
EXPERIENCING
MUSIC THROUGH
ARCHITECTURE

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Experiencing music through architecture

A research on performance places for pop music festivals.

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Abstract

The increase in number of festivals in The Netherlands and the importance of live performances for musicians leads to the question of designing new performance places for festivals. Today, most tents do not provide sufficient acoustic qualities for the performance of music and do not add to the experience of the visitor. This leads to the main research question: What aspects of a performance place contribute to the experience of the performance at a pop music festival? To answer this question, visitors, musicians and sound engineers have been interviewed. From these interviews a collection of wishes has been drawn which have been compared and analysed to form a set of elements. The perfect festival performance place is a place with good atmosphere which can be created by the four elements: participation, sound quality, uniqueness and without worry.

Introduction

Relevance

In a world where a lot of music, theatre shows and other cultural performances can be found online for free, live performance becomes more important for artists.¹ The number of outdoor festivals in the Netherlands has grown tremendously during the last ten years. Over fifty percent of these events is a music festival, from which eighty percent focuses on pop music.² Nonetheless, there has not been a lot of research on the designing of a performance place for such a festival. This research can help designers to create a performance place that fits the needs of visitors and performers.

Problem statement

The tents that are used at most pop music festivals at the moment do not provide good acoustics. This can cause the sound pressure level to be very high in some places which can cause hearing damage.

Some visitors use earplugs to protect their ears from damaging. A lot of extra amplifiers and speakers are installed to fill the whole area with sound but it is very difficult to create good quality sound throughout the entire audience. The technology of sound systems of today and recording music has improved so much that the quality of playing music at home or on your phone with a good head set is better than the quality in some performance places.³

Niels Peeters, from Mojo, one of the largest live music organisations in the Netherlands, explains that the choice of a tent for a festival is mainly based on financial reasons. Creating

a new tent would create a big step in festival culture. Sound is, however, not the only problem in these tents.⁴ What makes a festival worth visiting is the overall experience. The current tents are not designed to add to the user experience.

Objective

The objective of this research is to create tools for architects to design a performance place for a pop music festival where the total experience of the performance is improved. This starts with good acoustic qualities for the performance, but there are more aspects that can attribute to this.

Experience of the user is often seen as a way to define what the user is seeking and paying for. A research by Michael Morgan showed that the user experience of a folk festival, and of other leisure activities in general, can't be measured by a simple list. It consists of multiple interconnected elements. All these attributes add up to the overall experience of the visitor.⁵ In short, the goal is to make people start saying "I am going to experience a band live" in stead of "I am going to see a band live".

The main question that will be answered in this research is: **What aspects of a performance place contribute to the experience of the performance at a pop music festival?**

To answer this, a further specification of the research question is needed. At a festival there are many users and target groups. The three sub-questions that are formulated below are based on three of those user groups. The sub questions are:

1 PRS for Music (2016)

2 Infographic (2015)

3 Adelman-Larsen (2014)

4 Niels and Eric(2016)

5 Morgan (2006)

- What creates a good performance place at a pop-music festival for the visitor?
- What creates a good performance place at a pop-music festival for the musician?
- What creates a good performance place at a pop-music festival for the sound engineer?

These three groups are seen as most important user groups in relation to the problem statement (sound and user experience).

To understand the current situation, a short introduction of acoustics of festival tents will be given. Afterwards, the methods used for this research will be described in detail followed by a description of the results. The sub-questions will be investigated and afterwards, these separate results will be combined and analysed. This will lead to the answering of the main question. This conclusion and discussion is the final part of this research.

Current situation

When a sound hits a wall, a part is transmitted, a part is absorbed and a part is reflected. This depends on the size, thickness and material of the wall. A listener in a room listens to a combination of direct sound, early reflections, late reflections and diffused sound. In each room this combination will be different and thus will sound different.¹

Acoustics at pop and rock venues

At classical music concerts a longer reverberation time is required to create a warmer sound. The room amplifies the music. With technical amplified music, this is not the case. Specific levels can be increased technically. Furthermore, speakers with a delayed sound can be used to 'fake' direct sound in the back of the hall. Therefore, creating a space with a very short reverberation time and a lot of absorption can offer a lot of freedom for amplified music.¹

The solution sounds simple, create an almost anechoic chamber with no reflections and recreate the sound technically, with amplifiers, speakers and equalizers. New pop venues often are build according to this philosophy - for example the Ziggo Dome in Amsterdam.

Acoustics at festivals

Outdoors, there are no walls that can reflect the sound. Therefore, playing outdoors seems like a very easy task. Despite the advantages, for sound engineers, mixing outside is not always easy. Wind influences sound waves and background noise disturbs the show. Some pop festivals therefore choose to use tents. This also supplies rain cover and a more intimate atmosphere.²

Financial reasons limit the choice of tents. Therefore, a simple 'circus' tent is often hired. These tents are strong and simple, but an acoustic disaster. The tents surfaces are reflective, especially in the higher frequency ranges. These reflections mix with the direct sound of the speakers and stage and can make the music sound 'blurry'. The ceiling of the tent causes the most of the problems because of the orientation towards the audience (see image). Most festival tents are relatively large and therefore, late reflections can cause a lot of problems because they increase the reverberation time and might even cause echo's.^{3,4}

Currently, these problems are solved by carefully designing the PA (Public Address). Computer software is used to calculate how the sound can be distributed evenly in the whole audience. Also, the speakers are only pointed directly at the audience, avoiding as many reflective surfaces as possible. Even so, the acoustics of the tent can not be ignored.⁴

