complex CP projects

BEYOND PASSAGE

RESEARCH PLAN

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COMPLEX PROJECTS
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1.1 Background of the study

Museums over the years, have changed from places that showcase art collections and historic artifacts of a certain place, into rather vibrant cultural centers that educate and attract a large range of different audiences. This change asks for new ways to design museums so that they can adapt to the dynamic ways in which visitors interact with the space. With the amount of visitors also changing one week to another, because of special events, exhibitions and other seasonal influencing factors, the spatial design of museums becomes very important.

This study aims to investigate how architectural design can accommodate fluctuating visitor flows whilst making sure that their experience of the space remains welcoming and enriching.

1.2 Relevance of the topic

The relevance of this research can be found in the evolving role of museums throughout the years. Museum are not only places that showcases history and art anymore. They are no longer used as statements of national wealth and heritage. Museums have become cultural and educational spaces that are open for discussing global issues, promoting social events and fostering engagement through interactive exhibitions.

As museums aim to reach diverse audiences and encourage repeat visits, it's essential to explore the link between architectural design and how visitors perceive and experience the space. Understanding how a museum's design can adjust to varying crowd sizes is crucial to enhancing visitor satisfaction and ensuring that the museum remains relevant in today's world. This study will explore how museums can handle fluctuations in crowd numbers without compromising the visitor experience.

1.3 Objectives of the research

The primary reason for this research is to analyze design approaches for museums, so that the building can accommodate for varying visitor flows. In this research, the role of the architect will be studied in creating flexible spaces that allow for the exhibiting of art whilst also being able to serve the needs for differing audiences. Additionally, the research aims to identify the best innovative design solutions that can be used in future museum projects. The research is then to be used as input for designing a museum in the city of Milan, which is known for its high amounts of yearly organized events that will bring many visitors with it.

1.4 Research questions

To guide this inquiry, the following research questions have been formulated:

How to design architectural adaptibility to accomodate fluctuating visitor flows in future museums?

- What is the role of the architect as a curator in a museum?
- What is the influence of fluctuating visitor flows on the showcasing of art in a space?
- How can a space be designed to direct and maintain the visitor's focus on the art in fluctuating crowd scenarios?

By addressing these questions, this research seeks to provide valuable insights and recommendations for architects and museum planners, ultimately contributing to the creation of more responsive and engaging cultural spaces.

2.1 Theoretical Framework

In this research, both architectural and psychological literature will be studied in combination with a number of case studies to be able to determine how spaces can be designed to better accommodate for diverse visitor flows.

Environmental psychology suggests that a person's physical surroundings greatly impact their emotions and behavior (Mehrabian & Russell, 1974). Sigfried Giedion supports this in Space, Time and Architecture (2008), where he explains how movement through space and time shapes our perception of architecture—a concept particularly useful in museum design. Hallways, for example, can be designed to build anticipation and naturally guide visitors. In The Eyes of the Skin (2012), Pallasmaa highlights how architecture can benefit from engaging multiple senses. He explains that hallways designed to stimulate sight, touch, and sound can enhance the user experience, making it more layered and memorable.

These ideas help with understanding how to design museum spaces that can accommodate different visitor needs by using sensory and spatial factors, making the experience more engaging and flexible.

2.2 User Experience in Museum Architecture

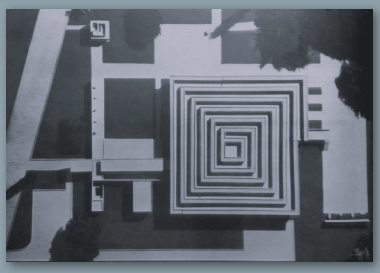
In museums, user experience is highly important when trying to make a good design. The concept of "design for experience" encourages the creation of accessible and inclusive environments that invite guests to use their senses to explore and take in the surroundings.

Wayfinding is especially important for user experience in museums. This is particularly true in corridors, where clear design can guide visitors naturally through the space. Paul Arthur and Romedi Passini's Wayfinding: People, Signs, and Architecture (2002) provides insights into designing corridors that intuitively guide visitors, reducing disorientation and improving flow. Further, Kali Tzortzi's Museum Space (2015) discusses how museum corridors function as curatorial spaces, shaping the visitor's interpretive journey and enhancing engagement with exhibits.

