are visible between the 1st, 2nd, and 3rd groups. While the ecological values are the most important for the 1st and 2nd age groups, they are the least significant for 3rd age group. Furthermore, the 2nd age group considers social and economic values as the least important, while inversely, for the 3rd age group, those values are the most important. The social values are most consistent across the four groups, with a small difference (4%) between the 1st and 2nd age groups.

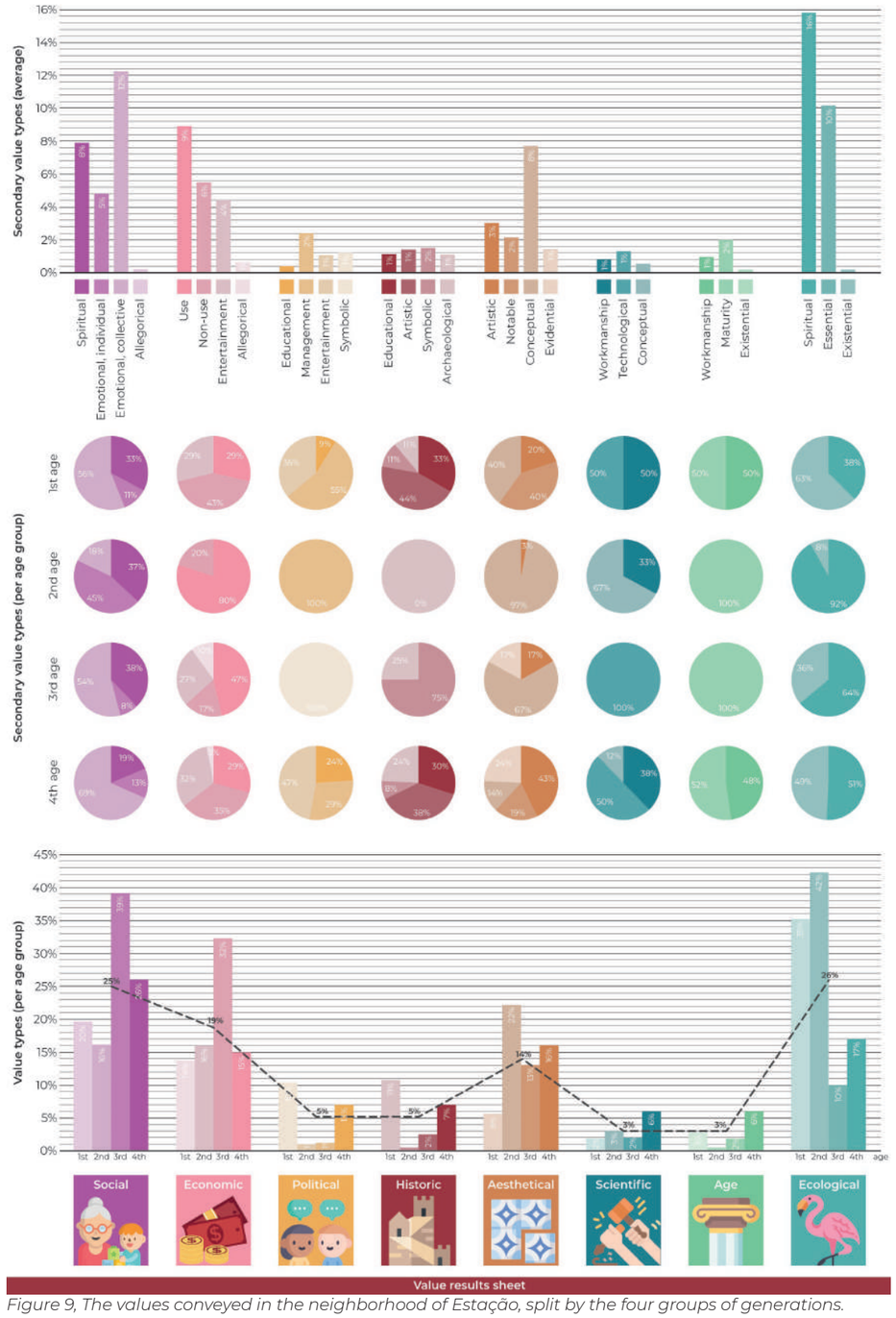


Figure 9, The values conveyed in the neighborhood of Estação, split by the four groups of generations.

Attributes

Figure 10 illustrates the attributes discussed from the intergenerational perspective. In the first level of attribute analysis, tangible attributes gain more attention than intangible ones. Results show that the older participants are, the more they feel attached to intangible attributes. In the second level, with six categories of attribute types, people focused more on (I) societal attributes, (I) relation, and (T) asset attributes. From the intergenerational perspective, the 1st and 2nd age groups considered the asset the essential attribute, while the 3rd and 4th age groups considered social and related attributes the same significance. Furthermore, there is a focus shift from (I) social attributes to (I) relation attributes between 3rd and 4th age group.

The last level of analysis clarifies four attributes relevant to nature in Estação (natural asset, relation, use, and community). The high-frequency answers about natural attributes are usually combined with the three types of attributes in the descriptions from stakeholders (*see figures 11 and 12*). As illustrated by the table, the most high-frequency answers are sea, beach, park, trees, and plants for natural elements; family members, friends, and neighbors for the community; memory, meaning, and identity for relation; and exercising, drinking and talking for use.

The 4th age group feels more attached to intangible attributes than the 1st age group, which is visible at levels 1 & 2. At levels 3 & 4, older people are more attached to (I)relation-relation attributes because of memory, meaning, and identity. This result confirms that the 4th age group values memories more than the 1st age group. Level 2 of the attributes chart suggests that 1st age group are more related to assets since they might perceive the environment through more visible and physical aspects. On level 3 of the attributes chart, natural elements are high for the 1st and 2nd age group. Level 4 attributes indicate the most frequent natural elements: sea, beach, park, trees, and plants.

Figure 10, The attributes conveyed in the neighborhood of Estação, split by the four groups of generations.

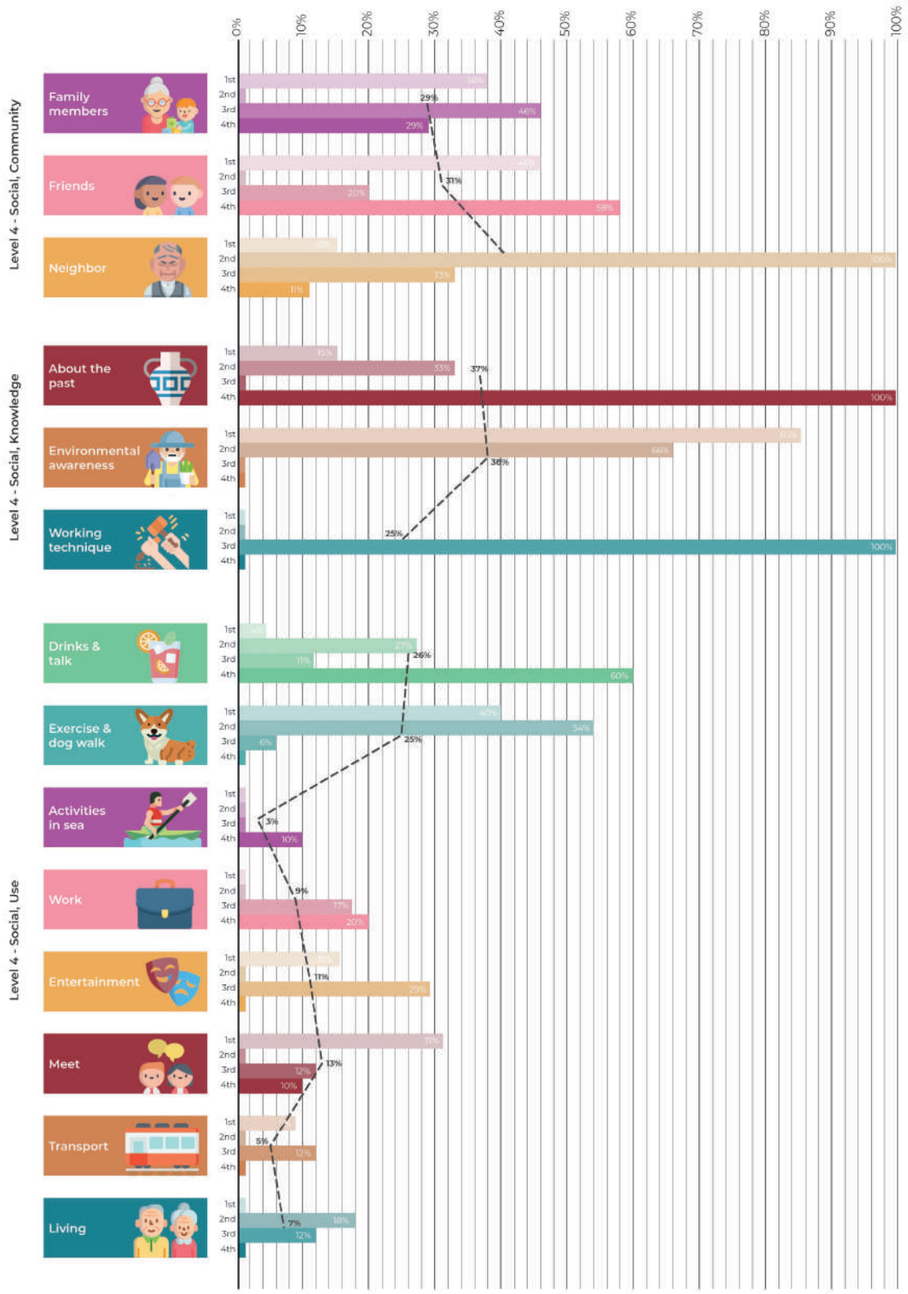


Figure 11, The high-frequency answers for five core attributes.

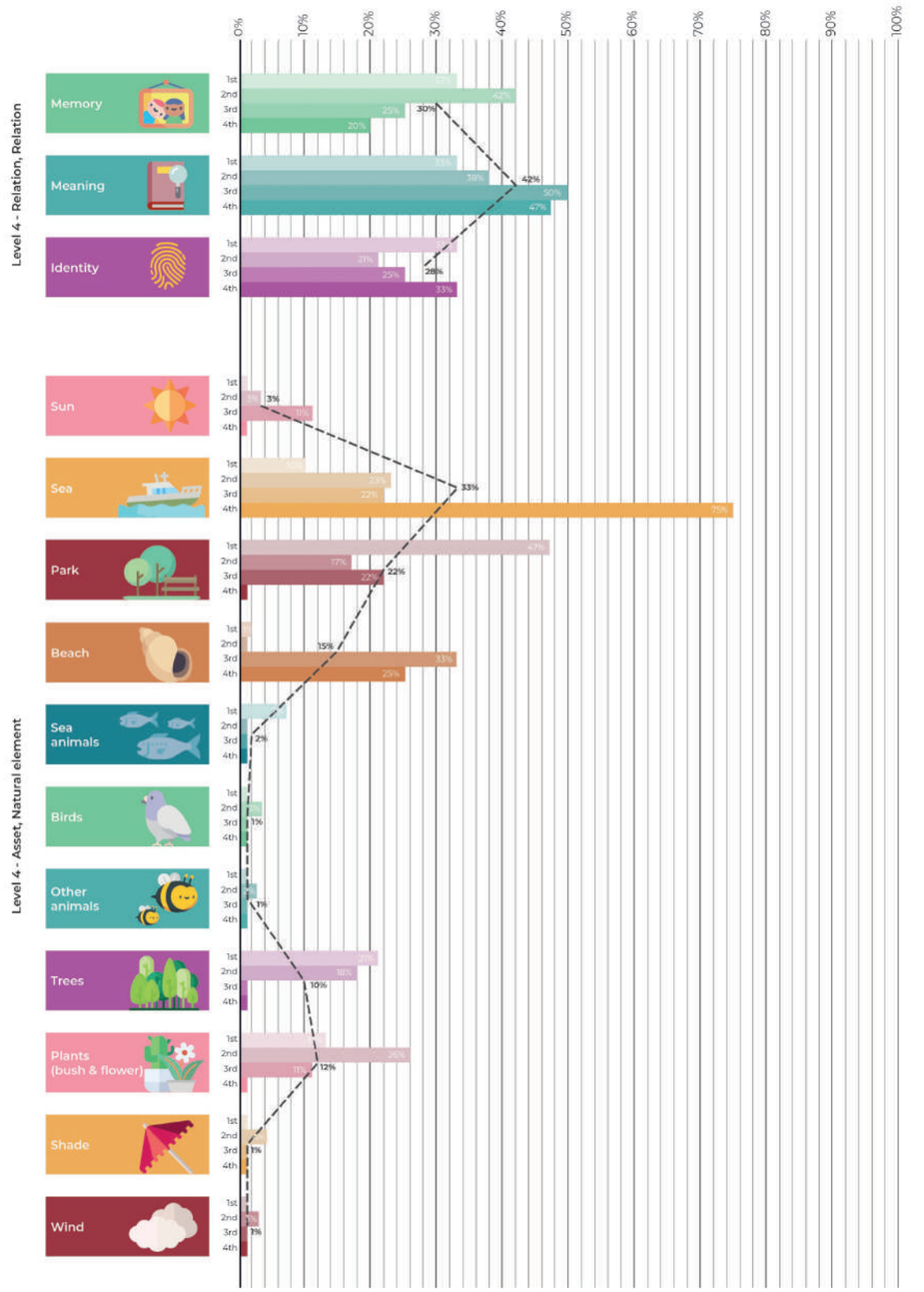


Figure 12, The high-frequency answers for five core attributes.

