

Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences

20 November, 2015



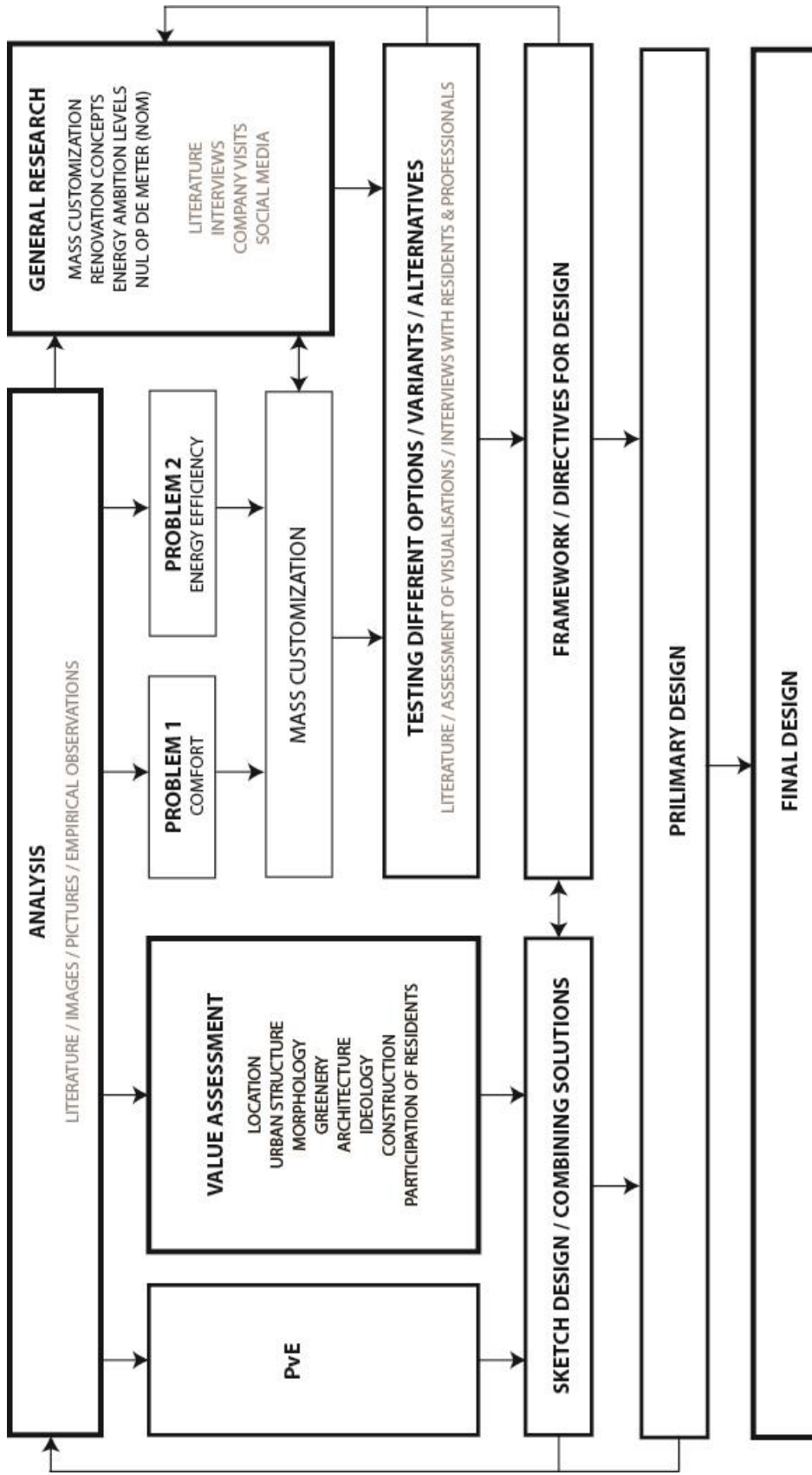
Personal information	
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Studio	
Name / Theme	Heritage & Architecture / Housing Heritage Amsterdam
Teachers	Lidwine Spoormans (1st mentor Architectural Design) Wido Quist (2nd mentor Building Technology Design) Eric van den Ham (3rd mentor 'Technology in Sustainable Development' (TiSD))
Argumentation of choice of the studio	In the coming years, a lot of Dutch houses have to be renovated in order to meet the new requirements in the field of sustainability. However, each of these houses has cultural historical and architectural values and is unique because of the residents who have lived in these houses for certain years. In order to renovate these dwellings to the state of art, all architectural and cultural historic values must be interpreted and translated to a renovation concept in which technology and engineering is integrated in a design based on the cultural historic values. This relationship and tension between design, technology and heritage is for me the main reason for my choice of this studio.