Lastly, Robin Evans' Figures, Doors, and Passages (1978) traces the historical evolution of corridors from functional pathways to experiential spaces, underscoring how thoughtfully designed transitions can guide visitor flow, mitigate congestion, and support focus.

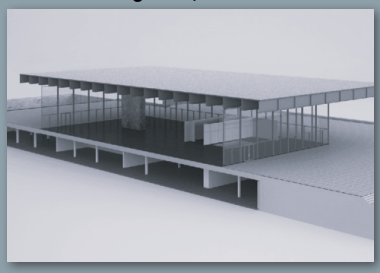
All of these pieces show how important it is for museum settings to facilitate visitor dynamics, promote smooth movement, and provide adaptable, inclusive, and interesting experiences.

Le Corbusier
Museum of Unlimited Extension



Peter Zumthor
Kolumba museum, Cologne

Mies van der Rohe
Neue Nationalgalerie, Berlin



2.3 Case Studies

Six specific case studies have been selected for this research. Through these case studies, different ways of how architects can deal with spatial design will be analyzed,to find out how best to organically direct varying visitor flows whilst maintaining their overall experience.

The selected case studies are:

- Museum of Unlimited Extension
  Le Corbusier
- Kolumba Museum, Cologne
  Peter Zumthor
- Neue Nationalgalerie, Berlin
  Mies van der Rohe
- Kunsthal, Rotterdam
  OMA
- Louvre-Lens, Lens
  SANAA
- Sonsbeek Pavilion, Arnhem
  Aldo van Eyck

These case studies are examined through three main themes: spatial sequence, flow, and transition, functionality vs. experience, and flexibility and adaptability.

Spatial Sequence, Flow, and Transition

Le Corbusier's Museum of Unlimited Extension, SANAA's Louvre-Lens, and Aldo van Eyck's Sonsbeek Pavilion emphasize smooth spatial transitions and intuitive visitor flow. Le Corbusier's design creates a continuous experience, while Louvre-Lens uses clear sightlines to guide movement. Sonsbeek Pavilion blurs boundaries between indoor and outdoor, enhancing visitor engagement.

Functionality vs. Experience

The Kolumba Museum, Neue Nationalgalerie, and Kunsthal balance practical design needs with emotional engagement. Zumthor's Kolumba Museum integrates preservation with sensory experience, while Mies van der Rohe's Neue Nationalgalerie focuses on minimalist design that highlights the artwork. OMA's Kunsthal offers flexible spaces that combine functionality and the importance of user experience.

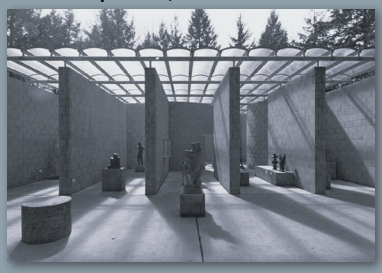
Flexibility and Adaptability

Le Corbusier's Museum of Unlimited Extension, Kunsthal, and Louvre-Lens showcase how spaces can adapt to changing needs. Le Corbusier's design allows for future growth with the same very specific curatorial layout and structure. On the other hand, Kunsthal and Louvre-Lens offer flexible and open layouts that can accommodate various exhibits and events, ensuring the museum remains dynamic and responsive.

By means of these case studies, this study will develop the most effective strategies for creating captivating museum environments that may guarantee a positive visitor experience while accommodating various visitor flows.