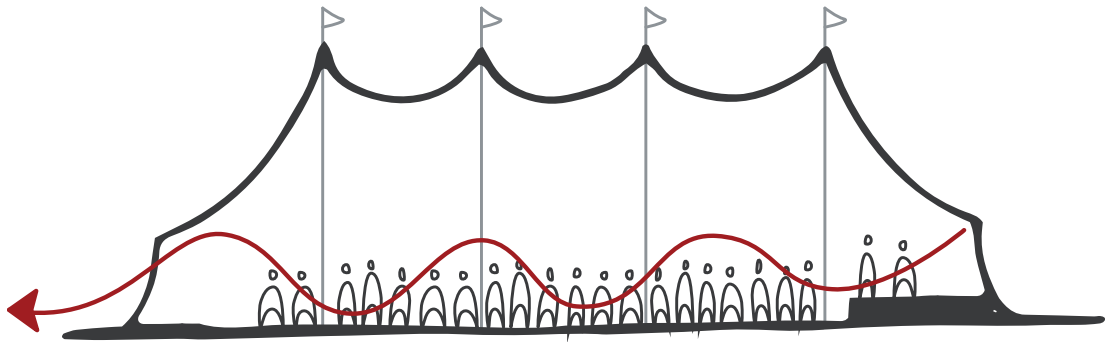
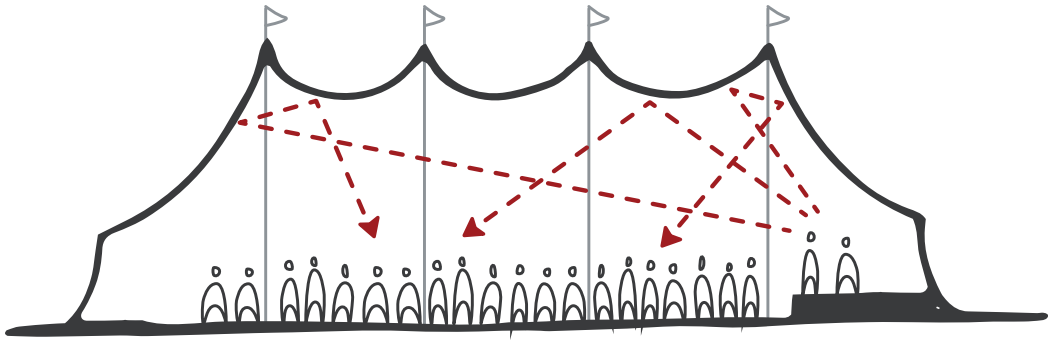
A problem that is very difficult to tackle, is the bass sounds. Those sound waves are not reflected by the tents surface but travel a long way and can disturb other concerts. If the tents could be designed to fit the acoustic needs, there would be more freedom in creating the perfect sound.

1 Adelman-Larsen, 2014

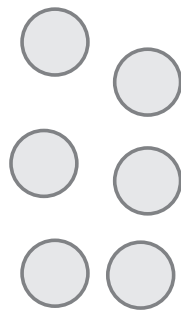
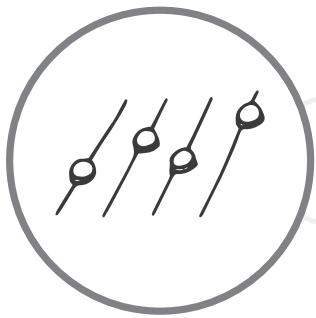
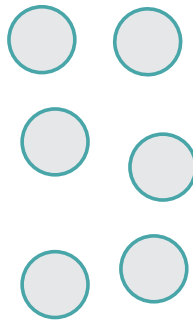
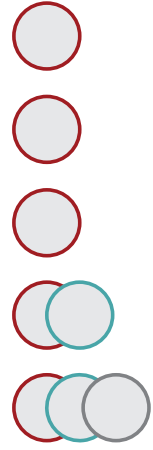
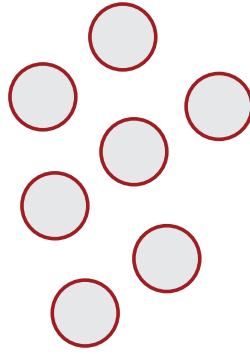
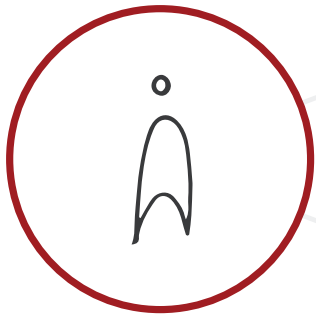
2 Niels and Eric 2016

3 Merijn 2016

4 Dave 2016



Here, a representation is shown of the problems of the acoustics of a regular festival tent. In the top image, the reflections are shown. In the image underneath the low frequency waves are visualized (bass sounds).



Method

For this research, interviews are chosen as the main method. Qualitative research interviews are particularly useful for getting the story behind a interviewee's experiences. The interviewer can find personal in-depth information on the chosen subject.¹ Three different target groups are interviewed - six visitors, six musicians and four sound engineers - to answer the sub questions.

The type of interview chosen is an open ended set of questions that are used as guidelines: 'General interview guide approach'. This way, there is room for letting the interviewee speak freely whilst still being able to focus on specific topics. The results of the interviews can be compared but not analysed in a quantitative way.

To be able to speak freely during the interview, the conversations were recorded. Afterwards, the conversation was processed and analysed. A large variety of questions were asked to gain knowledge on a specific subject, memories of a specific situation, sensory questions and more. The sets of questions with answers can be found in the appendix of this research.

The people that were interviewed all have affinity with Lowlands festival. This has been chosen because then the interviews can be compared in an easier way. The visitors all have been to Lowlands and some of the musicians have performed at Lowlands. The group of interviewees has been enlarged by also interviewing musicians and sound engineers that do not have a direct connection to Lowlands festival. The main reason for this is that this provides a wider range of interviewees and thus a wider scope of answers. Secondly, these were the resources that were available in this time frame.

