

Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



Personal information	
Name	Daniël van Eijnatten
Student number	5055628

Studio		
Name / Theme	Architectural Engineering	
Main mentor	Thomas Offermans	Ir.
Second mentor	Paddy Tomesen	Ir.
Argumentation of choice of the studio	A more practical approach to architecture, combined with the freedom to explore and design according to personal interests.	

Graduation project	
Title of the graduation project	An Open framework for transformation
Goal	
Location:	Zaandam, Artillerieweg 27,
The posed problem,	Rigid, standardized housing fails to adapt, causing frequent demolition and excessive waste.
research questions and	Which Open Building strategies from existing case studies have been successfully applied and provide a solid foundation for architectural design based on the principles of Open Building?"
design assignment in which these result.	Transform an abandoned warehouse on the Hembrug site into a flexible, mixed-use development using Open Building strategies.
<p>Contemporary housing often relies on mass-standardized, "one-size-fits-all" solutions that fail to accommodate the dynamic needs of a changing society. Such rigidity restricts opportunities for user-driven customization, leads to frequent demolitions which generates excessive construction waste. To address these issues, this graduation project investigates which Open Building strategies from existing case studies have been successfully applied and can serve as a foundation for adaptable architectural design.</p> <p>The design assignment focuses on transforming an abandoned warehouse on the Hembrug site, a dynamic setting that underlines the need for future adaptability, into a mixed-use complex by using Open Building strategies. In adopting these Open Building strategies, the proposal seeks to counteract the shortcomings of mass-standardization, offering a model for sustainable development that balances individual user needs with collective goals.</p>	

Process

Method description

Literature Review

Identify fundamental Open Building principles from Habraken's Supports, Kendall and Teicher's Residential Open Building, and OpenBuilding.co, refining them into practical design criteria.

Case Study Analysis

Evaluate selected projects against these criteria. Use findings to refine the conceptual framework.

Site Investigation

Examine the Hembrug warehouse context, its structure, surroundings, and heritage to inform and ground the transformation proposal.

Design Development

Apply Open Building strategies, emphasizing an adaptable structural frameworks.

Scenario Testing

Produce multiple layout options to ensure future adaptability, exploring how spaces can evolve in response to changing needs.

Literature and general practical preference

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9. Frantzen, T., van Eijken, K., & Reinders, L. (2016). Patch22 duurzaamheidsplan: Buiksloterham project. Frantzen et al. architecten. Retrieved from <https://www.frantzen.nl>
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19. Patch22. (2017). Do it yourself. Retrieved December 27, 2024, from <https://patch22.nl/do-it-yourself/>
20. Priemus, H. (1987). Economic and demographic stagnation, housing and housing policy: The case of the Netherlands (1974–1984). Housing Studies, 2(1), 17–27.

21. Rijksoverheid. (2012). Bouwbesluit 2012. Retrieved from <https://wetten.overheid.nl/BWBR0030461>
22. Sasakura, H. (2005). Variable infill system rearrangement experiment for Residence 405 at Osaka Gas experimental housing NEXT21. Proceedings of the 2005 World Sustainable Building Conference (SB05Tokyo), September 27–29, 2005.
23. Superlofts. (n.d.). Joeny – Super Living. Retrieved January 3, 2025, from <https://superlofts.co/super-living/joeny/>
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Reflection

1. What is the relation between your graduation (project) topic, the studio topic (if applicable), your master track (Architecture), and your master programme (MSc AUBS)?

The project directly connects to Architectural Engineering by investigating how Open Building strategies can be systematically applied. It demonstrates the holistic integration of design theory, technical systems, and real-world constraints.

2. What is the relevance of your graduation work in the larger social, professional and scientific framework.

By showing how adaptable structures can reduce waste and meet evolving user needs, this project offers a model for sustainable redevelopment. It advances professional practice by providing replicable strategies for transforming existing buildings, and contributes scientifically by refining Open Building principles, offering new insights into adaptable, user-centric design.