SANAA
Louvre lens, Lens

Aldo van Eijck
Sonsbeek pavilion, Arnhem



OMA
Kunsthal, Rotterdam

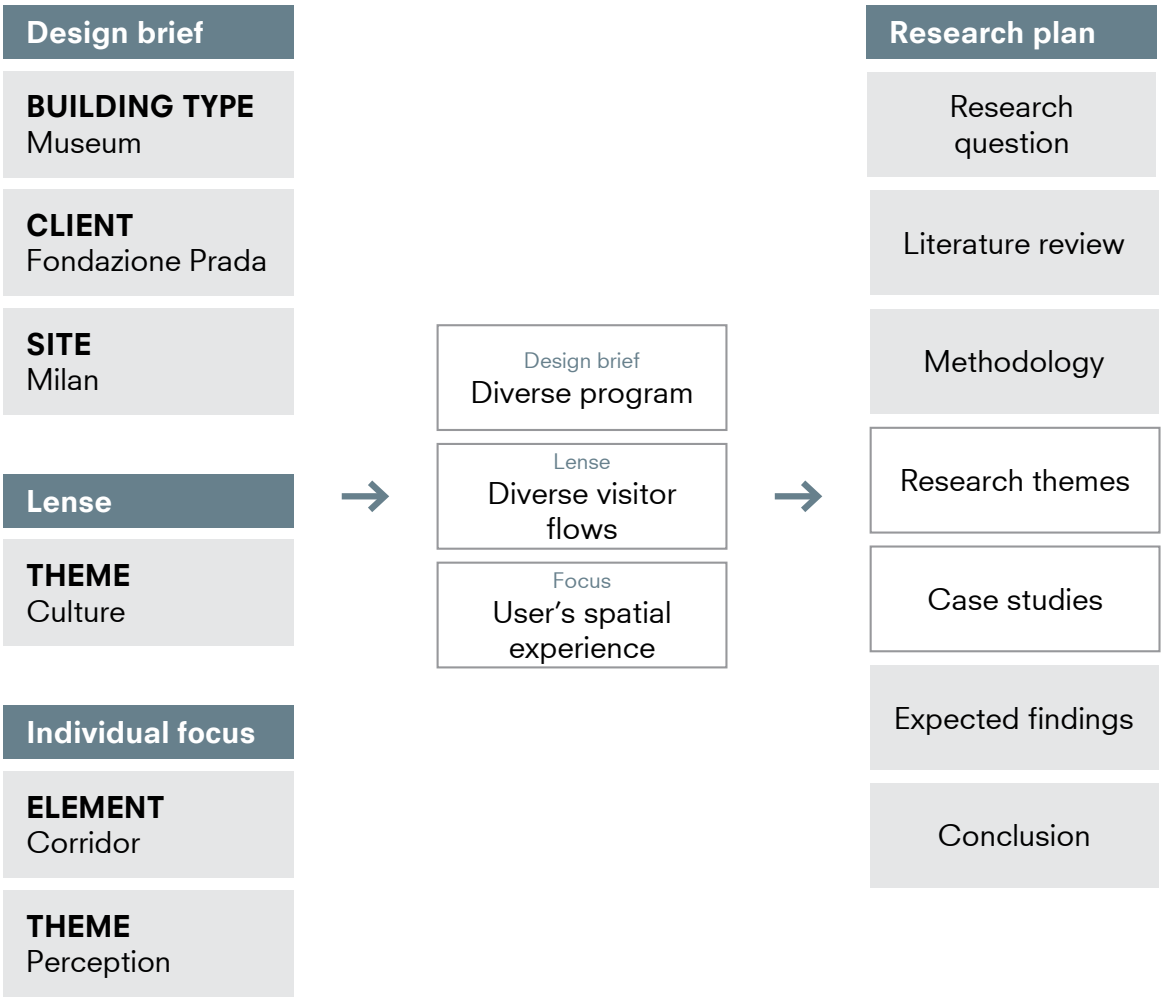
3.1 Research Assignment

This research is part of the TU Delft Complex Projects Master's Graduation Studio, which follows a structured process outlined in the accompanying diagram.

For the Fall 2024 Studio, the project is based in Milan. Each student selects a building type and is then assigned an existing building in Milan, with its location, client, and program forming the basis for the design. Students are then asked to create their own design brief, as if the original assigned building was never built. Through this approach, freedom is created to fully reimagine the space.

Students work in groups, each assigned a specific lens through which to explore the project. This research is part of the 'cultural lense' group, so it will explore cultural elements of the city. As the city of Milan has been analyzed, this cultural lense focusses on the yearly city event culture of Milan. Additionally, each student chooses a specific architectural element that alligns with their building type, to narrow the focus of their research.

The design brief, the assigned lense, and the chosen architectural element help shape the key themes of the project, leading to the development of specific research questions and a clear research plan.



3.2 Research Design

This study uses a qualitative research structure, as this is well suited for examining the complex interactions between architectural elements and visitor experiences in museums. The research will conduct an in-depth analysis of existing museums that showcase effective ways of spatially guiding different visitor flows. By analyzing this specific group of case studies, the goal is to find clear insights in how spatial design choices can influence the behavior and experience of visitors.

