

REFLECTION REPORT

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INTRODUCTION

“I describe the design process as like the tip of the iceberg. What you don't see is the long haul: all the endless auditing and things like that.”

- Norman Foster

I am starting this reflection with a quote by Norman Foster about the process of design and all the unseen effort behind it. For me the process of design is made out of the complex relations between research, inspiration and decision making. During the graduation project, I have used various ways to support the process of decision making. I believe that the inner motivation to learn more, to try out and to understand the user is a great key to research and design. Moreover, I always try to inspire myself by the world around me - a walk in nature, a good book or a look through an architectural magazine is a great way for me to keep the motivation and the process going. In order to get a closer look into these relations, I chose to explain the relationship between research and design in my graduation project by splitting it into 4 categories that describe it: **The role of the architect, Inspiration, Process and Decisions.**

THE ROLE OF THE ARCHITECT

The architect has the task to manage all the aspects of building design including building regulation, esthetics, requirements of the client, context and the relations with the surrounding etc. to the smallest detail which if done in a wrong way can result in a wrong expression of the building. The architect has his own opinion, style and preferences that push him to create in a certain way, while mediating in between all the disciplines. Even though in the setting of the studio I worked mainly on the architecture part and partly on the structural part and installations, I have done many research on how other disciplines can result in change of the expression and layout of the building. Moreover, as a TU Delft student, I learned a lot about new technologies, sustainable architecture and how to build in an innovative way, which gave me the motivation to explore new techniques.

INSPIRATION

Huge portion of the design comes from personal inspiration which for me it is in many forms - other projects, styles, design, architects or simply the things around me. The research itself is also an inspiration. During the process of analyzing the target group, I had interviews with expats who gave me a lot of advice on what they like and don't like about living in Rotterdam. I was also lucky to meet an expat with a design background, so we had a thoughtful conversation of how design influences the relations between us. Therefore, I used the interviews as a source of inspiration and I always think of the people that I interviewed or gave comments for my questionnaire as the people I am designing for. Moreover, the research on other case studies, and the literature research on collective living gave me personal inspiration and guidelines of how I want my building to function.

Personally, I find the university atmosphere as inspiration as well. Even though the second semester was characterized only by online meetings, I think that the work by the fellow students is a huge inspiration. Therefore, seeing the progress, the way of thinking and communication gives me inspiration and motivation to design.

DECISIONS

Along with the research and our inspirations, during the process we need to make a lot of decisions - from big to small scale decisions. So the process of design could even be described as a sequence of decisions. Often decisions can be intuitive because of a previous experience or preferences, but decisions should be based on research and try outs, and this is when I feel most comfortable. Even in the case of thorough research, it can be argued that the design decisions are biased because of personal preferences and the things we like or don't like. What helped me for design decisions is the image of the building, I had in my mind which was based on other inspirational reference projects. The decisions about the technical part, I based on a literature research, manufacturers and producers of the certain technology researched.

PROCESS OF RESEARCH

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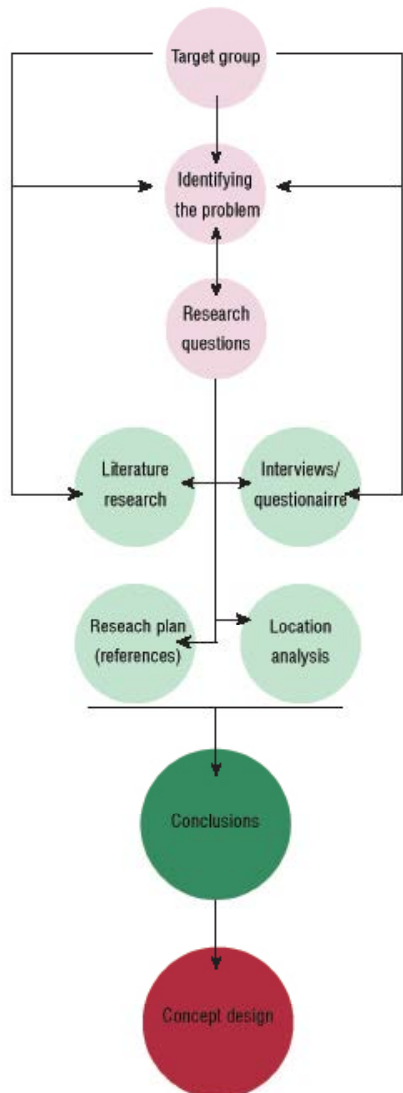
As already discussed, I am seeing the process of design as an ongoing process which on different stages is supported by different research and inspiration from other projects and ideas. In the following pages, I have made a summary of the different research performed and I have given a reflection of how it influenced my decision-making process.

