P4 REFLECTION PAPER

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This project is focused around the transformation of the Bruggebouw-Oost office building in The Hague exploring the opportunities that the existing building stock can give for current day problems. In this case to maximize the effectiveness of our stock by maximizing the use through the combination of program and technical solutions. So the project is two sided, the upgrading and transformation of an existing, inner city building, and the exploration of new programs and combinations resulting in less waste of space and maximal use of square meters so that less is needed. This by balancing dilemmas these programs give with the technical solutions needed to transform an inner-city office building from the 90's towards a building that is future resilient.

Relationship between graduation topic, studio topic, master track and master program

The track of Architecture does not see many transformation projects. This is a missed opportunity seen on an ethic level and seen the governmental circularity goals. There is a lot to get within the existing stock. Upgrading it to the full potential, something the existing stock mostly not reach.

The studio 'Second Life' especially focusses on the 'not so desirable buildings' of the existing stock. The value for this kind of buildings is poor and most of the time they will not last long. This is a waste in form of material waste and energy consumption. Focusing on this upgrading with questionable projects 'Second Life' distinguishes itself within the master AUBS.

Transforming existing buildings demand technological interventions to reinstate the value of these buildings. This relation between engineering, the focus of the studio, and the transformation of the existing fills each other to expand the possibilities within our built environment with the notion of combining important present day values of sustainability, circularity and culture.

Relationship between research and design

In the Architectural Engineering studio, the student needs to choose a fascination and place it within the framework given by the studio, composted out of; flow, make and stock. This decision will result in the student being divided into a specific track suitable for his project. In contrast to other studio's AE has a 'clear' division between research and design in the form of the research paper. This paper is focused around the fascination and needs to provide a understanding to topics not so specific to architecture.

In this case the relation between program and time resulting in the research question **How to design an active adaptive building within an existing structure by maximizing the efficiency of space?** This main question was built around the fascination to reevaluate the current effectiveness of our built environment. This fascination came forth out of fascination of the building, a building built over a highway with minimal ground floor space is something that will happen in the future where space, as a resource will become more and more scarce.

The 'extra' within this research was the adding of time, and not only functions. By analyzing time together with use, a better understanding of the relation between functions could be formed which can be applied to a program that will result in more space being used at multiple times. The research was cut into three specific sections: defining multifunctional concepts for maximizing the efficiency of space, next the program being a representation of the context and third the rules and design guidelines for adaptable architecture. The purpose of the paper is to provide guidelines that start off the preliminary design. The problem with the relation between research and design has to do with the field we work in. It is the notion that architecture is not an exact science and therefore research is not one to one or at once applicable into the design.

This is mostly shown in the implementation of the research paper into the preliminary design which happened just before the P2. For me Architectural Engineering had a 'hard separation' between research and design. The eventual goal of the research paper was never clear and therefore the position wasn't. The paper stopped when the due date was present. That caused confusion in the position of the paper. Because direct implementation initially did not give a suitable result, the result of the research conclusion was not directly visible and the preliminary design was not sufficient. There was no focus or hierarchy. This was also visible in the feedback given by the mentors which were mostly about what I want and why I did research. To strive a design that fitted 'everything', it became nothing.

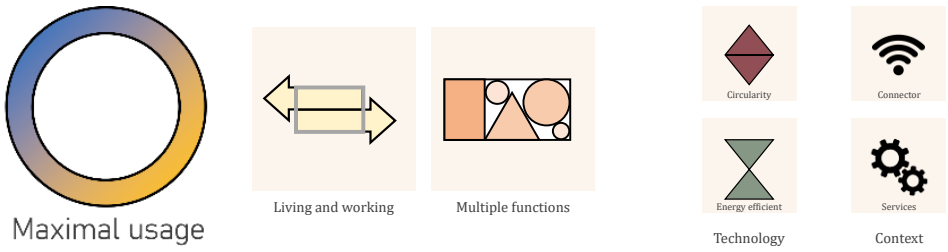


Figure 1 Focus after P2

A focus (eventually being as shown in figure 1) was sought, which was ultimately found in the combination of living and working since these two functions have such a relation in time where it is possible to make use of overlapping spaces. This became the focus of the

program. Only at the end did it emerge that the process had quite a logical sequence. The relationship between research and design lays in the value of conclusions and how they were dealt with. The lack of focus and the broadness of the research report caused a frenzy in the project where no realistic design emerged. The project was plagued by lack of focus and hierarchy. After the P2, the structure around the target had to be looked back on. The shift in focus changed the outcome of the project and the way the project is worked on. By shifting to the relation between the two biggest and overlapping functions the main design focus was based around this specific part of the building, where the other parts became more supporting to these. Eventually I can conclude that, for me, the relationship between research and design is not merely implementing research into design but a whole lot more. This in the form of a implementation plan answering how to implement this and what is essential. Most questions can be answered with hierarchy and that was the main difficulty with this design brief.

Research method and relevance

The studio of Architectural Engineering and Second Life have a very independent nature. In the studio Second Life there was not really a mode of inquiry other than searching for your fascination, analyzing and speaking to stakeholders and then individual research. The studio provided a framework to position yourself in order to provide the best guidance. Next to that there where specific buildings and contexts given. The positive side to this is that there is total freedom. For me the negative side was this total freedom. This meant that a lot of time was given to the process and the research methods itself instead of doing research. The importance of the research and research framework, described in the previous chapter is therefore of upmost importance and in this case not well addressed.

