

Re- humanizing Burlenhof

Augmenting collaborative
murals to foster meaningful
social connections

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Virginia Facciotto
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MASTER THESIS

Re-humanizing Buitenhof

Augmenting collaborative
murals to foster meaningful
social connections

MSc Design for Interaction

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Abstract

This project investigates the role of the NOBIS collaborative murals in fostering social connections between the Buitenhof district in Delft (Netherlands) and the rest of the city. Furthermore, it aims to enhance their impact through a design intervention aimed at promoting empathy among city residents.

Utilizing qualitative methods, including interviews, workshops, and participation in local activities, this research engages both Buitenhof residents and Delft citizens to explore their perceptions of the district, the dynamics of social connections in the city, and the impact and limitations of the NOBIS murals. The findings highlight a strong disconnect between Buitenhof and the wider city, and suggest that, if their limitations are addressed, the murals hold potential to bridge this gap.

Building on a series of iterative design explorations and prototype testing with participants, a final design intervention called Voices of Buitenhof was developed. Voices of Buitenhof is an interactive experience that enables mural visitors to connect with residents' personal stories. This intervention was then evaluated, with the results informing reflections on potential project evolution, implications for the field, and recommendations for future initiatives.

The final discussion covers key themes, including the influence of mural art on social connections, the power of authentic storytelling in evoking empathy, the unique challenges of the city as a context for design projects, what "collaboration" means in collaborative projects, and possible future directions and limitations for the project.

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Introduction

Buitenhof, a district in Delft (Netherlands), is a very diverse area often described by both the Delft Municipality and its residents as a place with many social and economic challenges. Its high-rise buildings and green spaces tell a story of urban planning that aimed for functionality but struggled to foster social connectivity. As a result, Buitenhof quickly became stigmatized, with many Delft residents perceiving it as a boring and unsafe place. However, those who engage with the area often describe it as misunderstood. As a foreign researcher, I approached my exploration of Buitenhof without pre-existing biases or opinions, which allowed me to uncover a strongly nuanced reality. My exploration revealed not only isolation and hardship but also kindness, positivity, strong community bonds, and a rich mix of cultures. Despite its challenging reputation, I personally experienced that Buitenhof is home to resilient communities where members support one another and celebrate their diversity.

It became evident early in my research that the NOBIS project is perfect for a place like Buitenhof. NOBIS, a community art initiative launched in 2019 by the CANIDREAM foundation and the NOBIS independent student committee, uses collaborative murals to reveal the hidden identity of the district, beautify its environment, and bring residents together through art. During my research, the NOBIS murals revealed not only to be beautiful decorations in the district, but also strong symbols of the community that created them, and of which its members are proud. To date, three murals have been completed, with one mural created during the course of this thesis, and plans for further expansion within Buitenhof and to other districts.

During these months of work, I collaborated with CANIDREAM



Figure 1. From left to right: the mural artist BEYOND, me (the author and design researcher), Glenn Weisz director of the CANIDREAM foundation.

[Figure 1] to explore the existing and potential social impact of the NOBIS project on the Buitenhof district, with a particular focus on its ability to meaningfully connect Buitenhof's inhabitants with the rest of Delft residents. Through a combination of desk research, qualitative methods, and design explorations, I looked for the challenges NOBIS faces and proposed a design intervention aimed at enhancing its impact. This intervention served as a starting point for reflecting on the potential and challenges of projects of this kind.

The process

This report is structured to mirror the process I followed during the project.

Research blocks: I conducted three research rounds to explore the three key topics central to the project. Each block combined literature reviews, desk research, qualitative methods, and design interventions.

- **First block:** Focused on understanding the context of Buitenhof and the perceptions that both Delft residents and Buitenhof inhabitants have of the district and its people (detailed in Chapter 2).
- **Second block:** Investigated the factors that contribute to meaningful social connections between residents of Delft and Buitenhof (detailed in Chapter 3).
- **Third block:** Examined the existing and potential impact of the NOBIS project on Buitenhof and its inhabitants (detailed in Chapter 4).

Design explorations: Each block led to identifying opportunities for improvement in the areas explored. These insights informed the definition of a broader design goal. In Chapter 5, I explored how a design intervention could help achieve this goal through three design explorations and six concepts.

Final design concept: The insights from these explorations led to the development of a final design concept, which I evaluated and reflected upon in Chapter 6.

Conclusion and reflection: In the final chapter, I reflected on the key learnings from this project, the remaining challenges, the limitations of the work, and the opportunities for future research.

Note on autoethnography

In addition to the research and design methods I carried out, I also carried out autoethnographic research. Autoethnography is a research method that can be used to describe and interpret the object of research through personal experiences (Adams, Ellis, Jones, 2017). Given my position as an outsider trying to understand a specific place and community, I believed this approach could offer additional surprising or interesting insights. For this reason, every day of this project I wrote a few pages in a personal notebook, reflecting on my work and my experience as I engaged with Buitenhof, its residents, and the project in general. These daily reflections allowed me to capture my evolving understanding of the context and, reading back through the pages of the notebook, I could identify some interesting insights. The insights drawn from these entries are presented throughout the thesis as "*Personal reflection*," marked in a different color for clarity.

Exploring Buitenhof

Buitenhof is a highly diverse district in Delft, often described as facing significant social and economic challenges by both the Municipality of Delft and its residents. During the initial weeks of the project, I focused on investigating the district's key characteristics, challenges, and how it is perceived by Delft residents.

This chapter is divided into four sections. The first describes the main features of the district and demographics based on data from the Municipality of Delft and other statistical sources and summarizes its history and the main internal differences. The second highlights a range of opinions and emotions associated with the district, revealing that many of these perceptions are influenced by stereotypes often enhanced by the media and accepted as common knowledge within the city. It also investigates the habits of Delft residents in the city, highlighting the disconnection between Buitenhof and the city center. Furthermore, it explores the lack of social interaction among different social groups in the city, as well as the values and needs of Buitenhof's inhabitants. In the last section, opportunities for the rest of the project are discussed.

2.01. Introduction to Buitenhof

This section offers an overview of the Buitenhof district, drawing from both literature and field observations. The overview begins with a summary of the district's history and main characteristics, including information about its inhabitants, gathered from publications from the Municipality of Delft and various statistical data sources. Then, it explains the internal differences within the district, based on both online data and field observations. My field observations consisted of the exploration of the district by foot and bicycle, during which I documented the district through photographs and notes. Detailed data from these observations can be found in Appendix A.

2.01.1. History and data

Buitenhof yesterday and today

Buitenhof is a district located in an area of Delft's outskirts called Delft-West and it is divided into eleven neighborhoods (AlleCijfers.nl, n.d.). Delft-West, including Buitenhof, was built after the Second World War as a residential area in response to the population growth of the 60s and 70s (WijWest, n.d.). The districts were developed according to the architectural and urbanistic principles of the time, which included the separation of duties with the creation of monofunctional areas (WijWest, n.d.). The urban design prioritized large green spaces, making Buitenhof one of Delft's greenest districts (Cobra Groeninzicht, n.d.). Still, it lacks social and commercial facilities which are located in other areas of Delft (WijWest, n.d.). Furthermore, in most of the neighborhoods of Buitenhof, high-rise buildings with a large number of affordable apartments were built (van der Zon, 1989). Still today, these neighborhoods offer some of the cheapest housing options in the city (AllCharts.info, n.d.).

However, these design choices led to several issues that became apparent shortly after the area's development (van der Zon, 1989). Inhabitants, many of whom were not used to living in high-rise buildings, did not take proper care of the common areas, which quickly deteriorated due to vandalism and neglect (van der Zon, 1989). The same happened with the large green spaces, which became unusable after a short time (van der Zon, 1989). This, combined with the lack of proper maintenance

from the municipality, resulted in a strong devaluation of the area (van der Zon, 1989). The flats started being assigned to people with meager income, especially immigrants and minor crimes became common in the streets of Buitenhof (van der Zon, 1989).

Nowadays, the consequences of these events are still visible in a significant portion of the district, with many buildings now suffering from poor structural conditions that contribute to high energy costs (WijWest, n.d.). Additionally, the outdoor spaces and the green areas are messy and are considered anonymous and without a clear function (Gemeente Delft, 2023; WijWest, n.d.). Furthermore, since the neighborhoods are designed as separate areas, there are few connections with the rest of the city, with a lack of pedestrian paths and bike lanes (Gemeente Delft, 2023; WijWest, n.d.). All of this contributes to making a big part of the district score low or very low in the Leefbaarometer [Figure 2], which is a tool used to measure the livability of Dutch neighborhoods based on multiple factors citizens care about, such as safety, noise pollution or types of facilities (Ministerie van Binnenlandse Zaken en Koninkrijksrelatie, 2022).

Who lives in Buitenhof?

In 2023, Buitenhof counted 13,718 inhabitants, which is around 13% of Delft's population (CBS, 2023). It has a larger amount of 65+ residents (20,7%) compared to the city of Delft (16,4%) and this percentage is now growing (AlleCijfers.nl, n.d.) [Figure 3]. In Buitenhof there are also many single-parent families, 9% of the households are inhabited by this kind of family compared to 5% for the whole of Delft (WijWest, n.d.). This area has a proportion of students comparable to the city of Delft (WijWest, n.d.). Additionally, Buitenhof has more residents with a migration background (48,5%) compared to the whole city (40,8%) (AlleCijfers.nl, n.d.). The most common migration backgrounds are Turkish, Surinamese, Antillean, and Moroccan (AlleCijfers.nl, n.d.) [Figure 4].

Buitenhof is the district with the most social housing in Delft, with 57% of the housing being used for social housing (excluding student housing) (WijWest, n.d.). For this reason, a lot of its residents come here to make a new start and the area has a high turnover rate (WijWest, n.d.). People who live here have a lower income compared to the rest of Delft and are

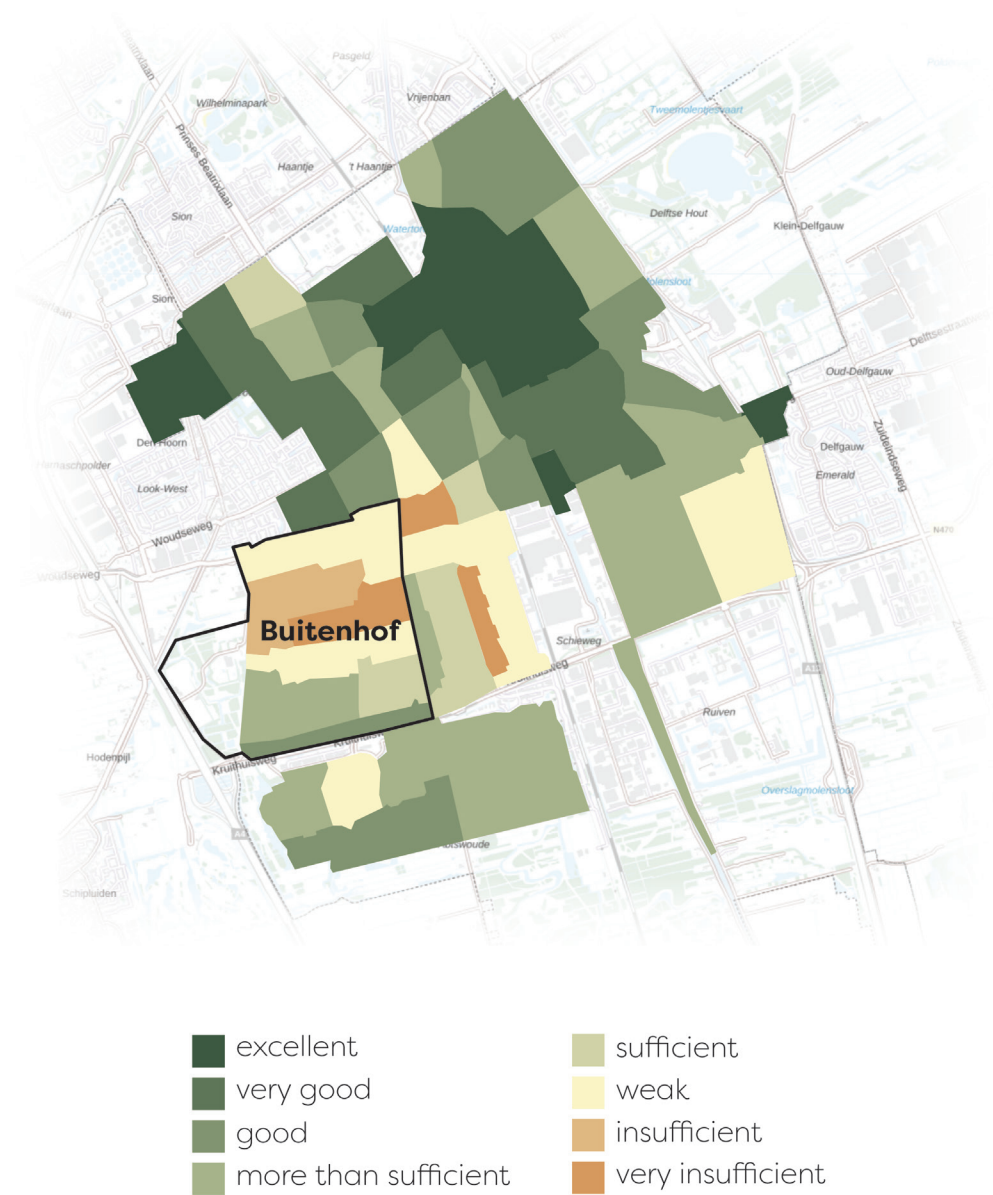


Figure 2. Map of Delft showing the livability score of each neighborhood (Ministerie van Binnenlandse Zaken en Koninkrijksrelatie, 2022).

more likely to have debts and require social assistance (WijWest, n.d.). Data show that 21% of children grow up in a family with low income (CBS, 2021). This raises the chances of young people dropping out of school early or becoming unemployed and, consequently, being more likely to get in contact with criminality (Gemeente Delft, 2023; WijWest, n.d.). Experiencing more criminality than the rest of the city leads 1 out of 5 residents to feel unsafe in their own neighborhood (Gemeente Delft, 2021). Another important theme for the Buitenhof district is the feeling of loneliness, the Omnibusenquête shows that 53% of the residents feel moderately to severely lonely (Gemeente Delft, 2021).

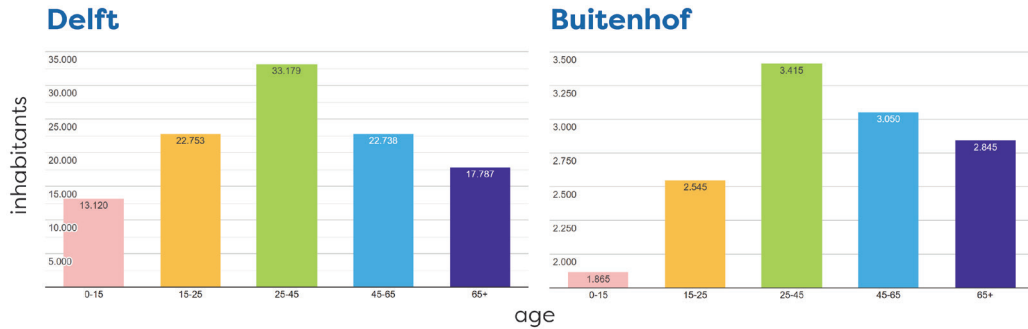


Figure 3. Comparison of the distribution by age of Delft and Buitenhof population (AlleCijfers.nl, n.d.).

2.01.2. Differences within the district

The publications of the Municipality of Delft describe Buitenhof as a homogeneous area, however, there are strong differences between the different neighborhoods of the district (WijWest, n.d.). Significant differences within Buitenhof became apparent during my field visits. The buildings and overall atmosphere vary significantly from one area to another. To allow proper consideration of these differences during the project, and to maintain consistency throughout the report, I divided Buitenhof into four areas: “Southern Buitenhof”, “Northern Buitenhof”, the “Hospital Area” and the “Park Area” [Figure 5]. I based this division on a combination of data:

- The look and function of infrastructure observed when visiting the different areas.
- The Leefbaarometer Kaart scores, which assess neighborhood livability from “excellent” to “extremely insufficient” (Ministerie van Binnenlandse Zaken en Koninkrijksrelatie, 2022).
- The average income of the residents of different neighborhoods in 2022.

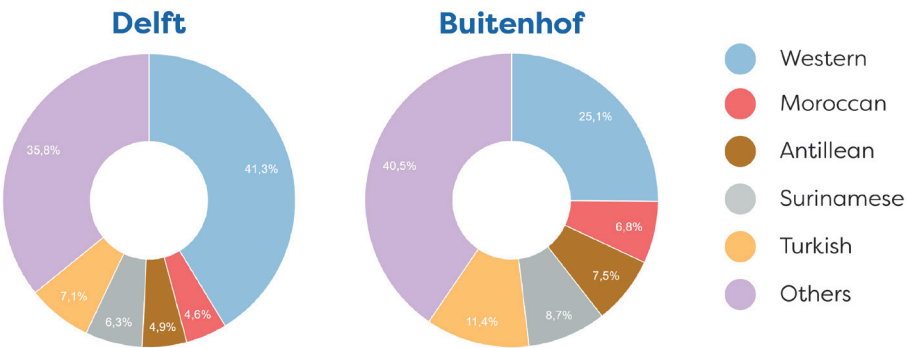


Figure 4. Comparison of the migration background of the population of Delft and of Buitenhof (AlleCijfers.nl, n.d.).