COLLECTIVITY

One of the first assignments was the collectivity analysis of the building Spansekaade in Rotterdam. A building with great architectural intentions that didn't survive through time and lost the aspects of collectivity.

From the analysis and the interviews of the residents, I took some important aspects of the design:

- Too many staircases lead to separation and no "accidental" meetings
- Living room areas and kitchens should face the courtyard (not bedrooms)
- The centralized courtyard works better in case of communication (especially visual connections)
- The deterioration of materials and no clear function of the courtyard leads to unused spaces



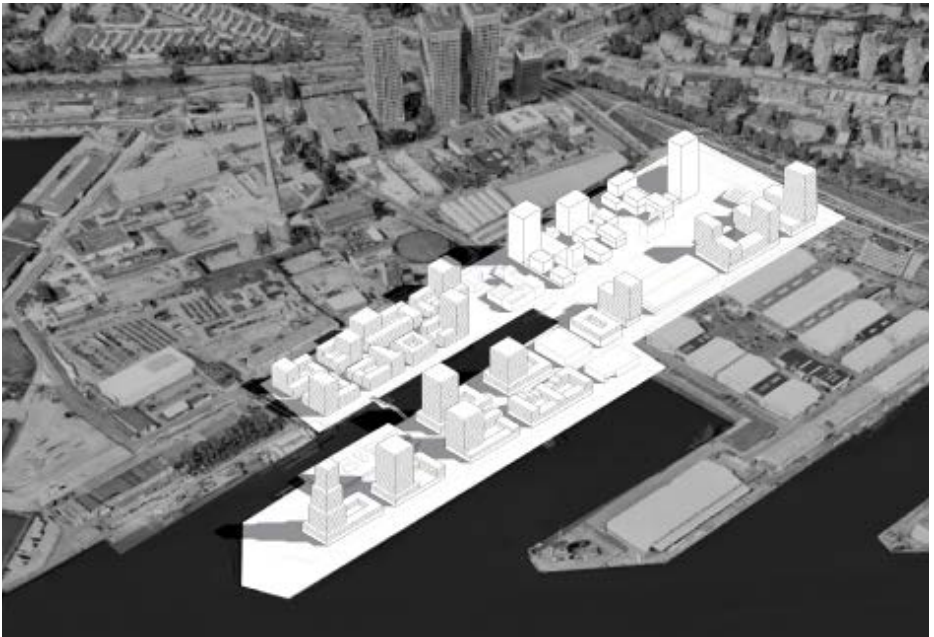
CONTEXT

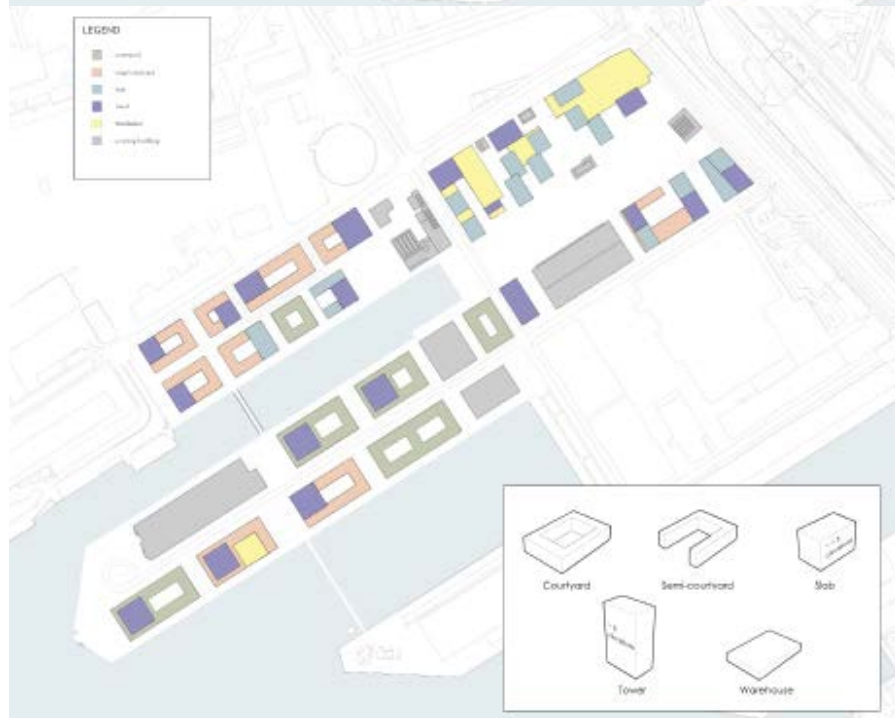
Rotterdam and M4H

The process of design started with analyzing Rotterdam and M4H area. It was a group research, which included a research about Binckhorst area in den Haag, research about the site (M4H) and the city of Rotterdam. The city analysis helped me to choose a specific target group to design for, while the context analysis helped us to create a masterplan which gives the main guidelines for the design of the building such as plot size, height of the building and position.

From the creation of the masterplan, I made several big decisions that gave a start of the project:

- Target group - the Expat Family
- Tite plot- number 13
- Understandings about the needs of the area and the needs of the target group





TARGET GROUP