CHAPTER 4

CONCLUSION

This research aimed to reveal how the values on the nature of different generations influence the emotional attachment to Estação. Values conveyed to nature values revealed much more comprehensive than expected. A deeper analysis indicated that values considering nature could be associated with social interaction, memories, and environmental awareness. In addition, different generations vary considerably on the values they convey, which can be seen both as an obstacle or an opportunity to create a more complex and meaningful urban landscape. The 3rd and 4th age groups feel more attached to their neighborhood because of memories and emotions triggered by nature-relevant social interaction. The 1st and 2nd age groups feel attached to their place of living, because of the importance of nature in their life.

The most important values for all generations are social, economic, and ecological. The highest overlaps are (social) emotional, collective, and (ecological) spiritual. These are linked to proposals connected to social gatherings and the relationship between nature and the built environment. The most important values on nature for the 1st and 2nd are ecological, aesthetical, economic, and social. By comparing the positive and negative attachment to nature with each other, this generation is aware of the potential that nature can have in their neighborhood and that they are not satisfied with the current state. The most essential for the 1st age group are ecological and social values on nature. They choose tangible attributes, in contrast to the 4th generation. Intangible social and related attributes are more relevant to place attachment than tangible attributes. There is a focus shift from social attributes to relation attributes between the 3rd and 4th age groups.

The conclusion focuses only on the four highest-rated values: ecological, social, economic, and aesthetical (*see figure 13*). It was concluded that natural elements promote people's emotional attachment to Estação mainly through two approaches: (1) Based on the ecological values of natural assets, people feel attached to the green areas as a part of Estação. (2)Based on the social and economic values of natural assets, natural elements are well connected with other attributes, mainly (I) relation-relation, (I) social-use, and (I) social-community attributes. In this way, people's emotional attachment to their social network is also translated into natural assets.

A challenging aspect of this research was that four different methods were used to research four stakeholder groups. Differences in the design of methods could influence the outcomes. For example, the questionnaire used with the 1st age group and the walking tour format were oriented towards natural attributes. On the other hand, if nature were not considered significant by the 1st and 2nd age groups, it would be visible in the results. Furthermore, the 3rd and 4th age groups results show similarities in values and attributes, which can be linked to adapting the method from the card game and street interviews.

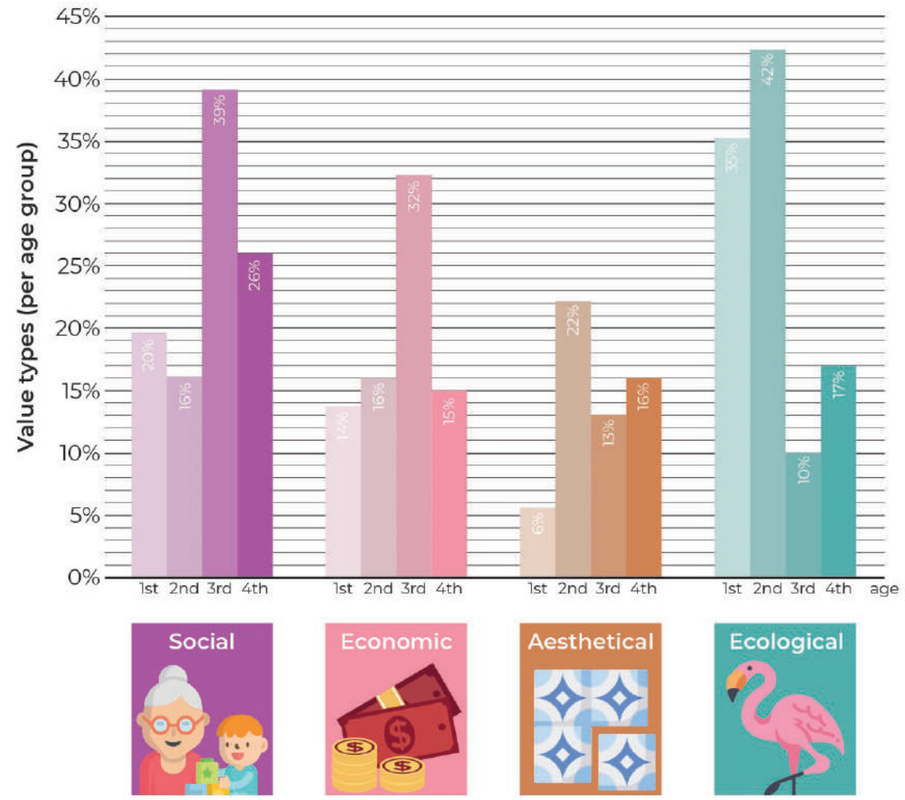


Figure 13, The four highest-rated values from research.

PART 2

VALUE BASED (RE)DESIGN

CHAPTER 1

INTRODUCTION

The role of nature in historic cities has been a growing debate about creating healthier and climateproof environments. In economic and health crises, where stress and depression are growing, society pays more attention to mental and physical health. After decades of disciplinary isolation, the relation between nature and society is growing in understanding but still limited in practice, affecting society's well-being.[12] Earlier research evidenced the value of nature in places where people like to spend their time, which positively impacts their well-being. Walking in green spaces, considered of high natural and heritage values, significantly reduced feelings of anger, depression, tension, and confusion.[13] Moreover, exploration of the topic showed that community well-being is connected to the presence of nature because of stronger emotional attachment to local areas attributed to the nature of the heritage environment.[14]

As in most European countries Portugal sees a large growth in its senior population. At the same time the global urbanisation can also be seen in Portugal were already two thirds of its population is living in cities.[15] Both urbanization and ageing population are phenomenon that will continue to grow in the coming decade. As a result of this cities are growing rapidly taking up more space and have to accommodate to more generations living together.[16] These changes within the city affect the relations within different groups of society, but also of society itself and its surroundings. The rapid expansion of cities have changed the relationship with nature. For a long period of time nature always had to make place for the growing city as people disregarded the need for it. In recent years however with the growing awareness of climate change and the benefits to both mental and physical health society starts to understand the importance of this relation.

12 *Pennington, Andy, Rebecca Jones, Anne-Marie Bagnall, Jane South, and Rhiannon Corcoran. (2019). "Heritage and Wellbeing. The Impact of Historic Places and Assets on Community Wellbeing - a Scoping Review."*

13 *National Trust. Why Places Matter to People—Research Report; National Trust: Swindon, UK, 2019.*

14 *Price, M., Keynes, S., & Woodhouse, G. (2020). Review of Heritage, Health and Wellbeing. The Heritage Alliance. London.*

15 *Alberto Rio Fernandes, J. & Seixas, J. (2018). Cities and urbanisation in democratic Portugal. Mediterranee Vol. 130 "Portugal, a country in transformation"*

16 *Villaverde Cabral, M. (2017). The Ageing Challenge in Portugal and Europe. Feed. "Age" Edition Vol. 3*

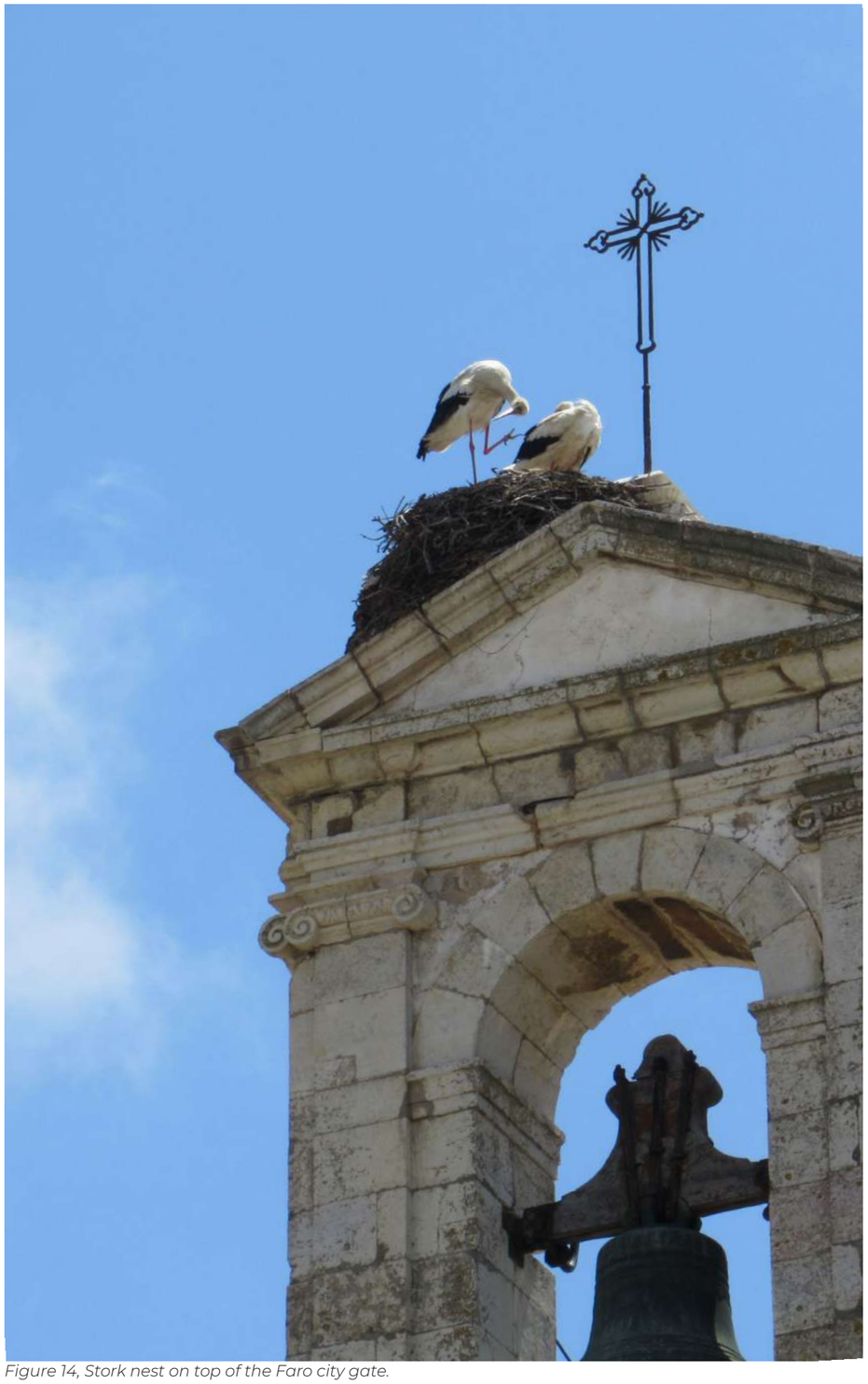


Figure 14, Stork nest on top of the Faro city gate.

CHAPTER 2

PROJECT SITE

Faro

The master graduation studio Heritage & Architecture, Revitalising Heritage: Faro Convention Labs takes place in the city of Faro, Portugal. The city is located in the most southern part of the country and is the capital of the Algarve province. Faro has rich natural resources in the form of Ria Formosa Natural Park, which results in complex relationships between the city and the nature around it. Furthermore, the city strives for development and better care about its heritage. The Ria Formosa Natural Park is internationally recognized as a protected habitat for various wildlife. The tides are entirely responsible for the water circulation inside the lagoon. Within the lagoon are a wide variety of both natural and artificial habitats.[17]

The municipality of Faro has a series of initiatives regarding heritage and co-design. These projects find their origin in the Faro Convention Labs which aims for a more democratic approach towards dealing with heritage. This has been done within the project of Mi.Momo.Faro which is set around using the game Minecraft to educate young people about cultural heritage. Another initiative is the creative rooftop which is part of a larger European project aiming to make use of unused rooftops in creative ways. The ambition of the municipality was to make Faro the European Capitol of Culture of 2027.[18] Although the city has not been shortlisted for this position the municipality continues the goals of the Faro 2027 project.

Estação

The Estação neighbourhood has been chosen as the area of intervention due to its complexity and potential for development. Estação is adjacent to the Ria Formosa on the northwest side of the historical centre of Faro (*see figure 17*). This location has exciting challenges to tackle and potential for future improvement. The most significant aspects of the district are neglected heritage, for example, the old mill, the lack of green areas for recreation, and the presence of railway tracks and a station. Although developers and the municipality already have plans for part of the future development in this area, the neighbourhood shows still much potential.[19] This paper defines the scope of the neighbourhood more than just Companhia Industrial do Algarve and the dwelling block along Horta da Carreira, but also the surrounding area with similar building typology and Ria Formosa on the other side the train track.