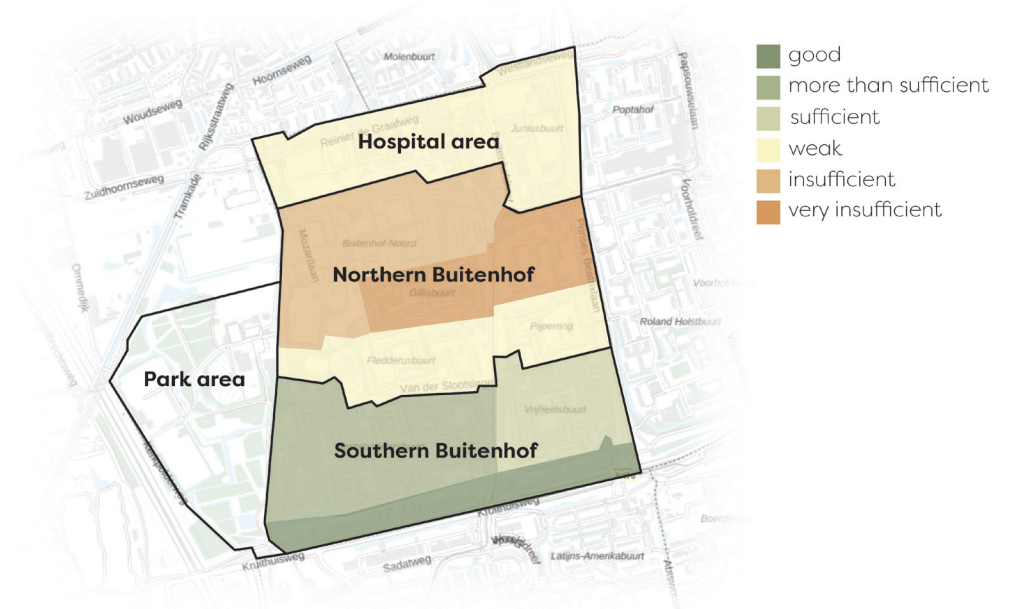


Figure 5. Division of Buitenhof in four areas on the livability score map.

Following the description of each of the four areas:

Southern Buitenhof [Figure 6]: This area includes the neighborhoods of Verzetstrijdersbuurt, Vrijheidsbuurt, and Buitenhof-Zuid. These neighborhoods are characterized by the presence of low-rise single-family houses. In this area, it is also possible to find the student complex Van Hasseltlaan. Their score on the Leefbaarometer Kaart is included between “sufficient” and “good” (Ministerie van Binnenlandse Zaken en Koninkrijksrelatie, 2022) and the residents’ average income is higher than the average of the district and more comparable to the average of the whole Delft (AlleCijfers.nl, n.d.).



Figure 6. Southern Buitenhof.

Northern Buitenhof [Figure 7]: This area includes the neighborhoods of Gillisbuurt, Het Rode Dorp, Buitenhof-Noord, Fledderusbuurt, and Pijperring. In this area, the community center Wijkcentrum Buitengewoon can be found, which is where the CANIDREAM Foundation is based. Furthermore, here is also where the NOBIS collaborative murals are located. These neighborhoods are characterized by the presence of high-rise buildings and their primary function is residential. Their score on the Leefbaarometer Kaart is included between “weak” and “very insufficient” (Ministerie van Binnenlandse Zaken en Koninkrijksrelatie, 2022) and the residents’ average income is lower than the average of the district and than the average of the whole Delft (AlleCijfers.nl, n.d.).



Figure 7. Northern Buitenhof.

Hospital area [Figure 8]: This area includes the neighborhoods of Reinier de Graafbuurt and Juniusbuurt. These neighborhoods are characterized by the presence of social, commercial, and industrial facilities, they also include some residential high-rise buildings. Here we find the hospital Renier de Graaf, the library DOK, and the Mosque. The score on the Leefbaarometer Kaart here is “weak” (Ministerie van Binnenlandse Zaken en Koninkrijksrelatie, 2022) and the residents’ average income is mixed and comparable to the average of the district (AlleCijfers.nl, n.d.).



Figure 8. Hospital area.

Park area [Figure 9]: This area includes only the Kerkpolder neighborhood, and it is characterized by the presence of a lot of greenery and sports facilities. This area doesn't have residents and, consequently, doesn't have a score on the Leefbaarometer Kaart.



Figure 9. Park area.

2.02. The perception of Delft residents on Buitenhof

In this section, I explore how Delft residents perceive Buitenhof and its inhabitants, based on a range of research activities. I begin with a summary of the most common themes that emerge when people describe the district (section 2.02.1). Subsequently, in sections 2.02.2 to 2.02.5, I explain in detail four additional topics that provide a deeper understanding of the district's nature. These sections reveal that Buitenhof is primarily a functional place, often associated with negative emotions, but also valued for its cultural diversity. Furthermore, they bring attention to the strong lack of connectivity between different areas of Delft and the social bubbles within the city.

Research activities

All the information described in the following sections is derived from five different research activities that I carried out with multiple groups of Delft residents. These activities were selected to gather a broad range of perspectives and to address gaps in the understanding of Buitenhof. Below, I explain each activity, its purpose, and the reasoning behind its selection [Figure 10].

Explorative chats: At the beginning of the research, I conducted three brief explorative chats with a student who lives in Buitenhof, an expat who lives in another district of Delft, and a long-term Delft resident who doesn't live in Buitenhof. This selection allowed me to capture diverse perspectives early on, providing a foundation for identifying key themes that would shape the following research activities. These conversations aimed to identify some main themes to explore in the following research activities. The questions and notes of these chats can be found in Appendix A.

Online surveys: Following the exploratory chats, I conducted two online surveys to verify if the opinions shared by the three interviewees reflected those of a broader group of Delft residents. The first survey was shared in university WhatsApp groups and the Van Hasseltlaan complex, resulting in 72 responses from students and recent graduates. However, this created a sample heavily weighted towards younger residents. A

second survey was shared on the Delft subreddit to reach a more varied demographic, though 80% of the 30 respondents were still aged 19-34, suggesting a significant student presence in this dataset as well. The questions and results of both surveys are shown in Appendix A.

Offline survey: Recognizing the need for input beyond students and young workers, I conducted an offline survey with the inhabitants of the Gillisburg neighborhood's buildings. This location was selected to gather opinions from long-term residents who live near the mural site, unrepresented group in the previous online surveys. Using a foam board with questions and post-its, I collected opinions from six inhabitants, discussing their feelings towards Buitenhof and its residents. The questions and results are available in Appendix A.

Interviews: To gain deeper insights into the daily habits and emotional connections residents have with different districts, I conducted six interviews. Participants shared information about their movements within the city and feelings towards different areas. However, due to recruitment challenges, the interviewees were all aged 18-30 and none lived in northern Buitenhof, where the murals are located. Additional activities were therefore needed to capture the perspective of northern Buitenhof residents. Appendix A shows more details about the interviews.

Drawing workshop: To gain insights directly from northern Buitenhof residents, I participated in a drawing workshop facilitated by BEYOND, the artist behind two of the three NOBIS murals. This workshop was attended by 9 residents and social workers of northern Buitenhof. The activity was designed and planned in collaboration with BEYOND and aimed to explore the feelings of participants towards their neighborhood and their desires for the future mural. Section 2.02.5 and Appendix A provide detailed descriptions and results of the workshop.

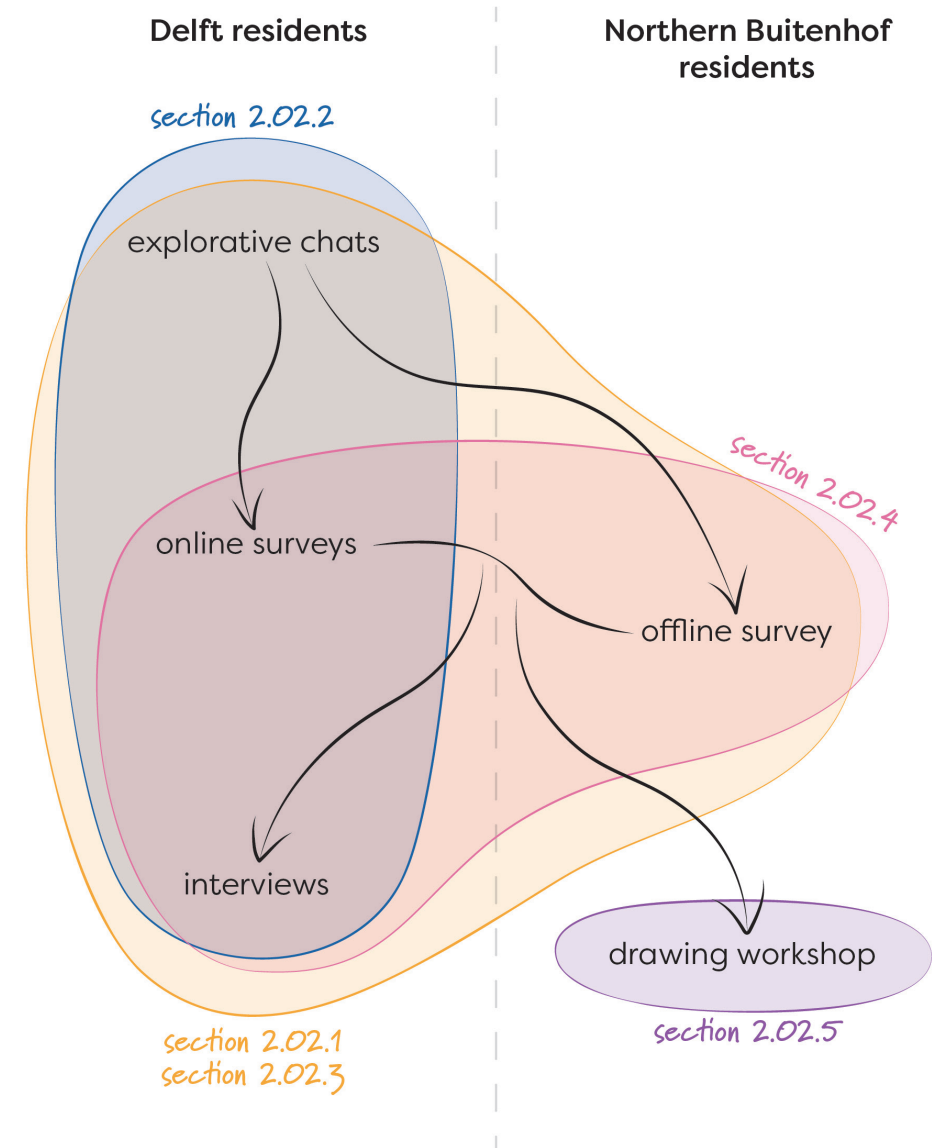


Figure 10. Research activities and their outcomes.

2.02.2. A functional place with low appeal

This section explores how Delft residents spend their time in the city, focusing on their relationship with the Buitenhof district. The insights of the research reveal that Buitenhof is primarily seen as a residential area with limited appeal for spending free time. The data was collected through various research activities, including the online surveys filled in by a total of 102 Delft residents, the three explorative chats, and the six interviews. Notably, most participants were young residents aged 18 to 34, including students and young professionals. An overview of the insights from these research activities is presented in Appendix B.

The insights of the research activities show that residents, both within Buitenhof and from other districts of Delft, rarely frequent the district for leisure activities. The online surveys indicate that the primary reasons for visiting Buitenhof for people who don't live in the area are practical errands such as visiting the hospital, grocery shopping, or visiting friends and family. Three students who live in Buitenhof further emphasized this point during the interviews. They explained that, while they stay in the district for necessities, their free time is primarily spent in other areas of the city, except for occasional walks and sports activities in the park area and the southern part of the district. Interestingly, only one student mentioned spending time in the northern part of the district, in a specific park where they appreciate the trees and natural surroundings, but they explained that the visits are infrequent [Figure 16].

Furthermore, there appears to be a common perception in Delft that Buitenhof lacks the vibrancy found in other parts of Delft. This idea is reflected in the online surveys results, where a significant portion of Buitenhof residents agreed with the statement “*There is nothing interesting going on in the Buitenhof district*”, and the majority of them disagreed with the statement “*There are a lot of fun/nice initiatives in the Buitenhof district.*” The interviews confirmed these findings, with students and young workers expressing their preference for spending time in the city center due to its lively atmosphere and aesthetically pleasing architecture. Overall, Buitenhof is perceived as a functional place that lacks appeal, where Delft residents prefer to spend as little time as possible, except for enjoying nature in the park area [Figure 17].

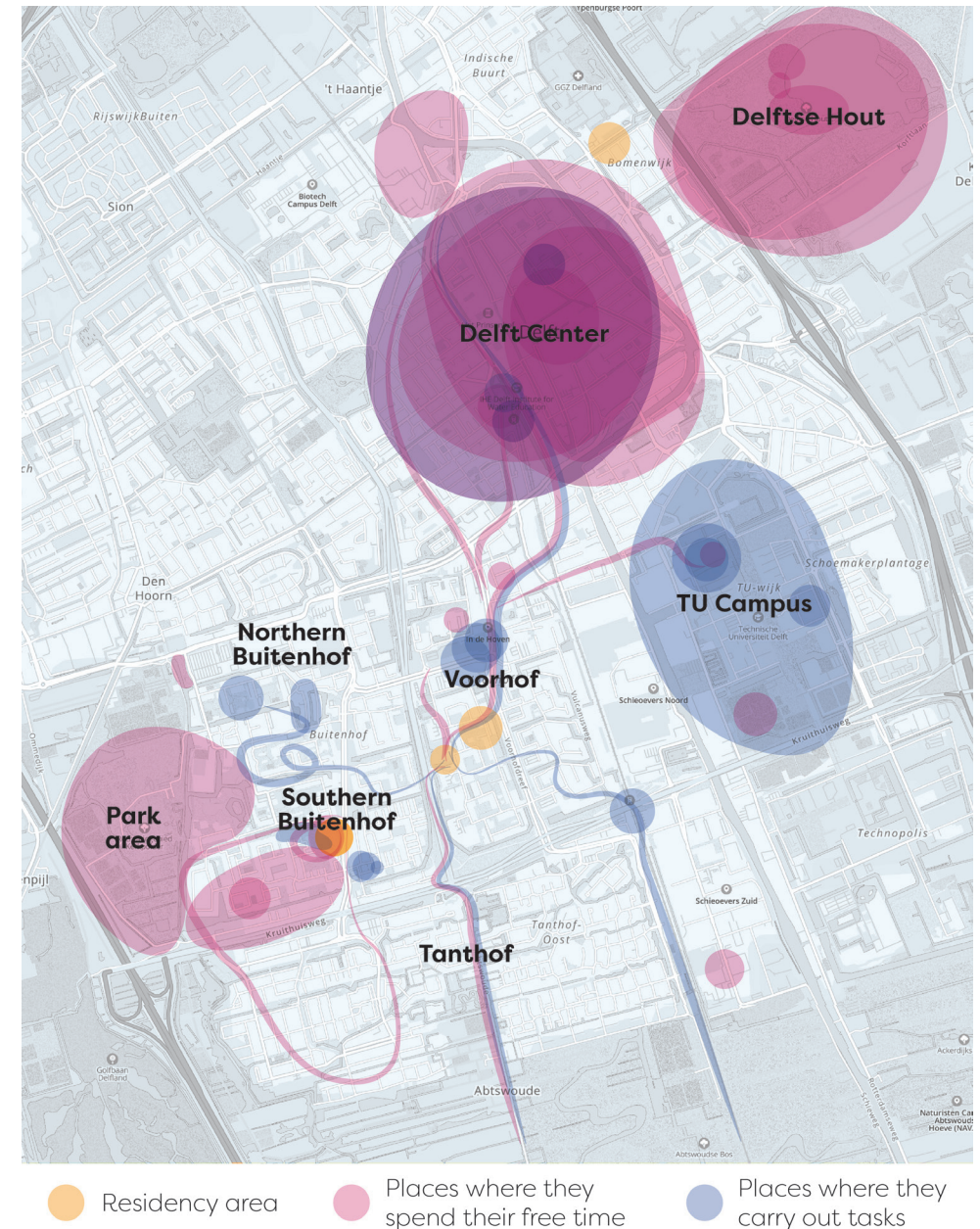


Figure 16. Map showing where young Delft residents spend time in the city.

However, the participants involved in the research activities were mainly students and young workers, meaning residents under 18 and over 34 years old, and those living in northern Buitenhof, were underrepresented. Their opinions and habits might differ from those discussed in this section. For instance, during an informal conversation with Glenn Weisz from CANIDREAM, I learned that, unlike the people I interviewed,



Figure 17. Quote from the interviews.

most inhabitants of the northern part of the district rarely visit the city center and tend to carry out most of their activities within their neighborhood. This suggests that the topic might be more complex than the research results indicate, due to recruitment limitations.

2.02.3. Negative feelings and stereotypes

This section explores Delft residents' perceptions of safety and comfort in the Buitenhof district. The collected data show that a combination of the lived experiences of participants, the negative stereotypes fueled by media, and the organization of the physical environment, all contribute to feelings of discomfort among some residents when spending time in the Buitenhof district. The presented insights come from a combination of data collected through three explorative chats and six interviews with students and young workers who live in Delft, and the online and offline surveys that reached a variety of Delft residents with different ages and backgrounds. Appendix B shows an overview of the research insights considered for writing this section.