Afterwards, I continued the project by analyzing the target group that I chose, and what the city is for them. I did this in two main ways: literature research and communication with the target group. There is not a lot of literature about the expat families in the Netherlands, but literature about the family in the city and the gentrification process helped me to get into the problems that families face when living in the city and why they avoid the city as a place to raise a child. The next step was to talk to the expats living in the Netherlands and create a questionnaire which I spread in groups in social media, so that I can fill the gaps of the literature research. The questionnaire was filled by 99 people and provoked many discussions and comments under my posts as people were sharing their stories about coming to the Netherlands and living here as an expat.

It is interesting to see that as my design was elaborated, it became a family building for all. Therefore, the design is suitable not only for the expat family but for the Dutch family as well. So, I could say that the research about the expat family is used as a catalyst of understanding the needs of the families

in the Dutch city and more specifically the city of Rotterdam.

The most important outcomes of this part of the research were:

- The inspiration coming from the target group (interviews)
- The outcome of the questionnaire which was starting point of the concept design
- Understanding the gentrification process and what problems do the families face

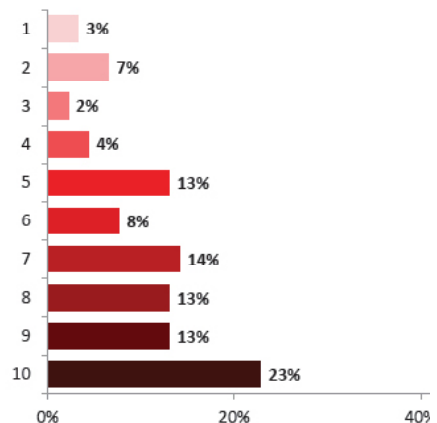


Fig. 1 Stress related to finding proper housing

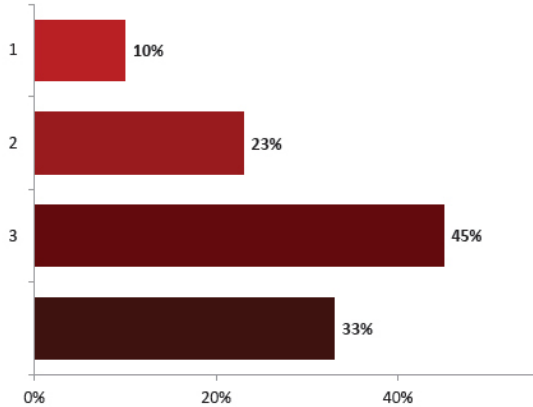


Fig. 2 Responses to the question "How many bedrooms do you need?"

