

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	Aafke Simonides
Student number	5021138

Studio		
Name / Theme	Revitalizing Heritage AR3AH115	
Main mentor	Uta Pottgiesser	Architectural Design
Second mentor	Emeline Lin	Research
Argumentation of choice of the studio	<p>I chose the Revitalizing Heritage Studio because it aligns closely with both my personal interests and academic ambitions. As someone passionate about books and reading, libraries have always held a special significance for me; designing one as my graduation project immediately piqued my interest. Additionally, I had not yet participated in a Heritage studio and saw this as an opportunity to broaden my architectural education. My previous studios—Dwelling and Form Studies—did not focus on transformation, while I believe that working with existing structures is increasingly relevant in today's built environment. The Heritage studio's focus on transformation offers valuable experience in this regard. Finally, I was drawn to the studio's reputation for clear planning and its well-defined assignment, aspects that I find especially important during the graduation phase.</p>	

Graduation project	
Title of the graduation project	Soundscaping the Future Library
Goal	
Location:	Den Haag
The posed problem,	<p><i>Studio Problem statement</i> The Books of KB – the National Library of the Netherlands – are relocated to an off-site repository, leaving ten thousands of empty square meters in the KB building.</p>

	<p><i>Personal Research Problem</i></p> <p>A future library, as Latimer (2018) describes it, has both quiet and social spaces. This would mean that a certain zoning plan is necessary were the auditory experience will play a big role. How can one design a library where quiet and louder atmospheres co-exist?</p>
<p>research questions and</p>	<p><i>"How can the auditory experience of library users be enhanced with architectural design for different zones in a library's soundscape?"</i></p> <ol style="list-style-type: none"> <i>1. What should a 21st century library's auditory atmosphere be like according to library users?</i> <i>2. What spatial strategies can enhance a library's soundscape?</i> <i>3. How are these strategies applied in existing libraries to enhance specific soundscapes?</i>
<p>design assignment in which these result.</p>	<p>Redesign of the KB Building</p>
<p>The KB (Koninklijke Bibliotheek) is the National Library of the Netherlands and the starting point of this project.</p> <p>The collection of KB has grown immensely over the past decades (KB-catalogus, n.d.). The library has over 4 million printed works in their collection, resulting in 120 kilometers of printed heritage stored in the current KB building (Over Ons, n.d.). Every year there are new items being added to the KB's collection (Nieuw Boekenmagazijn Voor De KB, 2025). To be prepared for the future expansion of the collection, KB has decided to build an off-site repository for the works.</p> <p>The current KB building, designed in the 70s by architecture office OD205, will be mostly empty when the collection is no longer housed in it. Other organizations which currently reside within the building, like the literature / children's books museum, are also leaving (NOS, 2023).</p> <p>With these enormous changes in program, the library needs to be redesigned. The typology of the library in general has undergone large changes as well over the last decades, leaving an opportunity to create a KB design fitting the needs of modern society.</p>	

In the 20th century, collections were crucial elements of the library typology (Latimer, 2018). In KB this has been the case as well, with their millions of collected works. Other elements that Latimer mentions, like quietness and imposingness, also fit the current KB building well. Their house rules state that users ought to be quiet when using the reading rooms (Vind Je Weg in De KB, n.d.). Visitors are not allowed to enter the reading rooms unless they become a member or register for a reading room pass first. One could argue that this creates a rather unwelcoming atmosphere.

The movement away from the collections programme could create possibilities for the KB to transform into what Latimer would call a '21st century library', where connections with people, information and internet are prioritised over housing collections in a library. The building could become more welcoming since there would be less security needed without the collections.

A future library, as Latimer describes it, has both quiet and social spaces. This would mean that a certain zoning plan is necessary were the auditory experience will play a big role. How can one design a library where quiet and louder atmospheres co-exist?

This research will dive into the concept of soundscapes and what it means to design one for a library. It will explore library sounds from a people-oriented perspective, moving from atmosphere in architecture to soundscapes specifically.

Several studies already exist about soundscapes, but these are often set in either urban surroundings or in other building typologies. Research in library design also rarely focusses on the auditory aspect of library architecture. In architectural design, acoustics are often overlooked and implemented only at the last moment, when necessary, in the interior design phase (Fowler, 2015). The dominance of visual design traditions makes auditory integration difficult. This research aims to address the knowledge gap by examining how auditory design principles can be applied specifically within the context of library architecture.

Process

Method description

Literature Study

To answer the main research question, "How can the auditory experience of library users be enhanced with spatial design for different zones in a library's soundscape?", the study has been divided into two parts. The first part consists of a literature study, which aims to provide the theoretical foundation for the second, practice-based phase of the research.

This literature review seeks to understand the user perspective on the auditory experience of library spaces and to gather insights into existing theories and strategies in soundscape design. It will address the first two sub-questions:

What should a 21st-century library's auditory atmosphere be like according to library users?

What spatial strategies can enhance a library's soundscape?

Sources will be gathered from the peer-reviewed database ScienceDirect, which hosts journal articles and book chapters. Additional sources will be accessed via the TU Delft WorldCat catalogue, Google Scholar, and ResearchGate.

Case Studies

Once a theoretical framework has been established, the second phase of the research will examine four case studies:

- Forum Groningen (2019): A large public library with a shopping centre-like design.
- DOK OPEN Delft (2018): A smaller-scale public library conceived as the city's communal "living room."
- British Library (1875): The UK's national library, functionally comparable to the Koninklijke Bibliotheek (KB) in The Hague.
- TU Delft Library (1998):
An academic library known for its distinctive zoning and innovative approach to book storage.

In each library, various zones will be identified and analyzed. The following aspects will be observed:

1. Zone type (quiet / social / leisure)
2. Loudness level (in dB)
3. Sound types (as perceived by the researcher)
4. User activities (e.g., working, talking, using headphones)
5. Interior materialization (floor, wall, ceiling, furniture)
6. Spatial design of zone transitions (closed vs. open)

Based on these observations, measurements, and photographic documentation, an answer will be developed for the third sub-question:

"How are these strategies applied in existing libraries to enhance specific soundscapes?"

Literature and general practical references

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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 topic focuses on the auditory experience of library users and explores how this can be enhanced through the redesign of the Koninklijke Bibliotheek in The Hague. By examining and improving the library's soundscape, the project contributes to the understanding and development of the library typology (studio assignment). As it involves the transformation of an existing building, the project aligns closely with the Heritage studio's emphasis on working with architectural heritage (Heritage). The research and design are situated within the field of architecture, directly linking the project to the track (Architecture). More broadly, the topic addresses spatial and experiential aspects of the built environment, situating it within the interdisciplinary scope of the MSc Architecture, Urbanism and Building Sciences programme.

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

Bossaller et al. (2020) describe the 21st century as an 'age of distraction'. This research aims to contribute to library architecture by exploring how auditory-based design can support focus, comfort, and emotional engagement.

The outcomes of this research can be implemented not only in the redesign of KB, but in other (national) libraries as well. The findings can provide a framework for

improved future library soundscapes, enhancing the experience of both library users as staff.

When effectively applied, the outcomes of this research have the potential to enhance the user experience, making libraries more inviting and relevant in today's overstimulated society. If proven effective, the findings could be included in governmental guidelines to ensure usage in future library design. In doing so, it can also help redefine the public image of libraries as contemporary, sensory-aware, and human-centered spaces.