

Graduation Plan

Master of Science Architecture, Urbanism & Building Sciences



Graduation Plan: All tracks

Submit your Graduation Plan to the Board of Examiners (Examencommissie-BK@tudelft.nl), Mentors and Delegate of the Board of Examiners one week before P2 at the latest.

The graduation plan consists of at least the following data/segments:

Personal information	
Name	Chi Liu
Student number	5311438

Studio		
Name / Theme	Heritage & Architecture / Vacant Heritage	
Main mentor	Joana Dos Santos Gonçalves	Architecture
Second mentor	Frank Koopman	Building technology
Third mentor	Wido Quist	Research
Argumentation of choice of the studio	During my bachelor's and the first year of my master's, I was always encountered heritage redesign and gradually fascinated by it. I have also found my interest in materiality since I came to TU Delft. Therefore, Touch & Feel within H&A is the best choice for me.	

Graduation project	
Title of the graduation project	Investigating Politiebureau Groningen Centrum's façade redesign strategy concerning public participation
Goal	
Location:	Politiebureau Groningen Centrum
The posed problem,	<p>1. In the Netherlands, nearly 30% of police buildings are becoming vacant due to an organizational change within the Dutch police in 2013 (Heritage & Architecture, 2021). Some of these buildings are named vacant heritage. They are in good condition, with undiscovered values and may boost more values through a proper redevelopment. Therefore, it is necessary to identify their values and investigate how the vacant heritage can be redeveloped to achieve a sustainable future.</p> <p>2. These years have seen the growing importance of involving public participation in heritage activities</p>

	<p>(Cultural Heritage Agency, 2019). However, there is a lack of attention to involving public participation in the façade redesign. Specifically, locals' opinions, emotions, perceptions, and memories are not sufficiently considered in the current façade redesign approach.</p>
research questions and	<p>Politiebureau Groningen Centrum is one of the chosen vacant heritage to be researched. Its facades were renovated in 1996 for a new perception of the police and present a variety of materials, which are distinctive in the historical residential area of Groningen and have intertwined with locals' life for decades. It is an appropriate case to research:</p> <p>What does Politiebureau Groningen Centrum's facades mean to locals? How can locals participate in its façade redesign?</p> <p>Sub-questions:</p> <ol style="list-style-type: none"> 1. What are the locals' emotions, perceptions, and memories of Politiebureau Groningen Centrum's facades? 2. How can they inspire the façade redesign? 3. What are other inputs for the redevelopment from experts' perspectives? 4. How can multiple perspectives work together to optimize the solution? 5. How can locals participate in the decision-making process?
design assignment in which these result.	<p>Considering the demands of housing, the municipality's goal of boosting diversity, the expectations of the neighbourhood, the proper location and typology of the building, the added value of co-living, and the relevance with the research, mixed housing was chosen as the new program targeting couples, families, and senior citizens. The new building block comprises living units and communal space for its inside</p>

	residents and a public courtyard and public functions for the bigger community. Its outside facades and inside facades will be renovated based on the research. As a result, the design keeps the social-cultural values of the building and brings added values by the new co-living program.
--	--

Process

Method description

The research consists of a case study, participatory design testing, and final result and reflection, which entails a combination of methods.

