

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	Jiahui Shi	
Student number	5488885	

Studio		
Name / Theme	Complex Projects / Bodies & Building Berlin	
Main mentor	Henri van Bennekom	Architecture
Second mentor	Jan Van de Voort	Building Technology
Argumentation of choice of the studio	<p>I chose this studio for three reasons.</p> <p>First, this studio takes public buildings as its starting point and selects nine types of public buildings in the city as options. These buildings are very important parts of urban construction. They are not only affected by the surrounding environment, but also exert their own influence on the surrounding environment in reverse. Together they shape the image of the city. I also hope to take this opportunity to realize my thinking about architecture and cities through the design of a certain type of public building.</p> <p>Second, the studio is full of restrictions but also has a high degree of freedom. The studio has restrictions on students' choices of building types and design-related topics, but under these restrictions, there is a high degree of freedom in the selections of clients, programs and sites, as long as the choices are justified and supported by research. While allowing me to brainstorm, this studio also exercises my research skills and logical thinking.</p> <p>Third, I am very interested in the city of Berlin. As the cultural capital of Germany, it has many aspects that interest me, whether it is the various museums scattered throughout the city during the day, or the clubs that allow people to release themselves after nightfall, they all make the city more vibrant, and I want to conduct research and design in such a city.</p>	

Graduation project

Title of the graduation project	Switch Station – Switch between a train station and a night live venue
Goal	
Location:	Berlin, Germany
The posed problem,	According to the net zero land consumption stipulated in the European Green Deal, Berlin will no longer expand outwards and land resources will become tight. Under such circumstances, the construction of new places often leads to the demolition of old places, and many of the demolished places contained public memories and were of great significance to people. Therefore, it is hoped that the city can accommodate more spaces and activities through venue sharing. As a time-operated building, the train station can use its vacancy period to carry out other activities. In order to fit in with its operating cycle and at the same time protect Berlin's declining characteristic cultural industry, the night live is chosen to use the train station during its vacancy period. However, the night live has its unique needs, and the common station space cannot fully meet the needs of the night live and realize the conversion of different programs.
research questions and	How to switch a train station to a night live venue during its vacancy period?
design assignment in which these result.	The design results are divided into three parts. The first part is the metro station used during the day. In this part, while realizing the normal operation of the basic programs of the station, adjustments to the space and programs are made based on the elements and needs of the night live, while optimizing the user experience in the day, so that the station can meet users' expectations beyond efficiency. The second part is the night live venue used at night. In this part, adjustments are made to the parts that cannot be satisfied by the original space of the metro station, the adjusted space should be able to adapt to the programs of the night live and utilize the

	benefits brought by the unique characteristics of station space to optimize its experience. The third part is about how the two building types can be converted into each other. Starting from space, facilities and management, a complete conversion process is designed to answer the research question.
<p>According to the net zero land consumption stipulated in the European Green Deal, Berlin will no longer expand outwards and land resources will become tight. Under such circumstances, the construction of new places often leads to the demolition of old places, and many of the demolished places contained public memories and were of great significance to people. Therefore, it is hoped that the city can accommodate more spaces and activities through venue sharing. As a time-operated building, the train station can use its vacancy period to carry out other activities. In order to fit in with its operating cycle and at the same time protect Berlin's declining characteristic cultural industry, the night live is chosen to use the train station during its vacancy period. However, the night live has its unique needs, and the common station space cannot fully meet the needs of the night live and realize the conversion of different programs.</p> <p>Based on the above statement, the research question is proposed, which is how to switch a train station to a night live venue during its vacancy period?</p> <p>The design results are divided into three parts. The first part is the metro station used during the day. In this part, while realizing the normal operation of the basic programs of the station, adjustments to the space and programs are made based on the elements and needs of the night live, while optimizing the user experience in the day, so that the station can meet users' expectations beyond efficiency. The second part is the night live venue used at night. In this part, adjustments are made to the parts that cannot be satisfied by the original space of the metro station, the adjusted space should be able to adapt to the programs of the night live and utilize the benefits brought by the unique characteristics of station space to optimize its experience. The third part is about how the two building types can be converted into each other. Starting from space, facilities and management, a complete conversion process is designed to answer the research question.</p>	
Process	
Method description	
<p>Internet Research (Client)</p> <p>Through internet research, the regular train station clients can be identified through the train station's operation methods and railway transportation equity information, and then analyze the new operation strategy of the train station under the idea of coexistence to summarize which other clients are responsible for this design or will get benefit from this new building typology. Internet research for the night live and on policy levels will also be conducted to finally identify the remaining clients.</p>	

