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	(Chiel) Pieter Jan van Dijk
Student number	4983416

Studio		
Name / Theme	AR3AP100 Public Building Graduation Studio 2021-22 Music Marvel | Music & Popular Culture Re-Wired	
Main mentor	Paul Kuitenbrouwer	Architecture
Second mentor	Gilbert Koskamp	Building technology
Third Mentor	Dr. Sang Lee	Research
Argumentation of choice of the studio	Ever since I was young, I have had a great affinity for music. From visiting famous artists from America, to going to festivals, to entering the oldest jazz festival in Europe, Jazz a Juan. I strongly believe that nothing connects and fuses people better than music and culture, and we as architects have a wonderful responsibility to create public and private spaces for the people and their environments to encourage these activities.	

Graduation project	
Title of the graduation project	**A new way of perception for subculture**
Goal	
Location:	Binckhorst, The Hague, the Netherlands, Gasfabriek
The posed problem,	Our environment is changing faster than ever, due to the transformations of economic, cultural, and socio-political dynamics. As a result of the expansion

	and transformation of the major Dutch cities, former industrial areas that used to be outside the cities, such as Binckhorst, are now being absorbed and transformed by the cities. The former industrial area of Binckhorst is a collection of static activities and movements, with no clear future, as shown by the developments that have been going on for years. Perception and experience are absent or incomplete due to the homogeneity and obsolescence of the activities. Like Binckhorst, architecture for music is static and lacks perception. Music venues have largely been transformed into an inanimate spatial form, characterised by its pursuit of timelessness, and limited to the performance of music. The architectural design of music spaces in our time is assisted, and often driven, by the science of acoustics, and the understanding of multi-sensorial perception is incomplete. The spatial requirements and design parameters of a music venue should be taken into question to meet the demanded multiplicity of today's music buildings.

Research questions and	Having this as the theme and problem of the research I intend to answer the following question: **how can multi-sensory architecture contribute to the experience to music and form the guidelines for Binckhorst?** With the following sub-questions: 1. What is a multi-sensory experience, and how is it motivated or demotivated in Binckhorst? 2. How do the senses and their mutual relationships in Binckhorst affect the perception of space (or architecture)? 3. How can architecture in Binckhorst contribute to the perception of music?
Design assignment in which these result.	This research aims to formulate a design manual that will help and affect the perception of architecture and its contribution to the experience of music in Binckhorst. The project includes design parameters and a design catalogue to guide the design process and the result will be an example of this.

Process

Method description (see figure 1)

This research will be conducted through multiple qualitative research methods, including literature research, case studies and field research. They will provide the instruments to build a design *catalogue* that will define the multi-sensory architecture and its experience of music for the music marvel in Binckhorst.

The literature research roughly consists of the theory and ideas of two themes to answer the research question: the multi-sensory effect on architecture and the perception of music through (multi)sensory architecture. Based on this, an overview will be made of which architectural interventions affect the perception of music and vice versa.

To bridge the gap between the theoretical approaches and the practical, relevant case studies will be used. These case studies will relate to the two themes and will be used to extract practical information.

Both the literature research and the case studies will be used to compile the *catalogue* of design parameters and form the basis for the new music marvel. This *catalogue* is designed specific and needs to be related to the Binckhorst environment. To make this connection, field research will be conducted on the Binckhorst to make an optimal synthesis between the composed design parameters and the Binckhorst environment. This field research will be done by observation, sensory mapping, and notation. Preliminary research has already been carried out as a group during the P1 period. The extracted information is already documented and will be used during this research. Through this field research, the context of Binckhorst will be crystallised based on sensory perception.

Literature and general practical preference

Literature and references include the topics on:

1. Sensory Architecture
2. Perception of Space
3. Perception of Music
4. Multi-sensory Experience

Bibliography

- Pallasmaa, J. (2012). The eyes of the skin: architecture and the senses. John Wiley & Sons.
- Pallasmaa, J. (1994). An architecture of the seven senses. ARCHITECTURE AND URBANISM-TOKYO-, 27-38.
- Zumthor, P. (2008). Atmospheres. Birkhäuser.
- Zumthor, P., Oberli-Turner, M., Schelbert, C., & Binet, H. (2006). Thinking architecture (Vol. 113). Basel: Birkhäuser.
- Malnar, J. M., & Vodvarka, F. (2004). Sensory design. U of Minnesota Press.
- Spence, C. (2020). Senses of place: architectural design for the multisensory mind. Cognitive Research: Principles and Implications, 5(1)
- Oxenaar, A., Kloos, M., & Spaan, M. (2012). Music, Space and Architecture. Architectura & Natura Press.
- Avidar, P., Ganchrow, R., & Kursell, J. (2009). Immersed : architectuur en geluid = sound and architecture (1e dr, Ser. Oase, 78). Nai Uitgevers/.
- Kerchner, J. L. (2013). Music across the senses: Listening, learning, and making meaning. Oxford University Press.

Project examples

- Olafur Eliasson's the Mediated Motion 2001 and the Weather Project 2003
- Daniel Liebeskind, Jewish Museum: The Garden of Exile, Holocaust Tower and the "Void", Berlin, Germany, 2001.
- Realized projects of Peter Zumthor, Steven Holl, Carlo Scarpa and Eduardo Souto de Moura
- Anechoic chamber, TU Delft
- Preliminary research of the music buildings examined during the P1.
- Field research of the Binckhorst by observation, sensory mapping, and notation

Reflection

The purpose of this research is not to indicate that there is the 'right' solution to the research question, it is too complex for that. Architecture and music are connected beyond form. The themes are inextricably linked but require a different discipline to study them further. However, 'traditional' music buildings are designed purely on the perception of the experience of music. In my opinion, however, it is precisely the motivation or even the demotivation of sensory stimuli that can enhance the experience of music and the perception of the overall building. Traditional music buildings are often lifeless arrangements focused on serving one objective, providing a space to make or listen to music. Besides the acoustic qualities, visual and tactile qualities should also be considered to stimulate the experience of music.

This research tries to give a new perspective in architectural design by approaching music venues from the perspective of sensory perception. Combining the collected information into design parameters will contribute to the discourse of new guidelines for designing music venues.