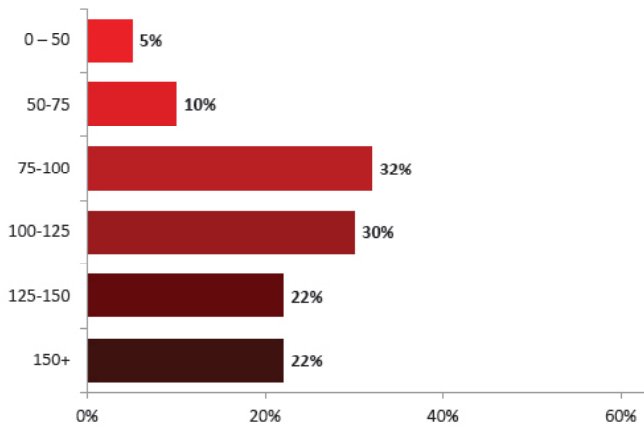


Fig. 3 Responses to the question "How many square meters do you need?"

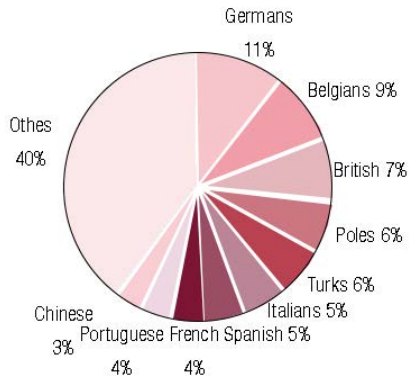


Fig. 4 Nationalities of expats (Blecker, 2019)

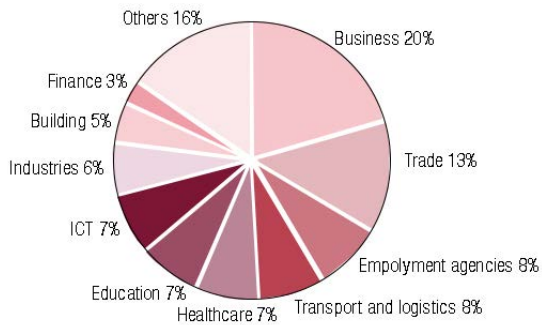


Fig. 5 Expats and work sector (Blecker, 2019)

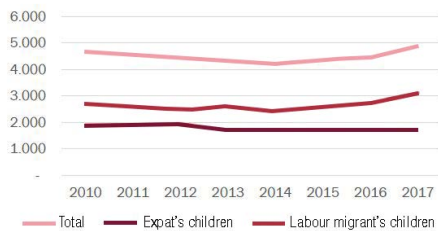


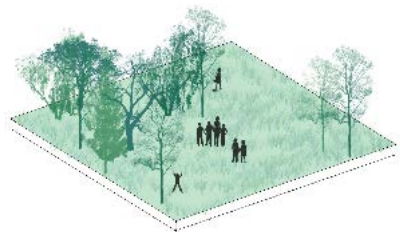
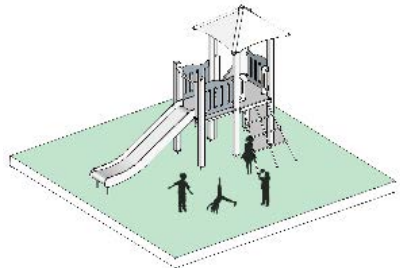
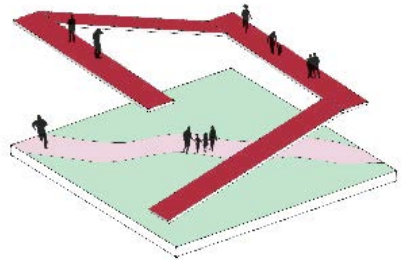
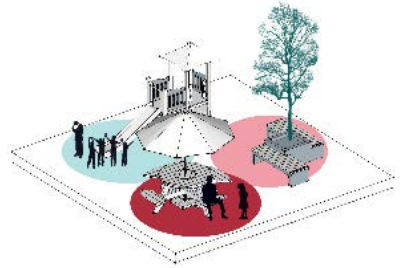
Fig. 6 International children in the region of Rotterdam (Blecker, 2019)