17 *Elena Berte & Thomas Panagopoulos (2014) Enhancing city resilience to climate change by means of ecosystem services improvement: a SWOT analysis for the city of Faro, Portugal, International Journal of Urban Sustainable Development, 6:2, 241-253, DOI: 10.1080/19463138.2014.953536*

18 *Faro Cultural Strategy. (n.d.). FARO 2027. https://www.faro2027.eu/faro-culturalstrategy.html*

19 *Simiris, Maria. (2020). "Antiga Moagem de Faro Vem Abaixo Em Maio E Dá Lugar a Cinco Prédios." Barlavento. February 13, 2020.*

Figure 15, View on the city from the top of the Cathedral of Faro..

Figure 16, View on the city from the Ria Formosa.

Figure 17, The Estação neighbourhood.

CHAPTER 3

CASE STUDY

During the fieldwork conducted in Estação and talks with experts of the municipality it was found out that the neighbourhood has many abandonment sites. This together with the ageing population results into further contributing to the quiet and empty feeling of the area. The area lacks public spaces and activities and this is not addressed in the current plans for the neighbourhood. Currently the biggest change planned for the area is the built of an apartment complex on the current milling factory site. Based upon the fact that this project does not take into account the values of the community and neglects the significance of the site this proposal cannot be accepted. Therefore the old milling factory has been chosen as a case study for this project. The aim is to present an alternative proposal that preserves the site while addressing the needs of the area.

The project will focus on the southern part of the factory site. This part contains part of the older factory, the silo's and the main factory hall. This site is not considered by the municipality as heritage, but is marked as having a certain level of importance. The majority of this part of the factory is still in good condition. This would suggest that with minor interventions the building plot could be revitalised. The large size of the project also factors into making this site an interesting case study as it could house several needs of the neighbourhood.

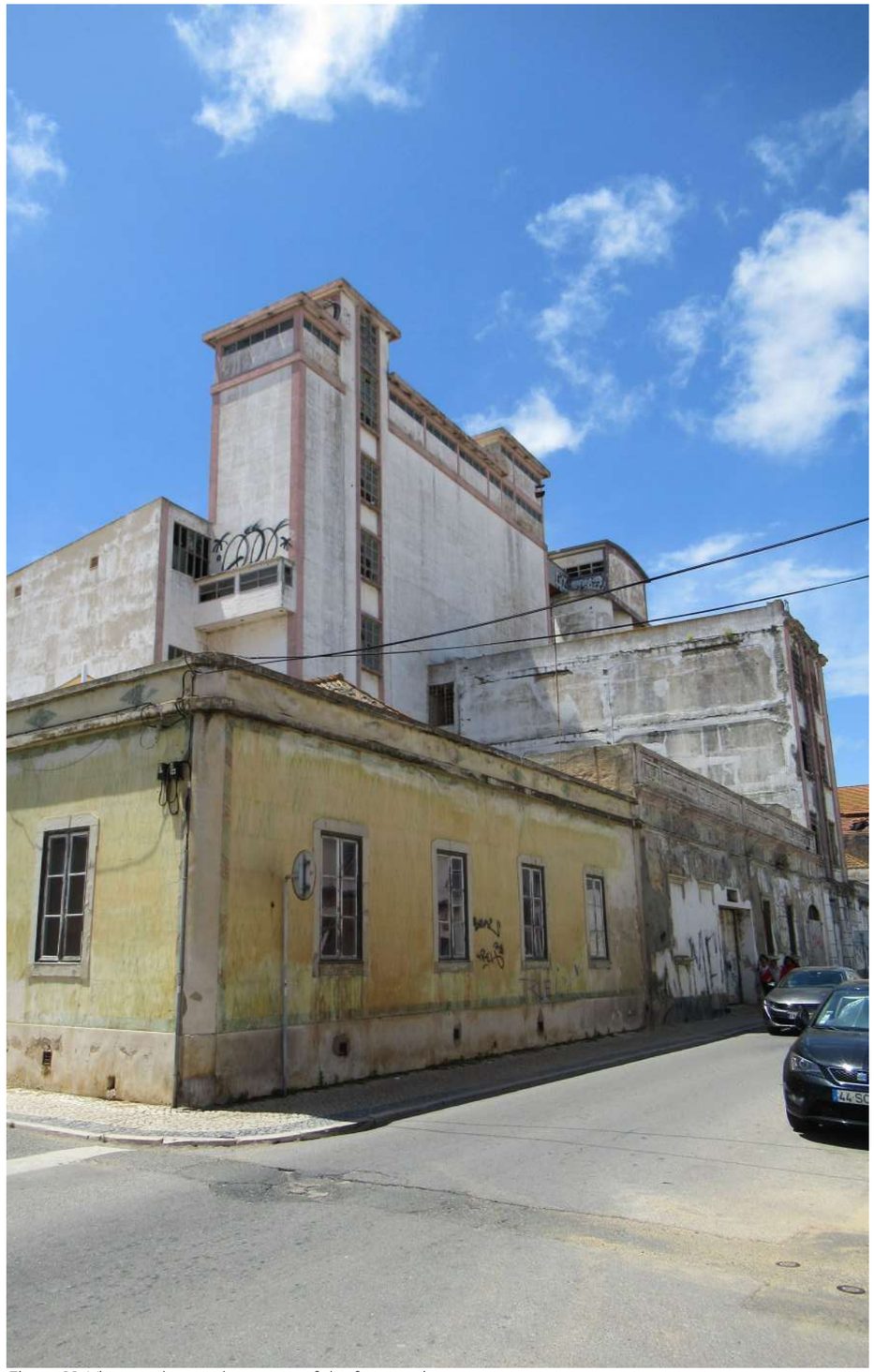


Figure 18, View on the southern part of the factory site.

Figure 19, Archival photograph of the factory site.

Figure 20, Silo section of the factory.

Figure 21, View on the factory complex from the other side of the train station.

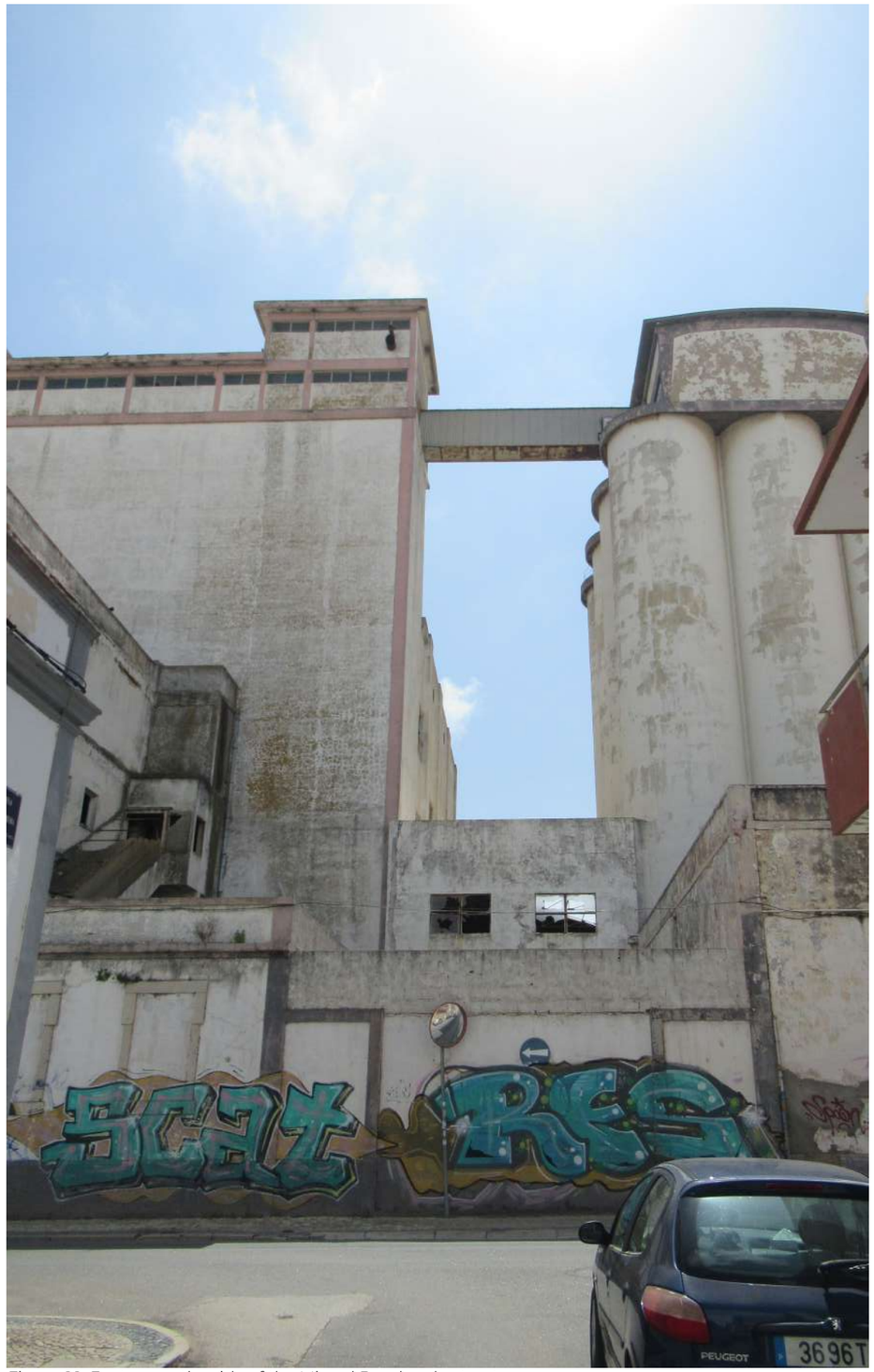


Figure 22, Factory on the side of the Miguel Bombarda street.

CHAPTER 4

DESIGN APPROACH

Problem statement

The phenomenon of rapid urban development can also be seen within the city of Faro and specifically the neighbourhood of Estação. In 1889, the train's arrival drove the urban development around Station Square as the starting point for the neighbourhood of Estação but also set the railway tracks as a barrier between Ria Formosa National Park and the city. Despite foreseeing the industrial factory, which became a landmark building later, most housing buildings were built around 1925. Nowadays, two major urban renewal initiatives are taking place in the neighbourhood. On the one hand, the Municipality of Faro developed a rehabilitation program for the city with a concentration on its waterfront, which includes Estação.[20] On the other hand, there is a plan to demolish the entire industrial block for high-rise dwelling buildings.[21] This suggests a rapid growth and renovation of the city which might not be respecting community values.

The Estação neighbourhood does not take advantage of its connection to the national park, which might be harming people's well-being and understanding of nature values. Furthermore, in the demolition program of the old factory, such rapid renovation on the block with conspicuous volume and historical value might negatively affect the legibility of the neighbourhood, as well as the place attachment and sense of belonging to the community. Furthermore, the high-rise dwelling buildings appear due to this city's rapid growth and the co-living of different age groups. Therefore, the problem of little interaction and separated values between older and younger generations will also grow.

Design goals

This project aims to discover how a symbiotic relation can be created between different age groups that will benefit both generations. The project will use the values on nature as a bases to initiate this relation through its benefits on both well-being and social interaction. The project will work towards creating a redesign of a vacant industrial building into a vibrant and dynamic environment that will support this mutual relation of both generations. It has the purpose to both benefiting the local community as well as the city of Faro as a whole.

To achieve this the approach has been divided into 4 main goals. The first one being *Rehabilitation* which focusses on the relation between the current building and new additions. This project aims to protect as much as possible the historic site as it recognizes the historic and cultural significance for both the neighbourhood and the community. This will be done by limiting the interventions to the project to minor impacts. Additional constructions made to make the building usable will be created in a similar style of the existing project. The additions created for different future functions will be made using temporary structures. The temporary structures will be detached from the main structure so that in future scenarios they can easily be changes without affecting the original building.

The second goal is *Cohabitation* which defines the relation of people and nature. As already described in this paper nature can both increase peoples wellbeing as well as create places that people enjoy spending their time. The most important goal of the project focusses on *Intergenerational interactions*. This defines the relation between people of different ages. There have already been several experiments in creating a mutualistic relation between these two age groups. Known examples of this are the British and Australian tv shows named "Old people's home for 4 year olds". Within this experiment a group of children visit an elderly home on a daily basis for the course of 6 weeks. At the end of the experiments it was concluded that the elderly members of the homes had a better mood and look on life, but also a significant increase in their physical health and strength.[22]

The last goal added to the approach is Community ownership. This part of the approach focusses on involving the community in the creation and maintaining process of the project. This is an important part in creating a vibrant place and making sure it responses to the needs of the community. By giving the community responsibilities of the project it ensures a certain level of engagement. This is based upon the approach of place making which focusses on urban planning and public spaces that involve the community.[23] It allows people to overtime make changes in their surroundings promoting peoples health and happiness.