The type of interview was chosen to fit the research, however, the interviewer was not yet experienced with conducting interviews. Therefore some practice interviews were done before hand. Furthermore, the results of the interviews are compared to other studies.

Each interview will be summarized and analysed. It is important to get the information behind the answers that are given. To be able to compare the different interviews, labels are made of elements that are mentioned in the interview as important. A detailed description of the labels will be given per chapter as well. After each chapter a short summary and interpretation of the results will be given. In this chapter, the results from the interviews are compared to literature studies. The literature that is used for this comparison will be about festival experience and pop venues.

Afterwards, the different labels are used to compare the results of the three different target groups. The labels make sure the results are visible. Some labels will contrast one another, while others might match very well. This information is needed to write a final conclusion. The labels are categorized and used to answer the main question.

On the left a scheme of this research is shown. The three categories are shown on the left. From this, interviews and information from literature is formed. This can be labelled and in the final conclusion these labels are organised and compared. This will result in answering the research questions.

1 McNamara, C. (1999)

VISITOR

Labels



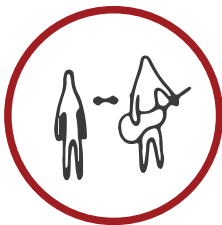
Spontaneity

Almost all visitors mention the spontaneous parties that often arise during Lowlands Festival. They mention dancing on the table, unexpected moments and dancing with the plants that are used for decoration at the festivals. It is something unexpected, spontaneous, new and creates social coherence between the visitors because they make this party together. However, this does not address the festival tents or performances. It is what happened outside of the programmed parties and concerts that count.



Intimacy

Many visitors mention intimacy, social coherence and being close to the musician as important. However, many visitors say this is mainly suitable for smaller acts and light music or theatre performances. Larger bands, dance music is more suitable in a large tent or outdoors where there is room to dance. With intimate concerts, seats might be nice. This is mentioned by Marit and Lars, but Marit often goes to comedy and theatre so she is used to sitting during these kind of performances.



Interaction with musician

Even though most visitors mention this as important. Marit said she did not mind not seeing the band. If she does not know the artist but wants to dance and therefore does not care for the interaction with the musician. Many of the interviewees that find interaction with the performer important also mention that they like to stand close to the stage. Some describe the interaction with the musician as something the space creates (for example distance to the stage), others as something the musician creates (speaking with the audience).



Atmosphere

With atmosphere, most people meant the atmosphere in the audience. At festivals, the atmosphere is often very good. People overall are happy. They have less expectations than at a concert. Some visitors mention alcohol as important for the atmosphere.



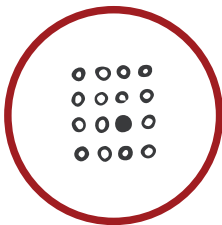
Layered audience

To create intimacy, some visitors came up with the idea of putting balconies in a festival tent. Some visitors mention pop venues like 013 in Tilburg or Paradiso in Amsterdam as references for this idea. Balconies can help bringing more people closer to the stage. Furthermore, the space can feel more intimate with balconies.



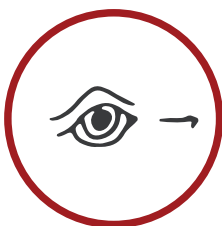
Sound quality

There were mixed opinions on the topic of sound in festival tents. Some visitors did not find the sound quality necessarily bad while others had a much stronger opinion. However, most people find the music too loud and want the sound quality to improve. The interviewees that did not have a strong opinion on this also mentioned not knowing enough about acoustics or sound.



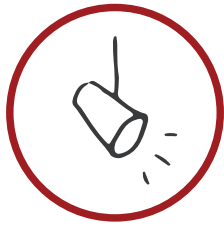
Special

Lima and X-Ray are most often mentioned as favourite stages. These stages are the smaller stages and are not the standard circus-like tents. Also, when people talk about other festivals or pop venues, the places that are spoken about have something special or a certain 'karakter'. People remember places if they are one of a kind, special, different, unexpected. This is also often linked with the atmosphere of the space.



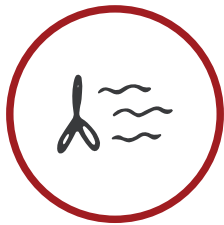
Sight

As mentioned before, many people want to be close to the artists or at least see the band perform. Many interviewees also mentioned sloped floor, balconies or a higher stage as solutions to this. Lars even came up with the idea of putting a very large lens in front of the stage so the musicians would appear larger.



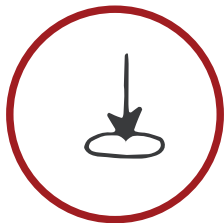
Lights and Décor

Lights and décor are sometimes spoken about in the interview. Some visitors think this can really enhance a performance. Lars: 'If you don't know or like the music, the light show can really help in enjoying the performance'. However, Elmer also mentioned that it is fine that the décors are not part of the festival show. In this case, going to a concert of an artist is still special.



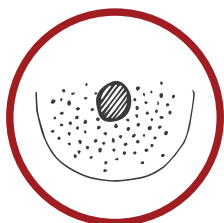
Fresh air

Some visitors mentioned the fresh air. Tents often get very hot, especially when there is a big crowd of dancing people heating it. Interviewees complained about the condensed water dripping from the tent.



Meeting points

Only Sanne mentioned meeting points as something she misses in festival tents at the moment. It is always nice to find your friends again without having to miss the concert.



