

# Personal reflection

Personal information	
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Studio	
Name / Theme	Architectural engineering
Main mentor	Main mentor Anne Snijders Architecture
Second mentor	Second mentor Gilbert Koskamp Architecture/Building

At the beginning of my graduation project, my inspiration stemmed from a profound interest in creating transformable structures able to adapt to changing societal needs, coupled with a fascination for the potential of parametric approach for designing. Additionally, my design question focused on tackling the transformation of an existing industrial building by utilising mass timber construction. These themes resonated with my aspiration to contribute meaningfully to the built environment by addressing relevant issues such as urbanization and the carbon footprint of the built environment, while embracing technological advancements in both the approach (parametric design) and materiality (engineered wood products).

At P1, I had anticipated incorporating case studies into my methodology. However, the diverse array of topics that captured my interest, coupled with the inconsistency in definitions and systematizations across various sources exploring adaptability, as well as the technical complexity of timber construction research, prompted me to streamline my approach and prioritize literature synthesis and review as a sole method for my research.

Initially, I anticipated that my literature review would provide clear insights into utilizing parametric design for the transformation of industrial warehouses into adaptable student housing. However, the scholarly exploration of applying parametric design from an architectural standpoint proved to be limited in existing literature. Furthermore, my proficiency in Grasshopper, a parametric design tool, was constrained, and my grasp of its potential applications was incomplete. Consequently, my research focused on investigating design facilitators for adaptability, demountability, and the characteristics of timber construction. I synthesized diverse sources with varying definitions and conclusions, aligning them with my design goals and ambitions.

Although my comprehensive research provided an overview of the fundamental principles of adaptability that I later integrated into my design, the guidance regarding timber construction was less definitive. I examined various 1D, 2D, and 3D systems, along with engineered timber materials (LVL, CLT, GLM), with the hope of determining the most suitable system and material for my design. However, the argumentation remained somewhat generic, and without commencing the design phase, I was unable to predict

which parameters and conditions for specific timber construction elements would be relevant. For example, despite concluding that 1d systems and most fitting for my goals and 3D modular construction was less conducive to enabling adaptability, my final design utilizes a system that also based on 3D modules (as well as 2d timber frame structure and 1d post and beam ) as it revealed to most fitting to the goals I have set.

Initially, my research led me to anticipate using Grasshopper for structural adjustments. However, during the design process, I became intrigued by its potential for parametric mass studies based on sun and weather data. While this divergence from my initial expectations presented a learning curve, it introduced me to a new mode of design that I had not previously explored. Although mastering Grasshopper was a significant goal, I found myself reverting to more traditional design methods around phase four of the project. This shift was particularly crucial given my ambition to create an expandable timber structure with modifiable floor plans, a novel approach that required extensive time and effort to conceptualize.

It is imperative to acknowledge that my design approach deviated from traditional norms and consequently did not yield a conventional design project. Instead, it challenges contemporary design methodologies and our assumptions regarding the longevity and adaptability of architectural interventions. Moreover, it underscores the subjectivity inherent in the designer's decision-making process while embracing new avenues for design facilitated by computer technology and data-driven methodologies.

From a standpoint of transferability, while unconventional, my approach holds relevance for various analogous contexts within the Netherlands and beyond. Its adaptability to similar scenarios underscores its potential applicability in addressing recurrent challenges within the built environment.

In conclusion, this project not only sparked my interest in academic research but also provided a platform for me to apply my ambitions and innovative nature in shaping new architectural paradigm. This project not only helped me better understand myself as an architect, but it has reinforced my aspirations for learning new technologies and embracing challenges as integral components of my professional growth.