Case Study (Program)

Through the collection and analysis of metro station and nightclub cases, their respective basic functions are the first to be summarized, including the types of functions, the area ratio of each function and the relationship between functions. In this way, the most basic understanding of the functions of these two kinds of buildings can be achieved. On this basis, the space required for each function in the cases is further analyzed, especially the key spaces, and though this, the three-dimensional connections among functions are clarified.

Comparison (Program)

Because the main purpose of the design is to realize the conversion of two types of activities in different time periods, the function tables obtained from the case analysis will be compared. Summarize the spatial parts that can realize the conversion of functions, make detailed correspondences, mark the functions that cannot correspond to each other, then think about whether the spaces needed for these functions can be used for some new functions in the other time period and bring benefits to the activities. Finally, these new function tables created based on similarities and differences between two types of buildings will be compared again to clarify the spatial strategies of the design phase.

Mapping (Site)

According to the design goals, site requirements are proposed, including areas where nightclub culture has faded, areas on existing and future planned U-Bahn routes, etc. Then corresponding mappings are made based on these requirements, and all completed mappings will be overlapped to gather all the needed information in one drawing. Finally, the areas that meet all requirements will be selected as site candidates for further examination.

Field Research (Site)

By the method of field research, visit the selected site candidates, examine these sites from the perspective of an actual user, and experience the on-site atmosphere and specific minor conditions of these sites. These atmospheres and conditions are difficult to obtain from just internet research and mapping. Through field visiting, the feasibility and potential of these sites can be further verified and explored.

Literature and general practical references

Literature

Architecture: form, space & order, by Francis D. K. Ching

Dance Clubs, Rave, and the Consumer Experience: an Exploratory Study of a Subcultural Phenomenon, by Christina Goulding, Avi Shankar, and Richard Elliott

Assessing human emotional responses to the design of public spaces around subway stations: a human factors research, by Yang, L., Zhu, Y., Chatzimichailidou, M., & Liu, X.

Investigating urban metro stations as cognitive places in cities using points of interest, by Liu, K., Qiu, P., Gao, S., Lu, F., Jiang, J., & Yin, L.

Practical Experience/Precedent

Pont De Bondy Metro Station, by BIG (Metro Station)

Twin Stations, by sporaarchitects (Metro Station)

Vitry Centre Metro Station, by atelier d'architecture King Kong (Metro Station)

B 018, by Bernard Khoury Architects (Club)

Ninja Club, by JH Architecture (Club)

Light, by TAMEN arq (Club)

National September 11 Memorial Museum, by Michael Arad of Handel Architects/Peter Walker and Partners/Davis Brody Bond/Snøhetta (Section Design)

Church of Saint George, Lalibela, by King of Lalibela (Section Design)

Tirpitz Museum, by BIG (Section Design)

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)?

For the studio, this graduation project exists as "One of Berlin", using an unconventional way to explore and try to solve the problems faced by Berlin's current urban development. The final results will not only be reflected on the urban scale, but also on the user scale.

For the master programme, this is a concentrated display of my abilities in the field of architecture. As a master student in architecture track, this graduation project demonstrates my ability to solve unconventional urban and architectural problems through research, analysis and design. The design topic also aims to explore more possibilities in architecture and try to extend the boundary.

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

This graduation project can be regarded as an exploration of future urban development strategies. The proposed method of venue sharing is not only applicable to the case of transformation within one day in this graduation project, the time span can also be extended to days, months or even decades. This method not only reduces the energy consumption by limiting the construction of multiple

buildings to one building, but also stimulates architects to think about the possible forms of architecture during the entire process, creating a building with a better user experience.