Centre-stage

In relation to intimacy, some visitors mention surrounding the stage as a preferred set up in stead of the classical end stage. In a centred stage set up, more people can see the artist from up close and the space feels more intimate. However, there is some discussing whether the stage should be fully surrounded by audience or the hall should be designed in a 180 degrees shape.

Interviews

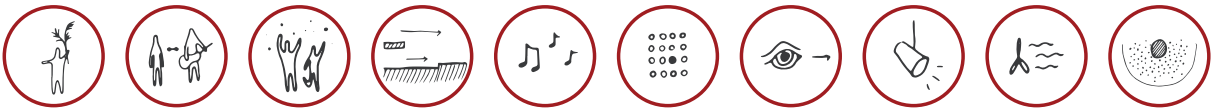
Marit van de Kamp

Marit is a 23 year old from Leidschendam. She studies Industrial Design in Delft. She loves music that makes her want to dance. In her spare time she often dances as well. Furthermore, she likes light music and cabaret. She has been to Lowlands 3 times and has visited Pukkelpop once as well.



Lars

Lars is a 24 year old Ph.D. student living in Stockholm, Sweden. He studied neuroscience in Amsterdam and has been to Lowlands 3 times. He has also been to Down the Rabbit Hole, Rock Werchter and some free festivals. He listens to rock music, electro and hip-hop.



Sanne

Sanne is a 24 year old student from Delft. She has a very broad taste in music. She likes Dutch music, rock, dance and electro. She has been to many festivals: Dour, Sziget, Pukkelpop and she has been to Lowlands 3 times.



Casper

Casper is a 24 year old master student living in Amsterdam. He studied neuroscience in Amsterdam and has been to Lowlands 3 times. He has also been to Melt, and some free festivals. He mainly listens to electro (techno, grave-wave, future) and also listens to hip-hop, RnB and jazz.



Elmer

Elmer is an architecture student from Delft. He is 24 years old and a big Lowlands fan. He has been to Lowlands 5 times. He has tried Rock Werchter twice as well and has been to some free festivals like Appelpop. He listens to rock and light music.















Martin

Martin is 22 years old and studies in Delft. He has been to Lowlands only once and has visited some other festivals as well like Pukkelpop, Pinkpop and Pohoda in Slovakia. He listens to rock, hard rock, jazz and hip-hop music.



Summary

In the table below is show how often the interviewees mentioned a certain aspect.

| |  |  |  |  |  |  |  |  |  |  |  |  |
|--------|---|---|---|---|---|---|--|---|---|---|---|---|
| Marit | 1 | 1 | 1 | | | 1 | 1 | | | | | |
| Lars | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 |
| Sanne | 1 | 1 | 1 | 1 | | | 1 | 1 | | 1 | 1 | 1 |
| Casper | 1 | 1 | 1 | 1 | | | | | | | | |
| Elmer | 1 | | | 1 | | 1 | 1 | | 1 | | | |
| Martin | 1 | 1 | 1 | 1 | | 1 | | 1 | 1 | 1 | | |
| TOTAL | 6 | 4 | 5 | 5 | 1 | 4 | 4 | 3 | 3 | 3 | 1 | 2 |

Interpretation

The visitors that have been interviewed for this research have some similar needs and wishes and some contrasting ideas. All visitors mention the spontaneous parties at Lowlands as one of their favourite memories. This does not seem related to the performance places at Lowlands. It is about the unplanned parties and events that occur at Lowlands outside of the scheduled concerts. From this it can be concluded that visitors like to be surprised at a festival. An explanation for these reactions in the interviews is that visitors remember these moments more vividly because they actively participated in the moment. *'True distinctiveness [...] can be achieved more realistically when visitors have the opportunity to participate in creative activities themselves.'*

1

After spontaneity, 'interaction with musician' and 'atmosphere' were mentioned by the visitors as most important aspects. As a side note to this, often the overall experience of the festival is mentioned by the visitors. This is, for some visitors, more important than the concert itself. Therefore, the experiences of the visitors during a concert can not be separated from their experience at the festival as a whole. The concert is part of the festival and should therefore fit in the overall experience of that festival. This idea is similar as one of the conclusions of Morgan. He states that the visitor evaluates the festival as a whole. If the line for the bathrooms is very long, this can influence the experience of the concert that follows.¹

Atmosphere is another very important aspect. Visitors say the atmosphere at a festival is very different than during a concert at a pop venue. The atmosphere influences the experience a lot. As Adelman-Larsen states

1 Morgan (2006)

this: This experience is not just sound, but includes atmosphere, ambience, feeling and moods that are part of a live performance.² Atmosphere is influenced by a lot of aspects as well and is difficult to classify. 'Good atmosphere' is very personal and moment-bound. In Van Vliet's intense research on festival experience and festival DNA as he calls it, atmosphere is often mentioned as one of the reasons people go to festivals. In an interview with one of the organisers of Lowlands, atmosphere is also mentioned as the most important reason people go to Lowlands.³ However, in all of these articles and books, no clear definition is given of what this atmosphere is. In an interview with Eric, the director of Lowlands, they do not have a clear definition of what this atmosphere is. Everyone already knows what Lowlands is. It is common knowledge and unexplainable in words.⁴

Interacting with the musician is important for some visitors because it makes the performance special. It is a combination of two aspects. The first is similar to the point mentioned before, a memory is more vivid if the audience can participate. By interacting with the audience, the musician draws the audience into the performance and makes the visitors part of the performance. On the other hand, if the musician and the audience interact, it can never be completely the same as another performance of the same artist. Intimacy can also help the visitor to be part of the performance.

Uniqueness is not only important for the performance itself, but also for the place where the performance is held. Uniqueness

2 Adelman-Larsen (2014)

3 Bosch, et al. (2012)

4 Niels and Eric, 2016

lies in the nature of festivals, as Van Vliet also states it. He quotes "They [festivals] create the sense of unique, one-off experiences, for which it is important to say 'I was there', and which therefore bear their own authenticity."

