MASTER

Music Square
a concert venue for Rotterdam

van den Elsen, M.J.W.

Award date:
2016

Link to publication

Disclaimer
This document contains a student thesis (bachelor's or master's), as authored by a student at Eindhoven University of Technology. Student theses are made available in the TU/e repository upon obtaining the required degree. The grade received is not published on the document as presented in the repository. The required complexity or quality of research of student theses may vary by program, and the required minimum study period may vary in duration.

General rights
Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
MUSIC
MUSIC SQUARE
A concert venue for Rotterdam

Graduation Project: Transparency
Technical University Eindhoven
Architecture, Building and Planning

Date: February 11th, 2016
Student: M.J.W. van den Elsen
Student nr.: 0659315
Professor: Dipl.-Ing. C. Rapp
Tutors: ir. R.P.J. Roorda
         ir. B.C.I.M. Kuit
Music Square is a graduation project in which the needs and program of a modern pop concert venue are translated to better fit our social transparent society. Current pop concert venues have a tendency to be of a very closed and introvert nature. This is because of the inherent nature needed to experience a concert and maintaining the privacy. But because of this almost all venues are missing the interaction with the general public. Attracting or interesting people to attend to your program is non-existent or neglected.

My design is a social transparent concept for a modern concert venue. The design is based upon the M3 research and reflects three different forms of transparency. This is shown in the separation of the two concert halls with an open atrium. But because of the open floor layout and limited walls the interaction between visitor’s remains. Even when these visitors both have a different music experience they can still interact together. Also the use of glass creates a visual representation which has never been seen before for a concert venue. Interesting the public in interacting with and show them the workings and dynamics of the design.
<table>
<thead>
<tr>
<th>INDEX</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRODUCTION</td>
<td>5</td>
</tr>
<tr>
<td>ESSAY</td>
<td>9</td>
</tr>
<tr>
<td>DESIGN</td>
<td>13</td>
</tr>
<tr>
<td>Design Brief</td>
<td>14</td>
</tr>
<tr>
<td>Location</td>
<td>16</td>
</tr>
<tr>
<td>Concept</td>
<td>18</td>
</tr>
<tr>
<td>Floorplans</td>
<td>20</td>
</tr>
<tr>
<td>Sections</td>
<td>31</td>
</tr>
<tr>
<td>Elevations</td>
<td>35</td>
</tr>
<tr>
<td>Visualisations</td>
<td>41</td>
</tr>
<tr>
<td>CONCLUSION &amp; REFLECTION</td>
<td>49</td>
</tr>
</tbody>
</table>
INTRODUCTION
Introduction

Transparency we hear it everywhere, and in most of these cases this transparency equals good. But there is this really so? Therefor the topic for this graduation studio is defined as follows. “In this graduation project the relationship between architecture and transparency will be the topic of research. What architecture is the very architecture man is in need of today, with its information overload and its imperative of social transparency? The goal is to achieve input to design for programmes that by their nature embody a certain tension between the social and the physiological, and between isolation and togetherness.” Ruurd Roorda, 2015

With this statement the graduation project of transparency is in search of an architectural solution for a very central topic these days. The way we connect with others and share our daily activities has grown very substantially over the last few years. This social transparency is also more and more reflected in our modern architecture with slender tall buildings of glass with very distinctive and readable forms and planning. How this change in architecture supplements the apparent need for social transparency is still debatable. To put this to the test my M3 research tried to find a suitable case study to see if transparency can be implemented in other ways. Villa Müller provided the right information and showing that there indeed is a different approach. In my essay “The Publicity” the position of privacy is related to the advances of social media and the contradictory that they have. With as culmination the answer on the developed research question “How should or can architecture contribute in being the seclusion for our transparent society?”