20 *DEPARTAMENTO DE INFRAESTRUTURAS E URBANISMO, C MARA MUNICIPAL DE FARO. 2018. Review of Área de Reabilitação Urbana Operação de Reabilitação Urbana, DA FRENTE RIBEIRINHA de FARO, PROGRAMA ESTRATÉGICO de REABILITAÇÃO URBANA.*

21 *Portugal Resident News. (2020) €50 million to transform old industrial buildings into luxury apartments,https://www.portugalresident.com/e50-million-to-transform-old-industrialbuildings-into-luxury-apartments/*

22 *Dutton, R., & Williams, D. (2019). Old People's Home for 4-Year-Olds: A social experiment looking at the impact of contact on health and wellbeing. In Intergenerational Learning in Practice (pp. 60-79). Routledge.*

23 *Arefi, M. (2014). Deconstructing placemaking: Needs, opportunities, and assets. Routledge.*

CHAPTER 5

DESIGN PROPOSAL

Functions

The results of the cultural significance survey have been used to decide the use of the project. To do this two graphs have been made showing the highest scoring values and attributes (*see figure 23*). By looking into the areas the different age groups overlap functions can be proposed that would allow intergenerational interactions. The proposed functions are e.g. workshop spaces, garden, bar / restaurant, work spaces, (dance)club and exhibition spaces. Each of the functions have been placed in the part of the building that would fit the best with the needs of these functions. As most spaces of the project are relatively large there are several functions that are combined to take place within the same space. The division of functions can be seen on *figure 24*.

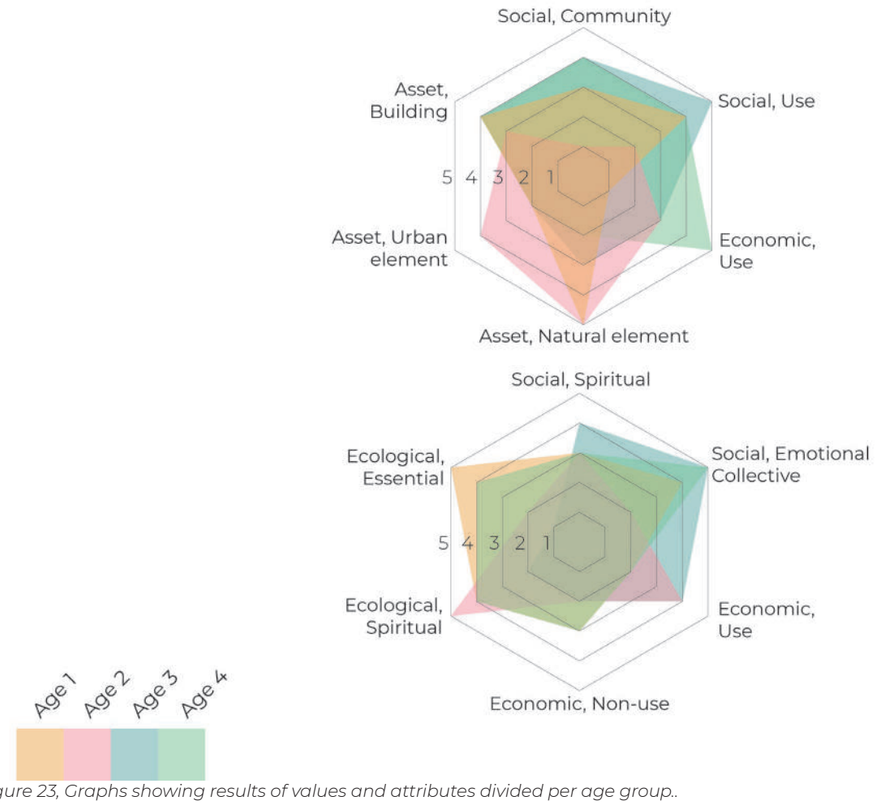


Figure 23, Graphs showing results of values and attributes divided per age group..

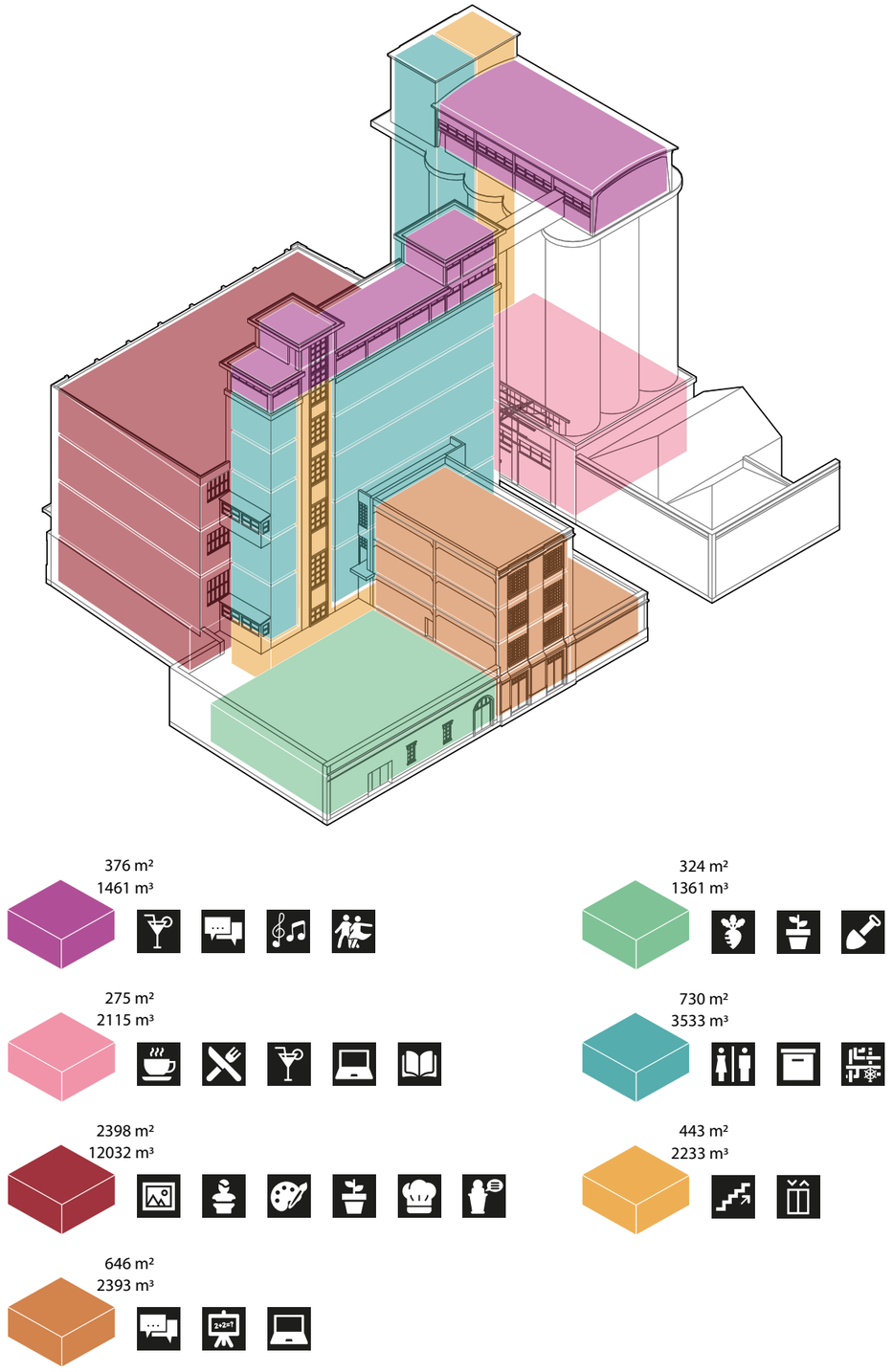


Figure 24, Diagram of proposed functions.

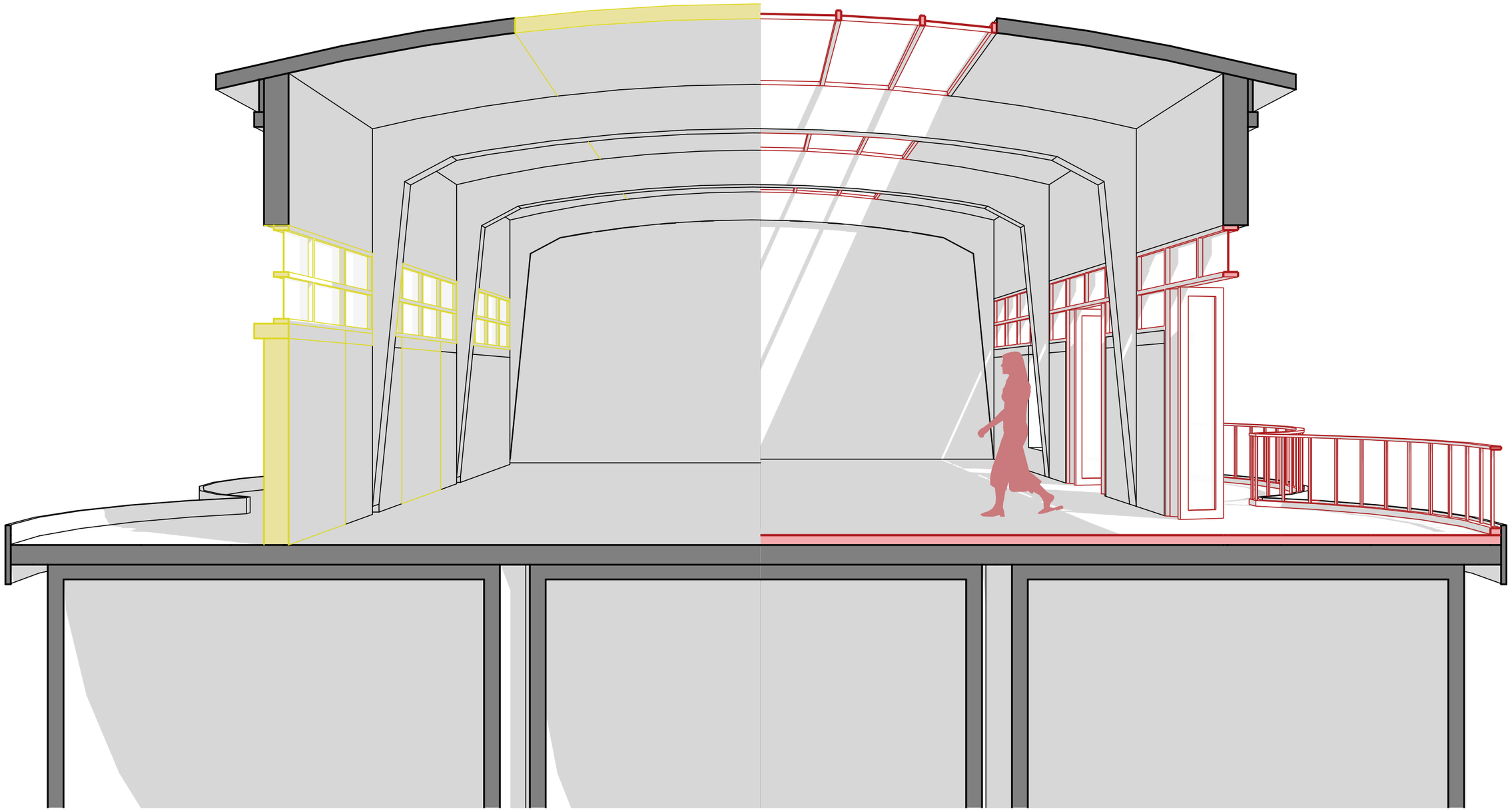


Figure 25, Inside the space on top of the silo's during day and night.

Phases

Because of the large size of the project and in order to create a more feasible plan the project has been divided into 6 phases. These phases can be proposed as a plan that can take place overtime. This way parts of the building can already be used in an early stage. The project is divided in phase 1, communal garden which is located in one of the oldest parts of the factory. By removing part of the roof a large open space is created that will allow for outside activities to take place. This is planned as the first phase as it requires the least of interventions to start using. From this phase 2 can be started which changes the remaining part of the older part of the factory into a community centre. The largest intervention will take place in phase 3 that creates a connecting passage between the two factory parts. It will connect the neighbourhood with the Ria Formosa on the other side of the train tracks. In this phase the largest demolishing will take place. Once this phase has been finished the other parts of the factory will be connected to this passage. From here phase 4 the rooftop restaurant can be initiated which will start with renovating the connection between the ground floor and the top of the factory. After this the top floor including the roof spaces can be used for social gatherings. Phase 5 the workshop hall allows the use of the large factory space for a variety of functions that can be filled in by the community. The last phase 6 rooftop club focusses on the top of the silos and the connection from this space to the rooftop restaurant.