In order to answer the first sub-question on locals' emotions, perceptions, and memories of the outside facades, cognitive mapping, semi-structured interviews, questionnaires are conducted for data collection, followed by façade mapping and coding as data processing, leading to design starting points accordingly. The method of cognitive mapping is inspired by Kevin Lynch (1964) in his book *The Image of the City* and TU Delft pilot methods of identifying values and attributes in Almere and H-Buurt (Martynas, 2021). By asking locals to draw the building in their minds and describe the drawings, their perceptions and remembrance of specific elements and materials are documented. Four spots in front of each façade are chosen to collect the data, covering sufficient respondents passing in various routines. Subsequently, semi-structured interviews are conducted to inquire about their emotions, perceptions, and memories of the building with the permission of recording. For data processing, their descriptions are first categorized by different psychological domains, revealing associations with the place and social values behind them. Their attachment to the facades is visualized by façade mapping, identifying the values of specific elements and materials. Inspired by Fatmaelzahraa Hussein, John Stephens, and Reena Tiwari (2020) in their recent research in Egypt, coding will be conducted to measure the frequency of the words to identify which attributes (tangible and intangible) are most recognized. In this way, several characteristic elements and materials of the facades attached to the neighbourhood are identified. Subsequently, questionnaires are conducted to investigate more specific perceptions and emotions about the particular properties of the elements and materials. As a result, design starting points are generated from the research, answering the second sub-question on the translation from this research to design.

As the second part of the case study, other inputs for the redesign are investigated to answer the third sub-question. Archival research is done at Groninger Archieven and De Zwarte Hond, the office that renovated the building in 1996. Here, old photos, newspapers, drawings of the renovation project are analyzed to dig out the story of the building and define the used materials and techniques. The method of redrawing the facades was inspired by TU Delft's research *Spatial Building Typology*, through which characters of the facades are studied, such as the composition, rhythm,

texture, ornament (Zijlstra et al., 2021). The initial facades and the renovated ones are overlapped in one drawing, together with a literature study on the primary source, through which a clear story of the renovation was found out. Working on the same original data, a building technology analysis is done to understand the building further in terms of structures, spatial dimensions, and details. Another input is from the mappings and codings of the cityscape cultural-historic values and prospects based on the municipality's documents, including Besluit Aanwijzing (1991), BESCHERMDE STADS- EN DORPSGEZICHTEN (1988), cultuurhistorische verkenning binnenstad Groningen (2013), NIEUWE STADSRUIMTES (Guidelines for inner city's public space) (2017), Omgevingsvisie 'The Next City': de Groningse leefkwaliteit voorop (2018). As a result, design starting points are generated concerning experts' perspectives on the building and its cityscape connections.

In order to answer the last two sub-questions on the design approach, participatory design testing methods are employed. An integrated study on program-choosing is conducted concerning demography, location, typology, and co-living advantages, resulting in a mixed housing program targeting senior citizens, families, and young couples to add to the building. Required by the 'Participatory Appraisal' method, locals are necessary to participate in the decision-making process (Caspersen, 2009). In the façade redesign, there are two phases in need of public participation. First, a questionnaires survey will be conducted to inquire about locals' preference of what kind of timber material to add to the facades. With perspective renderings, design options varying from texture, colour, and form will be asked to the locals. They will rate their preference by 1-5, from strongly unsatisfied to strongly satisfied. After a quantitative study on the data collected, several material options are determined collectively. Second, façade redesign variations departing from different starting points out of the research will be tested by locals using the same method of questionnaires and rating system, together with interviews. After several rounds of optimization and balancing different opinions, the final result will be formulated before a final reflection.

Literature and general practical preference

General references:

Heritage & Architecture. (2021, August). Vacant Heritage Studio Text. TU Delft.
<https://brightspace.tudelft.nl/d2l/le/content/398787/Home>

Martynas, S. (2021). Juxtaposition of notions: Adaptable housing through circular transformation. (Master). TU Delft, Retrieved from
<http://resolver.tudelft.nl/uuid:8716e2a6-e3da-4ca1-93bb-cbb815a58116>

Roggema, R. (2016). Research by Design: Proposition for a Methodological Approach. Urban Science, 1, 2. doi:10.3390/urbansci1010002

Tarrafa Silva, A., & Pereira Roders, A. (2012). Cultural Heritage Management and Heritage (Impact) Assessments.

Veldpaus, L., & Pereira Roders, A. (2014). Learning from a Legacy: Venice to Valletta. Change over Time, 4, 244-263. doi:10.1353/cot.2014.0022

Zijlstra, H., Versluijs, V., Jansen, I., Apti, A. A., Hoogen, C. v. d., Kim, M., . . . Meijers, L. (2021). Spatial Building Typology.