Graduation Project	
Title	Mass customization as a tool for a design for the renovation of the Nemavo-Airey dwellings in Amsterdam West

Goal	
Location	Burgemeester de Vlugtlaan, Amsterdam
The posed problem	The two main problems of the Nemavo-Airey dwellings are comfort and energy consumption. First of all, the Nemavo-Airey dwellings are not well insulated, resulting in a high energy consumption, noise pollution and draught. In order to make these dwellings livable for the coming years and to meet national agreements (for example the Energy Agreement which has the aim that rented social housing must have a B-label on average in 2020), a renovation or transformation is needed, concerning the cultural historical values and the financial aspects.
Research question	<p>How can mass customization as a tool be used during the design process of an energy friendly renovation for the Nemavo-Airey dwellings in Amsterdam West in order to increase its energy efficiency as well as architectural quality?</p> <ul style="list-style-type: none"> - What is mass customization? - What is an energy friendly renovation? - What are the architectural qualities and cultural values of the Nemavo-Airey dwellings? - What are the main problems of the dwelling in regard to comfort? - What will be the impact of using mass customization on the end result of the design of the renovation and what influence does this have on the urban environment of Amsterdam West?
Design assignment	<p>How can mass customization as a tool be integrated in the design process for the energy friendly renovation for the Nemavo-Airey dwellings in Amsterdam West in order to improve comfort and increase the qualities and values?</p> <ul style="list-style-type: none"> - What is the ambition level of the renovation in relation to sustainability aspects as energy consumption, embodied energy and circularity? - To what extent does the architect have to design the general renovation based on the architectural and cultural historical values and to what extent should the residents and client have influence in the design process by choices they can make with a mass customization tool. - How to translate the different preferences of the residents to design options? - What is the influence of the choices of the client or residents for the result of the renovation and the influence on the urban environment of Amsterdam West?

Process Method description



Literature and general practical preferences

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- 4 Blom, A., Jansen, B., and Van der Heiden, M., 'De Typologie Van De Vroeg-Na-Oorlogse Woonwijken', (2004).
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- 14 Haytink, T.G., Geurts, B.J.H., and Valk, H. J. J., 'Onderzoek Energiezuinige Renovatiewoningen Label B/A', (2015).
- 15 ———, 'Onderzoek Zeer Energiezuinige Renovatiewoningen Label a+/Aa++', (2015).
- 16 Hilversum2.Clubs, 'Architect Johannes Fake Berghoef 1903-1994'2013) <http://hilversum2.clubs.nl/nieuws/detail/2137393_architect-johannes-fake-berghoef-1903-1994-aalsmeer-koudekerke> [Accessed 20-10-2015.
- 17 Huurcommissie, 'Huurprijscheck Zelfstandige Woonruimte'2015) <<https://www.huurcommissie.nl/onderwerpen/huurprijs-en-punten/huurprijscheck-en-puntentelling/huurprijscheck-zelfstandige-woonruimte/>> [Accessed 20-10-2015.
- 18 ibuildgreen, 'Woonconfigurator'2015) <<http://ibuildgreen.eu/>> [Accessed 24-10-2015.
- 19 'Isso-Publicatie 82 Deel 1 - Energieprestatiecertificaat', (2006).
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<<http://www.rvo.nl/initiatieven/energiezuiniggebouwd/renovatie-beethovenlaan>>
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Reflection / Relevance

Although many research and studies are already done about the building stock in Amsterdam West, my graduation project can add value to this by the research about the application of mass customization and prefabricated technologies to renovate these building blocks to energy neutral dwellings with more quality for the residents. It might also be interesting to see if this renovation concept and its design for the Nemavo-Airey building can be used for a renovation of other Nemavo-Airey buildings and which aspects of the renovation and design should change for applying it to other building blocks.