During the exploratory chats and interviews, several participants expressed feelings of discomfort and a lack of safety when walking through Buitenhof, particularly in the northern area. They identified factors such as deserted streets, overgrown vegetation, and poor lighting as contributing to their unease [Figure 18]. Notably, the online survey results suggest that these feelings of insecurity are more pronounced among students compared to older residents, though the reasons for this remain unclear.

Moreover, a comparison of the emotions associated with the northern part of the district reveals that residents from other areas express stronger negative feelings than those who live in northern Buitenhof [Figure 19]. This suggests that part of the perceived unsafety comes from external prejudices rather than lived experiences within the district. Even though data



Figure 18. Quote from the interviews.

confirms a higher crime rate in Buitenhof compared to the rest of Delft (WijWest, n.d.), and the offline survey shows that multiple residents of northern Buitenhof have experienced minor crimes, many participants in the explorative chats, interviews, and online surveys acknowledged the presence of negative stereotypes towards Buitenhof inhabitants [Figure 20]. The two participants with the longest residency in Delft mentioned that they often hear people talking negatively about northern Buitenhof residents without valid reasons. This perception is also fueled by media portrayals, with some residents mentioning news articles and documentaries that paint the district in a negative light, such as the episode about Buitenhof of the TV program “Danny Zoekt Problemen”) [Figure 21]. Students who have recently moved to the city expressed less agreement with these stereotypes, potentially due to their shorter residency and less exposure to these negative perceptions. It’s important to note that the perception of safety varies within the district. Insights from the interviews reveal that negative feelings are mostly associated with the northern part of Buitenhof, while the southern part is generally perceived as neutral and calm. However, as explained in section 2.02.1, participants of the online surveys indicated that it is common for Delft residents to implicitly refer to the northern area when talking about the entire district.

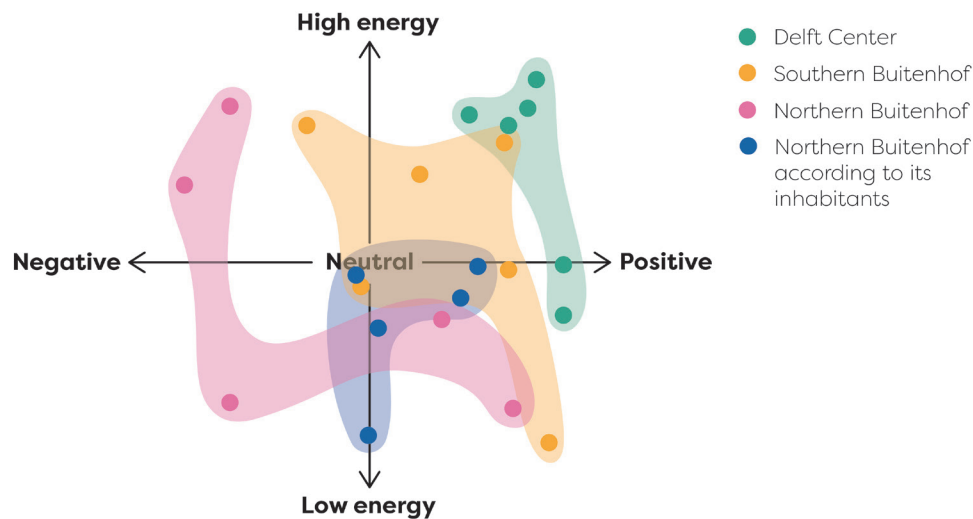


Figure 19. Emotions that Delft residents associate to different areas of Delft.

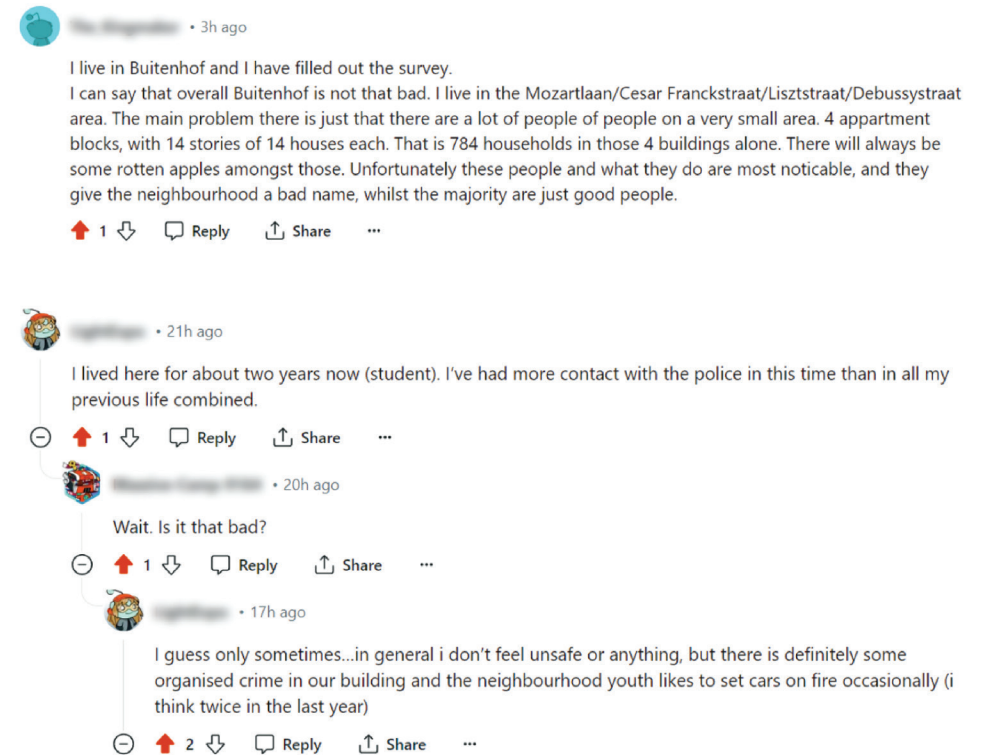


Figure 20. Comments on the Delft city sub-Reddit.

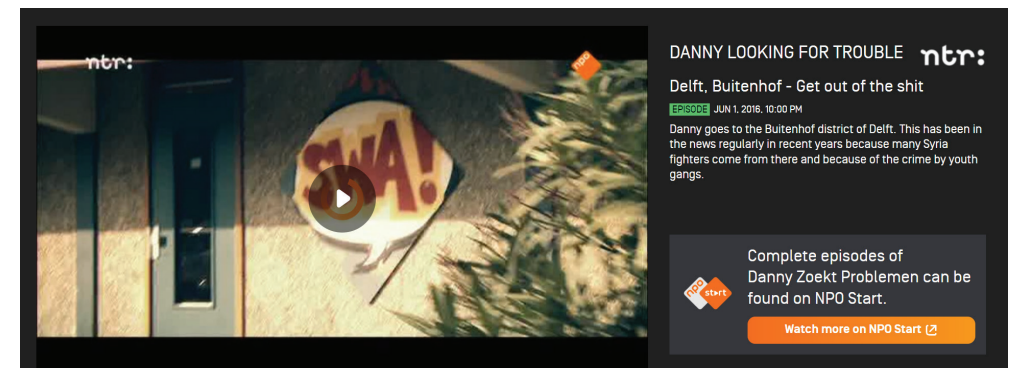


Figure 21. Screenshot of the episode of “Danny Zoekt Problemen” featuring Buitenhof.

2.02.4. A missing sense of community

This section explains the lack of community spirit and the feeling of disconnectedness between different social groups in Delft, as reported by various residents during my research. The insights for this section are derived from a combination of data collected through six interviews with students and young workers living in Delft, as well as the online and offline surveys that reached a diverse group of Delft residents of different ages and backgrounds. Appendix B provides an overview of the research insights considered for writing this section.

The online and offline surveys with Buitenhof inhabitants revealed a feeling of detachment from the district community. Even if opportunities to connect with their neighbors exist, most participants expressed a lack of interest in trying to build a social connection with their neighbors or participating in neighborhood social events [Figure 22]. Multiple

participants in the interviews and in the offline survey attributed this disconnect to the area's high turnover rate. One of them explained that knowing that their neighbors might move out soon demotivates them from investing time in building connections. Two others noted that the continuous change of inhabitants in their building doesn't allow them to build relationships with people around them. Additionally, two participants of the offline survey indicated that activities such as work and taking care of children consumed their time and energy, leaving little room for social activities. This suggests that some residents have to prioritize work over socialization.

The insights of the interviews also

I got a letter about a communal dinner or picnic or something, but I didn't feel like I wanted to go there. I didn't really see the value in going.



Figure 22. Quote from the interviews.

revealed a sentiment of missing sense of community among students who live in all areas of Delft. Five out of six participants explained that they feel part of a strong student community, but they lack social connections with older residents of the city. Most of them seemed doubtful about whether building this connection between different social groups is possible [Figure 23]. The lack of social connection and sense of community among Buitenhof and Delft residents is a dynamic, that will be further explored in chapter 3.



Figure 23. Quote from the interviews.

Personal reflection

The reflections I documented during the initial weeks of my autoethnographic research allow me to add a personal perspective on this lack of sense of community and connection. As an international student who moved to the Netherlands a couple of years ago and is learning the Dutch language little by little, I have encountered significant challenges “*mixing with locals*,” as noted in many journal entries. At the beginning of this project, I realized that I was unfamiliar with the names of the different districts in Delft, admitting, “*I have ignored the names on the map because they were too complicated to learn.*” On numerous occasions, I also expressed difficulty in finding locals outside the student social bubble, noting that I barely met them in my daily life.

Reflecting on the words I wrote several weeks ago, I wonder: have I, for all this time, been living in a city under the assumption that forming meaningful connections outside of my social bubble is an unrealistic goal? Did I even attempt to create any sort of connection with people who are not students from my faculty? Thinking about it now, I believe that when I started my life here, I was discouraged from the very beginning from trying to create meaningful bonds with this place. I began my studies learning from older students that stepping out of the bubble was not possible. Many of them told me that learning the language wasn’t useful and that older residents of the city didn’t want to be in touch with students, especially if international. From there on laziness kicked in, leading me to give up before even trying.

However, since I started working on this project, I have more necessity and opportunity to get to know people who I usually don’t interact with in my daily life. Thanks to it, I found myself learning the story of Willem van Oranje from an ex-teacher, making art with a group of older ladies, and helping a small child clean their arms from acrylic paint. Each of these moments put a smile on my face in a different way from how my friends and fellow students can do and showed me how small social interactions with strangers can really make a difference in my day.

2.02.5. Respecting each other in diversity

This section is focused on the values and dreams of residents of northern Buitenhof about their neighborhood. I collected the insights during a drawing workshop that took place in the Wijkcentrum Buitengewoon and was organized by CANIDREAM as a moment to collect opinions for the realization of the newest NOBIS mural. I collaborated with BEYOND, the artist for the mural, to plan an engaging activity aimed at sparking conversations among participants about their values and their visions for the future of their neighborhood. The workshop, facilitated by BEYOND, included two brainstorming sessions and a drawing activity where participants were invited to illustrate their wishes for the district’s future on a prepared template. Nine adults from the CANIDREAM network participated, and additional details about the workshop’s structure and outcomes can be found in Appendix B.

The discussions during the workshop revealed that freedom is a key value for the inhabitants of northern Buitenhof. Participants emphasized the ability to express themselves authentically, pursue their passions, and define their life paths as some of the things they cherish the most. Their discussion showed that they strongly value the freedom of choosing where to live, with who, and their own religion [Figure 24].

However, participants also acknowledged the importance of respecting personal boundaries and the choices of others, even if this can result in a limitation of your own freedom. To them, “*freedom*” and “*respect*” seem to be two inseparable concepts that balance each other. For example, a participant represented in their final artwork an ideal



Figure 24. Quote from the drawing workshop.



Figure 25. Quote from the drawing workshop.

neighborhood with separate spaces for smokers and non-smokers, dog owners and non-dog owners. While the drawing intended to reflect on the concept of respectful freedom, it also suggested that inhabitants might think about social groups as isolated groups that don't mix or connect.

The workshop discussions and the artworks produced by participants at the end of the session also focused on representing an ideal Buitenhof characterized by “acceptance” and “understanding” among its residents. They envisioned a district where people from diverse backgrounds, ethnicities, and religions could coexist peacefully, by accepting each other's dreams and perspectives. Additionally, they wished for a stronger connection between people

that would allow them to overcome language and cultural barriers [Figure 25]. The possibility of choosing a religion and practicing its rituals was also highlighted, with some participants expressing a desire for more diverse religious spaces within the neighborhood. The discussion also addressed the lack of representation of diversity on the side of the municipality. A participant reported a personal story in which they felt a lack of representation of people with different ethnicities in public material produced by the municipality.

Overall, participants mentioned multiple times the strong cultural diversity of the area, and they talked positively about it, transferring the idea that the coexistence of nationalities is valuable for them. However, by strongly wishing for more respect and acceptance, they also showed that mixing people from all kinds of backgrounds is still a source of difficulties that might result in a limitation of the desired respect and understanding. For their district, they wish a more peaceful coexistence based on respecting each other's freedom and taking care of the needs of all [Figure 26].

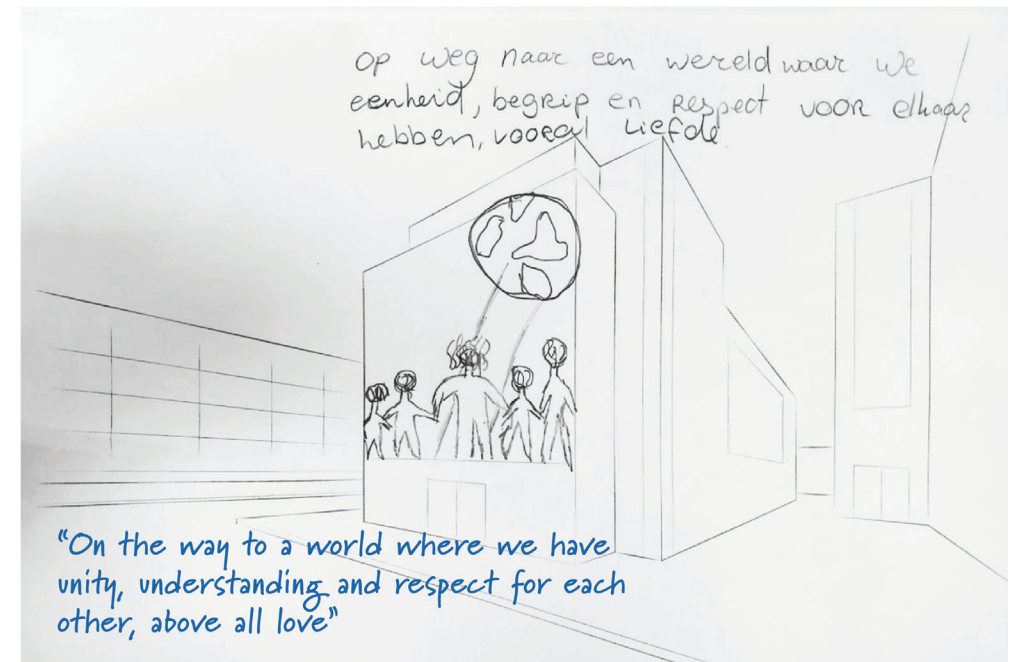
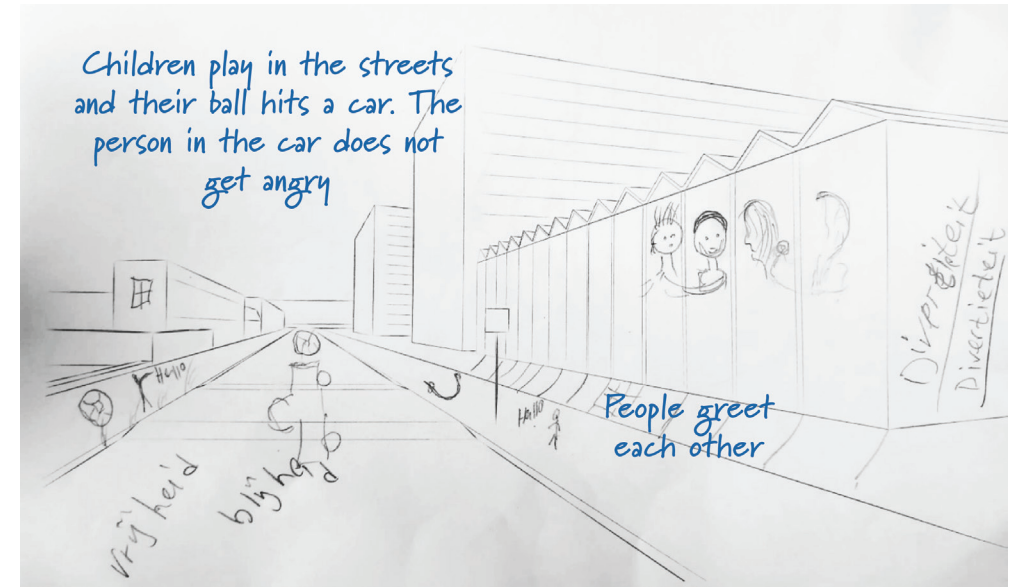


Figure 26. Drawings from the drawing workshop.