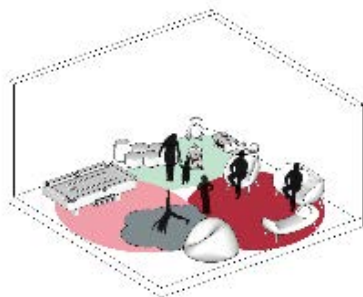
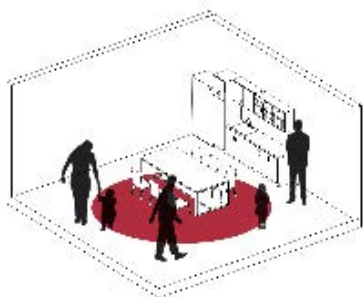
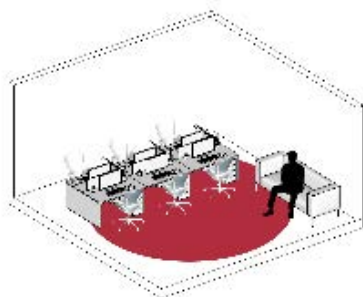
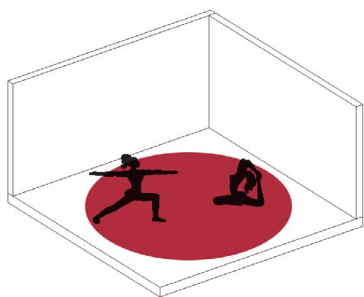
LITERATURE RESEARCH

The literature research was performed during the whole process of design. It started with the investigation of the city of Rotterdam, the target group, case studies of how to design for collective living, and continued with investigations of building techniques, detailing etc. Literature research is what helped me to make decisions during the process and to inspire me to learn new things. I would say that literature research is the main tool that I used during the process and the one that I learned many things from.

During each step of the design process, the literature research informed the design in a different ways:

- Statistics about the target group, Rotterdam and the Netherlands
- It gave examples of different case studies about collective living, which helped me to create a tool box to use during the process of design
- The problems of the target group
- Building regulations
- Building techniques (ex. CLT Handbook)
- tool box for collective living (represented in the diagrams)





CASE STUDIES

Design analysis

Before starting to design, I made in depth analysis of four different projects. I have chosen the projects based on the target group and the similarities in between the buildings. During the analysis, I looked into the grid size, routing, function, layout, private and public space etc. It was a helpful way to get into the design of a residential building and a dwelling design.

During the process, I needed more reference projects therefore I continued to search and look at residential projects and especially the dwelling layouts,

materialisation of facade, openings of the facade, shading systems etc.

Learning from other projects is one of the most helpful and useful ways to support your design and design decisions. There are so many designs available to learn from both their mistakes and successes.