³ The elements of lights en décor also add to this uniqueness. It makes the performance even more special.

Other elements that are mentioned - fresh air, meeting points and sight - are elements that create a base. If there are clear meeting points, if the air is clean and cool and if you can see the musician, there are no worries. As visitor you are able to focus on the performance and experience instead of worry about these aspects.

Sound quality is not the most important element of a performance at a festival according to the interviewed visitors. As mentioned before, Adelman-Larsen also found this. It could mean that the sound quality at festivals is not perceived as 'bad', or people do not expect good sound quality at festivals. On the other hand, many people do mention the loudness of the sound as a bad aspect.

To conclude, visitors want to be part of a unique experience in a good atmosphere where they do not need to worry.

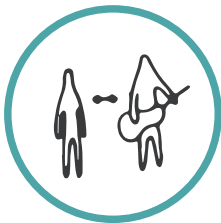
MUSICIAN

Labels



Intimacy

This is mentioned by some musicians. However, it is not mentioned by the bigger acts (The State and Jazz-band). For musicians, being on a large stage which is not intimate is often very prestigious and is therefore a very nice experience for the musicians. It also has to do with type of music. Rock and Afro-beats need less intimacy than a comedy show where it is important to see and hear the audience closely.



Interaction with audience

This is important for many musicians. If they have the opportunity to do something with the audience it makes the show better. According to Tim, interaction with the audience can be improved by lowering the stage and making sure the distance between stage and first row of people is not too big. It can be extra special if you have the space to be creative, like having an extra stage somewhere in the audience or being able to jump of the stage.



Atmosphere

At festivals the atmosphere is very different than in theatres, M. and K. claim. The vibe is already very positive and happy. This makes performing at festivals more fun. All interviewees mention atmosphere as important to give a good show.



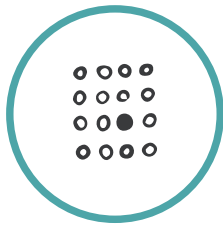
Sound quality

All musicians want to have good sound quality. This is very logical. Some interviewees mentioned the acoustics of the room when talking about this subject, but many artists mentioned the large role of the sound engineer. The larger acts have the luxury of working with their own sound engineer, while others rely on who is available at the venue. A better sound quality leads to being able to play better.



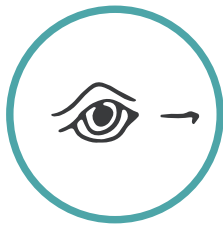
Absorption and reflection

Many musicians mention 'dead' rooms as not very nice to play in because you don't get any feedback from the space. Also, hearing your band members or the audience is more difficult. Full reflection also creates a bad sound quality, so something in between is preferred.



Uniqueness

When talking about their favourite place to perform or their best memory of a festival, many musicians mentioned the uniqueness of the place they performed in. These places have character and are different than other venues. T. and Jorrit both mentioned the change in pop venues in the last decades. The halls have become more and more similar. This makes the performance similar as well. Even though the acoustics are a lot better in these venues, it is nicer to play at a unique stage.



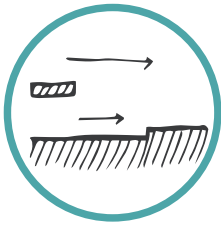
Sight

Performance love to see the audience and look them in the eye. The interviewees that mention this talk about 013 in Tilburg and other venues that have a sloped or stepped floor. M. and K. do not mention this specifically, but that might be due to the fact that they are used to playing in theatres where sight is almost never an issue.



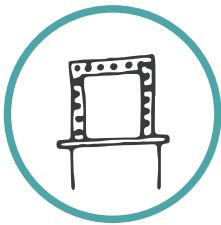
Lights and décor

Only T. mentions this specifically. Lights can really enhance a show. However, this is often not part of the hall or tent but what artists bring themselves. It is important to have enough space for this. Also, the lights should not be too low so the musician is not blinded and can still see the audience.



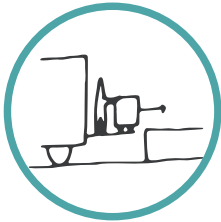
Layered audience

The pop venues that are mentioned and some of the musician's favourite festival tents have balconies. This way, the audience is closer, it is more intimate and the atmosphere is better. Layered audience also gives more people a good view on the stage and creates the opportunity for the front man/woman to interact with the audience in a more dynamic way. Many artists also mention this could be part of their ideal festival performance place.



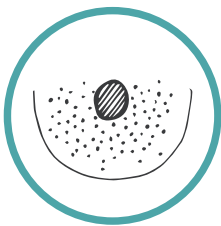
Backstage

A well designed backstage area is crucial for a good performance. This includes a suitable changing room. T. says it is nice if the backstage area is not completely cut off from the area of the audience, but creates an opportunity to see or hear the audience coming in without disturbing the artists. M. and K. prefer something close to the stage where they can be alone before getting on stage. Especially at a festival, musicians want to escape the chaos and relax.



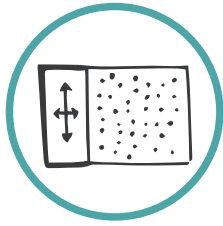
Smooth Logistics

As a musician, all you want to think about is the performance itself. Small things like being able to drive up to the stage with all your gear makes everything easier. If the logistics run smoothly, there will be less stress and therefore a better performance.



Centred stage

To create an intimate feel and to be able to address a large part of the audience, a centred stage is preferred. Many musicians mention this as a good idea for a hall. Some mention this in combination with balconies to create an even more intimate feel.



