Assignment introduction
The Rotterdam Harbour Heritage graduation studio of Heritage and Architecture deals with the redesign of existing buildings and structures in the former city harbours of Rotterdam. In particular this assignment focusses on vacant industrial heritage buildings and their relationship with the water. In the past decades many harbour activities moved away from the city harbours to the newly constructed Maasvlakte area. The reason for this shifting lies in the development of the way products are transported by ship. Ships are increasing in size, and goods are being shipped in large containers. The relatively small city harbours entailed in this assignment are no longer usable for harbour activities, leaving many buildings empty.

A part of making a redesign for an existing building is researching it. For existing buildings the social-, cultural- and historical context are of great importance. These aspects are represented in a research report, together with an architectural- and building technology analysis. From this research report starting points for the design can be formulated. The research serves as a backbone for the designer when making the design.

Besides this investigation on the building and its context, it is important to take a personal position towards the existing structure. This position will guide the designer through the process, and it gives direction to the design solution for the building.

Theme and Subject
The assignment of this graduation studio, as explained above, deals with redeveloping industrial harbour heritage. The subject for the studio are the former city harbours in Rotterdam, and in my case it is the Merwe-Vierhaven area. Within this area a re-design is made for the Katoenvleem, a former cotton warehouse.

This warehouse is just one example out of many vacant industrial buildings that are waiting to be transformed. Redeveloping existing buildings is becoming a more and more important assignment in the field of architecture. This is one of the reasons I chose this graduation studio. Also, an existing building already has a story to it, sometimes of more than a hundred years. I find it very interesting and challenging that the existing gives tangible and intangible values to the design assignment, in a different way than in a ‘regular’ design project. These values act as a backbone for the architect.

Research and Design
The Heritage and Architecture has a distinct methodical line of approach. Within this line of approach the role of research and design, and the relationship between the two, is rather specific. The two main methods used are research by design and design by research. Although these seem to be almost similar, they do differ strongly. Both use research and design, but the way in which the supports the other is different. In research by design, the objective or goal is to do research, but the method for this is designing. Through designing one researches and explores certain aspects of a topic. In design by research, the focus is on researching, resulting in a design. Ways of researching can vary from literature research to conducting surveys, and everything in between.
Besides these methods, the methodical line of approach is characterized by taking in a position and formulating a problem, question and, in the end, solution. These are evident throughout the entire project, and throughout every scale level. It starts with taking a position towards Heritage in general, but is narrowed down to a position regarding how to deal with (parts of) your own project. Similarly, a problem, question and solution can be formulated for various parts of the design. Again, it starts with a general problem and question for the design assignment. During the process of researching and designing many more questions will be posed. Basically, this graduation studio is all about asking questions that arise from a problem and trying to answer them.

The approach of this studio is an approach that is used in more design studios at the TU Delft. Therefore I am familiar with these methods. Yet, the relationship between research by design and design by research is not by definition a linear process. Both are alternated throughout the entire design process. Personally it is more of an intuitive process.

**Personal approach**

In my graduation project, and in more of my design assignments, I always try to implement both research by design and design by research. In general I tried to follow the methodical line of approach of this studio. The first part of the studio consisted mainly of doing research on the Katoenveem. For a great part this is researching literature and available material that deals with the particular building, in order to understand and clarify the design. Important in this research is to pose questions for every aspect that is researched. What exactly do you want to know? This is something that I found somewhat difficult. I tend to start researching without exactly knowing what I am looking for beforehand. The objective of the research is therefore partly lost. Next time I would try to state clear questions before starting the research. However, in the end I think I got a pretty clear image of the existing Katoenveem.

One of the most important elements of the method was taking a position regarding heritage and regarding the building. Looking back on my personal design process, and the method I used, I think I did not clearly state my position early on in the process. At a certain point I started designing, without exactly knowing my position. As a result, I unknowingly used designing as a tool for finding out my position regarding the Katoenveem. It turned out to be that I valued the existing building very highly, and that I wanted to conserve it as much as possible. If I had known this earlier on in the process, designing would have been a lot easier. From the moment I had clearly stated my position, my design improved considerably. The position forms a basis for the re-design. During the design process my position changed little by little. In my eyes there is a certain reciprocity between the design and the position. It turned out that I got stuck when holding on to my initial design position. This made me change it a little over time.

At the same time, the research results in a problem statement and a main design question.

The problem for this assignment can be stated as redesigning a building that:

- is located in a former city harbour in Rotterdam
- is almost a hundred years old
- is a national monument
- was specially designed for one specific function
- has many unique and characteristic elements, defining the building

From this the following design question was stated:

‘How can a hundred year old industrial heritage building, designed for one very specific function, be redeveloped and re-designed into a new function, while preserving its characteristic elements?’
This of course is a very generic question, but it helps to guide the design process. It contains the most important aspects of the assignment, which helped me as a designer with the start of the project. During the design I can always refer to either my position or my design question when I need to make a certain decision.

In the end I think my approach has worked adequately. However, doing a transformation project was rather new to me. Therefore defining a position towards the existing building was difficult for me and this resulted in some delay in the design process. After changing my position slightly, designing started to improve.