Babel by Laurens Bootd Architects



Fenix by mei architects



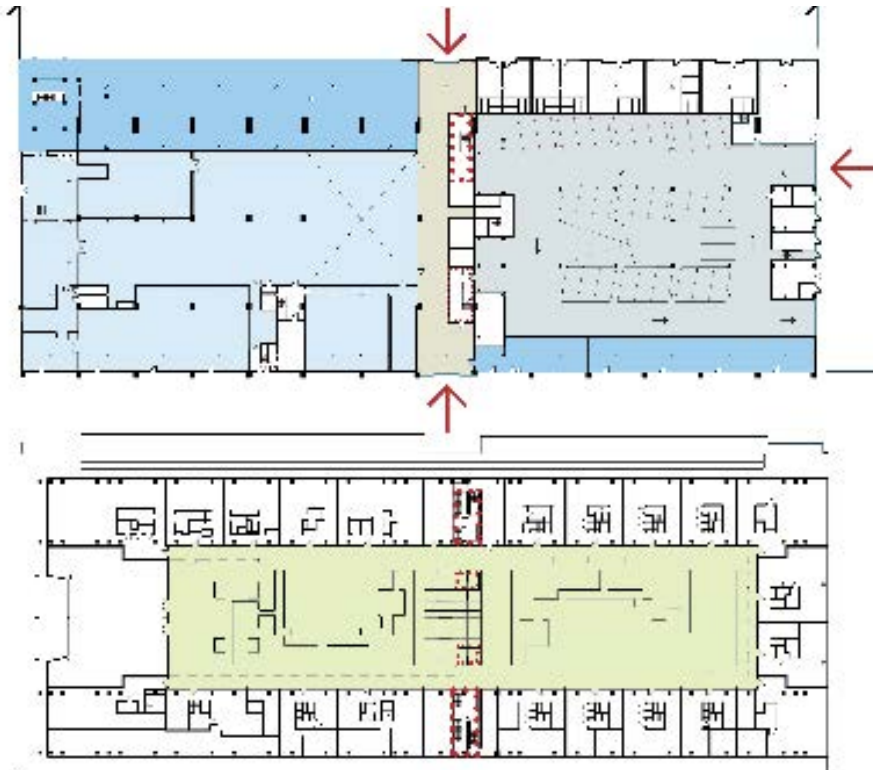
Querbeet by Synn architecten



Republica by Marc Koehler Architects

The most important things that I took from the reference projects and case studies:

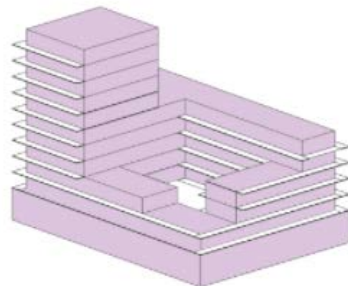
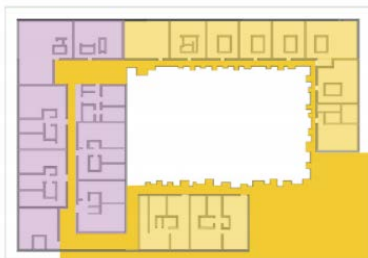
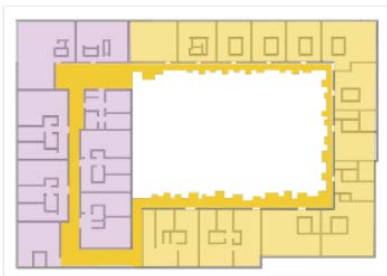
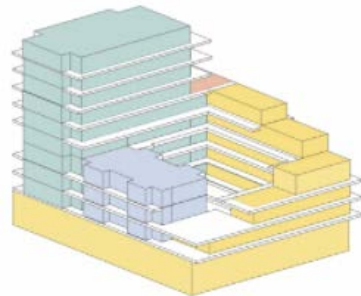
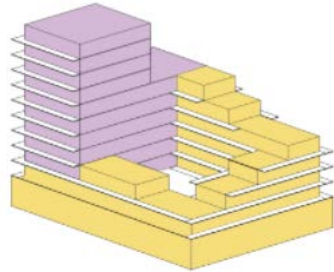
- Inspiration
- Grid sizes
- Routing (escape routes, access to dwellings)
- Dwelling size and orientation (rooms layout and positions)



TYOLOGY TRANSFER

Quick start assignment

The first starting point of design was the quick start assignment where the task was to use the case studies or a mix of them and to put them on the site that we have. It was an interesting assignment that provokes you to think about how the building will be orientated and what can be the size and proportion of the building. In my case the buildings were too big to be placed on my plot.

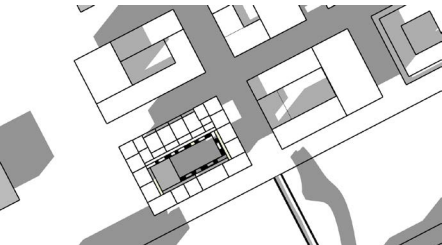


SUN ANALYSIS

The sun analysis was one of the most effective ways that helped me to choose the building volumes. The idea was that the courtyard have a maximum sunlight during the day, which will also result in a sunlit facade and more daylight during the winter days. As the courtyard and the roof gardens have more sunlight it is more likely that they are used more actively.