Public participation related references:

Caspersen, O. H. (2009). Public participation in strengthening cultural heritage: The role of landscape character assessment in Denmark. Geografisk Tidsskrift-Danish Journal of Geography, 109(1), 33-45.

Cultural Heritage Agency, M. o. E., Culture and Science, the Netherlands. (2019). Heritage as a means for societal challenges. Paper presented at the Faro Convention Meeting, Lumiere Maastricht, Schunck Heerlen.

Fairclough, G., Dragičević-Šešić, M., Rogač-Mijatović, L., Auclair, E., & Soini, K. (2014). The Faro Convention, a New Paradigm for Socially-and Culturally-Sustainable Heritage Action?. Култура/Culture, (8), 9-19.

Hoekstra, A. (2021). Looking for Faro: A personal voyage of discovery into the meaning of a European treaty.

North East Social Enterprise Partnership. (2014). Introduction to the Principles of Participatory Appraisal. In. www.NESEP.CO.UK.

UNESCO. (2011). Recommendation on the Historic Urban Landscape. Paper presented at the UNESCO's General Conference at its 36th session, Paris.

Memory related references:

Ekim, Z., Güney, E. E., & Vatan, M. (2017). DOCUMENTING THE INTANGIBLE AND THE USE OF "COLLECTIVE MEMORY" AS A TOOL FOR RISK MITIGATION. *International Archives of the Photogrammetry, Remote Sensing & Spatial Information Sciences*, 42.

Hussein, F., Stephens, J., & Tiwari, R. (2020). Cultural Memories and Sense of Place in Historic Urban Landscapes: The Case of Masrah Al Salam, the Demolished Theatre Context in Alexandria, Egypt. *Land*, 9(8), 264.

Moliner, P., & Bovina, I. (2019). Architectural Forms of Collective Memory. *International Review of Social Psychology*, 32(1).

Rossi, A. (1984). *The architecture of the city*. MIT press.

Tang, Z., Lu, A., & Yang, Y. (2020). Design research in the practice of memory place-making. Open House International.

Youssef, W. F. (2015). *Architecture: space, place, and memory*.

Perception related references:

Dogan, H. A. (2019). Assessment of the perception of cultural heritage as an adaptive reuse and sustainable development strategy: Case study of Kaunas, Lithuania. *Journal of Cultural Heritage Management and Sustainable Development*.

Lynch, K. (1964). *The image of the city*. MIT press.

Najd, M. D., Ismail, N. A., Maulan, S., Yunus, M. Y. M., & Niya, M. D. (2015). Visual preference dimensions of historic urban areas: The determinants for urban heritage conservation. *Habitat International*, 49, 115-125.

Wijaya, B. T., Ernawati, J., & Santosa, H. (2019). Visual Elements Influence at the Facade of Historical Buildings in Jalan Panglima Sudirman Corridor Batu, Indonesia. *Local Wisdom: Jurnal Ilmiah Kajian Kearifan Lokal*, 11(2), 138-145.

Yammiyavar, A. P., & Roy, M. (2019). Influence of Visual Elements in Building Facades in the Formation of Experiential Perception. In *Research Into Design For A Connected World* (pp. 301-314). Springer, Singapore.

Archives:

Groninger Archieven. Index 28324, Application for police headquarters at Rademarkt 12, 1978 – 1987

Groninger Archieven. Index 84, Building St. Jansstraat 2/Rademarkt 12. Provisions to be made t.b.v.: a. partial eviction by the municipal archives of the State Archives. b. temporary housing municipal archives in the main police station (relocation schedule, interior design space and ste, 8 March 1973-10 December 1974

Willigen, Jeroen de, Jurjen van der Meer, and Harm Tilman. Hollandse Realist : De Zwarte Hond, Karelse Van Der Meer Architecten. Rotterdam: NAI Uitgevers, 2005.