Spacious stage

The size of the stage should be big enough to fit the band and all of their gear easily. A bigger stage gives more freedom regarding decor, sound and performance. However, it should not be too big because that can create a bigger distance between band members. Furthermore, the stage should be wide rather than deep so every band member can be seen. This is mentioned by Pieter and Emilie, their bands are very large - this causes this need for a large stage.

Interviews

Pieter

Pieter plays the saxophone in a Jazz-band, a band of 9 Amsterdam youngsters. Their music is not easily put inside a box. They play a mix of rock, dub, afro-beats and funk with many ethnic influences. They have performed at many festivals worldwide including festivals in Japan, Germany and more. They have performed at Lowlands 3 times (Lima stage and Bravo stage).



Sjoerd

Sjoerd is a 24 year old musician and composer. He studied at conservatory in Amsterdam and has been playing in many bands ever since. He is also a conductor and composer for musicals. He has not yet performed at Lowlands, but has played on many stages and local festivals. He mostly plays the drums or bass guitar.



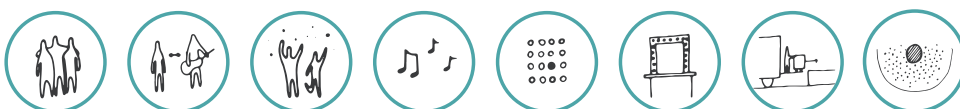
Tim

The front-man and songwriter of rock formation The State has performed at many festivals in The Netherlands, Belgium, Germany and other countries. They have developed since 2007 into one of the most popular acts of The Netherlands. They have performed at Lowlands festival four times already.



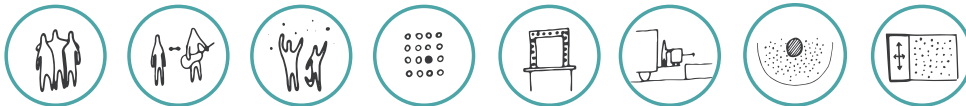
M. and K.

These two ladies both studied at the TU Delft and combined this with conservatory. They formed a comedy duo and now perform in theatres in the Netherlands and are often seen on TV (dwdd, humorTV and more). They are known for their unlimited amount of musical instruments and wit. They have performed at Lowlands twice and also performed at smaller festivals and Oerol.



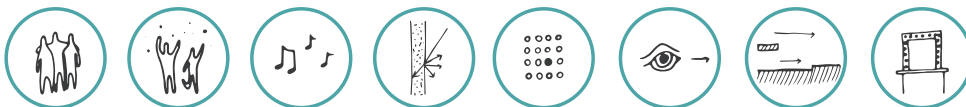
Emilie

Emilie used to study in Delft. During that time she was one of the singers of a Funk-band, a student funk and soul cover band that perform about 25 times in a year. She has not performed at Lowlands but has performed at some outdoor events like the Owee in Delft at the Market in Delft for 8000 people.
















Jorrit

Jorrit is the bass guitar player of a Rock and Punk band. They have performed at some festivals and are sometimes booked as a support act. Jorrit works as a sound technician in BitterZoet, a club in Amsterdam that hosts a lot of different kinds of performances and parties.



Summary

In the table below is show how often the interviewees mentioned a certain aspect.

| |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-----------|---|---|---|---|---|---|--|---|---|---|---|---|---|
| Pieter | | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | | | 1 | 1 |
| Sjoerd | 1 | | 1 | 1 | 1 | | 1 | | 1 | 1 | | 1 | 1 |
| Tim | | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | | |
| M. and K. | 1 | 1 | 1 | 1 | | 1 | | | | 1 | 1 | 1 | |
| Emilie | 1 | 1 | 1 | | | 1 | | | | 1 | 1 | 1 | 1 |
| Jorrit | 1 | | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | | | |
| TOTAL | 4 | 4 | 6 | 5 | 4 | 5 | 3 | 3 | 4 | 5 | 3 | 4 | 3 |

Interpretation

In the interviews with the musicians, two main categories of needs can be classified. On the one hand is the relation with the audience. On the other hand there is all facilities that make the performance easier.

In the first category, it is clear to see that the musicians are there for the audience. They want the visitors to have a good time. Therefore elements like 'atmosphere' and 'intimacy' are important. How this relation with the audience is created differs per interviewee. This can be explained by the fact that different styles of music ask for different things. The taste for a place is personal, depends on music style and which instrument is played.¹ For example, M. and K. ask for a seated audience in a intimate hall where the audience can hear each other laugh. The State ask for a larger place where there is space to dance. In interviews done by Adelman-Larsen, this is also shown. The audience is most important for the musicians. They need to be able to 'hear how the music lands' to be able to perform better.' Musicians live for giving audiences a great experience.¹

In short, the musicians want to interact with the audience and to be able to do so they need to see the audience and the audience should not be too far away. A layered hall is therefore often mentioned as a solution. If this is the case, the atmosphere is likely good. Furthermore, the musicians want to create an experience that the audience can remember and they can remember themselves too. This often happens in places that are more unique.

Musicians have not been interviewed a lot on this topic. The study by Adelman-Larsen comes closest. However, this study is mainly about the acoustics of a pop venue. In the interviews it is shown that acoustics are important but most musicians would rather

play in a unique hall with great atmosphere where the acoustics are not perfect than playing in an acoustically perfect hall. However, this uniqueness and atmosphere is also reflected in the needs for acoustics. Musicians do not like a 'dead' hall where all sound is absorbed. They like it if the space has character in sound as well. This does come back in Adelman-Larsen's study as well.¹ Furthermore, they would like to hear each other play and hear the reaction of the audience too.¹

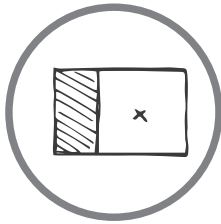
Other aspects that come forward from the interviews are about backstage and logistics. The musicians want to feel relaxed. They need to be able to focus on performing only. Therefore smooth logistics are essential. Also, some musicians mention the short time they have to sound-check everything, therefore more time for this is always welcome. This last aspect is very similar to what the visitors said as well: being carefree enhances the performance a lot.