The program of a modern concert venue is one that has seen an increase in interest. Going to a music performance is a way to enhance, experience and express your individuality. Everyone has his own musical preferences and tastes. Attending to a concert of a band helps to connect with like-minded and experience it together. Together with others that have a similar preference and taste, this creates a very personal connection between the artist and its audience. Privacy is imperative for these kind of events, but to what extend? The social interaction with the city and the privacy for a concert are in direct opposite with each other. How can architecture be the mediator between an increasing need for transparency whilst maintaining the privacy of the individuals attending a concert?

The design process will be explained with the following steps. Specifying the interests and relevance for a concert venue within this graduation project. How a recent design competition became the inducement for this project. With the knowledge of the design program a list of requirements can be compiled with facilities for the different users within the building. The location for the design will provide the setting and background for the concert venue. The choice of location will decide the success for the concert venue. When the design brief and the location have been defined the design will be explained. The design concept will also reflect back on the topic and research question to find if the design fills their needs.
For my graduation studio the central topic is transparency, which we researched in the M3. The meaning of the word transparency within the context of architecture can be divided into three categories. The physical transparency, glass and other transparent materials used to create unobstructed views and vistas. The literal transparency, the readability and understanding of the building layout and its functioning. Lastly there is the social transparency, the way in which a building interacts with its user and also the outsiders. A transparent building should entice people to have a look inside and give them a glimpse of the experience. Creating opportunities for the public to interact with the users of the building?

To get more insight into the program and functioning of a concert venue I visited several of them. This gave me more appreciation for the experience and atmosphere that is created within these buildings. The buildings I have been to are the recently extended Poppodium 013 in Tilburg, the Heineken Music Hall in Amsterdam and to the Effenaar in Eindhoven. While being there besides attending to a concert I tried to experience the building and its spaces with an objective eye. Observing the use of space within these three buildings and their appearance gave me new ideas and helped to develop a more critical stance towards the modern day concert venues.

In my essay I stated “The build environment, the architecture where we live, work and recreate in, should bring us transparency but also suffice in our needs for privacy”. This is true for any building but our all the above mentioned concert venues where missing all the interaction. Both Effenaar and Poppodium 013 (see Fig. 1) have a very minimal amount of windows, and most of them are situated in stairwells. Also the Heineken Music Hall suffers in regards to social awareness and transparency. The Heineken Music Hall does have a truly amazing foyer that has glass on both ends where the façade is situated. But also here the interaction from the outside inwards is absent due to the addition of opaque stickering (see Fig. 2). The introvert nature, scale and robust appearance of these buildings create an unpleasant and uncomfortable environment. Outsiders are in no way triggered to investigate or explore what is going on in the building.

The above mentioned robustness and scale of concert venues also triggered the need to know how an architect can facilitate the design to create a sufficient basis for an acoustic professional to work with. The design concept is one thing but this has to work together with the function of the building. In this case the acoustics and sound isolation. To help me with the basic principle for acoustic design I had contacted ir. Maarten Luykx who works for Peutz. The company who has done the acoustic design for several concert venues. With their most famous one being the Heineken Music Hall which is regarded amongst music critics for Europe’s best acoustics.

Seeing activity is something that helps our society and creates the feeling of belonging and community. The urge to know what happens in our surroundings is always prevalent. A building which wants to follow the advances in social transparency should try and comply with all the three aspects of transparency. Whilst respecting the privacy of the individuals by excluding important private activities. In the case for a concert venue the actual performance should be a completely private experience for those attending to the concert. In the same time the building should have a readable structure within that explains the building layout and functioning.