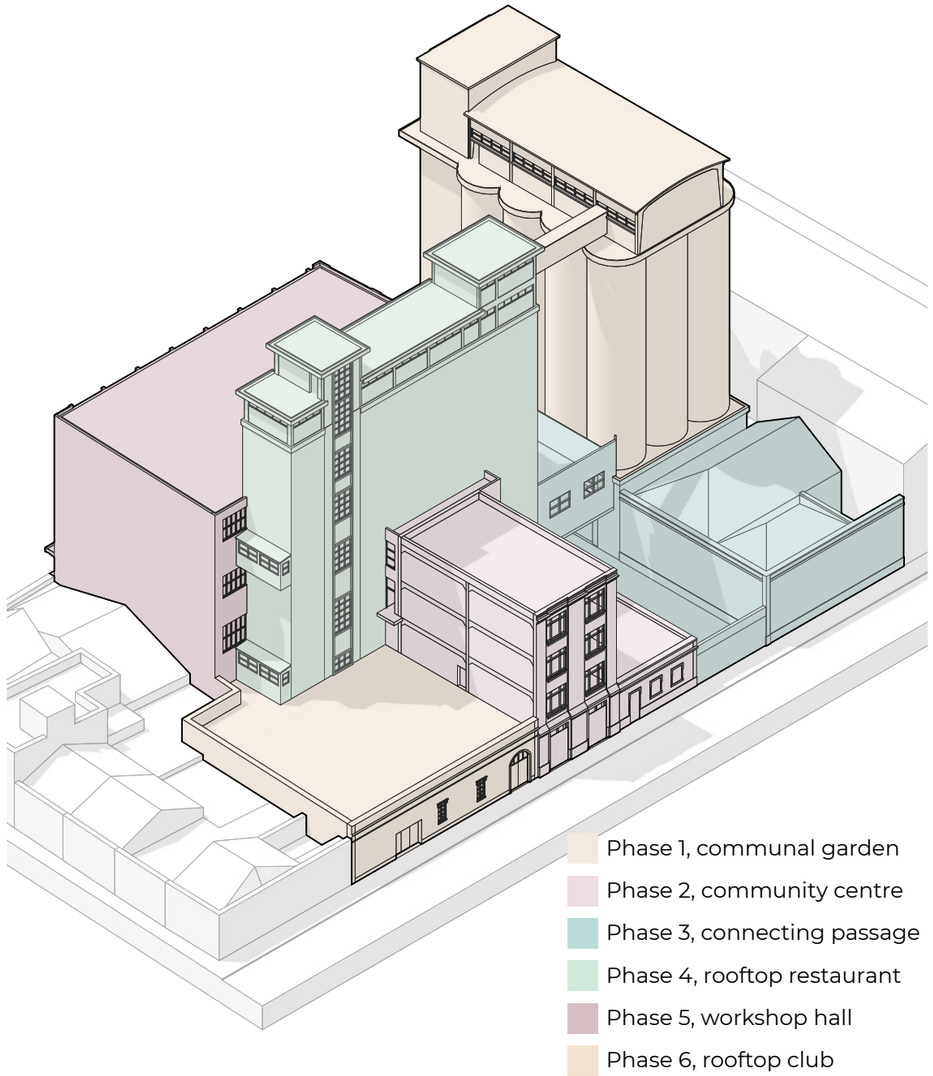


Figure 26, Example of proposal card result.

Connecting passage
The most important part of connecting the project site with the neighbourhood is the passage way that will be created between the two factory parts. The passage will consists of a series of slow rising stairs that end in a connection to a proposed bridge that will cross the train tracks towards the Ria Formosa. The main idea behind the passage is to create an easy access to the project site. Not only will the public space in this way continue throughout the site, but it will also allow (outside) functions to continue towards the neighbourhood. The stairs have been cut in smaller parts and each come with a ramp to ensure accessibility for all users including elderly and people with disabilities. The street has been designed with sitting spots throughout to create not just a place of movement, but rather a place to stay. This will in turn benefit social interactions that can take place here.

Figure 27, View on the connecting passege and the historical facade.

Figure 28, View from the Antonio Cabreira street towards the connecting passage.

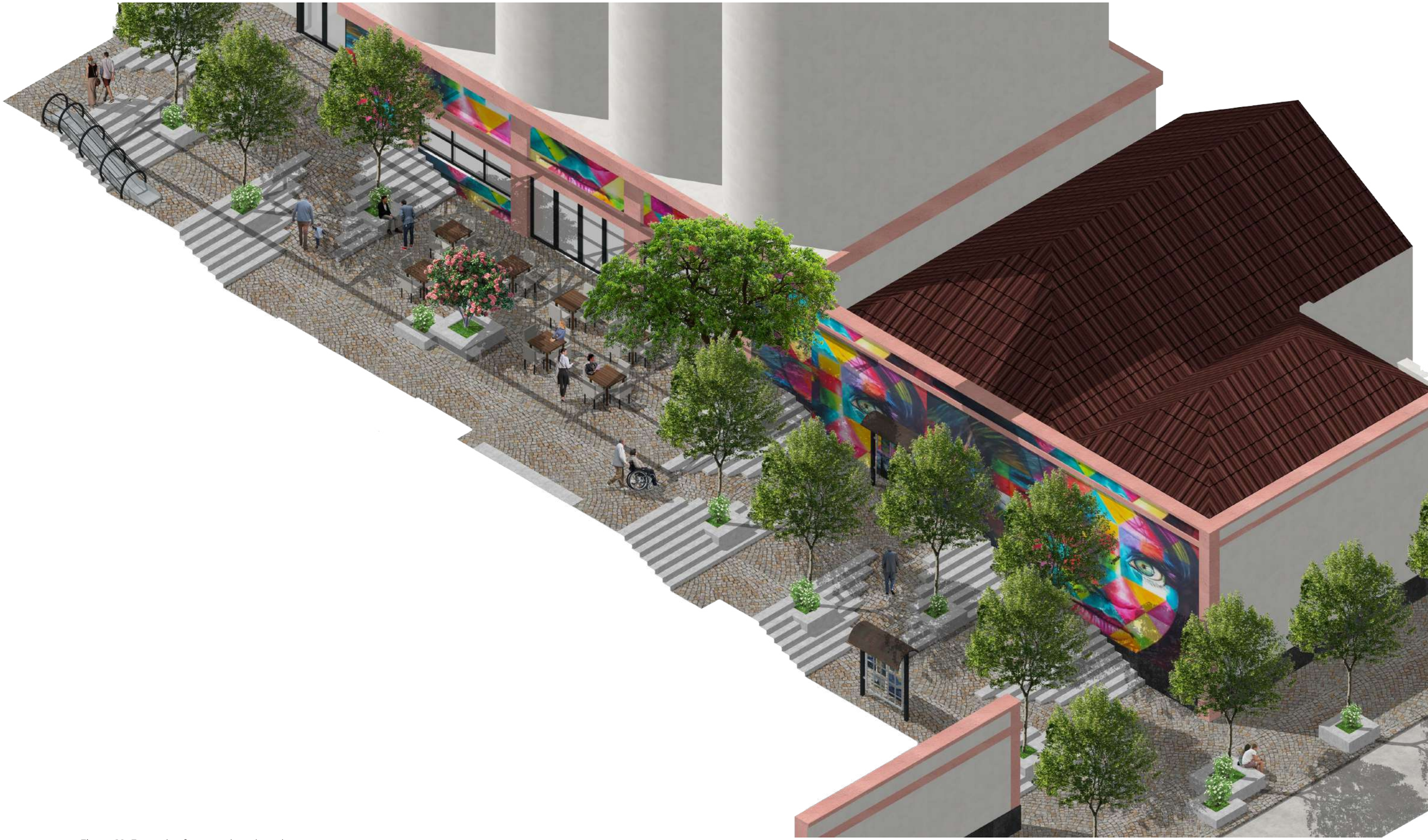
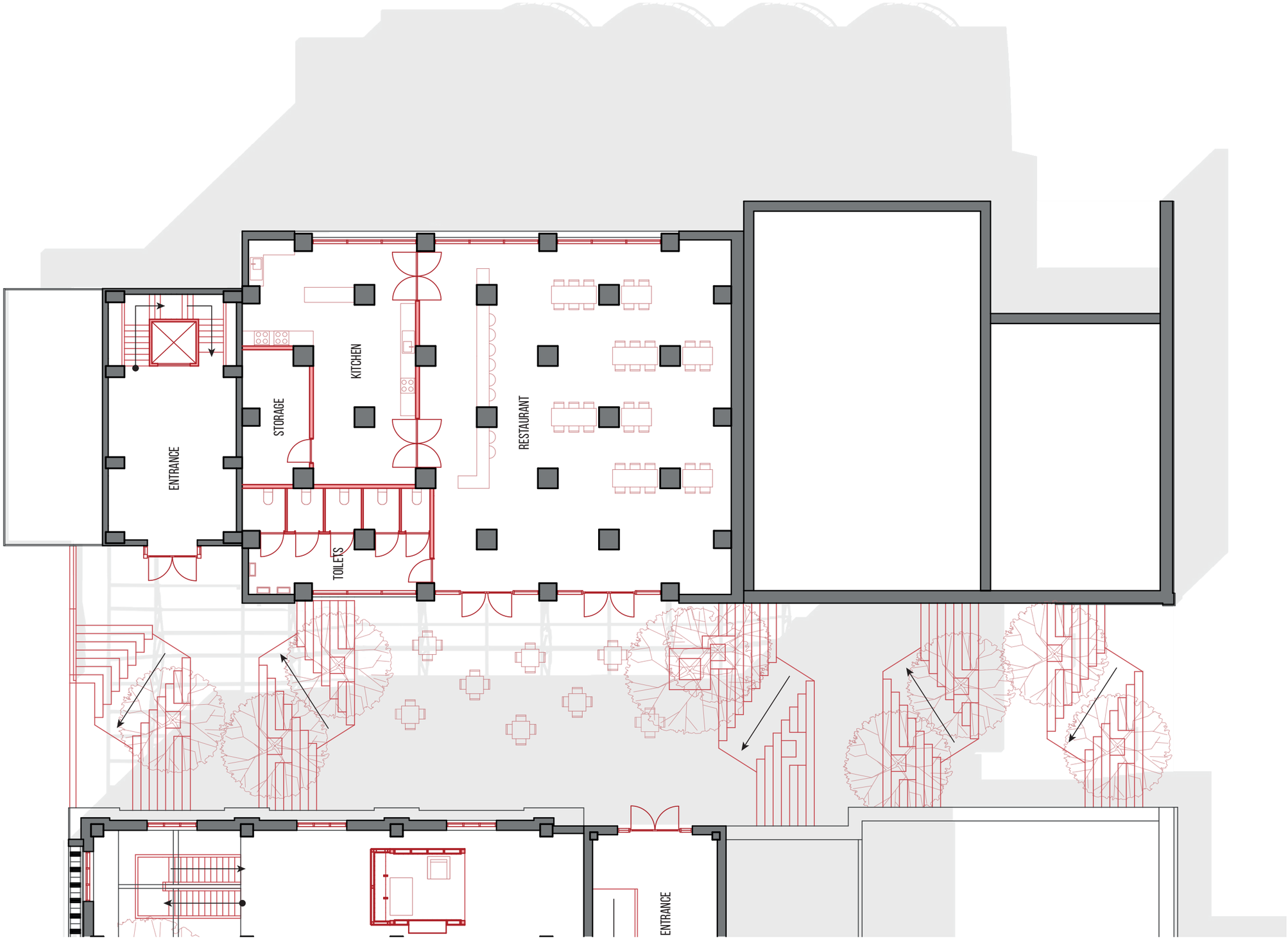


Figure 29, Example of proposal card result.


ENTRANCE
STORAGE
KITCHEN
RESTAURANT
TOILETS
ENTRANCE

Temporary structures
To allow the building to adapt to changes in the needs of the community the main focus of the design lays in creating suitable open spaces within the project. Specific needs for functions will be created using temporary structures. This way more vibrant places can be created that can change overtime. Large open halls can host both exhibitions and music performances during different times of the day. Because the project uses a bottom-up approach the community themselves will be the main initiator for this infilling of the site. The design proposal will offer guidelines in materiality uses and limitations of sizes to propose different structures. The community can use these to create and change the spaces.

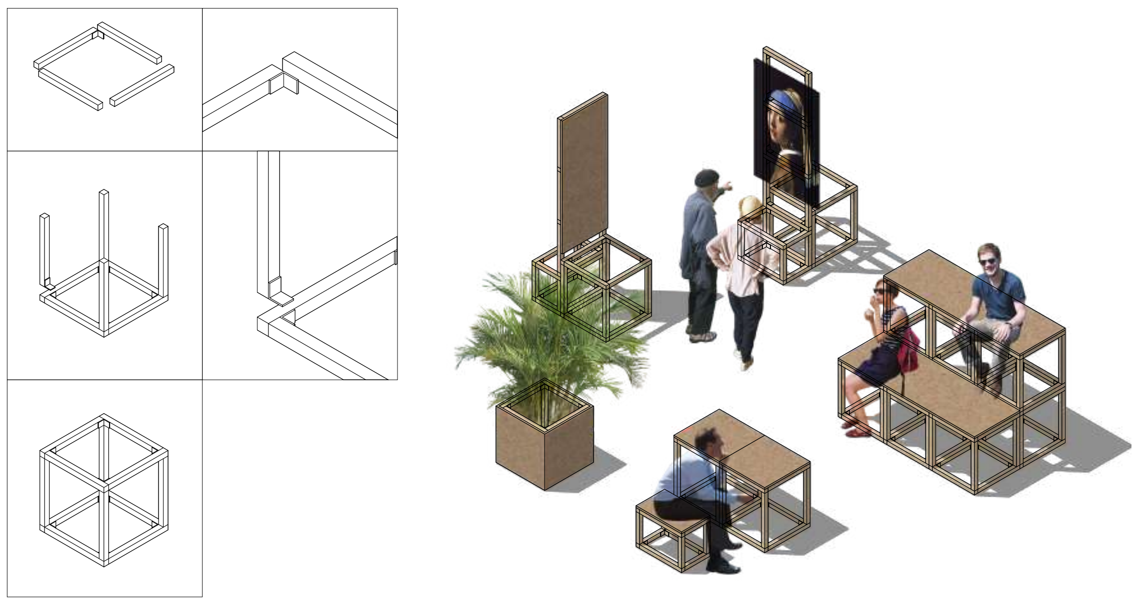


Figure 30, Examples of temporary furniture structures.