The research will be grounded in a constructivist approach. Therefore, the research will be built through a combination of both passive information as well as through knowledge gained from personal experiences and social interaction. This will enable an understanding of how various visitors experience a space and how much the spatial architectural design influences that experience.

3.3 Methods of Data Collection

The data for this research will be collected through a combination of qualitative research methods. The main methods that will be used for this study will be document analysis, interviews, and observations.

Document Analysis

A number of documents, including architectural plans and sections, design proposals, and visitor feedback reports and reviews, will be analyzed in order to investigate the architect's design approach and the intended user experience of each museum. By analyzing how well the architectural choices made in the case studies fit with the demands and behaviors of visitors, this research will shed light on the design intentions behind certain architectural features.

Interviews

When visiting the case study museums, interviews with museum visitors will be held where possible, to gather insights into their experiences and perceptions of specific spaces. This interview format allows for flexibility, encouraging respondents to explore topics in-depth while ensuring that essential questions are addressed.

Observations

To find out how people engage with different spaces in museums, a number of observations will be made at a few of the chosen case study museums. This will entail monitoring their movements, determining locations where crowds are formed, and documenting how visitors interact with the exhibits, particularly in the corridors and other sections that facilitate visitors' navigation of the museum. These observations will yield information that will supplement the insights obtained from the interviews.

The project will integrate the results from these research techniques to provide a comprehensive knowledge of how architectural design affects the experience of visitors. The information gathered will contribute to the development of an understanding of how visitors engage with museum spaces, providing suggestions for future museum space design that is more adaptable and responsive.

4.1 Anticipated Analysis of Collected Data

To be able to investigate the correlation between the spatial design of museums and the visitors experience inside these exhibiting areas, especially focusing on the natural guidance through the exhibitions and the influence of fluctuating visitor flows, the gathered qualitative data will be analyzed and compared.

The main goal of this research will be to understand the the architect's intentions of the spatial design as well as how this corresponds with real visitor behavior. Architectural plans and concepts as well as visitor feedback will be considered to achieve this. The goal is to to develop effective spatial design strategies that enhance the user experience while accommodating different visitor numbers.

4.2 Discussion of Expected Findings

A number of discoveries can be expected based on the study objectives and questions described in this plan:

Orientation in Space

It can be expected that visitors will have a better overall experience if they can navigate an exhibition without having to actively search for where to go. Clearly indicating routes and orientational signage throughout the museum can help with this. Having less directions to chose from and a repetative systematic order can also help with this natural wayfinding. The study will investigate how these design features help lessen confusion and traffic.

Engagement of Visitors

According to current trends in museums, interactive exhibitions can improve visitor engagement. The study will evaluate how visitors' interactions with displays are affected by various spatial arrangements.

Cultural Context

The research will examine how the architectural design of museums reflects the cultural narratives of their locations. It is anticipated that museums that incorporate local culture into their design will foster a stronger connection with visitors.

Feedback Implementation

One of the topics of discussion will be how the visitor's input can influence museum design. The study will investigate how museums may enhance visitor satisfaction and promote return visits by proactively seeking out and implementing ideas from visitors.

This analysis and discussion will provide valuable insights into the relationship between architectural design and visitor experience, contributing to the field of museum architecture.

This research plan aims to investigate how museums are evolving into more dynamic spaces that use architectural design to appeal to a variety of audiences. The study will provide insight into how spatial decisions made in architecture can enhance visitors' experiences and adjust to changing visitor flows.

One important finding is that museums are evolving from static display venues to dynamic hubs for interaction. This change calls for a reassessment of architectural strategies in order to satisfy contemporary tourists.

Central to this research is the importance of visitor experience. Well-considered spatial design that prioritizes seamless transitions and intuitive spatial sequences can greatly increase exploration and engagement. It's important to find a balance between functionality and emotional impact, as good design should meet practical needs while also creating a meaningful connection with visitors.

In order to accommodate varying visitor flows and a variety of events, museums must be flexible and adaptable in their design to be sensitive to the demands of their audiences. By integrating local narratives into museum design, architects can foster a connection between visitors and exhibits, enhancing overall satisfaction.

Ultimately, the insights gained from this research will inform the design of a new museum in Milan, reflecting the city's vibrancy while enriching the visitor experience. This study aspires to contribute valuable knowledge that will enhance future museum projects and strengthen the overall visitor engagement in cultural spaces.

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