2.03. Discussion

During the exploration of the Buitenhof district, I discovered the opinions and feelings of people with very different backgrounds. From international students who don't quite know the district, to elderly Dutch who have lived here their whole lives, to migrant families struggling with cultural challenges. This, together with statistical data and the stories I heard from people, taught me about the great diversity of this district. Initially, I approached my research by categorizing people into groups based on demographics and occupation (like students, workers, and the elderly), with plans to end up with a few personas representing the different groups who live in Buitenhof. However, I would always end up with an oversimplified view that did not feel fully right. For example, assuming all students were unfamiliar with the city due to short residency overlooked looking for the thoughts of those who had grown up here or were instinctively explorers. This made me realize that thinking about people as components of specific groups would lead me to overlook the variety of ideas that can be found when thinking about people as unique individuals. The participants of the drawing workshop also highlighted the diversity of the district through their drawings, wishing for an easier way of connecting and understanding each other despite the differences.

Another significant insight I found was the strong differences between neighborhoods within Buitenhof. Moving from the south to the north, variations in socioeconomic status, lifestyles, and environmental perceptions are striking. Each neighborhood has distinct features, making it challenging to refer to Buitenhof as a whole. Additionally, the strong diversity in ethnicity, culture, demographics, and occupations of inhabitants, makes trying to define the main features of this district an impossible challenge. However, this becomes clear only when spending some time researching the area, while most Delft residents do not see these differences and have very generalized opinions of it. For people who do not live in the district, Buitenhof is only the stigmatized representation that social media provide of it by describing the social challenges of the northern part uniquely in a sensational way that leads to generalized negative opinions towards the area and its inhabitants. Furthermore, I observed a lack of connections between neighborhoods

within Buitenhof, especially between the southern and northern parts. Residents of these areas rarely visit the other one, possibly due to their mainly residential function, which makes them unappealing to those who are looking for places to spend their free time. This effect is even stronger for the northern part, where feelings of unsafety and negative stereotypes towards the inhabitants discourage other people from exploring the area. Additionally, there is a clear preference among residents of all of Delft to spend their free time in the city center, while there is little interest in visiting Buitenhof, viewed as boring, mainly functional, and, in some cases, also dangerous. However, this doesn't apply to northern Buitenhof inhabitants, who tend to carry out all activities in their neighborhood. This is a challenge that CANIDREAM aims to tackle with the creation of an "art route" that takes place in all neighborhoods of the city, and that is expected to give residents of different areas an opportunity to explore parts of the city they usually don't visit.

My research also highlighted that Delft is fragmented into many isolated social bubbles. Some are city-wide, like the student community, while others are location-specific, such as the group that goes to the Buitengewoon community center in the Gillisbuurt, where CANIDREAM organizes most of its activities. People from these groups tend not to interact with each other and, most of them, show little interest in doing so. Additionally, there are a lot of residents of Buitenhof who are completely isolated, to the point of having minimal to no interaction with their neighbors. This might be due to a lack of time or interest in participating in the activities, or even due to unawareness of the existence of the activities. The reasons are not fully clear and would need further investigation in the next steps of the project. This is, in my opinion, the most important finding of this research phase, as it unveils the opportunity to work on sparking opportunities for connections between different citizens and communities. Therefore, further investigation on the topics of social connections and sense of community in cities was carried out during the second research block and its results are explained in Chapter 3.

Meaningful connections

As discussed in Chapter 2, the city of Delft lacks a sense of connection and community among different social groups, especially in the Buitenhof district. For this reason, I spent part of this project exploring how these connections are created and what makes them meaningful.

The first section of this chapter presents a literature review on the concepts of place attachment and community attachment, examining the elements that influence how people connect to their residential areas and the communities within them. The second section provides an overview of the research findings on social community events, highlighting how such events can significantly benefit local communities by connecting individuals in enjoyable ways, while also noting that they can sometimes feel inaccessible and intimidating to newcomers. The third section explores the conditions necessary to generate a sense of connection between individuals who may never meet in person, utilizing personal messages and handmade paintings. Finally, opportunities and implications for the project are discussed.

3.01. Place attachment

This section provides the theoretical basis that served as a foundation for interpreting the field research findings. It explores the concepts of community and place attachment, delving into the factors that influence these concepts through a review of relevant literature. This theoretical framework establishes a foundation for understanding how attachment to both the community and place can be created and strengthened, offering a lens through which the findings of section 3.02 have been interpreted. Following a summary of the most relevant findings of the literature review.

Community attachment is defined in the literature as a social bond between people living in the same area that fosters strong emotions (S Wijaya, Purnamasari, & Sitaresmi, 2018). It is part of the broader concept of *place attachment*, which refers to an emotional bond between people and places that generates positive feelings (Hashemnezhad, Heidari, & Mohammad Hoseini, 2013). Place attachment can be seen as a combination of *community attachment*, *environmental attachment*, and *place identity*. This means that developing a sense of bonding to places requires people to connect with the environment and the community residing there (S Wijaya et al., 2018), and also to experience a sense of belonging to that specific place (Segers, Hannes, Heylighen, & Van den Broeck, 2021). Cross (2003) explains that people attach to different aspects of places, meaning there isn't a one-size-fits-all approach to fostering attachment to a place. Furthermore, Hashemnezhad et al. (2013) explain that place attachment is influenced by personal characteristics such as gender, class, ethnicity, culture, and political tendencies, all of which affect how people assess and experience places.

Despite this variability, the literature also identifies key elements that can enhance attachment to places and communities. First, to develop a sense of place attachment, individuals need to feel satisfied with both the environment and the community (Hashemnezhad et al., 2013). Satisfaction depends on people's assessment of the quality and security of the environment and community, influenced by urban planning features, the presence of facilities, visual characteristics,

social communication, familiarity with people and their culture, and more (Hashemnezhad et al., 2013). Additionally, creating new positive experiences in a place that lead to the formation of memories is crucial for developing place attachment (Hashemnezhad et al., 2013). Especially when the experiences involve interaction with the rest of the community of a specific place (Hashemnezhad et al., 2013). Thus, both occasional community events and permanent social activities have proven effective in promoting place attachment (Hashemnezhad et al., 2013). Moreover, the more time individuals spend experiencing an environment and its community, the stronger their attachment becomes (Segers et al., 2021).

3.02. Connecting through community activities

The literature review summarized in section 3.01 shows that, among other factors, the presence and active participation in community activities could be strongly beneficial in fostering a sense of community among residents of neighborhoods. To explore how these insights apply to the Buitenhof district, I focused on engaging with the various local organizations that facilitate activities aimed at promoting integration and connection among residents. This section explores the many benefits of engaging with these organizations and participating in their activities and the reasons that might stop people from participating in such activities.

Research activities

The insights presented in the following sections are derived from two main research activities, which provided both expert perspectives and first-hand experiences in community participation. Following is a brief explanation of both and more details about them can be found in Appendix C.

Interviews with experts: To understand how social organizations in Buitenhof function and what challenges they face, I conducted interviews with two professionals involved in local community work. The first interview was with a social worker from WijWest, a social project that supports vulnerable individuals in Delft-West with socioeconomic challenges. The second interview was with an artist from Cultuurhuis, who organizes free art workshops for teenagers and women in different districts of Delft.

Participation in neighborhood activities: To gain first-hand insights into the values and challenges of community activities, I participated in two events. The first was the annual Ketu Koti celebration held on June 30th at Wijkcentrum Buitengewoon in Gillisbuurt. The second was the Creatief Atelier, a weekly art workshop organized by Cultuurhuis for women in the Buitenhof district. During these events, I documented my observations and engaged in multiple short conversations with attendees.

3.02.1. The value of community activities

This section explores the values and benefits of the community activities I engaged with during my research. The insights collected during interviews with experts and participation in a neighborhood event and a community art workshop suggest that engaging in such activities can be highly beneficial for people of all demographics. These events provide opportunities for socialization, exposure to diverse perspectives, and spaces dedicated to pursuing personal passions. Appendix D provides an overview of the research insights considered for writing this section.

Buitenhof is home to a wide range of social organizations aimed at fostering connections and organizing events for residents. Each organization targets specific demographics or interests, providing diverse activities for different groups. To name a few, CANIDREAM engages youth through cultural activities, the Cultuurhuis connects people of all demographics through art and music, Bijentuin targets gardening and sustainability enthusiasts, the Sportief Besteed Groep offers sports

to those who can't afford it and the café Kopie Koffie and the DOK Voorhof library provide digital support and language classes. Each organization helps Buitenhof residents integrate into society and connect, often targeting vulnerable groups such as the elderly, youth, immigrants, and economically unstable individuals. The findings of the research exposed multiple benefits of participating in these activities. Firstly, they allow individuals to pursue new or existing passions, with a wide range of offerings ensuring that everyone can find something that interests them. The artist from Cultuurhuis emphasized

I want something professional to do together that feels like you're making something you can exhibit and be proud of.



Figure 27. Quote from the interview with the artist.

the importance of engaging participants with professional activities, highlighting the energy they invest in making their offerings valuable and entertaining for inhabitants of the district [Figure 27]. I observed this firsthand during the art workshop for women I took part in, where participants looked deeply dedicated and inspired by the activity [Figure 28].

The artist also noted that these activities can bridge gaps between people who might not otherwise meet, uniting them through shared passions. This is something that I also observed by participating in the workshop, where I, as a non-Dutch-speaking student, connected with a group of middle-aged and elderly women thanks to making art that acted as a bridge between us. As the artist explained, such interactions can be particularly beneficial for certain groups, such as teenagers who could gain strong value from university students who could become role models for them [Figure 29]. At the Keti Koti event, this effect was even more pronounced [Figure 30]. The event was attended by a very diverse group of people and, during two informal chats with two attendees, I learned that they enjoyed being in contact with so many different cultures. One of them shared that attending the ceremony was really eye-opening in making them realize how lucky and privileged they are compared to social minorities. These examples illustrate how exposure to diverse



Figure 28. Women at the Creatief Atelier.

The teenagers can see in students a role model. They can say "In seven years I can be that person."

The women are open to everything and everyone.



Figure 29. Quote from the interview with the artist.

individuals can enrich our lives and how activities in a district like Buitenhof can foster such valuable interactions.

Finally, in some cases, these pleasant social interactions can even transform into friendships or relationships, significantly improving the life improvement of those who struggle with loneliness. During both activities I attended, particularly the art workshop, participants were close and comfortable with each other. One participant shared, “*Everyone feels safe here,*” illustrating the sense of security and community fostered in these spaces. This is particularly important given that approximately half of Buitenhof’s population struggles with loneliness (Gemeente Delft, 2021). The formation of genuine friendships through these activities can have a profound impact on residents’ well-being.



Figure 30. Picture from Ketikoti 2024 at Wijkcentrum Buitengewoon and quote from an informal conversation.

3.02.2. Reasons to not join community activities

Despite the many benefits, there are several reasons why people may not participate in community activities. Insights from literature, two expert interviews, my experiences at a neighborhood event and a community art workshop, as well as multiple informal conversations with people I encountered during my research activities, revealed several factors that can prevent participation. These reasons depend on the personal interests and socioeconomic status of residents, others on the way organizations communicate, and others on fear or other negative emotions. As shown in Figure 31, they fall into three main themes: *personal reasons*, *organizational reasons*, and *emotional reasons*. Appendix D shows an overview of the research insights considered for writing this section.



Figure 31. Reasons to not join community activities.

The first theme is the one of *personal reasons*, which includes individual choices or conditions that stop people from engaging in events. For example, as supported by Awortwi (2012), residents in vulnerable socioeconomic situations are less likely to engage in community



Figure 32. Quote from the interview with the artist.

activities. This is because they often need to focus their time and energy on meeting basic needs, leaving little room for pursuing passions or socialization (Awortwi, 2012). Additionally, some individuals might simply lack interest in such activities or in the options available. [Figure 32].

The second theme involves **organizational reasons**, particularly communication difficulties within organizations that hinder inhabitants from finding information and suitable options. As discussed in section 3.02.1, there is a wide range of activities available for different groups in Buitenhof. While this diversity is beneficial, it can also overwhelm people trying to choose among their options. The artist I interviewed mentioned that organizations often struggle to coordinate

with each other's programs, limiting the potential for cross-referrals. Furthermore, three people I spoke with at the Keti Koti event mentioned difficulties in finding information about the event, a problem that I also experienced. Without prior knowledge of the event, I wouldn't have been aware of its existence, making my participation impossible. This suggests that many potential participants may be unaware of the numerous organizations and activities available. Overall, I believe that, if better communicated, the activity offer in the neighborhood would be sufficient to satisfy most inhabitants.

The third theme involves **emotional reasons**, including feelings that stop people from trying to join activities for the first time. The experts I interviewed noted that many people hesitate to participate if they don't feel explicitly invited. Receiving a flyer or seeing a poster doesn't necessarily make them feel entitled to join an activity. Additionally, in some cultures, unless the word "*invitation*" is used, people might not feel allowed to attend [Figure 33]. To address this, a social worker I interviewed began visiting people door-to-door to personally invite them, resulting

in increased participation, but this approach is not the norm. Furthermore, for some, the prospect of joining a new social activity can be emotionally challenging. During three informal chats, I learned that attending a new activity alone can be scary, as people might fear not being included in the group they're about to join. Additionally, a conversation with a very lonely individual revealed that starting to socialize again, after being isolated for a long time, can be a significant step out of their comfort zone, preventing them from trying despite knowing the potential benefits.



Figure 33. Quote from the interview with the artist.

Personal reflection

In my autoethnography, I frequently reflect on the emotions I felt before attending all the different activities with different communities. I usually felt somewhat anxious or worried about them, and the main reason was my limited knowledge of the Dutch language. Before workshops, social events, and research activities I feared that I would feel out of place and that people might not be welcoming due to the language barrier. However, every time I entered a new situation, I quickly realized that everything was fine. People were always kind and welcoming and always made an effort to speak English or use simple Dutch words to help me. They showed empathy towards me and that was able to calm me and let me enjoy the experience.

Reflecting on my experiences, I think that what affects my feelings the most before joining an activity with a new group of people is not knowing what to expect. “*What will the place look like? How will people behave? For how long do these people know each other and are they open to new members?*” are all questions I kept asking myself.

Having experienced these feelings myself, I strongly empathize with anyone going through the same experiences. Even if I didn’t have the chance to delve into these emotions with the people I met during my research activities, I think that my personal experience allows me to understand how they feel and how this factor can influence participation in community events. I now believe that the fear of the unknown can be a significant barrier to participation in social events and I think these emotions I encountered would be worth a deeper examination in the context of another project.

3.03. Connecting without meeting

The previous section explains the values and limitations of community activities in increasing social connections and, consequently, enhancing community attachment among residents. This section explores to what extent it is possible to create a sense of connection among people who have never met in person and identifies the factors that influence the development of these distant connections. To investigate this kind of social connection I organized an activity that involved the making and exchanging of postcards. Postcards allowed me to explore different ways of communicating other than talking, including more and less literal communication through text and images. This section discusses the details of this activity and its findings. Appendix D shows more about this activity.

Research activity

The activity was divided into two steps. The first one was planned in collaboration with the artist Laxmi Manuela, who provided painting supplies and guided participants in the painting process. It took place at the Keti Koti event at the Wijkcentrum Buitengewoon, where we invited attendees to paint a postcard and write a message on the back answering the question “*What special tradition makes you happy?*”.

This question was chosen because it touches on themes connected to Keti Koti and allows a broad range of personal answers. Over the course of two hours, twelve participants, including children and adults, painted a postcard [Figure 34]. They were free to choose the subject of their painting, but we provided some examples to help them get started.

The second step involved



Figure 34. People painting their postcard at the Keti Koti.

a 30-minute semi-structured discussion session with three international students who were not from Buitenhof and did not attend the event. I presented them with five of the twelve postcards and asked questions to explore their interpretations, feelings, and thoughts sparked by the cards.



Figure 35. Painted postcards.

Results

When receiving the postcards [Figure 35], the students exhibited positive emotions such as smiles and appreciative comments. After some time observing the cards, they were prompted with some questions that resulted in a conversation. The themes deriving from the conversation are the following:

Preferences and keepability

The students agreed that, if they would receive one of those postcards, they would either keep it as a memento and hang it on their wall or throw it away. They explained that keeping the postcard would lead to building an attachment over time, while throwing it away would result in forgetting about it, adding no impact to their lives. The aesthetic quality and personal effort involved in making the postcards significantly influenced their decision to keep them. Cards perceived as “cute” or those that appeared to be made by young children were more likely to be kept.

Furthermore, two of them explained that the look and effort put into creating the cards were more valuable than the textual content. One participant explained the reason with an example: “I have a postcard on my wall, that I received months ago, I don’t remember what’s written on the back. But when I look at it I remember the moment I received it and I think about the person who sent it to me”

Personal stories and humanization

While the visual appeal of the front was more important to two students, they all agreed that the quality of the text content played a role in the sense of connection they would feel towards the sender. They explained that relatable personal stories on the postcards enhanced their sense of connection towards the person who wrote the card, even without knowing their identity. However, the students also mentioned that knowing the creator’s identity could further strengthen this connection, though it was not essential.

Additionally, one student tried to explain the kind of connection they felt towards the person who made the card: “It would help make others feel like persons, because in daily life you don’t really realize that passers-by are actually people like you.” This suggests that hand-made, relatable, and personalized messages can help humanize strangers, serving as a first step toward further connection.