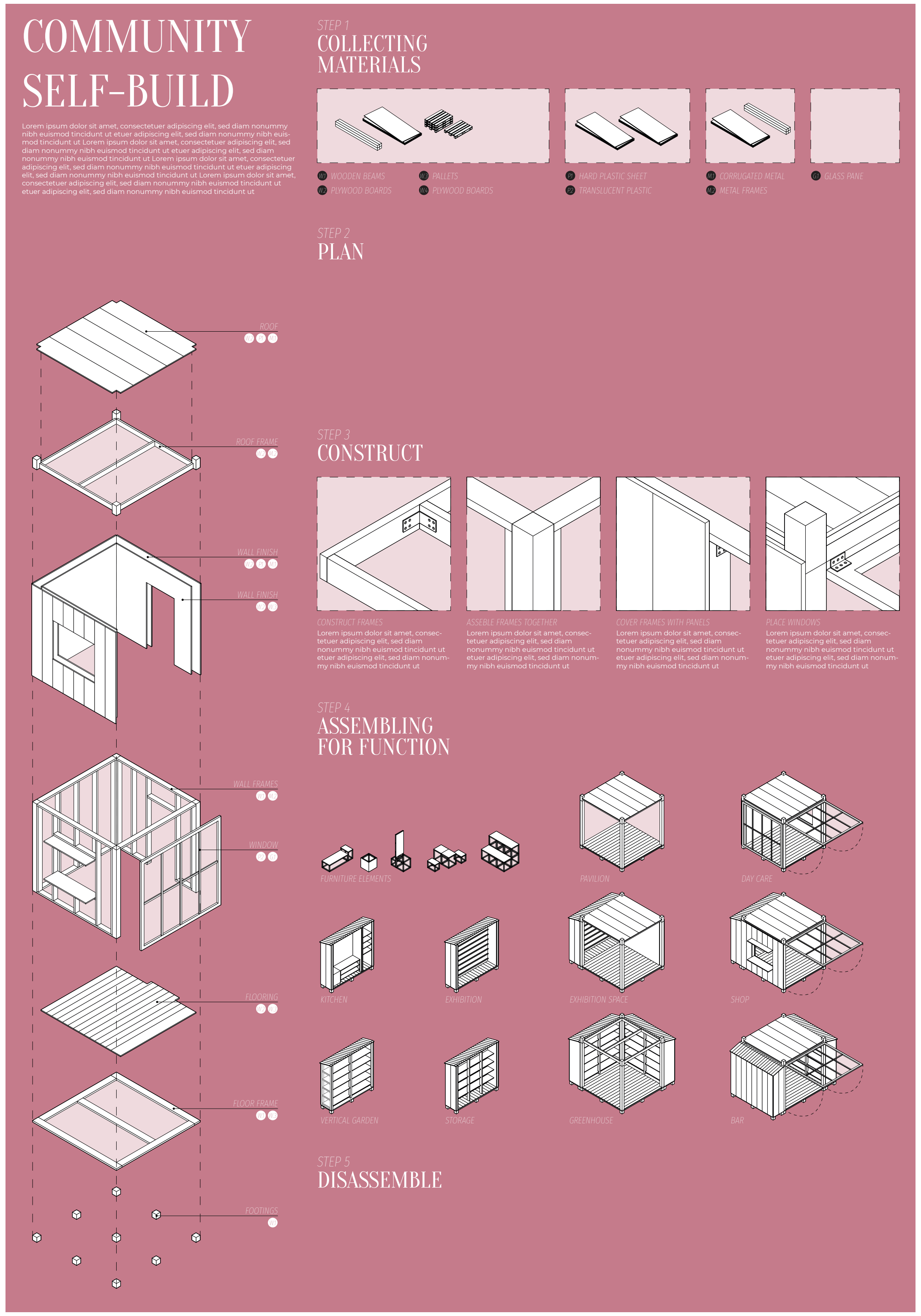


Figure 31, Poster on the cunstruction of temporary structures.

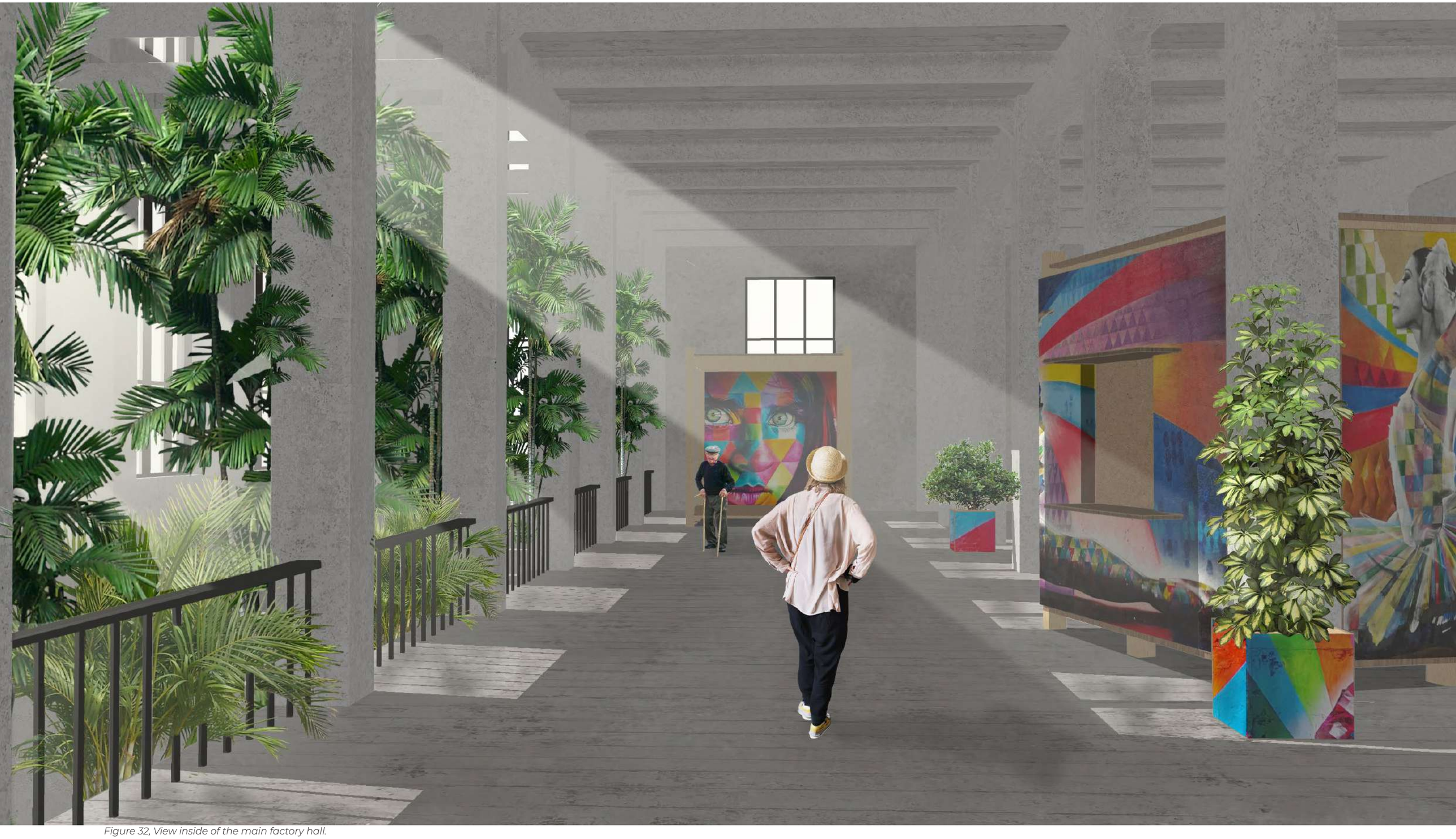
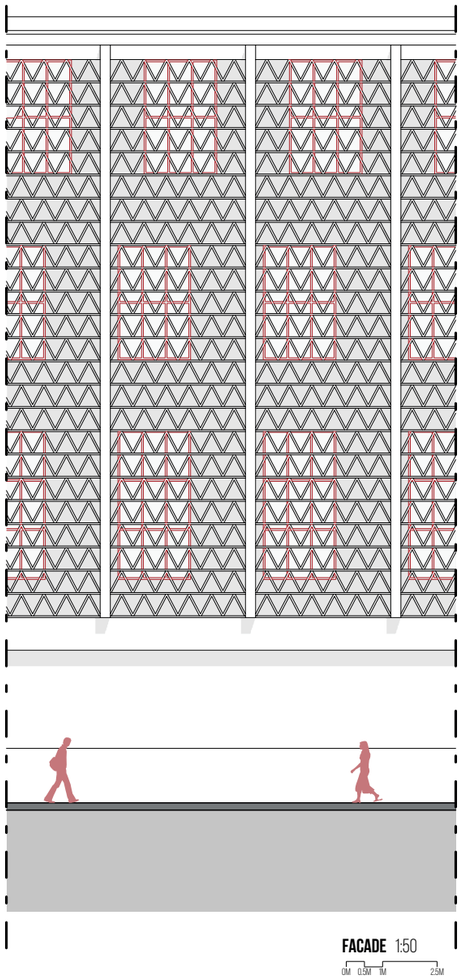
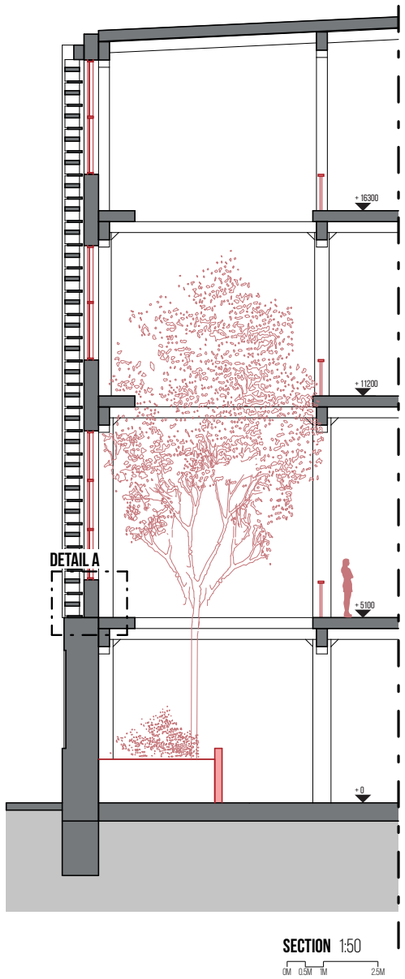


Figure 32, View inside of the main factory hall.