The design should create interest give people on the outside a glimpse of the activity going on within the building. The building should have an inviting face and not exclude anyone. Though the interaction should not be intrusive in such a way that this creates an uncomfortable space for the users of the building. As is seen in the case study of Villa Müller an open plan layout did not interfere with privacy. The division within the building with regards to the sequencing of spaces is one such way of creating barriers and borders that give spaces different privacy levels. This technique can also be used on a larger scale with for instance a concert venue.
The idea to design a pop concert venue came from a design competition ordered by the municipality of Rotterdam expressing the interest and need for a specific exclusive location where modern pop concert can be held. The city has multiple venues for hosting large orchestral performances in “De Doelen” or theatrical acts in the “Rotterdamse Schouwburg”. But a prominent location for any other form of music is absent from the repertoire. The municipality would like a concert venue with an above regional appearance of at least 1000 places and rehearsal rooms for upcoming local bands to practice and give them the opportunity to make a name. 11 entries for this competition where send in though none met the demands or expectation that the Rotterdamse Raad van Kunst en Cultuur wanted. They concluded with the following recommendation for the municipality, The concert venue should have a large hall for at least 1500 people, for more profit, attracting bigger acts and compete with the other pop venues in the Netherlands.

The opportunity to invest in a large new concert venue seems logical with the recommendations of the Rotterdamse Raad van Kunst en Cultuur and vision from the municipality. This design will fulfill the needs for both international and national known bands while strengthening the music community for upcoming and starting local bands. With the opportunity to rent a rehearsal room and eventually even play in the small venue. Building a new complex with this purpose will attract an audience which at this point is not addressed.
The location choice for a new concert venue is important, it will determine whether or not it is successful. Accessibility is a top priority, connections to Rotterdam Central station should be within walking distance for visitors from other cities, and other means of transport such as bus and tram are for local people and employees. Lastly parking places close by for those who come by car, which is a minority compared with people that use public transport. Rotterdam has this excellent place near the central station, across from “De Doelen”. The location is situated on the Rotterdam Cultural axes which reaches from the central station all the way to the Museum Quarter.
While researching the nature of current concert venues it was apparent that transparency was neglected. This has led to these cave like situations in which the public can’t interact with the building nor the people inside. This form of communication could enhance the involvement from the public and also make the building less harsh and uninviting. So the design should open itself for the public and prioritize communication.

To connect the building with the three ways of transparency each of these should have a different recognizable element.  

1. Two concert venues, one large hall and one small. This complies with the needs of the municipality with better exploitation and a growth perspective in mind. Attractive for known bands to play and also for local bands to practice and perform.

2. A visual separation in the building that explains the layout of the building in a simple manner. The readability of the building helps with the functioning and creating a comfortable space to be in.

3. Interaction within the building is key to make a social transparent building. Also people that pass by can have a look inside and see the activity and operation of its visitors.

In Fig. 6 you can see the changes within the design process. The first image shows a clear separation between the two concert halls. Which covers the physical and literal transparency. Social transparency is less noticeable because of the situation of the two concert halls with their robust and massive stature. The second image shows a better use of the façade and therefore creates more social transparency. Though the separation of the concert halls and the large atrium do not strengthen each other. The literal transparency is absent. Lastly the third variant complies to all the three forms of transparency with the only sacrifice of no having entrances on either side of the building.

On November 24th 2015 I had a meeting with ir. Maarten Luykx. He is an acoustic professional from the building physics company Peutz. In preparation for this meeting I made drawings of my design intentions and conceptual ideas for the 2 concert halls. Together with questions that arose with the design of my building which still needed answers. The conversation of about an hour was in depth and focused in succeeding in a design that would create a correct basic platform with which an acoustic professional could calculate and suggest specific improvement. Without needing to bring huge design changes with it. The principle that is used for these concert halls is a classical Box-in-box principle, the inner concrete box is to contain and muffle the low tones generated with the music, where the acoustic paneling will provide for the acoustical properties that comply with the high tones. The second shell of concrete would be acoustically separated from the inner with decoupling elements or a separated foundation. This box would insure that the volume outside of the concert halls and outside of the building would meet sufficient levels. Especially since the building only ten meters from my building plot is domestic housing.

CONCEPT

In Fig. 6 you can see the changes within the design process. The first image shows a clear separation between the two concert halls. Which covers the physical and literal transparency. Social transparency is less noticeable because of the situation of the two concert halls with their robust and massive stature. The second image shows a better use of the façade and therefore creates more social transparency. Though the separation of the concert halls and the large atrium do not strengthen each other. The literal transparency is absent. Lastly the third variant complies to all the three forms of transparency with the only sacrifice of no having entrances on either side of the building.