Decisions which are result of the performed analysis:

-Volume and size of the building

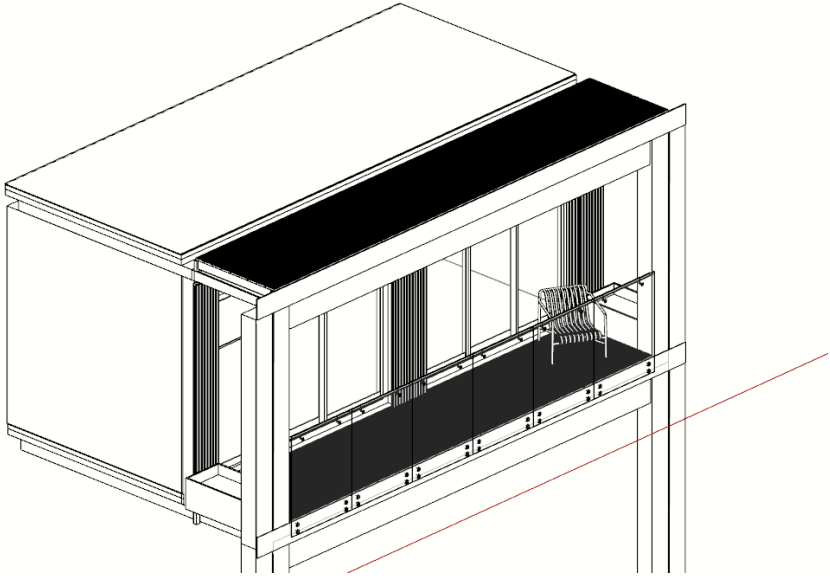


3D MODEL ANALYSIS

The 3D model was continually updated during the process because it gave the perfect overview of the project and the ideas that I had. Through the model I was able to analyze and to see how to improve. It was used for evaluating the size of the space in the courtyard, the gallery system and the dwelling sizes. For me it was much easier when I can recreate the atmosphere, only then I know what needs to be changed and added so that the building becomes better in terms of the human size. I used the model on different scales: on urban scale, I was able to analyze how the building communicates with the surroundings, on building scale, I was

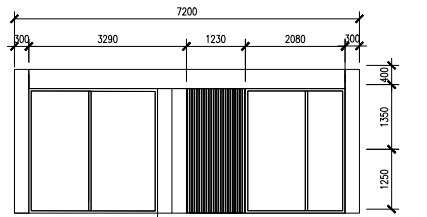
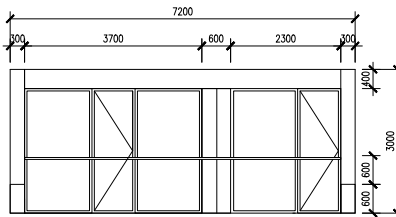
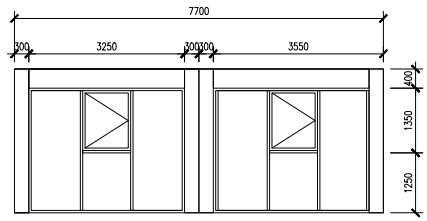
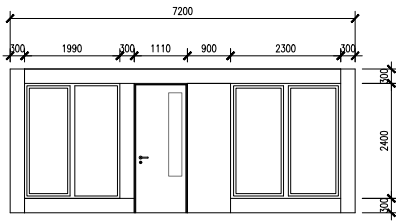
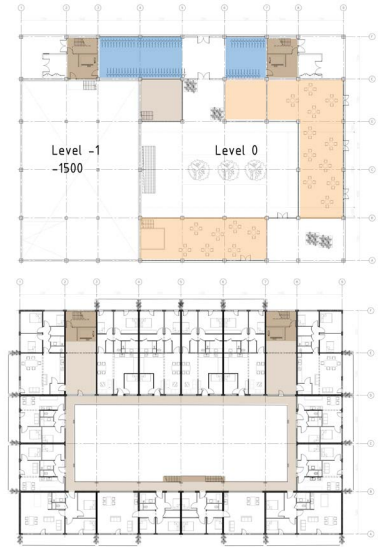
able to analyze the routing, the facade composition and materialization, and on dwelling size, I analyzed if the dwelling design was functioning well. I made also smaller 3d models of the fragments of the facade which helped me to think about construction principles and ideas. The 3D model also gave me the possibility to show the atmosphere that I want to create.