Images:

Groninger Archieven. Index NL-GnGRA_1785_23429, Groningen : Rademarkt 12 : hoofdbureau van Politie, 1980,
<https://www.beeldbankgroningen.nl/beelden/detail/f7b9b46a-4aa0-2296-42b0-d234c880ab15/media/f30255fd-ff1e-ca26-e9fe-3cc922bfe9bc?mode=detail&view=horizontal&q=rademarkt%2012&rows=1&page=7>

"Het Politiebureau Aan De Rademarkt in Groningen." 2015,
https://www.flickr.com/photos/hans_r_van_der_woude/37039801685/in/photostream/.

"Police Department Region Groningen."
http://karelsevandermeer.nl/projecten/bureau_regiopolitie_groningen.html.

Cityscape related references:

BESCHERMDE STADS- EN DORPSGEZICHTEN. (1988). gemeente Groningen

Besluit Aanwijzing. (1991). de Minister van Weizijn, Volksgezondheid en Cultuur en de Minister van Volkshuisvesting, Ruimtelijke, Prdening en Milieubeheer

cultuurhistorische verkenning binnenstad Groningen. (2013). gemeente Groningen

NIEUWE STADSRUIMTES. (2017). <https://ruimtevoorjou.groningen.nl/>: BINNENSTAD GRONINGEN Retrieved from <https://ruimtevoorjou.groningen.nl/wp-content/uploads/2020/11/BSG-20170831-leidraad-groningen-webversie.pdf>

Omgevingsvisie 'The Next City': de Groningse leefkwaliteit voorop. (2018).
<https://gemeente.groningen.nl/>: gemeente Groningen

Precedent related references:

Gang, J. (2016). Three points of the residential high-rise: designing for social connectivity. *International Journal of High-Rise Buildings*, 5(2), 117-125.

González, M. F. (2016). City Hyde Park / Studio Gang Architects. Retrieved from <https://www.archdaily.com/889604/city-hyde-park-studio-gang-architects>

Pintos, P. (2016). Transformation of 530 dwellings / Lacaton & Vassal + Frédéric Druot + Christophe Hutin architecture. Retrieved from https://www.archdaily.com/915431/transformation-of-530-dwellings-lacaton-and-vassal-plus-frederic-druot-plus-christophe-hutin-architecture?ad_medium=gallery

SeARCH. (2021, January 1st). Juf Nienke under construction. Retrieved from <https://search.nl/#!content/juf-nienke-under-construction>

Reflection

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

My graduation project deals with Politiebureau Groningen Centrum in the topic of vacant heritage addressed in Heritage & Architecture (HA) graduation studio. In order to research vacant heritage, my project discusses public participation in the redesign of the façade, including an investigation into locals' emotions, perceptions, and memories of the materiality of the facades, which is within Touch & Feel direction focusing on the role of materiality in value assessment and redesign solutions. The topic also connects the fields of adaptive reuse and real estate development that are addressed in the architecture track and AUBS.

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

The project aims to come up with sustainable redevelopment solutions for vacant heritage. In the Netherlands, nearly 30% of police buildings are becoming vacant. These vacant buildings are in urgent need of appropriate redevelopment. This year, with the invitation from Atelier Politie Bouw Meester, the project focuses on one of them and exploring opportunities for sustainable redevelopment solutions.

The project investigates a paradigm of vacant heritage façade redesign approach involving public participation, which fills in the gap of lacking public participation in heritage activities. It contributes to the topic of participatory heritage activities, which is stressed great importance in the Faro Convention and HUL Recommendations.

The project researches locals' associations with materials, bring psychological perspectives to the materiality of the facades. Locals' emotions, perceptions, memories of the elements and materials of the facades are investigated, connecting the fields of architecture and psychology into design possibilities.