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	**Jinwei Yang**
Student number	5520347

Studio		
Name / Theme	Heritage & Architecture / Modern Malls	
Main mentor	Uta Pottgiesser	Building and Façade Construction, interior, and user comfort
Second mentor	Lidwine Spoormans	Housing heritage and neighborhood renovation
Argumentation of choice of the studio	I am very interested in heritage preservation but haven't done any related projects before. The shopping mall, a building type closely associated with our daily life, is a very suitable and interesting topic to start my first heritage project.	

Graduation project	
Title of the graduation project	The Complexity and Conflicts in the 20th Century Shopping Mall Skin Redesign
Goal	
Location:	Research: Hoog Catharijne (Utrecht), Design: Amsterdamse Poort (Amsterdam)
The posed problem,	Many shopping malls often seek completely new and fashionable skin designs during renovations. The heritage values were not taken seriously, and a lot of materials and energy were lost in the constant renovations.
research questions and	How can the preservation of heritage values and establishment of a new identity be balanced in the 20th century Dutch shopping mall skin redesign?

design assignment in which these result.	Renovate a modern shopping mall in a sustainable way and respect the heritage values.

The purpose of this research is to unravel the complexity and conflict inherent in the shopping mall skin redesign process. Using case studies, I will see how designers cope with the dilemma between heritage values and new identities. After learning from past experiences, I will conduct my design based on my findings and try to have an answer for the specific project.

Process

Method description

Data Collect

After careful consideration, my research case will be Hoog Catharijne in Utrecht. The Utrecht Archive, which contains sufficient old photographs, newspapers, and design drawings pertaining to the project, will be a major primary source of historical information. Field trips and photos taken by the author will be another primary source to illustrate the present condition of the mall. Many publications, academic articles, and project documentation will serve as secondary sources to gather information regarding the renovation process. Social media monitoring will be a major method to collect people's opinions on the renovation result. On Internet forums and social media accounts, I will collect 500 photos and 100 comments about Hoog Catharijne based on a simple random sample strategy.

Data Analysis

I will select some representative facades of the case to analyze based on the tangible and intangible attributes of the skin layer. The tangible attributes are materials, colors, patterns, signs and elements, while the intangible attributes are the relation with the context and perception of Architecture. Based on the historical pictures I collected in the archive; I will take a series of photos from similar perspectives. This allows us to identify which parts of the skin have been modified and categorize the intervention strategies. Furthermore, through readings, I can link these interventions with the design thinking behind it. Therefore, changes to these attributes can represent what values are being respected, what are lost, and what are created. The comments I collected on the Internet will be categorized as positive and negative to provide an overview of people's opinions. Photos shared on social media can provide a good indicator of how people perceive the renovation result and its new identity. In the end, we can conclude how the project responds to heritage values and identity establishment.

Literature and general practical preference

The research focuses on the skin layer, one of the six timescale shearing layers described by Steward Brand in *How buildings learn*. The tangible and intangible attributes classified by Veldpaus in 2015 will be used as a basis to expand the skin layer. These attributes will be linked to the different values categorized by Roders in 2007. Peter Howard's stakeholder classification will be used to connect interests with different groups of people to understand the conflicts in the value preservation process.

For the design project, I will investigate different sustainable construction methods and materials. I will learn from architects like Shigeru Ban and Kengo Kuma and look into different wooden, paper, brick construction projects.

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)?
   The project will be conducted in the field of heritage architecture. Today, renovation projects are becoming increasingly significant in the building industry, making up 70-80% of the European market. Although this research focuses primarily on 20th-century Dutch malls, it can easily be applied to many other heritage buildings. And in practice, it can help many old façades meet contemporary requirements while having a well-thought-out appearance. In the meantime, sustainable development and circular economy have already become the trend in our building environment. We should not only apply these strategies into the new buildings but also put them into our large number of existing buildings. In this way, the whole industry of architecture can really make a difference and contribute to waste reduction, energy-saving, and environment protection.
2. What is the relevance of your graduation work in the larger social, professional and scientific framework.

   Cultural contribution

   Using the skin evaluation system, people will be able to understand more about a façade's cultural value and original design intent, especially those that haven't been considered significant heritage buildings. Therefore, improvements can be made without sacrificing those key aspects. While the study examined cases in the Netherlands, the methods are applicable to other countries with consideration of local conditions such as climates, cultures, and users.

   Social contribution

   By examining how heritage buildings should be presented to cities, the government, technical experts, and designers can make choices that will support sustainable urban development. Keeping the essence of the past while moving forward is what makes a city rich in culture and vibrant in life. The research not only respects people's memories of the old building but also searches for ways to form new identities for buildings and cities.

   Ecological contribution

   The energy crisis and climate change we are experiencing are both real and urgent threats. As a result of low thermal performance in many heritage buildings, skin upgrades can significantly reduce energy waste. This study will combine heritage assessments and energy-saving building

design. During the redesign, factors such as envelope insulation, window size, glazing and shading, and ventilation will be considered.