Giving vs receiving

The students explained that while receiving the postcards gave them a pleasant feeling, they were not likely to invest the same time and effort in making a postcard themselves. They found the activity too time-consuming and felt demotivated by not knowing who would receive the card and its potential impact. One student mentioned initiatives that ask students to write cards for lonely elderly people at Christmas, explaining that they are more likely to participate in such activities because they are quick and have a clear purpose and expected outcome. Additionally, they expressed concerns about data privacy, stating that they would only be willing to write a card for a stranger if their identity remained fully anonymous and protected. They explained that, being all young women, they would fear the possibility of being identified by people with bad intentions and find themselves in dangerous situations. Finally, they had mixed feelings about whether they felt more connected through receiving or making a card. Two preferred receiving cards, while the third enjoyed writing messages for strangers, imagining their reactions and thoughts, which made them feel good.

3.04. Discussion

The research I did during this second research phase showed that connections among residents of the same place are created both through direct personal interactions in real life and through indirect means, without meeting face-to-face. Both forms of connection carry their values and limitations.

The literature review on place and community attachment suggests that a successful way to create connections between residents of the same area in real life is through participation in social community activities. These activities provide opportunities for socialization with people of different social bubbles which is crucial for the creation of a sense of community.

After participating in two of them, organized for residents of the Buitenhof, I can conclude that depending on the nature of these events, different kinds of connections can be formed. Neighborhood events that happen rarely, like the Keti Koti celebration, have the power to bring very different people together, exposing them to each other and, consequently, creating a deeper understanding of each other's conditions. This happened, for example, when a first-time attendee of Keti Koti said that being there "*made me realize how privileged I am*". However, activities that happen regularly, such as the art workshop Creatief Atelier, go a step further by allowing the creation of real and deep friendships between people with the same passions. In particular, participating in the Creatief Atelier showed me that making art together can be a starting point for the creation of beautiful friendships, and in some cases could even help some people overcome loneliness.

In Buitenhof, there are plenty of organizations that organize all kinds of activities and events. However, these activities can feel inaccessible for some people due to organizational barriers and emotional and personal limitations of potential participants. Factors such as fear, lack of time, interest, or awareness of these activities can significantly impact participation rates. This affects mostly people with socioeconomic vulnerability and people who are struggling with loneliness.

With the postcards workshop, I discovered that the exchange of hand-made creations that feel genuine and relatable can create a sense of connection towards the maker without meeting them. From this activity, I learned that some people might struggle with perceiving strangers as people. Receiving the postcards, which feel very authentic and relatable, had the power to spark a feeling of humanization of the person who made them. However, creating such objects requires time and effort, and this activity taught me that not everyone is willing to do this without a clear purpose, especially if they feel that their identity could be exposed.

Overall, I see the red thread connecting all the findings in the word "*empathy*". The research showed that connections with people different from us happen when we come in contact with a relatable and human side of the other person. No matter if this happens through meeting them in real life, participating in the same event, or exchanging hand-made creations, the key moment is when the interaction we are having leads us to feel empathy towards that person. Therefore, I think that the first step toward creating a sense of community between residents of Buitenhof and Delft is promoting empathy, by enabling people to humanize each other and relate to each other's experiences.

This research chapter focused on exploring various ways to connect people in a meaningful way. However, since the project of this thesis is connected to the NOBIS murals, further investigation has been done to explore the role that the NOBIS murals have in the Buitenhof district and what is their potential impact. This is discussed in Chapter 4.

The (potential) impact of NOBIS

Murals, as a form of public art, have the potential to transform urban spaces by contributing to their aesthetic enhancement, social cohesion, and economic growth. The NOBIS project aims to leverage this potential within the Buitenhof district by creating murals that engage local residents in the design process. NOBIS seeks to beautify the district, promote a shared sense of identity, and foster connections between residents and the broader Delft community. As of today, three murals have been already painted in the district (NOBIS 1.0, NOBIS 2.0 and NOBIS 3.0) and the aim is to expand to a broader public art route across the whole city.

This chapter introduces the NOBIS project, explores its (potential) impact on the Buitenhof district, and advances hypotheses on how to enhance such impact. The analysis is based on a literature review on the broader socioeconomic impact of murals, a desk research of art routes based in Delft, observations of the design and realization process of NOBIS 3.0, and the perceptions of Delft residents toward NOBIS 1.0 and NOBIS 2.0. Each section of this chapter delves into the findings of each of these research activities. The final section concludes the research block and discusses opportunities for the rest of the project.

4.01. The social and economic impact of murals

As a starting point to explore the impact of NOBIS, I carried out a literature review of publications about the socioeconomic impact of murals in cities. The review shows that murals, defined as a form of visual art directly applied to a surface in public spaces, readily and freely accessible to the public (De Miguel-Molina, Santamarina-Campos, De Miguel-Molina, Segarra-Oña, 2013; Petroniene, Juzeleniene, 2022), can have a varied range of effects on cities, both economic and social. This section provides an overview of the positive effects and challenges of murals.

The economic impact of murals

The first and most immediate effect of murals on the streets of a city is beautification, the big colorful paintings are often made with the goal of improving the attractiveness of a specific area (KOSTER, 2008). Although tourism can be not the initial motivation, as murals are a publicly accessible form of art, they attract visitors, increasing tourism in the same area (KOSTER, 2008; Petroniene, Juzeleniene, 2022). This can benefit local businesses by increasing their customers (Okafor, 2024) and can result in possible business investments in the area (Petroniene, Juzeleniene, 2022). All of this enhances the value of the city or neighborhood and results in the creation of a more economically stable environment (Petroniene, Juzeleniene, 2022). This happened, for example, to the Wynwood district in Miami (Florida), which was known as an unsafe and neglected neighborhood until the early 2000s, then it was decorated in murals and it is now one of the most popular areas of Miami (Wynwood Art Walk, n.d.) [Figure 36].



Figure 36. Wynwood, Miami.

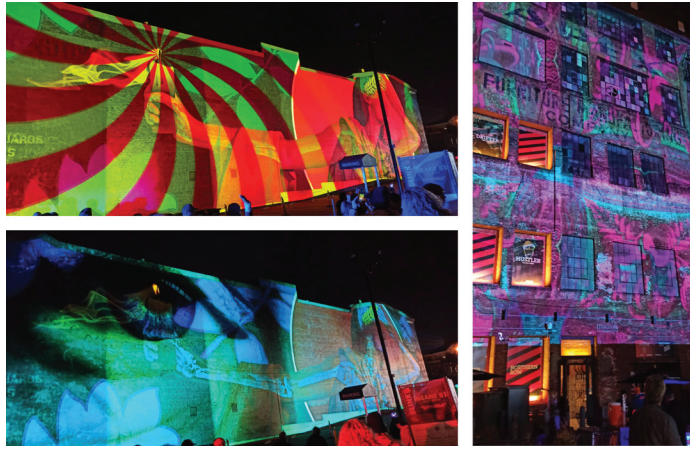


Figure 37. BLINK festival, Cincinnati.

promote tourism is the BLINK festival, which takes place every two years in Cincinnati (Ohio) (BLINK, n.d.). It is a public art event that, over four nights, showcases murals, large-scale projection mapping, interactive light sculptures, and more, made by local and international artists (BLINK, n.d.). This event is now a very popular tourist attraction, and it is also a source of opportunity for emerging artists in the field (BLINK, n.d.) [Figure 37].

The social impact of murals

Literature also shows that murals can have a positive impact on the social connectedness of inhabitants of certain neighborhoods on different levels. First, murals are places that promote social interaction, people tend to meet up in front of them, choose them as locations to spend time or stop by to discuss their meaning (Kang Song, Gammel, 2011; Ulbricht, 2003). This can improve the perceived sense of safety around them and increase the pleasantness of the area.

Second, murals often represent the local history and culture of a specific place (Petroniene, Juzeleniene, 2022). This means that they can function both to express common values as a community and to give visibility to local groups and minorities (Conrad, 1995). This results in an increased sense of pride and empowerment of communities, and, at the same time, it puts a spotlight on social issues that might remain hidden

Even though mural tourism can happen involuntarily, it can also be promoted by local governments or companies (KOSTER, 2008). This can strongly benefit local artists by providing them with new employment opportunities (Okafor, 2024). A great example of how murals can be used to

otherwise (Conrad, 1995; Mohammed, 2021). A great example of this is the East Side Gallery in Berlin, which is the longest continuous section of the Berlin Wall still in existence (VISITBERLIN, n.d.). In this publicly accessible museum, more than 100 murals narrate the east side of the wall and the strong political changes in 1989 and 1990, giving visibility to important historical events and sparking discussions about them (VISITBERLIN, n.d.) [Figure 38].

Third, murals are also often made through the engagement and collaboration of people who are part of the local communities (Mohammed, 2021; Petroniene, Juzeleniene, 2022). This not only gives a voice to locals allowing them to express what they would want to see on the walls of their houses, but also gives them a space to connect through workshops and the creation of art (Mohammed, 2021; Petroniene, Juzeleniene, 2022). For example, the project “Colour and Shape” which involved the community of Heist-Goor in Belgium, demonstrates that participating in such activities can increase the feeling of attachment of people towards the places and promote opportunities for intergenerational connections (Segers et al., 2021) [Figure 39].



Figure 38. *Mein Gott, hilf mir, diese tödliche Liebe zu überleben*, Dmitry Vruble, East Side Gallery, Berlin (STIFTUNG BERLINER MAUER, n.d.).



Figure 39. “Colour and Shape” project, Heist-Goor (Segers et al., 2021).

Personal reflection

Looking back at this chapter after finishing my project, I want to share some thoughts about two conversations I had with three Buitenhof residents about their experience with the new NOBIS mural. During the inauguration of NOBIS 3.0, I had the chance to chat with a very nice woman who had participated in several activities leading up to the mural's creation. We briefly talked about my project, and then she shared something that really stuck with me: thanks to her active participation in the mural project, she was able to reconnect with someone from the neighborhood she hadn't seen in a long time. Similarly, a couple of elderly residents who were also involved told me how, on several occasions, they found themselves explaining the mural's meaning to strangers passing by, engaging in interesting conversations they otherwise wouldn't have had. They pointed out that it seems that, when around the mural, people are in some way more attentive to their surroundings making it more likely to have some interesting encounter with other people passing by.

Hearing their personal stories firsthand made the knowledge I had about murals strengthening social connections feel so real. It was incredible to actually see how something I had read about in academic papers was playing out in real life. Honestly, their experiences felt much more powerful than any theory. It reminded me how much value there is in learning through personal, relatable stories. I feel lucky that this research gave me the opportunity to discover, in such a human way, what I had only previously learned through the literature review.

Challenges of murals

The creation of murals also comes with various challenges (Mendelson-Shwartz, Mualam, 2022). Part of these challenges originate from the stakeholders having different expectations (Mendelson-Shwartz, Mualam, 2022). For example, when governments are involved in the regulation and realization of murals, they will likely have different goals compared to artists or community members (Okafor, 2024). This can worsen existing conflicts or create new ones (Mendelson-Shwartz, Mualam, 2022). Zitcer and Almanzar (2020) explain that murals, as public artworks, are never neutral, and their presence or removal can heal or provoke controversy. This can even make specific groups of people feel unwelcome in front of them (Zitcer, Almanzar, 2020). Furthermore, to attract tourists, municipalities might decide to use murals to depict the culture and history of minorities (Banet-Weiser, 2011). However, this might lead to losing their authenticity or misinterpretations of the general public, bringing harm to such groups of people (Banet-Weiser, 2011). Additionally, in some cases, the potential that murals have in the requalification of urban areas can also cause gentrification (Si, 2023). All these challenges show that when designing murals, intentions, and goals should be clear and aligned among stakeholders and their realization should be well-informed and consider the preferences of locals including minorities.

4.02. Public art routes in Delft

After the literature review, I researched existing street art routes in Delft, focusing on their features. This was done through desk research, which led to the discovery of three relevant websites promoting three different routes.

The first one is called *Street Art Route* and is organized by the *Delft Marketing* initiative, it contains eight different street art pieces that can be found in the city center. Each of them has a small explanation of the history and content of the piece. The second is the *Kunstwandeling Delft* which is an initiative of Delvenaar Geert de Vries. This route, which has also a partnership with Delft Marketing, provides a map with 46 different public art pieces that can be found in the city, with a focus on the city center. Additionally, on the website, a small explanation of the history and meaning of each of the 46 pieces can be found. The third can be found on the website *indebuurt.nl* and is a less structured web page that provides pictures and locations of 18 murals and other art pieces that can be found all over the city. For each of them, there is also a small explanation. In this list, NOBIS 1.0, also called La Perla, can be found.

Chopinlaan



On the Chopinlaan you will find a [brand new work of art](#) on the side of one of the flats. Canidream and Nobis Delft put artist Tymon de Laat to work to paint a beautiful colorful woman. There are all kinds of references to the neighborhood hidden in the design, such as a pearl and a golden edge. In the photo above the work of art is not finished yet, so it is extra fun to see what it looks like now!



A small colorful bird can be seen on the Bible Bridge.

BIRD AT THE MARKET

As you walk towards the Brabantse Turfmarkt, you will see a very colorful electricity house on your right. On the initiative of Rewriters010 and the municipality of Delft, Nina Valkhof gave this electricity house some color in 2020. There is a small, colorful bird that fits in perfectly with Delft and the historical buildings in terms of colors.

Figure 40. Short explanations of murals on the website *indebuurt.nl* and the *Street Art Route* initiative page.

Researching and analyzing these three routes led to two main observations. First, for all three routes, the explanations of the art pieces are quite short and superficial. This happens especially with the one from the *indebuurt.nl* website where explanations of the pieces are limited to a few lines describing their content. The *Kunstwandeling Delft* and the *Street Art Route* provide more detail about each piece, adding information about artists and history. However, they also don't explain the meaning of each piece, apart from describing its content [Figure 40]. Second, only one of the three routes considers all districts of Delft, while the others are limited to the city center. Unfortunately, this third route is also more difficult to find when researching art in Delft, and the information it provides is limited compared to the other two [Figure 41]. This analysis led me to the conclusion that public art in the outskirts of Delft is mostly overlooked by initiatives and organizations that promote tourism. This can play a role in limiting the interest of people in districts away from the center. Furthermore, the provided explanations for the art pieces lack detail on the meaning of each piece, potentially reducing the interest of visitors. The idea of a public art route that focuses on the outskirts of Delft, like the one envisioned by NOBIS, is novel and could have a social and economic impact on the city.

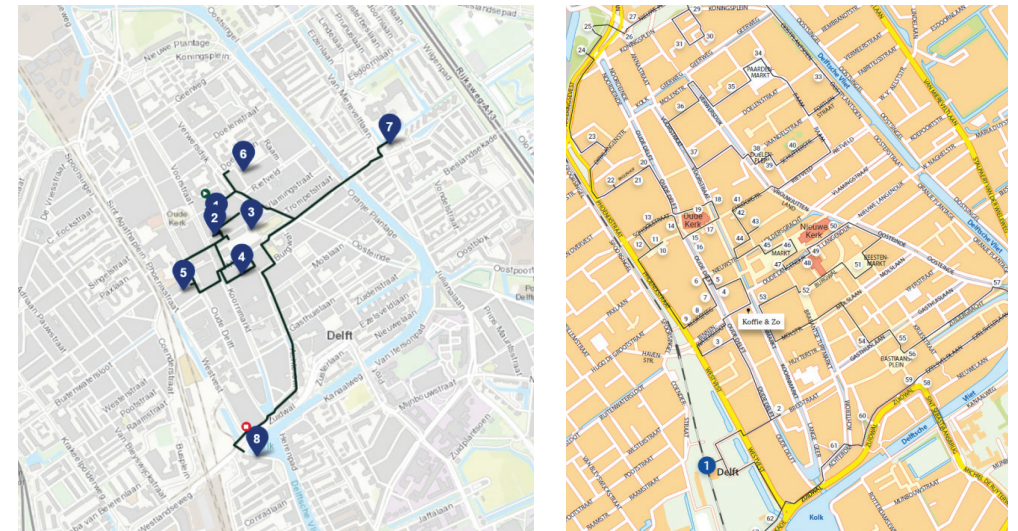


Figure 41. Maps of the *Street Art Route* and of the *Kunstwandeling Delft* tours.

4.03. The impact of NOBIS

Part of my research consisted of learning about the NOBIS project and engaging in its activities. Knowing how the NOBIS murals are perceived and experienced by Delft residents is necessary to identify opportunities to enhance their impact. NOBIS is a Community Art initiative focused on creating collaborative murals with the goals of enhancing both the aesthetic appeal and social cohesion of the district. However, the murals' meaning is often misinterpreted by visitors, which may diminish or even counteract their intended impact. This section introduces the NOBIS project and examines its impact on the Buitenhof district reflecting on the factors that influence its overall effectiveness.