To conclude, artist like a performance place where they have enough freedom to give their own show, interact with the audience while not worrying about aspects like logistics. Furthermore, atmosphere is something that is very important to give a good performance.

1 Adelman-Larsen (2014)

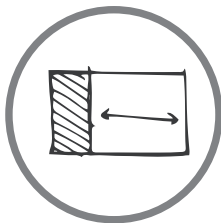
SOUND ENGINEER

Labels



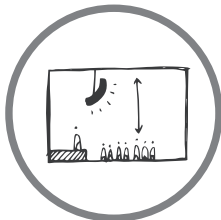
Centre

To experience the sound as the audience perceives this, the sound engineer should have a good location in the hall. This should be central, they should be able to see the band and they should be at 'ear-height'. To experience what the audience experiences Jorrit and Jeroen both walk around in the space during another performance. They can learn from how another engineer has mixed.



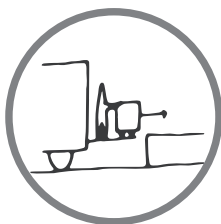
Long hall

To create a constant sound pressure level in the entire hall, it is easier to make the hall long instead of wide. In this case, the speakers can be very close to each other and in that way work together as one sound source. In a round hall where the stage is centred it is very difficult to create equal sound pressure levels because all speakers point in a different direction.



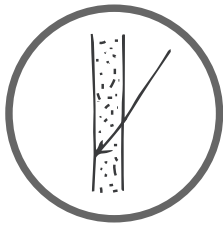
Height

This is very important and mentioned by many of the interviewees. Height is needed to hang line-arrays and reach the back of the public with sound. Height creates a lot of freedom for the sound engineers.



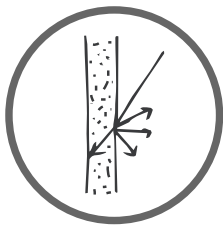
Smooth logistics

Jorrit and Jeroen both mention this in their interview. Smooth logistics can save a lot of time which creates more time for the sound check. Merijn and Dave do not mention this. This is probably because they do not work as sound engineers for the bands and therefore do not experience this part of the job. Larger bands often have more people to help them with the logistics, Jorrit tells. In that case, the sound engineer always has enough time to do a proper sound check.



Absorption

Dave and Merijn describe their perfect festival tent as one with a lot of absorption. 'When there is a lot of absorption, the shape does not matter that much any more', Merijn says.



Absorption and diffusion

Jorrit and Jeroen both mention the specific sound of the hall that is important. This does not exist in halls where there is only absorption. There is a difference in opinion on this subject. Jorrit his opinion is partially biased since he is also a musician. Jeroen is also a little biased since he works very closely with the band.



Atmosphere

Well mixed sound does not necessarily mean a good concert. Many aspects influence this. The most important, according to Jorrit and Merijn, is atmosphere. This is influenced by many things. The band should feel relaxed, the sound on stage should be according to their needs. The sound in the audience should be OK and many more aspects.

Interviews

Jorrit

Jorrit is also part of the musicians group. He works as a sound engineer in BitterZoet, a club in Amsterdam. Here he also educates sound engineers. He used to travel with bands or was hired for a gig, but he has settled in the club where his heart is.



Jeroen

Jeroen is an architecture student in Delft. Out of personal interest he started learning about sound systems and engineering. This developed from a hobby into a job. After helping out at different small festivals in Delft he now works as the sound engineer of a 12-headed soul and funk band from Delft. They perform about 20 times in a year at various locations.



Dave

Dave is a teacher at the Amsterdam Academy for Theatre and Dance in sound engineering. He is an expert on sound, systems and also produces his own music. He knows a lot about building a good sound system.










Merijn

Merijn is in charge of the sound systems for Lowlands festival. He works at Ampco Flaslight. They provide all that is needed for the sound at Lowlands festival. They offer a base on which artists can build. He is always in close contact with Mojo, the organiser.



Summary

In the table below is show how often the interviewees mentioned a certain aspect.

| |  |  |  |  |  |  |  |
|--------------|---|---|---|---|---|--|---|
| Jorrit | | | | 1 | | 1 | 1 |
| Jeroen | 1 | | 1 | 1 | | 1 | 1 |
| Dave | 1 | 1 | 1 | | 1 | 1 | |
| Merijn | | | 1 | | 1 | | 1 |
| TOTAL | 2 | 1 | 3 | 2 | 2 | 3 | 3 |

Interpretation

The sound engineers that have been interviewed have different backgrounds and different jobs at the moment. Therefore it is difficult to clearly compare the four interviews. However, some general conclusions can be drawn.

First of all, most interviews covered just sound engineering and a little acoustics. Therefore most of the aspects that are mentioned are practical. Only Jorrit and Jeroen mentioned atmosphere as an important aspects, this can be explained by the fact that they work more closely with the musicians. Also in terms of acoustics, Jorrit and Jeroen ask for a hall that is not too absorbing. Even though it might be easier for them to work in a place that is acoustically better, they think the sound of the hall contributes to the performance.