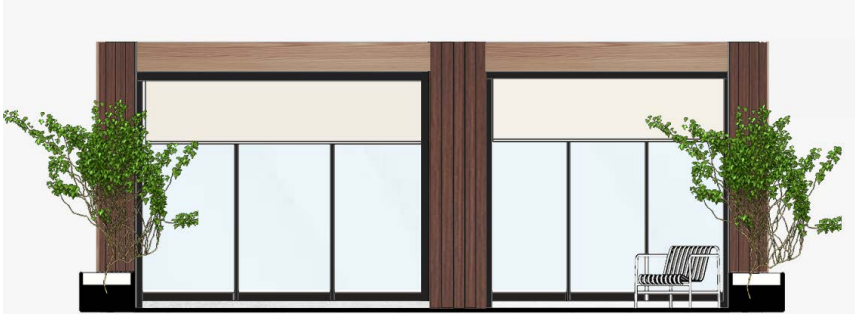




DRAWING ANALYSIS

The drawing analysis or also 2D testing were in different stages during the process of design. As part of the process, I was sketching some of the things on paper and after that I translated them into a computer drawing. The 2D drawings were becoming more and more precise as the project was progressing. I used 2D drawings to test materials on the facade, to compare floorplans and to make decisions based on functionality and ideas.





CONCLUSION

Overall, as we can see, the process of research and design can take any forms and tools. The different stages of the design process also require different tools to be used to support it. I believe that during the process of my graduation project, I have based most of my decisions on scientific research or design research, meanwhile using my previous experience. I think that the way that I linked research and design during the academic year, I will also use and translate into my future career.

DISCUSSION

The relationship between your graduation (project) topic, the studio topic (if applicable), your master track (A,U,BT,LA,MBE), and your master programme (MSc AUBS)

There is a strong relation between the topic of the studio “Advanced housing design”, the master track Architecture and the master programme MSc AUBS. The residential design is one of the most important aspects in our everyday life even though we didn’t realize it before the pandemic. Now that we need to spend most of our time inside as we work and live at the same place, we realize how important the dwelling design is. Moreover, the Netherlands faces the challenge of creating 1 million affordable housing by 2030, which also increases the importance of the topic “housing design” in the field of Architecture.

Elaboration on research method and approach chosen by the student in relation to the graduation studio methodical line of inquiry, reflecting thereby upon the scientific relevance of the work.

As already described, the process of design required different aspects of research - literature, questionnaire and

interviews, analytical approach of case studies, analysis of design decisions etc. Each of the steps during the process required a different tool. For example the design decisions were supported mostly by 3D models and drawing techniques while the starting points and the research about the target group were supported by questionnaire, interviews and literature research.

The research methods mentioned were in line of the structure of the studio and the step by step guidance towards the final result. The assignments such as Collectivity analysis or Quick start assignment, helped us to get into the design decisions faster.

Elaboration on the relationship between the graduation project and the wider social, professional and scientific framework, touching upon the transferability of the project results.

I believe that the results of the research and the design outcome will contribute to the better understanding of the Expat communities in the Netherlands and what families need so that they can choose the city instead of the countryside as a place to raise a child. Providing adequate housing for the families in the city will help the

gentrification process and will attract more families back in the city. The idea behind the project is to fill in the gaps in literature by giving more insights of what expat families need and to present a working solution that can be built fast and will respond to the families needs in the city. I think that the research done during the process can be used also by other students or researchers who are interested in the topic.

Discuss the ethical issues and dilemmas you may have encountered in (i) doing the research, (ii, if applicable) elaborating the design and (iii) potential applications of the results in practice.

The only part of the research which might have some ethical issues and dilemmas is the performed questionnaire and interviews research among expats. Therefore, in the research itself I have discussed the validity of the results and the assumptions of the questionnaire were treated with caution. During the interviews, I have informed the people how the results are going to be used and why I am doing the interviews. Moreover, the people who were interviewed were volunteers to take part in my research. The questionnaire was filled by 99 people and there was no

need for them to fill in email, names or other personal information. Therefore, their anonymity was guaranteed.