On November 24th 2015 I had a meeting with ir. Maarten Luykx. He is an acoustic professional from the building physics company Peutz. In preparation for this meeting I made drawings of my design intentions and conceptual ideas for the 2 concert halls. Together with questions that arose with the design of my building which still needed answers. The conversation of about an hour was in depth and focused in succeeding in a design that would create a correct basic platform with which an acoustic professional could calculate and suggest specific improvement. Without needing to bring huge design changes with it. The principle that is used for these concert halls is a classical Box-in-box principle, the inner concrete box is to contain and muffle the low tones generated with the music, where the acoustic paneling will provide for the acoustical properties that comply with the high tones. The second shell of concrete would be acoustically separated from the inner with decoupling elements or a separated foundation. This box would insure that the volume outside of the concert halls and outside of the building would meet sufficient levels. Especially since the building only ten meters from my building plot is domestic housing.
Fig. 7: East Facade with Entrance
The building façade is made as a curtain wall which is attached to the column structure. So the façade has a very strict vertical repetition. The horizontal lines are less strict and reflect the placement of floors and shows what the height of the spaces is compared with other floors. Several areas are not a glass curtain wall because of privacy reasons. But the concrete wall on these places does reflect the vertical rhythm in such a way that the facades are uniform around the whole square.

To complement the curtain wall there is a second skin on this building. This second skin acts as cloths for the building, its task is to be a permanent sun shading system in conjunction with a balcony for the window cleaners. The second skin will consist out of frames with expanded metal. This creates a mesh that blurs the transparency to create more privacy in the sections that need it. Some panels are attached with hinges so that they can be opened to reveal the inside in a direct way. Giving views from the outside into the atrium, foyers and staircases.
Dwg.16: South Facade
VISUALISATIONS
VISUALISATIONS

Fig. 8: Staircase front

Fig. 9: Atrium
Fig. 10: Alley on the North Facade

Fig. 11: Entrance

Fig. 12: Staircase back
Fig. 13: West facade with garage

Fig. 14: Conceptual Section
CONCLUSION & REFLECTION
In conclusion my design embodies the three aspects of transparency which were researched during the M3. The means of achieving these aspects are shown in this architectural representation of Music Square. When I look back at the starting assignment and topic of the graduation project, it is clear that the design has fulfilled the needs for social transparency in architecture whilst keeping the integrity and privacy needs of a concert venue.

“In this graduation project the relationship between architecture and transparency will be the topic of research. What architecture is the very architecture man is in need of today, with its information overload and its imperative of social transparency? The goal is to achieve input to design for programmes that by their very nature embody a certain tension between the social and the physiological, and between isolation and togetherness.” Ruurd Roorda, 2015

The concept and design of the building fit perfectly with the topic and research question of this project. The execution is lacking in certain areas, I underestimated the scale and complexity of the building. Logistics and construction has been the focus point for my design. This resulted in lesser quality of the finishing touches such as materialization and detailing.
Digital Sources:

Advies Poppodium, Rotterdamse Raad van Kunst en Cultuur; February 2015

Pop venues in living areas, Article out of EuroNoise 2015; May 2015

Acoustics for Large scale indoor pop events, Magriet Lautenbach; September 2007

Room acoustic aspects of some recently opened pop venues, Article out of Euronoise 2015; May 2015

Een tempel voor de Muzen, vormgeven aan poppodia, Versspeut architecten, 2009

External Advice:

Ir. M.P.M. Luykx (Maarten)
Acoustic Professional at Peutz
Lindenlaan 41, Molenhoek
m.luykx@peutz.nl

Henk Jagt
Construction Consultant
Veldstraat 56, Deurne
info@hjagt.nl

the contradictory