Time planning

1.1	<i>Introduction / Reading</i> 01-09-2015: General introduction 03-09-2015: Individual Site visit
1.2	<i>Introduction / Reading / Focus</i> 08-09-2015: Van Eesteren museum, Amsterdam 11-09-2015: Poster presentation (group division with aE) 12-09-2015: Open Monumentendag
1.3	<i>Cultural Historical Research / Analysis / Graduation Plan</i> Discussion with Sara Stroux about cultural value
1.4	<i>Cultural Historical Research / Analyses</i> <i>Literature research / Start Concept report</i>
1.5	<i>Research about focus: mass customization / prefabricated technologies</i> <i>Preparations Midterm Presentation</i> <i>Reflection Graduation Plan</i> 29-09-2015: 09.00 tutoring 29-09-2015: 14.00 lectures by Hooyschuur and Hielkje Zijlstra
1.6	<i>Literature research / Concept report / Analyses</i> <i>Preparations Presentation Research Methods AR3A160</i> 06-10-2015: Midterm presentation
1.7	<i>Literature research / Concept report / Analyses</i> <i>P1 Presentation preparation</i> 12-10-2015 Masterclass: Nederland naar Nul op de Meter - Utrecht 13-10-2015: Tutoring
1.8	<i>Finishing Concept report</i> <i>Research about focus: mass customization / prefabricated technologies</i>

	20-10-2015: P1 Presentation & concept report 21-10-2015: Meeting Mark Spee (Think Building Concepts) - Drunen
1.9	<i>Finishing Report</i> <i>Position Paper</i> 27-10-2015: 09.00 Workshop Programming 27-10-2015: 14.00 Feedback on concept report
1.10	<i>Final report</i> <i>Position Paper</i> 03-11-2015: Deadline Final report
Q2	
2.1	Afwezig i.v.m. Bouwbeurs Sao Paulo (excursion week: vervangende opdracht?)
2.2	Afwezig i.v.m. Bouwbeurs Sao Paulo
2.3	<i>Research & Analyses</i> 24-11-2015: 09.00 Tutoring (from 13.00 at the faculty)
2.4	<i>Research & Analyses</i> 1-12-2015: 09.00 Tutoring
2.5	<i>Position paper</i> <i>Conceptual design: urban draft / masterplan + program of requirements</i> 8-12-2015: 09.00 Tutoring
2.6	<i>Position paper</i> <i>Conceptual design: draft design: plans, sections, elevations 1:200</i> 15-12-2015: 09.00 Tutoring
2.7	<i>Position paper</i> <i>Conceptual design P2</i> 05-01-2015: 09.00 Tutoring
2.8	<i>P2 Presentation preparation</i> 12-01-2015: 09.00 Tutoring
2.9	12-01-2015: 09.00 P2 presentations GO/NO GO (research + analyses + conceptual design + position paper) <ul style="list-style-type: none"> - Design Studio: urban draft / master plan 1:1000 / 1:500 + program / list of requirement + draft design (plans, sections, elevations), 1:200 - Research Studio: urban draft 1:1000 / 1:500 / Programme of requirement + Draft design (plans, crosscuts, facades 1:50) + graduation plan
Q3	
3.1	Specific Plans, facades, cross-cuts, 1:200 / 1:100
3.2	Specific Plans, facades, cross-cuts, 1:200 / 1:100
3.3	Specific Part of the building, plan and cross-cut: 1:50
3.4	General Part of the building, plan and cross-cut: 1:50
3.5	Specific Part of the building, plan and cross-cut: 1:50
3.6	General Part Facade fragment with hor. And vert. cross-cut 1:20
3.7	Specific Facade fragment with hor. And vert. cross-cut 1:20
3.8	General design Details 1:5
3.9	Specific Details 1:5
3.10	Specific Details 1:5
Q4	
4.1	P4 Preparations
4.2	P4 Preparations

4.3	P4 Preparations
4.4	09-05-2015: P4 Presentation go / no-go assessment <ul style="list-style-type: none"> - Theoretic and thematic support of research and design + reflection on architectonic and social relevance - Site 1:5000 / 1:1000 - Plan ground level 1:500 - Plans elevations, sections 1:200 / 1:100 - Part of the building, plan and drawings 1:50 - Facade fragment with hor. And vert cross-cut 1:20 - Details 1:5 - Reflection based on template
4.5	P5 Preparations
4.6	P5 Preparations
4.7	P5 Preparations + model
4.8	P5 Preparations + model
4.9	P5 Preparations + presentation
4.10	20-06-2015: P5 Presentation <ul style="list-style-type: none"> - Theoretic and thematic support of research and design + reflection on architectonic and social relevance - Site 1:5000 / 1:1000 - Plan ground level 1:500 - Plans elevations, sections 1:200 / 1:100 - Part of the building, plan and drawings 1:50 - Facade fragment with hor. And vert cross-cut 1:20 - Details 1:5 - Reflection based on template
4.11	27-06-2015: P5 Presentation