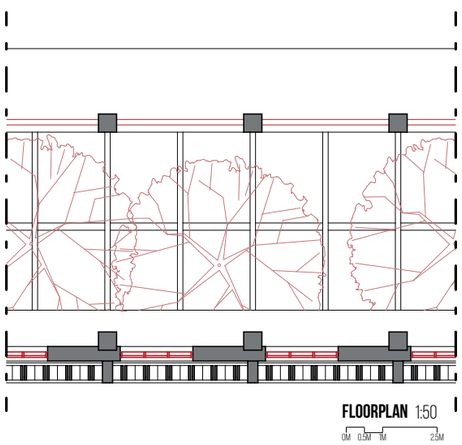
FACADE 1:50

0M 0.5M 1M 2.5M



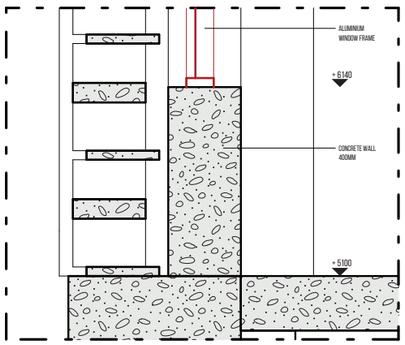
SECTION 1:50

0M 0.5M 1M 2.5M



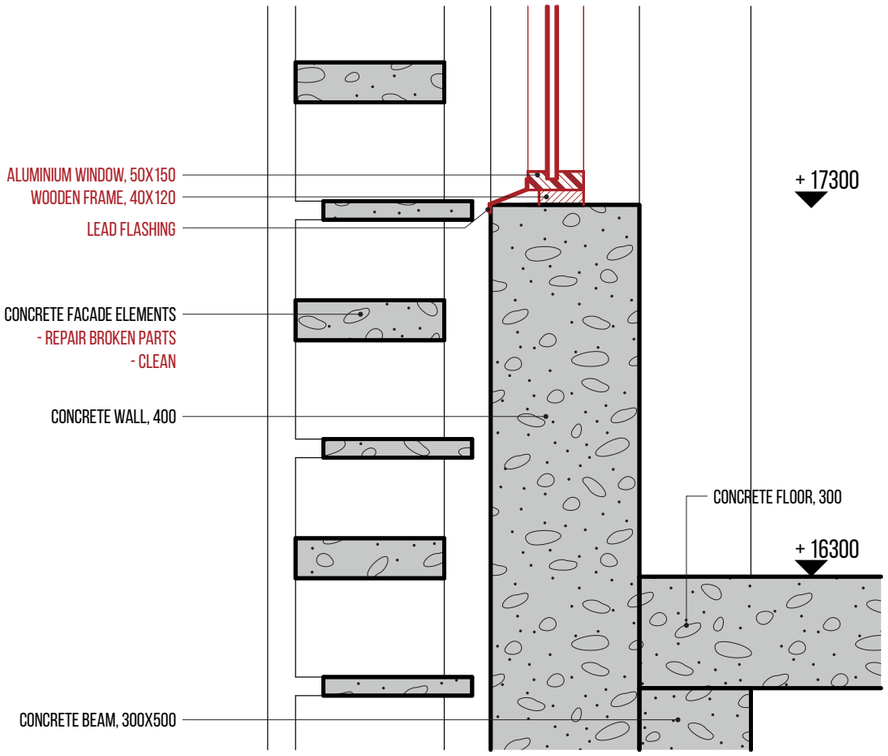
FLOORPLAN 1:50

0M 0.5M 1M 2.5M



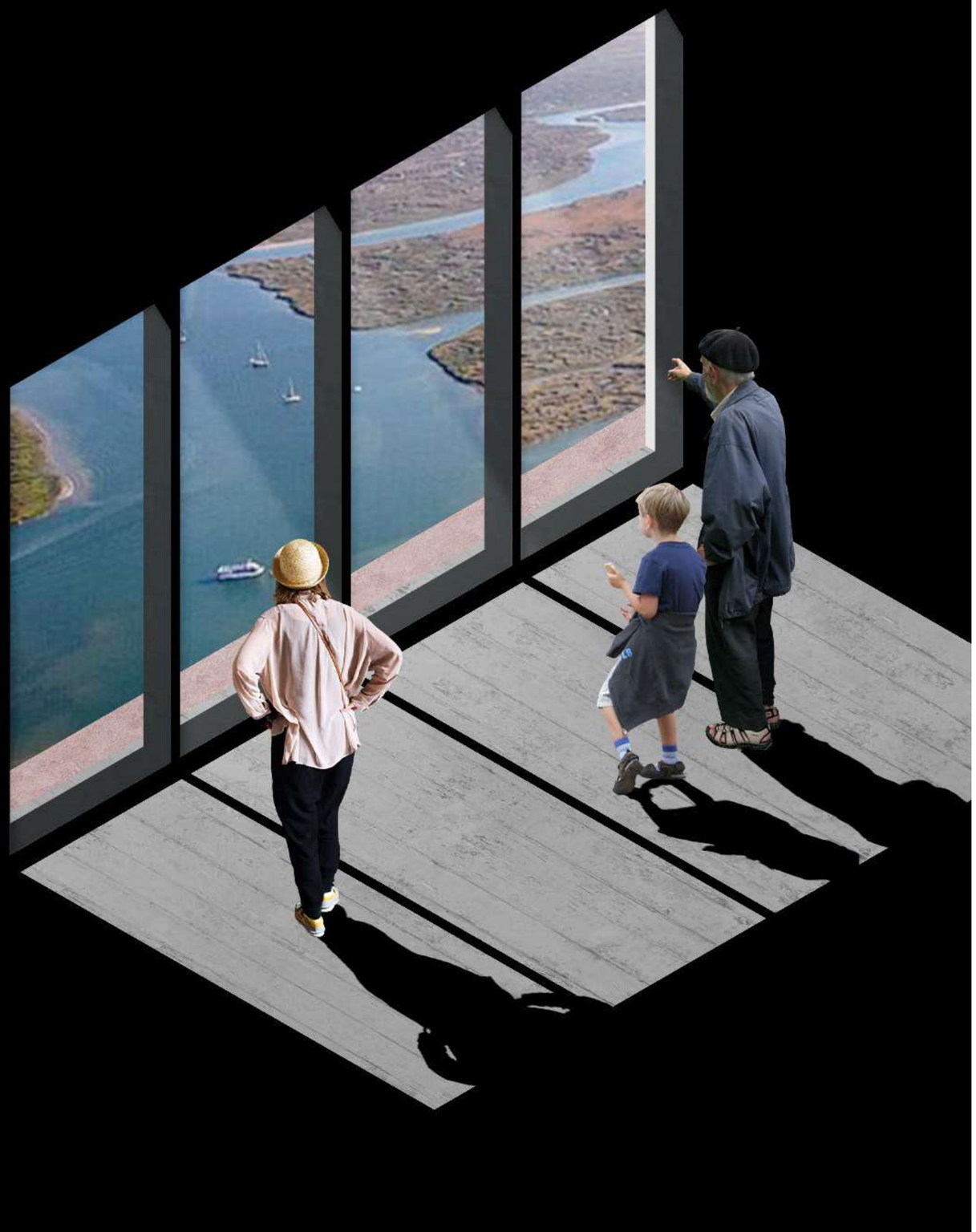
DETAIL A 1:10

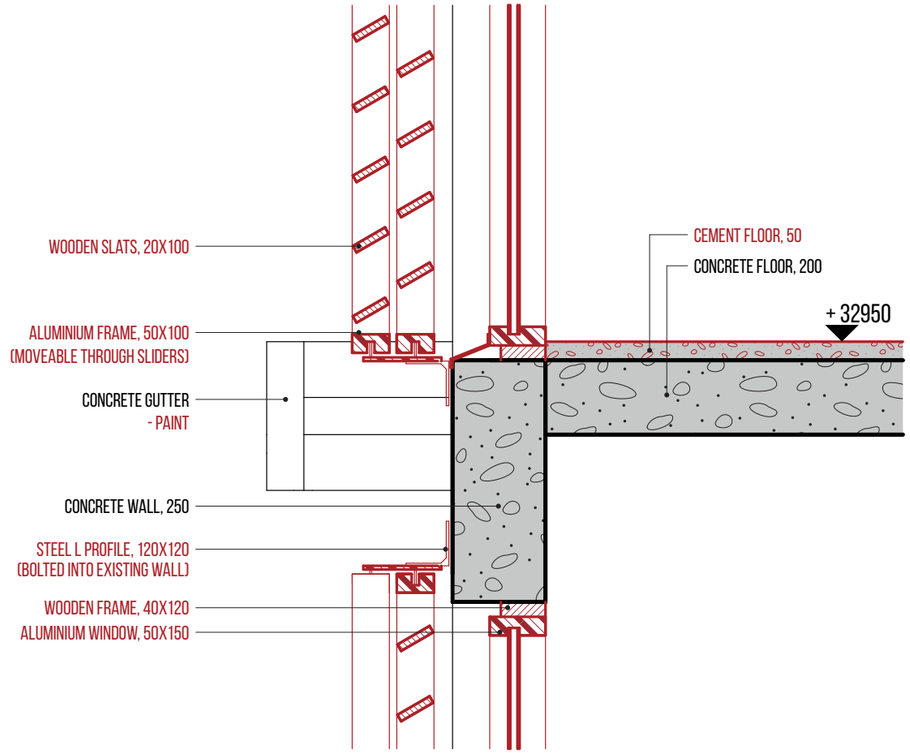
0M 0.1M 0.2M 0.5M



DETAIL A

0 0.1M 0.2M 0.5M





DETAIL B

0 0.1M 0.2M 0.5M

PART 3

HERITAGE IMPACT ASSESSMENT

CHAPTER 1

INTRODUCTION

During the fieldwork period in Faro, described in part 1: Cultural Significance Paper, a research was conducted to understand the values and attributes of the local community. For the participation with the community a card game was created which is set around a system of proposal cards which participants would accept or reject. These cards were each linked to the values as described in the value framework developed by Pereira Roders.[1] The results of this game were used in combination with the results of 3 other participation methods to create value and attribute charts.[2] These charts were used as a basis for the value based (re)design described in part 2.

To understand to what extend the created design matches with the results of the research a heritage impact assessment (HIA) has been made. This has been done by comparing the design to the data gathered from the card game. As one the main aims of the project lays in bringing generations together the HIA will focus on this. Because the card game has been played by both the 1st age (children) and the 4th age (elderly) the data allows for a comparison of these two age groups.

1 *Pereira Roders, A. R. (2007). Re-architecture: lifespan rehabilitation of built heritage - cap-itellum. Technische Universiteit Eindhoven. https://doi.org/10.6100/IR631784.*

2 *Elskamp, W., Szulc, S., Drijver, M., Tao, Q., et all,. (2023) (Re)finding the values of nature in cities: Faro as case study. Delft, Netherlands*

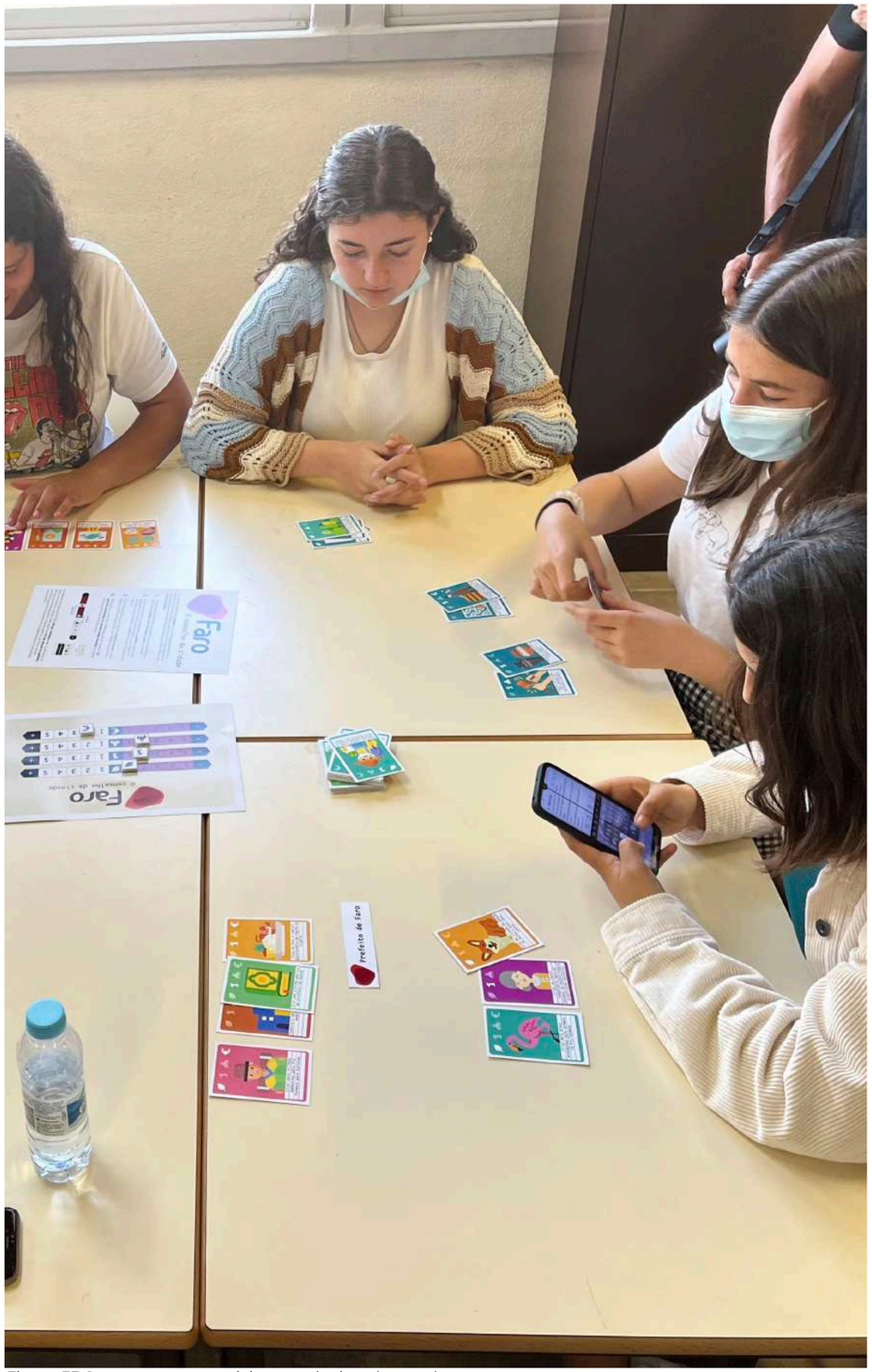


Figure 33, 1st age group participants playing the card game.

CHAPTER 2

METHODOLOGY

The HIA has been divided into three parts. In the first part the overall impact on the current site will be measured. This will be done using an impact assessment tool developed by ICOMOS (International Council on Monuments and Sites).[3] The matrix that can be seen on *figure 34* is built out of a scale of impact and level of value. Based on these two factors the severity of the impact can be measured. This will be done for each of the project phases and for the project as a whole. Because the project is not listed as heritage, but is listed by the Faro municipality as having importance the category high values has been chosen to use.