The individual research began in a wide scope, as usual, more based on the extreme with extreme consequences. By analyzing the project location on use with time, a good understanding of the workings of the city could be formed. This way of analyzing resulted in a understanding of the relation between function and the way people, in essence, moved between those functions. This initially said nothing about the overlapping qualities of these functions, which came by analyzing the function specifically. The creation of multifunctional buildings with an active plinth and the top floors filled with dwellings was, in this case, not enough. By integrating more and more functions in such a way that they use the same facilities, circulation and in-between zones, those square meters can be subtracted out of the needed space per function. This wide scope eventually resulted in an extreme preliminary design and when it reached the floorplan all this hard ‘use data’, taken out of excel-based numbers (figure 2), had to become alive.

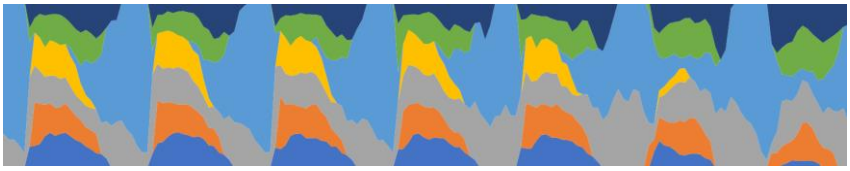
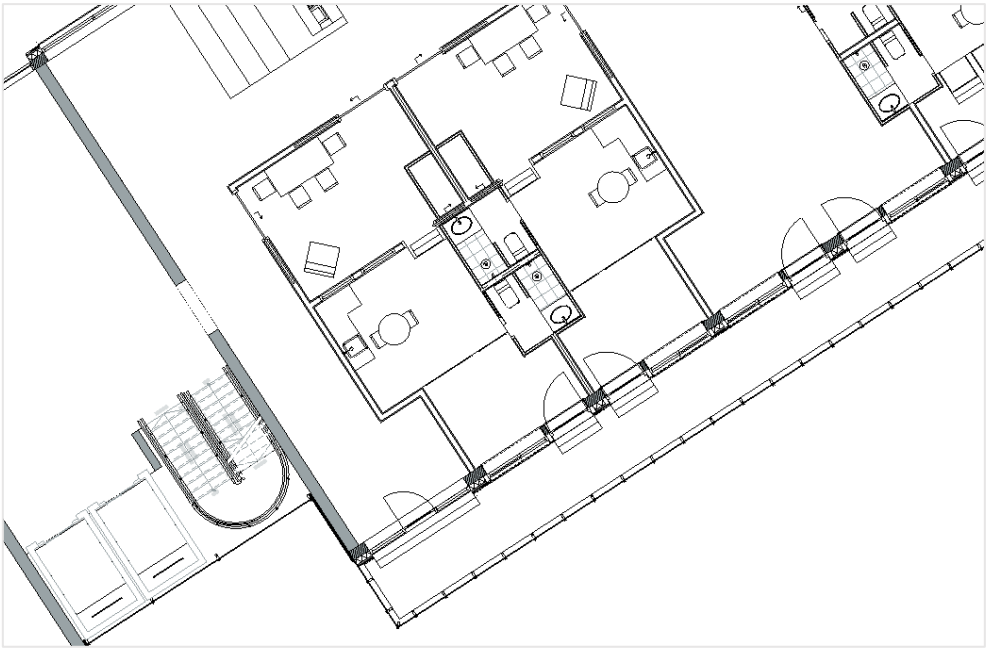


Figure 2 Excel based numbers about use.

Issues and dilemmas

Dilemmas within this specific project had mostly to do with adaptability. Researching adaptability was nothing and everything. Adaptability could be seen as easy to adapt in form or easy to remove, like a wall. Or about multifunctionally where one thing can be more. In the process I was torn between the design of something that could be everything, big open box. Or specific spaces that maybe declined the adaptability especially on a circular level.



The combination of two worlds, in this case living and working, has all kind of dilemma's attached to it. One main difficulty was the level of privacy. Dwellings need another kind of privacy next to office. Because of the physical connection between the two, this level of privacy needed to be solved inside one floorplan, this was possible by dividing the circulation but this still resulted in less privacy in the dwellings. This, in combination with demand out of the context resulted in the adding of the second façade structure. By lowering this enough for the sightlines that do not reach the inside of the dwelling, but not harming the sun entrance a good combination between privacy, sun entrance, sound barrier and circulation could be created.

Relationship through the scales

Exploring new effective uses of our built environment is a present day question for the need to cope with rising housing demands. Connecting and creating these multifunctional buildings that work like ' cities within a city' also needs to take on the introverts of the western civilization creating a more harmonious nation. The relevance in this research lies in the urge of the problems surrounding it. There is a huge demand, a huge waste of valuable space and a big part of the building stock that is not ready for the future. It is problematic to tear all these buildings down to use the site. It is especially difficult to say this in light of new regulation that urges on the circular economy and energy neutrality of the existing stock. To explore the ways to reduce waste of space and thereby waste of energy would be a big solution for city centers that need to expand. That is, only, if the hypothesis of energy reduction of certain function combinations is true and it values against the problems that arise out if these implementations.

This project was an exploration of possible new programmatic solutions that could help our new way of living and maximizing our effectiveness of the built environment. And while this is maybe not the best solution, but with all the co-housing, lease structures this way of interaction between different functions and spaces is inevitable of the space that we poses.

This way of program determination was in this case maybe too ambitious but did provide insight in the relation between different functions. Eventually, as in every project, the relation between Second Life and Architectural Engineering resulted in the final design, where the implementation of the research within an existing building effected the result greatly. And eventually I saw this a transformational project about the Bruggebouw-Oost.