4.03.1. Introduction to NOBIS

NOBIS is a Community Art project initiated in 2019 by the namesake independent student committee in collaboration with the CANIDREAM foundation. The project aims to create collaborative murals in the Buitenhof district, with the objectives of beautifying the area, reinforcing district identity to enhance social cohesion, and fostering connections between residents and the broader Delft community (CANIDREAM, 2022). Each mural is designed by a mural artist based on input gathered from district residents through interviews and workshops. For each of the three murals, the design phase began with a central question posed to the residents. The artist then translates the residents' responses into a mural that visually represents their collective narrative. Furthermore, for each artwork, kids of the neighborhood paint a mural on the side of the same building of the artwork with the help of the artist (based on a conversation with Glenn Weisz from CANIDREAM). At the moment, three murals have been realized in the Gillisbuurt neighborhood:

NOBIS 1.0 [Figure 42], also called *La Perla* (The Pearl), was designed and painted in 2020 by the artist Tymon de Laat from the question “*What story needs to be told?*”. The pearl necklace of the subject of the painting represents all the places and stories about the neighborhood that are worth being told but nobody knows about (based on a conversation with Glenn Weisz from CANIDREAM).



Figure 42. NOBIS 1.0.



NOBIS 2.0 [Figure 43], also called *Mirá Mi* (Look at Me), was designed and painted in 2023 by the mural artist BEYOND from the question “*Who is your superhero?*”. The most common answer of residents to this question was “*my parents*” so the artist represented a difficult fatherhood story of a real person as an homage to the parents of the neighborhood (based on a conversation with the artist BEYOND).



Figure 43. NOBIS 2.0.



NOBIS 3.0 [Figure 44], also called *Cherished*, was designed throughout this master thesis project and painted in 2024 by the mural artist BEYOND starting from the question “*What do you cherish?*”. This third mural was realized in collaboration with Museum Prinsenhof Delft as part of the Museum Murals initiative by the Mauritshuis in Den Haag. The museum invited 20 street artists to create 20 large artworks in the Netherlands inspired by the collection pieces of 20 Dutch museums (Mauritshuis, n.d.). The final artwork aims to represent the values of neighborhood residents with shared symbols that convey concepts such as freedom, peace, love, togetherness, and nature (based on a conversation with the artist BEYOND).



Figure 44. NOBIS 3.0.

Additionally, CANIDREAM will expand the NOBIS project to other districts of Delft, by creating an art route with the goal of further promoting connectedness between residents of the outskirts and inhabitants of the rest of Delft (CANIDREAM, 2022).

4.03.2. The design process of NOBIS 3.0

Since NOBIS 3.0 was designed and painted while I was working on this master project, I followed its realization process step by step to better understand the methods and approaches used. To do so, I attended most of the design activities organized by BEYOND, CANIDREAM, and Museum Prinsenhof Delft. Here I observed the activities and took notes and pictures to document the behavior of people, the topics discussed, and the approach of the facilitators. Additionally, I interviewed BEYOND to learn more about the activities that I couldn't attend. The collected data can be found in Appendix E.



Figure 45. BEYOND ready to interview neighborhood residents.

The design and realization process of NOBIS 3.0 consisted of multiple activities that involved different groups of neighborhood residents. As shown in Figure 49, during the first four months of the project, the artist BEYOND, helped by the artist Laxmi Manuela, engaged in various research activities including interviews with the residents of the Haydnlaan building where the artwork is painted [Figure 45], workshops with residents and students of the local high school, and a VIP tour of Museum Prinsenhof Delft in which residents used art pieces as a starting point for discussion [Figure 46]. During these moments, BEYOND asked participants the question “*What do you cherish?*” and discussed with them the most common answer to get a deeper understanding of why each topic is important to them.



Figure 46. VIP tour at Museum Prinsenhof Delft.



Figure 47. Children of the neighborhood painting the benches and the side wall.

In June, after doing an additional private tour of the museum to get further inspiration from its collection, he designed the first version of the mural. The month of July was focused on iterating on the mural design based on the feedback of the Museum Prinsenhof team and the Haydnlaan building's residents. Additionally, he dedicated one afternoon to walking around the Haydnlaan building to take pictures of residents' hands to use for the final design.



Figure 48. Presentation party for inauguration of the mural.

Finally, during August, BEYOND painted the mural and organized two workshops in which kids of the neighborhood painted the side wall of the building and two benches in the park in front of it [Figure 47]. The mural was then inaugurated on the 14th of September with a presentation and a party for all the people involved in the project [Figure 48]. Figure 49 shows a timeline of the process. A further description of the steps can be found in Appendix E.

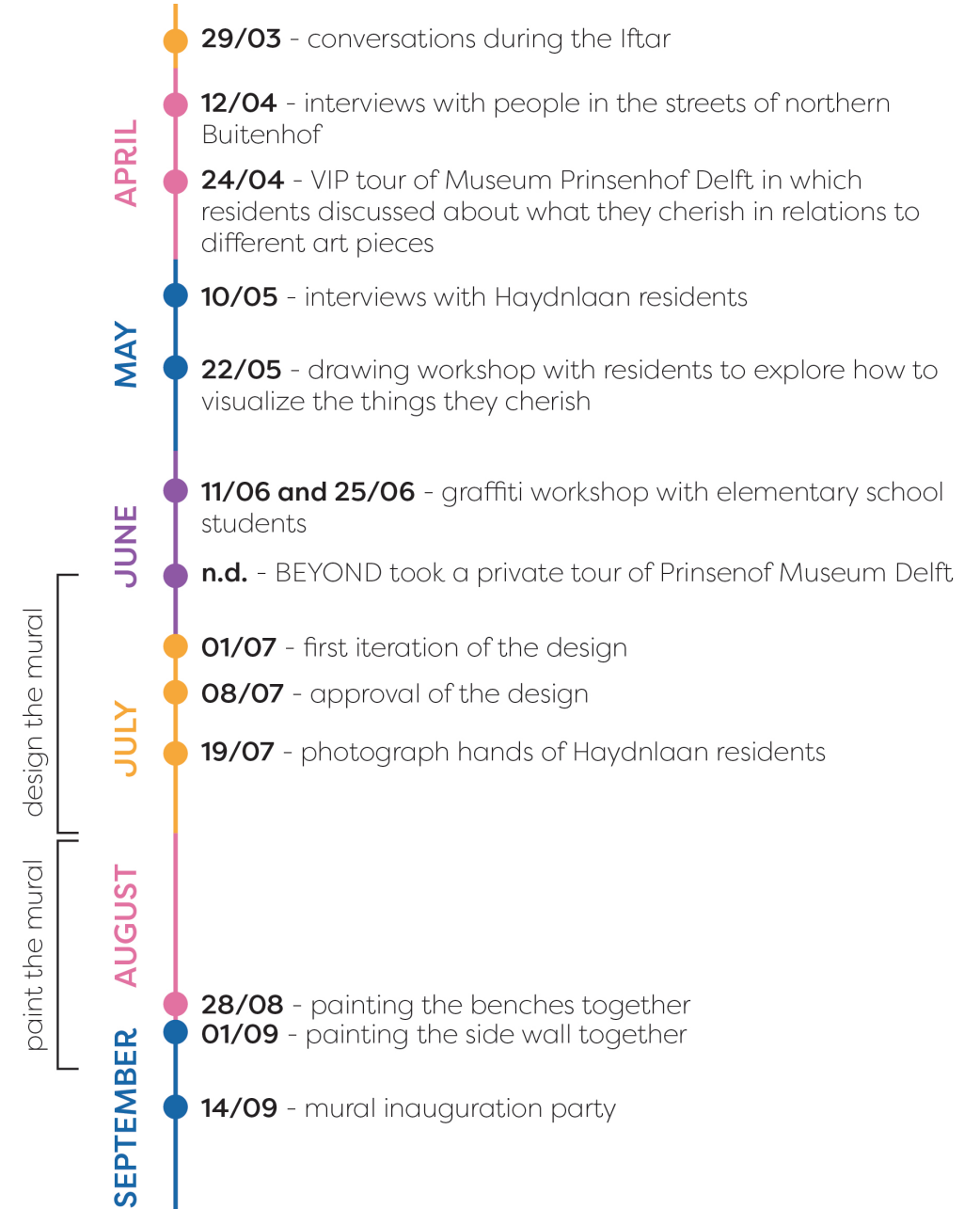


Figure 49. Timeline of the realization of NOBIS 3.0.

Personal reflection

During the approximately six months leading to the realization of NOBIS 3.0, I had the opportunity to participate in and observe many of the collaborative activities organized by BEYOND, CANIDREAM, and Museum Prinsenhof Delft. One of the key reasons I chose this graduation project was to gain a deeper understanding of what it takes to effectively carry out a collaborative project. For this reason, out of personal interest, I paid particular attention to how BEYOND and other CANIDREAM representatives interacted with groups of residents during the different touchpoints.

A major observation I had was about the way facilitators interact with participants during the activities. I noticed that the most successful sessions happen when the facilitators behave as part of the group rather than as separate figures. This also means that their approach is mostly spontaneous during the activities, instead of meticulously planned, and that helps everyone to feel more at ease and open to others more easily. Additionally, I observed that the planning of activities is very loosely structured compared to the way we learn to do in university. This flexibility gives participants the space to steer the direction of the activity through their own input and contributions, often leading to more unexpected and interesting findings.

Although this observation falls somewhat outside the project's immediate scope, I think that a major learning I had during these months is that in certain contexts, very tight and structured planning can push people further away. While a more spontaneous approach results in a closer and more consistent engagement and leads to richer, more meaningful outcomes.

4.03.3. Interpretations and opinions about NOBIS

In addition to mapping the process of NOBIS 3.0, I also gathered information on how Delft residents perceive NOBIS 1.0 and NOBIS 2.0. To do this, I designed a survey with open-ended questions, inviting participants to share their interpretations of the two murals and everything they think of when looking at them. I also collected informal opinions and comments during conversations with multiple Delft residents throughout the various research activities for other research blocks. The survey was distributed through university WhatsApp groups, Delft residents' Facebook groups, and the city's sub-Reddit, ensuring it reached a diverse audience across districts and age groups. After collecting the responses, I performed a thematic analysis that led to identifying the main associations Delft residents have with the murals. This section explains and reflects on those themes. The questions asked and the data collected divided into clusters are visible in Appendix E.



Figure 50. Opinion of a Delft resident about NOBIS 1.0.

The biggest part of the collected responses have a generally positive tone and express their appreciation towards different aspects of the murals [Figure 50 and Figure 51]. The most common feedback regarding both NOBIS 1.0 and NOBIS 2.0 highlighted the use of vibrant colors. Delft residents appreciated how these colors brightened up otherwise dull and unremarkable areas where the murals are located. Another frequent theme was the positive reception of the murals' representation of the district's multicultural identity. Many neighborhood inhabitants felt that the artwork accurately reflected the diversity of their community, with

Buitenhof is a multicultural neighborhood, where people from north Africa and mid-east live and are a strong community. This is their attempt to be seen by the eyes of the other people.

Referred to NOBIS 2.0



Figure 51. Opinion of a Delft resident about NOBIS 2.0.

some noting a sense of pride and empowerment associated with this aspect of the murals. Additionally, NOBIS 2.0 was also noted by multiple people for symbolizing the connection between generations through the ages of the two subjects depicted.

These insights show that Delft residents' interpretations of the murals align with the goals of the NOBIS project in creating an appealing artwork that improves the look of the area and celebrates the identity of neighborhood inhabitants making them feel proud. However, it also highlights that they often have superficial opinions and interpretations of them. It is clear that they aren't aware of the meaning that the artist meant for

the artwork and that most of them don't engage in deeper reflections about it.

Alongside the positive responses, a significant portion of the feedback expressed negative views [Figure 52 and Figure 53]. Some respondents criticized the murals for presenting a simplistic portrayal of black individuals without exploring more meaningful or complex themes. Others assumed that the murals were an initiative of the Municipality, suggesting they were a cosmetic solution used to hide the district's more substantial issues. This misunderstanding also highlights a lack of awareness about the project's origins and its collaborative nature, which seems to negatively impact people's opinions.

During a discussion with the mural artist BEYOND, he mentioned that, on many occasions, he had to explain the deeper meaning of NOBIS 2.0 to neighborhood inhabitants and passersby, after which their perception of the artwork would shift positively once they understood

its background story. This demonstrates that providing viewers with more context can significantly enhance their understanding and appreciation of the murals and the NOBIS project overall.

Overall, the insights show that, while many residents appreciate the murals' aesthetic and representation of local diversity, their engagement with the artwork tends to remain surface-level. Furthermore, the meaning and origin of the murals are also easily misinterpreted by many, resulting in negative opinions on the artworks. For this reason, I think that, by fostering a deeper understanding of the artworks' meaning and collaborative origins, the NOBIS project could improve the public's opinion and enhance its impact.

This doesn't compensate for the attention the neighbourhood needs.

Referred to NOBIS 2.0



Figure 53. Opinion of a Delft resident about NOBIS 2.0.

I think it is inspiring and cool, and shows the municipality wants to improve the feeling in the neighbourhood but i do think the painting is a bit stereotypical of a person of colour.

Referred to NOBIS 1.0



Figure 52. Opinion of a Delft resident about NOBIS 1.0.

4.04. Discussion

The research I carried out in this phase highlights the potential of murals to contribute positively to both the economic and social dimensions of urban spaces. Economically, murals can improve the visual appeal of an area, attract tourism, and stimulate local business activity. Socially, they promote a sense of community and connectedness among residents by providing shared symbols and spaces for engagement. These findings align with the outcomes of previous research blocks since they confirm that painting murals in the Buitenhof district could promote connection among its residents and the rest of Delft citizens and improve the external perception of the area by offering a positive representation.

The NOBIS project, in particular, has already demonstrated to have some positive impact on the Buitenhof district. As I noticed following the design process of NOBIS 3.0, the project successfully brings residents together through workshops and collaborative activities, potentially fostering new social connections within the residents of the district. Furthermore, the opinions from Delft residents on NOBIS 1.0 and NOBIS 2.0 show that the murals are welcomed by most people, as they induce positive emotions in the viewers and promote a sense of pride among residents. The proposed NOBIS public art route is also a promising initiative. As demonstrated through the desk research, current art routes in Delft predominantly focus on the city center. Expanding this focus to include artworks across all districts offers an opportunity to encourage wider engagement across Delft and to promote more mobility and exchange of people across different areas of the city.

However, based on the opinions of Delft residents on NOBIS 1.0 and NOBIS 2.0, a key challenge that NOBIS is facing is the disconnect between the artists' intended messages and public interpretation of the murals. While the murals are appreciated on an aesthetic level, many residents are unaware of the deeper meanings behind the artworks and attribute them largely to more superficial meanings. Based on this gap in understanding, I think that the NOBIS project could benefit from more effective communication regarding the stories, symbolism, and collaborative process behind each mural. Without this context, some residents perceive the murals as superficial or as cosmetic solutions to deeper community issues. Moreover, the negative

feedback regarding the subjects of the murals and assumptions that the murals are an initiative of the municipality point to a broader issue of misconception about the origins and purpose of the NOBIS project. These misunderstandings can diminish the project's overall impact by negatively influencing the opinions people have of the murals and the project. Based on this finding, I think that it is not only important to involve residents in the design phase but also to create awareness and understanding of the collaborative nature of the project and its purpose and meaning among its visitors.

In conclusion, while the NOBIS project already has a positive impact on the physical and social fabric of the Buitenhof district, there remains considerable potential to further enhance it. In the next chapter of this thesis, I focus on designing and testing different interventions to amplify such impact by also taking into account the findings of Chapter 2 and Chapter 3.

How can NOBIS facilitate meaningful connections?

Building on the insights from previous chapters, this section aims to synthesize those findings into a design intervention that can create connections between Delft and Buitenhof residents. In the next pages, through a process of design exploration, I find practical ways to challenge visitors' perceptions and create deeper emotional connections, aiming to answer the question: *How can NOBIS facilitate meaningful connections?* After defining the project's scope and design goal (section 5.01), I conducted three iterative rounds of design explorations, each focused on investigating a different element that could lead to the fulfillment of the design goal. In each round, I developed and tested two different design concepts. The findings of these tests are explained in section 5.02 and further interpreted and discussed in section 5.03.

5.01. Design scope and goal [Figure 54]

As highlighted in Chapter 2, the Buitenhof district suffers from negative stereotypes that are accepted as common knowledge by other Delft residents and strengthened by the media. Buitenhof remains an area that many people avoid unless they live there, reinforcing the existing stigma and preventing outsiders from experiencing the district in a meaningful way. Due to this isolation, there is little opportunity for people to challenge their assumptions about the district.

An art route that connects multiple districts in Delft, like the one NOBIS is building, offers an opportunity to break this cycle. By encouraging people to visit Buitenhof through a leisure activity, there is potential to create new experiences that foster a deeper understanding of the area and spark a sense of empathy and humanizaty towards neighborhood residents. Based on the findings of Chapter 3, fostering a sense of empathy can lay the foundation for developing a stronger sense of connection and community among Delft and Buitenhof residents.

However, in order to do so, visiting the mural should spark more than superficial interactions. Visitors should leave with a meaningful experience that leads to a more humane perception of the story behind the mural and, if applicable, challenges their preconceptions about Buitenhof and its people. As explained in Chapter 4, while NOBIS murals are appreciated for their aesthetics, their social impact could be enhanced. As they currently appear in the district, they are experienced superficially by their viewers and there is a gap between their intended messages and the public's interpretation.

These findings highlight the opportunity to improve communication about the murals in a way that reduces misunderstandings and encourages deeper reflection among visitors. This enhanced communication could address the disconnect between Buitenhof inhabitants and the rest of Delft residents, promoting a more humane view of the district and its inhabitants with the final goal of fostering a sense of empathy among Delft residents. For this reason, I stated the design goal of the project as:

I want the experience of visiting NOBIS murals to spark in mural visitors a sense of empathy towards Buitenhof's residents.