The second part will focus on the design phases of the project and the values they convey. This will be done by looking into the values that are important for both the 1st and 4th age group. These values have been extracted from the cards that have been chosen by the participants. This method will only compare the 3 values that have been the focus of the value based design namely; social, ecological and economic. The division of these values can be seen on *figure 35*, which also includes the average result of both age groups. Each of the project phases has been analysed and percentual divided into these 3 values. By creating this division the values conveyed by the design can be compared to the importance of the values by both age groups. The goal of the design is creating a place that matches as best as possible the values of both age groups. Therefore the design will be evaluated by analysing how close it matches with the average. For the design to be affective in catering to both age groups it should be positioned between the results of both age groups.

The third part of the HIA will go further into the usage and functions proposed by the design. This evaluation will use the proposals of the card game that have been implemented in the deisgn. Each proposal card has a response of both age groups. The card has either been accepted or declined by the participants. On *figure 36* an example can be seen of the results of a proposal card. This includes the average response of both age groups.

3 ICOMOS (International Council on Monuments and Sites). (2011). Guidance on Heritage Impact Assessments for Cultural World Heritage Properties.

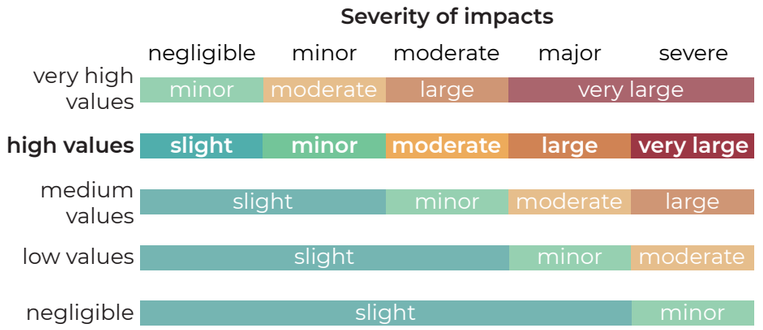


Figure 34, Matrix to determine the severity of impacts.

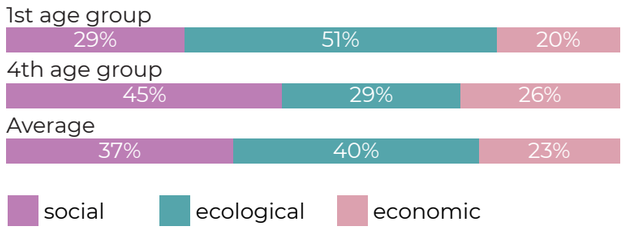


Figure 35, Values conveyed by 1st and 4th age including the average.

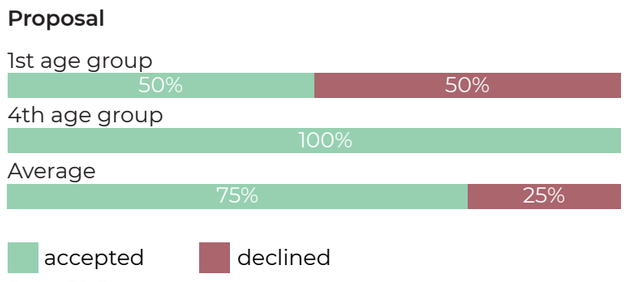


Figure 36, Example of proposal card result.

CHAPTER 3

RESULTS

The impact to the project by the new design can be seen for each phase on *figure 37*. The severity of most phases come down to minor impacts. Phase 1 has a moderate impact due to the changes made in the historic façade. The impact of phase 3 is large as much of the original parts of this phase will be demolished. The total impact of the design on the projects is minor.

Within each of the project phases social, ecological and economic values can be recognized in the proposed design. The values are however not always present till the same extend. Some phases as for example phase 2, communal garden matches mainly with ecological values and less with the other 2. On *figure 38* the division of values per phase can be seen. The communal garden and connecting passage are closed to matching with the results of the 1st age group. The rooftop restaurant and the community centre are closed with the results of the 4th age group. The average of all phases results in a division of 38% (social), 38% (ecological) and 24% (economic). The result does not completely match the average, but each of the values does lay between the results of both age groups.

In total 15 proposals have been chosen for the HIA as they match with either the changes made by the design or the proposed functions (*see figures 39, 40 & 41*). Overall the proposals received a positive response from both age groups. 3 proposals received a score of 100% approval on average and 8 received an average score of over 75%. In the majority of the proposals both age groups had approval rates within 25% of each other. The 1st age group has rated 10 of the proposals with a score of 100% whereas the scores of the 4th age group are much more divided. In total they have only rated 4 proposals with an overall score of 100%.

There are in total 3 proposals that have an average approval of less than 60%. The first one of these is “hold a workshop for children about the traditions of Faro”. This proposal is connected to the workshop functions that are possible within phase 5 of the project. The proposal describes one of the possible workshop that could be held in the project. The second proposal is “built a bridge to cross the train station and create more connection with the Ria Formosa”. This proposal got an overall positive response from the 4th age group however it was not accepted once by the 1st age group. The third proposal is “allow local artist to make graffiti paintings on empty facades”. This proposal has received the lowest overall approval of the selected proposals. It must be noted here that during the fieldwork several participants of the 4th age group have said they based this decision on the current graffiti in the Estação neighbourhood.

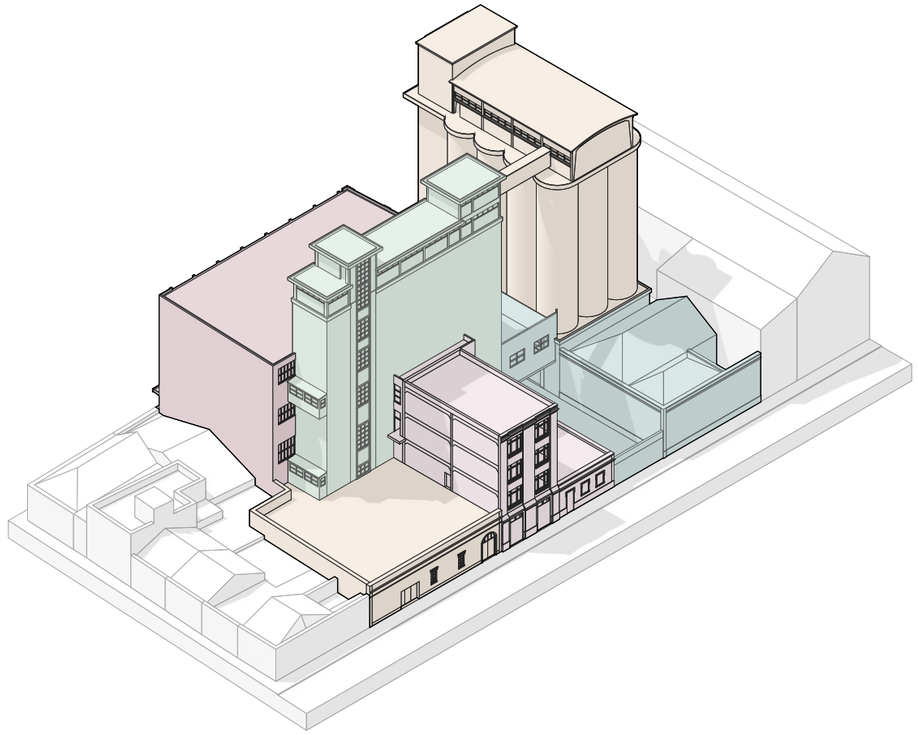
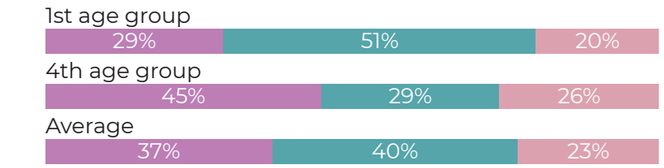


Figure 37, The impact on the project per phase.



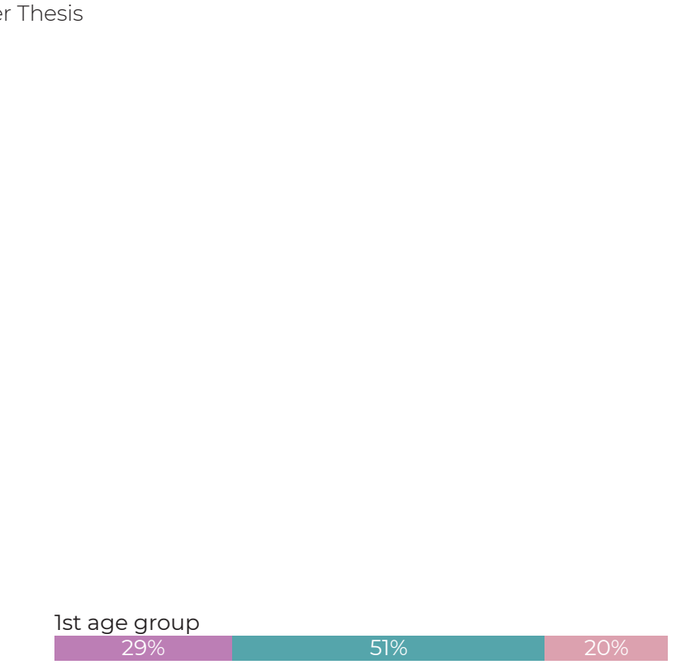


Figure 38, Value analysis of the project phases.

Hold a workshop for children about the traditions of Faro

1st age group
50% 50%
4th age group
50% 50%
Average
50% 50%

Organize a community based arts project

1st age group
100%
4th age group
75% 25%
Average
88% 12%

Create a community centre for people to meet up and organize gatherings

1st age group
100%
4th age group
100%
Average
100%

Built a bridge to cross the train station and create more connection with Ria Formosa

1st age group
100%
4th age group
75% 25%
Average
38% 62%

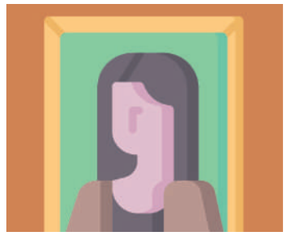
Organize communal gatherings to increase cultural awareness

1st age group
100%
4th age group
80% 20%
Average
90% 10%

Figure 39, Response of the separate proposal cards.

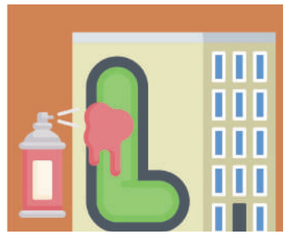
Create a public garden to showcase the farming of local fruits and vegetables

1st age group
50% 50%
4th age group
86% 14%
Average
68% 32%



Have an exposition of paintings from artist from the region

1st age group
100%
4th age group
100%
Average
100%

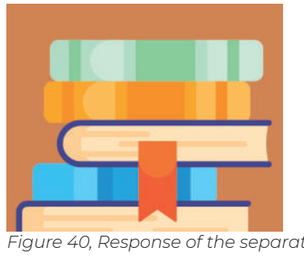


Allow local artist to make graffiti paintings on empty facades

1st age group
100%
4th age group
33% 67%
Average
17% 83%

Allow people to sell their own paintings in public spaces

1st age group
100%
4th age group
80% 20%
Average
90% 10%



create outdoor libraries where people can bring and borrow books for free

1st age group
50% 50%
4th age group
100%
Average
75% 25%

Figure 40, Response of the separate proposal cards.

Organize a market where people can sell their own made products

1st age group
100%
4th age group
83% 17%
Average
92% 8%

Introduce more types of plants in the city

1st age group
100%
4th age group
100%
Average
100%

Turn a street into a green corridor where cars are not allowed

1st age group
100%
4th age group
80% 20%
Average
90% 10%

Organize events where people can plant more trees in the city

1st age group
100%
4th age group
83% 17%
Average
92% 8%

Turn rooftops into small parks with plants and places for animals

1st age group
100%
4th age group
67% 33%
Average
84% 16%

Figure 41, Response of the separate proposal cards.

CHAPTER 4

CONCLUSION

The impact on the project is minor which matches with the design goal of leaving the project as much as possible in its current state. Based upon the evaluation of the project phases and the overall design it can be concluded that the new design matches with the results of the research. As the values lay between the results of each age group it can be said that the design is intergenerational. This means both age groups have successfully been included within the design. Looking further into the proposals and mainly the use of the project it is also clear that both age groups positively feel about this. This result suggest that generations will take part in these activities leading to intergenerational interactions. This is the most important part of the design as the benefits of intergenerational design can only fully occur when both generations are willing to engage.

CHAPTER 5

DISCUSSION

The HIA in this case only focussed on the new design proposal and did not compare it to the current state of the project. The decision for this was based on the data that was available from the fieldwork. During the participation the focus laid on understanding the values important to both age groups. The card game did not contain any proposals that would help understand which values are currently conveyed by the project site. It would therefore be difficult to decide to what extend values have been removed, kept or added. To understand this the advice would be to conduct a following research in which participants are faced with proposal cards set around the current state of the project and the new design. The results of this participation could influence the design as it would reveal which values might be removed by the design.