

Introduction/Motivation

People on the street discussing. Honking cars at the big intersection. The drilling of the new construction site next door.

All these are noises that strongly characterise urban life. Noise pollution is therefore becoming a major challenge for life in the city. Our project “Die gehörte Stadt” got to the bottom of this problem. Our interdisciplinary group of seven students used an interactive sound map to illustrate noise pollution in Berlin. We've put sounds from the everyday life of Berlin students into short snippets on a website to showcase with how much noise students have to deal within the city.

Click [here](#) to navigate to our website.

Background to Noise Pollution

Berlin is a city with a population of more than three million. With the development of urbanization, urban noise has also become a factor affecting people's quality of life. In a big city like Berlin, there are many noise factors, such as the construction of new facilities, or the sound people bring in the night life and so on. The project “The Heard City” by lab:prepare uses voice and interactive maps to illustrate the noise pollution in Berlin.

Through this project, people can better understand the factors that affect urban noise and their characteristics. This project takes the student status as the starting point to explore the impact of urban noise in the city of Berlin on the student population. On the map in gehoertestadt.labpresent.de, we recorded a total of 50 time periods in different locations. These sounds correspond to the noise recorded by the students participating in the project at different times of the day. Through the noise analysis of these times, we can roughly analyze the impact of urban noise on humans in Berlin.

According to the analysis of these 50 time points, there are indeed some different types of noise in addition to the sounds produced by normal human life. These noises mainly come from the following aspects:

1. Traffic noise 2. Life noise 3. Other noises

This project will focus on these three points to analyze the generation of noise and its impact.

Main tasks:

- **Recording**

First, we agreed that every group member has to record 10 different sequences. It was important for us to record sounds from our everyday life that offer a diverse sound profile. The sound files should be representative of a „normal“ day of a student. We recorded the files with portable microphones and our smartphones.

- **Editing**

When editing the files, we made sure that they were in mp4 format and that they were all the same

length. We agreed on around 00:30 minute. We edited the files with Audacity.

- **Website**

We have used HTML CSS JavaScript to compose the website from scratch, we have had a couple of brainstorming sessions on how we want the website to look like and we have come up with the current design of the website where on the home page you can see a couple of nice footages of Berlin accompanied with some text information on our project and a top menu where you can find your way to the other sections including the map, this Wiki, an introduction essay on noise pollution etc.

- **Documentation**

Research the results of the experiment, and make a summary paper after visualizing the collected sounds with a map as an auxiliary tool.

Challenges:

- **Recording**

There were some challenges in the recording process. One was whether it was okay to include people. We decided to leave people in as long as you can't clearly identify them. We also had the challenge of making sure that no sound recordings were too similar and that the recordings could be easily distinguished from each other. Furthermore we had the afterthought that it could have been very valuable to our project to have the exact db numbers for each location, to have a better scientific proof for our project. Because we were mostly recorded it with our phones, we did not had the proper equipment to analyse the db.

- **Editing**

During editing, we had the challenge that we recorded our snippets with different devices. Therefore, we had to be very careful that all the recordings on the website were played back at a similar volume and sound quality.

- **Website**

The most challenging part of composing the website was the map, we had to use our personal credit card to make use of the Google map library. Also it was quite challenging to make an interactive map and make it function how it does right now. Also finding a server to host our website was a problem since we would have had to pay a monthly fee to have our website online, but thanks to Andrea Heilrath we were able to run our website online for free.

- * **Documentation**

The voices we gathered are not so much. So when we were analysing all datas there might be some error due to the some uncontrollable factors. Also we are lacking of the machine for detecting sound level. This could be a bit hard because we need to measure the noise impact with subjective factors.

Conclusion

The project was a good demonstration of how sensitive sound can be and how noise pollution accompanying us on our everyday life. Often you don't notice many sounds because you either have

headphones on or many sounds are so natural that they are no longer present. It was also very surprising how loud the living space is, which is supposed to be a quiet area for many students, especially during Corona. In the longer term, it would be very exciting to make the project interactive and that many students would be able to integrate their sound files into the map. As mentioned before it would be also very interesting to have clear numbers how loud the noise pollution is exactly and that you could have with these numbers a clearer and more objective vision of the noise pollution in Berlin.

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