5.02. Design explorations

This section discusses the three design explorations that led to the development of the final concept presented in this thesis. Each exploration aimed to investigate a different element that could lead to the fulfillment of the design goal: the content to be communicated (section 5.02.1), the medium through which to communicate it (section 5.02.2), and the overall experience of the visitors (section 5.02.3). Each exploration built upon the findings of the previous one, by working on the unexpected challenges that emerged from it. For each exploration, I designed and tested two concepts. Each concept was tested by three participants through a simulation of the experience and the use of low-fidelity prototypes. I collected feedback and input from the participants through semi-structured interviews at the end of the simulation and through observations during the simulation. Throughout the process, I aimed to minimize guidance and avoid interfering with participants' choices and actions. This approach allowed them greater freedom of expression, resulting in richer and more unexpected insights.

It is important to note that, due to recruitment limitations, all participants in these explorations were students and young workers. They are part of the target group of the project, but don't represent the full intended audience, and this could have affected the choices that led to the final design. Additionally, due to organizational reasons, the concepts have not been tested in front of the NOBIS murals, but in an indoor space that simulated the actual locations. The chosen location did not have the same features as the real-life place and this might have affected the results of the test.

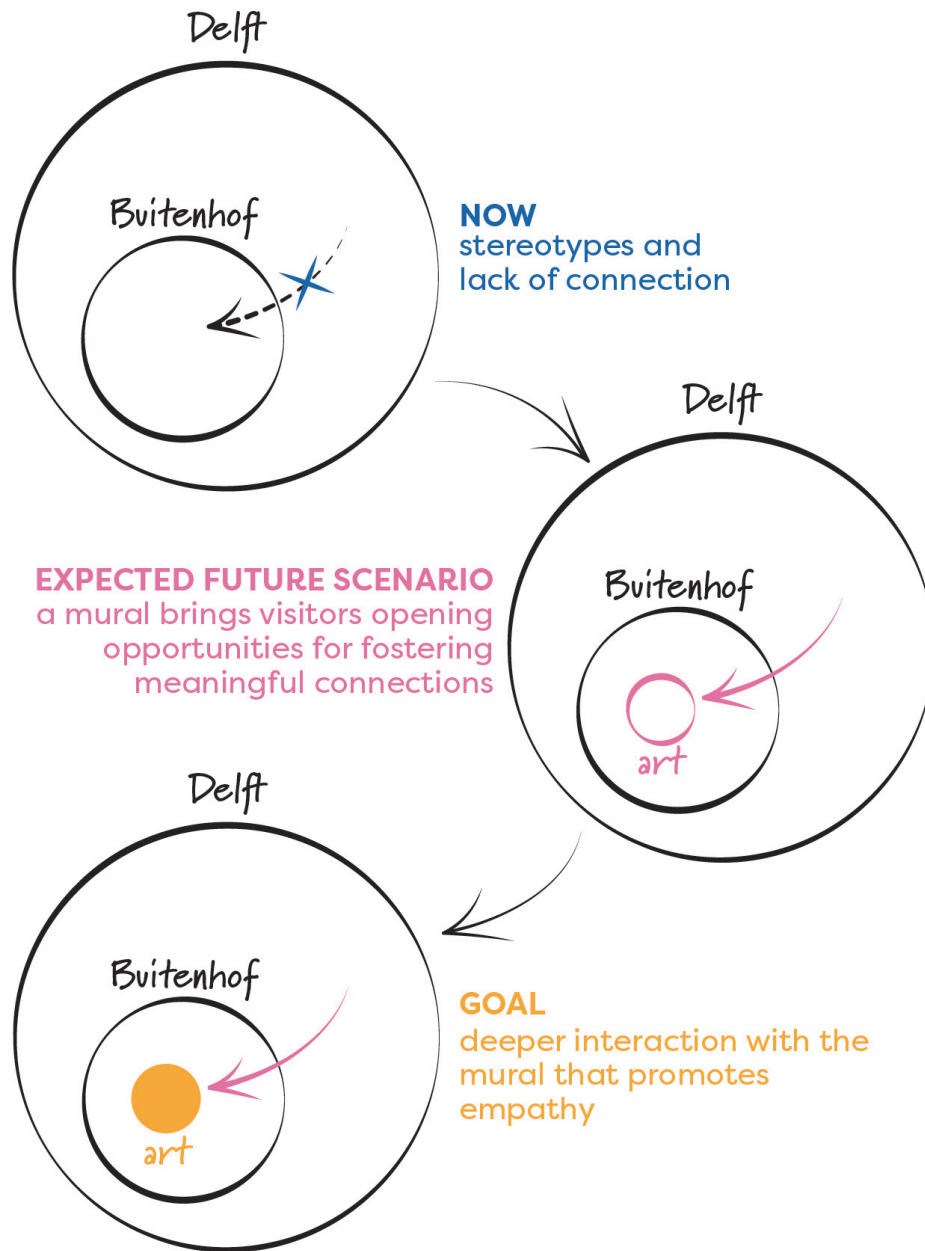


Figure 54. Design scope.

5.02.1. First exploration: the content

Based on the insights of the previous chapters, exploring different ways to communicate the murals and their realization was the first logical step. The first exploration focused on testing what kind of informational content would be more effective in creating a sense of empathy in the visitors of the mural and how this content should be communicated. I did that by testing two concepts, the first one more suitable for NOBIS 1.0 and the other for NOBIS 2.0.

The community pinboard

Content: the design process that led to the realization of the mural and the different people involved in it.

Communication style: visual, fully analog, the visitor is passive.

Form: a pinboard where all the people involved in the project can post pictures, handwritten reflections, and messages about their experience in realizing the mural. [Figure 55]



Figure 55. The community pinboard.

The QR code

Content: the meaning of the mural according to the artist.

Communication style: auditory and visual, fully digital, the visitor is active.

Form: a QR code on the mural leads to a website where the visitor can listen to the meaning of the mural explained by the subject of the mural himself. Afterwards, the visitor is asked a personal question related to the topic and, after responding to it, they can see the responses of other visitors organized in a word cloud. [Figure 56]

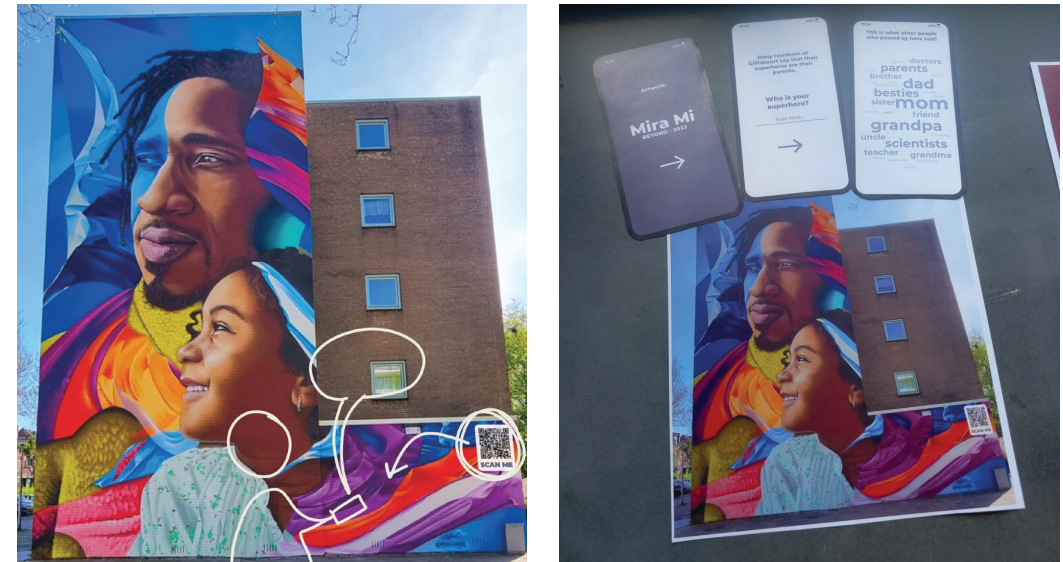


Figure 56. The QR code.

Findings

All participants [Figure 57] agreed that the use of handwritten text, pictures, and recordings of real voices contributed significantly to the authenticity and believability of the project's communication. These elements felt more human and fostered a sense of connection with the individuals who wrote, spoke, or appeared in the images. This effect was particularly pronounced with the audio recordings. The community pinboard had a positive impact on participants' perceptions of the

neighborhood. Seeing the involvement of the local community, especially that of children, made them view the area as safer, with a strong sense of community and positive initiatives in place. The storytelling element embedded in the QR code concept that can be found in the audio narrating the story behind the mural also enhanced participants' opinions and interest in the artwork. They found the story engaging and expressed a desire to learn more after the experience.

However, when it came to the community pinboard, participants felt overwhelmed by the volume of information and how it was presented. They indicated that, in a real-world setting, they would likely not have the patience to engage with all the content on the board. In contrast, the QR code concept felt more structured and less overwhelming, as it provided clearer steps to follow and more organized information. In both cases, participants noted that the medium itself could easily be overlooked. The pinboard could be overshadowed by the much larger and more eye-catching mural behind it, while a single QR code without sufficient explanation failed to generate interest and did not feel trustworthy. Furthermore, when asked if they would prefer a digital or physical experience, their opinion was divided: some of them prefer to avoid the use of their phone for free time activities, while others prefer digital experiences because they can be accessed again at any time in the future.

Lastly, while participants appreciated the QR code concept's attempt at creating a more interactive experience, they found it to be superficial and lacking in personal connection, which led to a lack of interest in engaging further. More details about the prototypes and the notes on the findings of this exploration can be found in Appendix F.



Figure 57. Participant testing the concepts.

Conclusion

The first exploration highlighted that authentic, personal content, such as handwritten notes or audio recordings, has a profound impact on visitors, evoking a sense of connection to neighborhood inhabitants and safety in the neighborhood. Additionally, it showed that a combination of information about the meaning of the artwork and its realization makes the content more interesting and engaging. For this reason, in the following explorations, the content will contain a combination of information communicated through authentic and personal means. However, the exploration also revealed that an overload of information, as seen in the pinboard concept, can detract from this emotional engagement. Furthermore, both used media seemed to have significant downsides: both concepts are easy to overlook, the community pinboard is overwhelming, and the QR code isn't accessible to users who aren't willing or able to use their phones. This suggests the need for further exploration. Striking the right balance between engaging content and a digestible format across different mediums became a key focus for the next iteration.

5.02.2. Second exploration: the medium

According to the findings of the first design exploration (section 5.02.1) the combination of the content provided in the two concepts has the potential to fulfill the project's design goal. However, the media proposed in the concepts presented significant downsides that can prevent visitors from accessing the content. For this reason, the second exploration focused on identifying the mediums that would make the final experience accessible to all users, independently from their preferences or skills in different media. As in the previous exploration, I tested two concepts, with each one building on the findings of the other. Each concept presents a combination of physical and digital media, but their distribution throughout the experience is different.



Figure 58. The guided walk 1.0.

The guided walk 1.0

Medium: a combination of digital and physical media coexists throughout the experience, social media is also used.

Content: the design process that led to the realization of the mural, and the meaning of the mural according to the artist and other people who were involved in the process.

Form: a path is painted on the floor in front of the mural, on this path there are brief texts explaining the main information about the artwork. Simultaneously, a digital space provides additional information complementary to the ones on the floor. This information consists of pictures, texts, and voice recordings of people involved in the project. Additionally, the visitor is invited to contribute to the artwork by sending their personal story related to the meaning of the mural to be published on social media. As a last step, visitors are invited to look for the other murals close by and are provided with further information. [Figure 58]

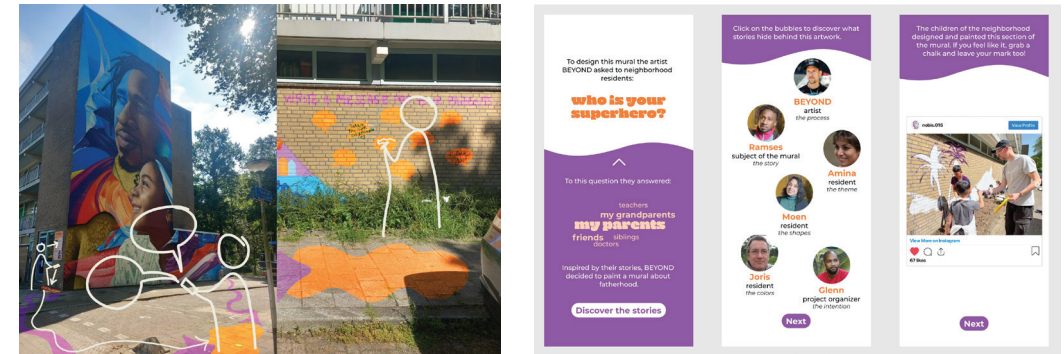


Figure 59. The guided walk 2.0.

The guided walk 2.0

Medium: the physical medium is used at the beginning and the end of the experience, the digital medium is used in the central section of the experience, social media is not used.

Content: the design process that led to the realization of the mural, and the meaning of the mural according to the artist and other people who were involved in the process.

Form: a sign with general information about the artwork is on the wall on the side of the mural, here is where the visitor can scan a QR code and start the experience. A path is painted on the floor in front of the mural and guides the visitor around the building. Additionally, a digital space provides further information about the artwork using voice recordings of different people involved in the project. On the side wall of the building, a template painted on the wall invites visitors to share their thoughts

by writing on it with chalk. Also in this concept, as a last step, visitors are invited to look for the other murals and are provided with further information. [Figure 59]

Findings

Across both prototypes [Figure 60], participants found the painted path on the ground to be more attention-grabbing and engaging than traditional signs like the community pinboard (section 5.02.1). However, in the guided walk 1.0, they noted that there was too much text on the ground, and the frequent switching between physical and digital media felt confusing and uncomfortable. While testing that prototype, participants needed my guidance to properly navigate the different steps. To address this issue, organizing all physical information on a sign at the start of the experience proved effective. This streamlined the flow, making the combination of digital and physical content less confusing. The sign attracted attention primarily due to a decorative element on the floor nearby, underscoring the importance of visual cues to guide participants.

In the first prototype, while participants found the information about the mural's creation process and the artist interesting, the presentation felt somewhat dull and lacked authenticity. For this reason, in the second concept, the communication of this part in the digital prototype was condensed to the minimum, improving their opinion about it. In contrast, pictures and voice recordings that conveyed the perspectives of people involved in the project were much more impactful. Listening to neighborhood residents explain the mural in their own voices successfully evoked empathy and fostered a sense of connection towards them. This insight was further reinforced in the second prototype, where the even bigger emphasis on the voices of the people involved in the mural realization made the experience smoother and more engaging. It became clear that sharing these voices should be the central focus of the interaction.

Despite these positive outcomes, there were significant challenges, particularly with the interactive component of both prototypes. In both cases, the section that invited participants to share their own stories did not resonate well. Many participants felt it did not add meaningful value,

as they were more interested in learning about neighborhood residents than fellow visitors. Additionally, the prompt felt too personal, and the effort required to participate was considered too high, especially in the first prototype where participating required switching to a different platform. Even when the interactive section was presented in a physical format, it received similar feedback, suggesting that future iterations should explore alternative strategies to better engage.

Participants also noted that the full experience felt overly long and tiring, with too many steps involved. In particular, the role of social media in the project was unclear, and participants suggested that confining the experience to a single platform would lower the engagement barrier. More details about the prototypes and the notes on the findings of this exploration can be found in Appendix G.

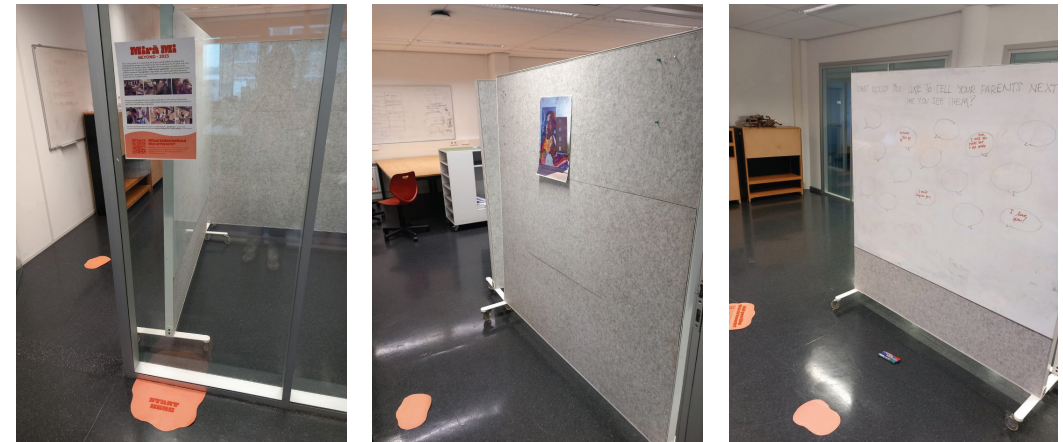


Figure 60. Example of simulation setting for this design exploration.