In the study by Adelman-Larsen, more aspects came from the interviews. The sound engineers that have been interviewed are no acoustic experts, but they know everything about audio technology. Dave and Merijn both mention the opportunities you have with a well designed sound system. In amplified music, specific levels can be increased technically. Furthermore, speakers with a delayed sound can be used to 'fake' direct sound in the back of the hall. The solution sounds simple, create an almost anechoic chamber with no reflections and recreate the sound technically, with amplifiers, speakers and equalizers.¹ However, Jorrit and Jeroen do not agree with this.

The sound engineer is often positioned in the audience, therefore they can have a good overview of what kind of sound the audience receives. It is their job to make sure the audience has a great experience. However, just like musicians, every sound engineer has a different style. Often bands bring there own

sound engineer who knows best about their way of performing among other things.

In Adelman-Larsen's study, many sound engineers also responded to the interview with a less strong opinion. They believed that a little reflection is needed to enjoy the sound of the hall. However, most sound engineers agreed on the benefits of having a 'dead' stage due to unwanted reflections into the audience which can also be recorded by the on stage microphones, causing a bigger disturbance.¹

Next to acoustics and sound systems some practical needs were given. First of all, the sound engineers want smooth logistics to give them more time for sound checks. Second of all, they need height to hang enough speakers and make a well distributed sound level.

1 Adelman-Larsen (2014)

ANALYSIS & CONCLUSION

Analysis

The investigation of separate user groups has brought many insights. In this chapter, the elements that came forward will be compared and analysed.

Similar wishes

Firstly, it is very clear that the needs of musicians and audience match often. This can be explained by the fact that musicians perform to entertain the audience and the audience wants to be entertained. They therefore have a very important connection. The two groups have the same purpose, but from a different perspective.

The requirements and wishes of the sound engineers do not overlap a lot with the other groups. The only (partial) overlap is with the musicians on the subjects of acoustics and logistics.

Opposite wishes

Not many contrasting wishes have been found. The only contrasts lie with the needs of the sound engineers. They look at a festival tent from a completely different perspective, often a very technical one. To make sure the speakers cover the whole audience with an equal sound pressure level, it is best if the hall has a rectangular shape. A round hall is very difficult for sound engineers to work with. However, artists and audience mention this as a good idea for a better atmosphere and a feeling of intimacy.

Another contrast is that some sound engineers want as much sound-absorption as possible, while artists claim this as bad and 'non-characteristic'. Some sound engineers agree on this view. Therefore it can safely be said that a combination of sound-absorbent materials in the right places without making

the hall sound 'dead', is best for all user groups. Adelman-Larsen also mentions this in his conclusion.¹ Nonetheless, more absorption does create more freedom in shape.

Categorizing

Some of the labels are tangible while other labels are intangible and more abstract. By separating the labels into these different groups, it becomes clear that the tangible elements can be used to achieve the intangible goals. For example, intimacy can be created by making a round hall where the audience is very close to the musicians or using balconies with a similar result. With this in mind, different categories can be constructed. See a visualisation of this on the next page.

The most important element is atmosphere. All intangible elements are contributing to creating a better atmosphere. This is so important that all user groups mentioned this and even claim that other elements matter less if the atmosphere is good. Four main categories have been defined from analysing the interview results, shown on the next page.

The two elements that do not fit in these categories are 'light-show' and 'spontaneity'. Spontaneity has been left out because it is specific to Lowlands festival and about what happens outside of the festival performance places. A light-show is something the artist can add and is not achieved through architectural means.

1 Adelman-Larsen (2014)



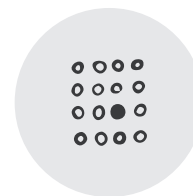
Participation: if the audience is involved in the concert they will remember it better. Also artists like to feel connected to the audience, it creates a better performance. This category contains 'interaction with performer' and 'intimacy'. However, it is important to know that intimacy is not always equally important. As visitors and musicians mention, different types of music require a different type of intimacy. A singer-songwriter wants a more intimate space than a hard-rock band or DJ. The specificity of music is important. The performance place should match with the type of music that is played.



Carefree: for the artist and sound engineer this means being able to focus on their main task and relaxing. This makes the performance better. For the audience not having to worry about anything means they can enjoy the performance to the fullest without distraction. If the artist is happy and relaxed, the audience will likely be able to enjoy the concert better and this works the other way around as well.



Sound quality: Acoustics and positioning PA can contribute directly to how the audience and artist experience the music and makes the performance better. There are two main concepts for acoustics: as much absorption as possible and using the 'sound of the space'. The last option is preferred. However, more absorption creates more freedom of space because less reflections disturb the sound. There is a choice between freedom of form and absorption versus a more rectangular shape that has more reflection of sound.



Uniqueness: This is a very important category, because it is mentioned by many interviewees. However, there are no tangible elements that connect to this category. A reason for this is that uniqueness is achieved by doing something different than expected. Uniqueness is influenced by the other categories as well. For example, good sound quality can contribute to this, or a show created by the musicians.

Conclusion and discussion

After the results have been elucidated and analysed, the main question can be answered: What aspects of a performance place contribute to the experience of the performance at a pop music festival? The answer to this question are the four elements: participation, sound quality, carefree and uniqueness.

The set of elements that answer the research question is not sufficient to create a new place of performance for a pop music festival yet. The main goals of the performance place are clear and some tools have already been found. More research should be done to fill the database of tools that architects can use to create the perfect temporary performance place.

Secondly, more interviews could help making the conclusions stronger. Also, the target groups should be wider to create a better sample. Furthermore, the artists that were interviewed did not all perform at a large festival. This could be improved but was not part of the scope of this research.

Finally, architects and designers should be aware of other requirements for this performance place like fire-safety, stability and more. This research can help designers in making the perfect performance place for a festival but can not replace a design process.

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Pieter (2016), Interview musician, 8 December 2016

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Casper (2016), Interview visitor, 8 December 2016

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