Conclusion

The second exploration confirmed that the presentation of the medium plays a critical role in directing visitors' attention and shaping their interaction. For instance, the painted path successfully engaged visitors, while switching between physical and digital elements detracted from the overall experience. The test underscored that a clear division of digital and physical information is essential for maintaining engagement. Furthermore, this exploration also highlighted the necessity of exploring

different strategies to engage visitors. The experience with the tested concepts felt long and, at moments, uninteresting. This can negatively affect interest in participating, limiting the number of people who benefit from the prototype's content. For this reason, the next exploration focused on testing different ways to provide an engaging experience.

5.02.3. Third exploration: the experience

The findings of the second design exploration (section 5.02.2) suggested that more work needed to be done on the interactive and engaging elements of the concept. Exploring this aspect of the concept was important because providing an interesting and pleasant experience ensures a higher rate of engagement of visitors resulting in a higher impact of the intervention. For this reason, the third design exploration focused on creating two different kinds of overall experiences to find out which approach would be more successful in ensuring participation. I did this by testing two concepts.

The guiding voices

Experience: calm, guided, museum-like

Form: a single QR code painted on the floor in front of the mural invites visitors to listen to explanations of the artwork from neighborhood residents. Upon scanning the code, the mural artist's voice begins, providing key information about the project. Next, visitors are encouraged to observe the mural while listening to various perspectives from people involved in the creation process. Finally, the artist's voice returns to guide the visitor in discovering additional artworks painted by children in the area. As a final step, visitors are invited to explore other murals, with further details provided. [Figure 61]

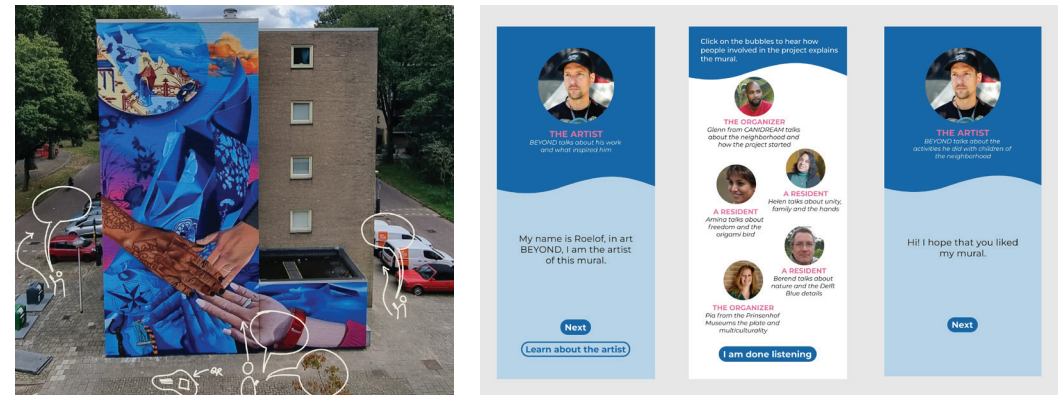


Figure 61. The guiding voices.

The treasure hunt

Experience: explorative, autonomous, playful

Form: a sign on the wall offers general information about the mural and instructs visitors to activate NFC on their phones to search for panels featuring a specific symbol. Scanning these panels allows them to listen to different voices explaining the content of various mural elements and other nearby artworks. [Figure 62]



Figure 62. The treasure hunt.



Findings

All three participants [Figure 63] preferred the treasure hunt concept, finding it more engaging due to its playful elements. They appreciated how it encouraged them to autonomously explore the area. During the test, I observed that participants listened to more audio content with the treasure hunt compared to the guiding voices concept. In contrast, the guiding voices concept received mostly negative feedback. Participants felt it was more monotonous, lacking the playful engagement of the treasure hunt, and found the amount of audio overwhelming. Furthermore, they felt that being guided by voices limited the autonomy

they desired when exploring the area and viewing the artwork. Additionally, during the test, one participant expressed a strong preference for reading an informational sign on the wall rather than going through a fully digital experience to learn about the artwork. Reflecting on this feedback led me to revisit earlier tests, where I noticed that some participants occasionally expressed a preference for more traditional, museum-style communication. Finally, all the participants expressed their concern about scanning QR codes or NFC chips in public spaces, fearing that they could be scammed. For this reason, the final concept should limit the use of such systems as much as possible. More details about the prototypes and the notes on the findings of this exploration can be found in Appendix H.

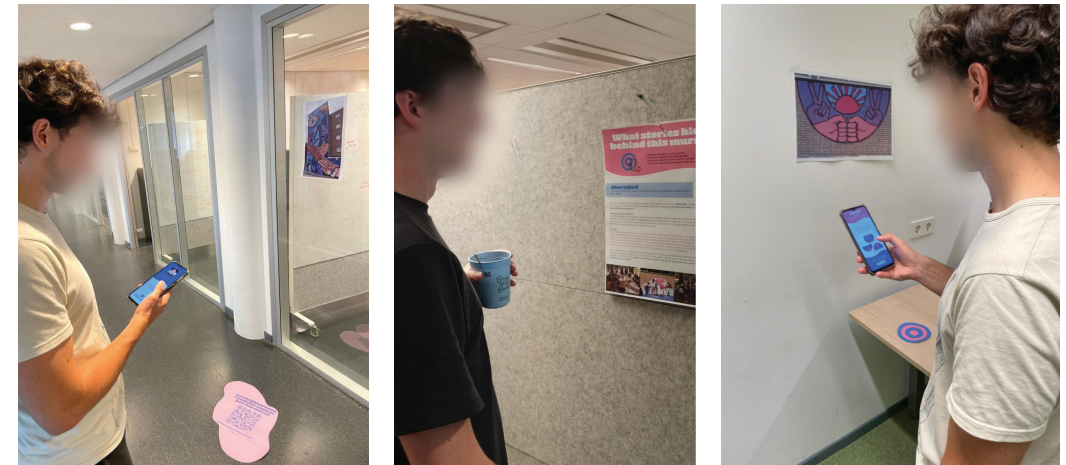


Figure 63. Participants testing the two concepts.

Conclusion

The success of the treasure hunt concept highlighted how autonomy and gamification could significantly increase visitor engagement. This suggests that offering a sense of discovery not only enhances participation but may also encourage visitors to approach the experience with a more explorative mindset. This results in increased mental openness and curiosity that leads them to more interest in discovering the content of

the audio recording. In contrast, the more structured, guided approach of the guiding voices felt restrictive and predictable, limiting participants' willingness to fully immerse themselves in the narrative.

5.03. Discussion

The findings from the iterative design explorations revealed key insights into how the NOBIS project can effectively foster meaningful connections between visitors and Buitenhof residents. By fostering empathy through curated authentic content, the use of proper media, and engaging experiences, the final concept should transform perceptions of the district and enhance social cohesion. In the next paragraphs, I discuss the key findings that led to the design of the final concept.

In the first exploration, I learned that conveying a mix of information about the mural's meaning, the process behind its creation, and the people involved in it can significantly improve visitors' perceptions of both the artwork and the neighborhood with its inhabitants. Communicating this through a storytelling approach, using photos, handwritten notes, and especially voice recordings, helped make the content feel authentic. This contributed to fostering a deeper emotional connection to the content, contributing to sparking the sense of empathy that the design aims to evoke. Further exploration revealed that allowing neighborhood residents and other people involved in the process of creating the mural to share their personal stories and interpretations of the artwork was the most effective way to strengthen this emotional connection. This approach was consistently validated across iterations and became central to the later concepts.

The first exploration also highlighted the challenges related to the medium used for communication. On one hand, the medium needs to attract attention and not be overshadowed by the mural itself. On the other hand, practical limitations arise from the fact that the mural is in a public outdoor space. Additionally, while it's essential to provide visitors with audio recordings and digital content, I must consider that a portion of the audience may not be comfortable with or have access to smartphones. Budget constraints from the project's client must also be factored in. Balancing these contradicting needs led to testing, in the second exploration, combinations of digital and physical elements to ensure all visitors have access to meaningful information physically, while still providing additional digital content for those interested in deeper interaction. However, combining both mediums can introduce

further complexity that can end up confusing visitors. For this reason, it is necessary to clearly separate digital and physical content to avoid confusion and streamline the visitor experience.

During the second exploration, I also realized that the concepts tested up to that point had another major limitation: they failed to sufficiently engage visitors. Providing an engaging experience is essential, as unengaged visitors are unlikely to listen to the audio recordings, undermining the design goal. Consequently, the third iteration focused on exploring ways to engage visitors. This iteration highlighted that the treasure hunt concept, with its gamification elements, was more effective than all the others in doing that. Participants appreciated the sense of exploration and discovery it offered, which increased their engagement and led to more audio content being listened to compared to the more guided approach of the guiding voices concept. This suggests that a gamified, exploratory experience could significantly impact the success of the final design.

By the third exploration, it became clear that a small group of participants I encountered in the iterations preferred traditional, museum-style communication over a more interactive digital experience. Even if they were a minority, this made me realize that some people are simply more satisfied with classic straightforward signs than with the more elaborate interventions I proposed to them during the tests. This highlighted that, even if I tried, it was not possible to address the needs of all kinds of visitors with only one intervention. Different people can have strongly contradicting preferences that need to be addressed separately. As a result, I decided to focus my final concept on engaging visitors who could appreciate and benefit from a more interactive experience with art. Figure 64 shows an overview of the main takeaways of the three explorations.

The findings and reflections deriving from these three explorations converged into one, cohesive concept, which I designed, prototyped, and evaluated. However, it is important to remember that, due to recruitment and organizational limitations, all participants in these explorations were students and young workers and that the concepts were simulated in indoor spaces and not tested in front of the mural. These limitations might have affected the result of the design explorations,

and, in the evaluation of the final concept, there might be unexpected results because of this. A detailed description of the final concept, the prototype, and its evaluation can be found in Chapter 6.

First exploration

content: a mix of information about the mural's meaning, the process behind its creation, and the people involved in it

communication style: storytelling of personal stories told through audio recording and other authentic

Second exploration

medium: combination of digital and physical elements clearly separated from each other

Third exploration

experience: gamified and that promotes a sense of discovery in the visitor

Additional learning

Not everyone wants to experience art in the same way, my final prototype can address the need of a group of visitors but not all of them

Figure 64. Overview of the takeaways.

This section describes the final concept, the prototype and how it has been realized, and the plan and results of the final evaluation. The concept derives from the insights collected in all previous sections, which converge into the proposal for a design intervention that aims to spark in mural visitors a sense of empathy towards Buitenhof's residents. The evaluation allowed, not only to test the performance of the concept but also to reflect on its limitations, possible impact, and development.

6.01. Voices of Buitenhof

Voices of Buitenhof is a digital, interactive, and playful experience that invites visitors to explore the NOBIS 3.0 mural, also known as Cherished, by guiding them through learning about its creation and meaning. The goal is to bridge the misunderstandings surrounding the NOBIS project (see section 4.03.3) and provide insights into the Buitenhof district and its residents, allowing a more humane perception of the area (see section 3.03 and 3.04) and, if applicable, challenging preconceived negative stereotypes (see section 2.02.3). The concept aims at fostering a sense of empathy and connection with the local community, and, consequently, addresses the disconnect between Buitenhof and the broader city of Delft (see sections 2.02.2 and 2.02.4).

This experience amplifies the voices of those involved in the mural's creation, allowing them to share personal stories and interpretations of the artwork. These narratives are presented through audio recordings in which the voices of these people explain their point of view on the mural. Planning and recording the audio is integrated as an additional step in the creation of the mural, in this way community members contribute to the mural's communication as well. The audio recordings in the platform serve four key purposes:

1. Exposing visitors to authentic and relatable contents such as the voices and stories of Buitenhof's residents humanizes them, helping visitors form a deeper emotional connection and empathy (see sections 3.03 and 3.04). Furthermore, using the real voices of those involved increases this effect as human voices naturally evoke a sense of connection.
2. Explaining the artwork through multiple voices communicates the collaborative and collective nature of the mural, by showing how multiple individuals (including the inhabitants) were involved in the project.
3. Allowing contributors to explain their own perspectives ensures that the content is genuine, especially when they also participate in shaping the narrative structure.

Unlike museum-style communication, Voices of Buitenhof engages visitors by giving them an active role in discovering information about the mural. Inspired by the concept of a treasure hunt, the experience incorporates gamification elements to encourage visitors to explore and listen to as many audio recordings as possible. The game invites them to search for stars placed around the mural, each of which unlocks new content in the digital space. This approach serves two main goals:

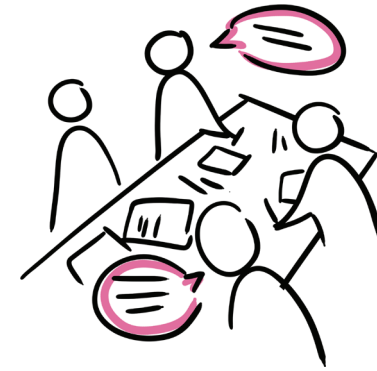
1. It invites the visitors to take an active role in the experience, increasing their willingness to engage with the audio content.
2. By inviting visitors to explore the mural's surroundings, the experience encourages them to spend time in a space they might otherwise overlook, allowing them to experience the area firsthand rather than through the lens of pre-existing stereotypes.



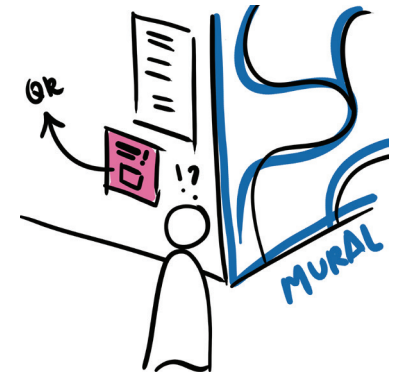
Figure 65. Informational sign next to the mural.

The concept is designed to be scalable and can be applied to other artworks within the NOBIS art route. To enhance this scalability, the platform includes a feature that tracks exploration progress. Visitors can view an overview of all artworks across the city, presented in a list and on a map. The ability to save progress allows the experience to extend over time, transforming it into a long-term exploration game where residents can uncover new murals at their own pace. Over time, this gamified approach could motivate them to visit new neighborhoods and discover additional artworks. Additionally, the platform includes information on how to get involved in artistic initiatives, potentially fostering real-life connections through shared creative activities.

Voices of Buitenhof is not intended to replace the already existing methods of communicating about the mural, such as the informational sign displayed next to the artwork (Figure 65). Instead, it offers an alternative way for visitors to engage with and experience the mural. During the design explorations, it became evident that different visitors prefer different methods of learning about the artwork (section 5.02.3), and the solution proposed in this thesis will not satisfy every type of visitor. Figure 66 illustrates the steps of the concept through a storyboard.



1. Community members meet in a workshop to plan and record the key messages they want to convey.



2. Visitors see a sign next to the mural with a call-to-action and a QR code, inviting them to learn more through a digital game.

Figure 66a. Storyboard illustrating the concept.

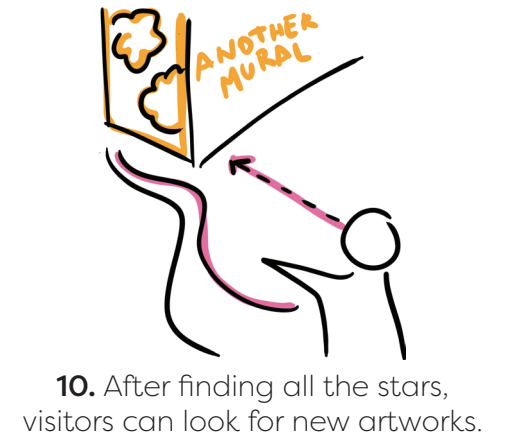
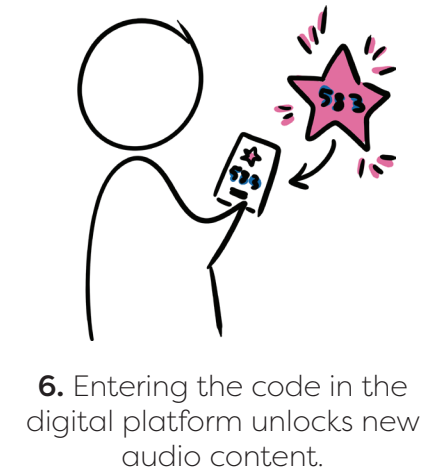
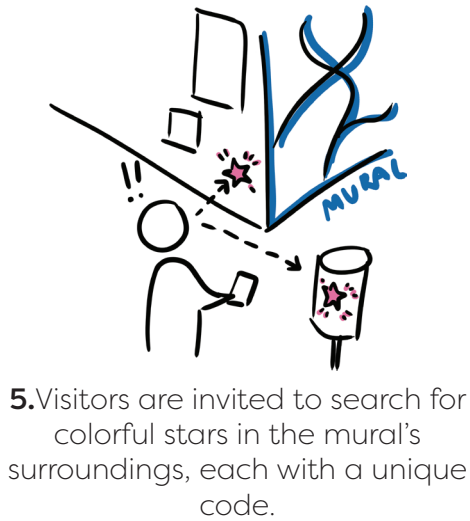


Figure 66b. Storyboard illustrating the concept.

Figure 66c. Storyboard illustrating the concept.

6.02. Prototype

To evaluate the final concept, I developed a prototype that closely mirrors the intended experience. The prototype includes both digital and physical elements. For the digital aspect, I created a Figma prototype designed to resemble the envisioned concept as accurately as possible. However, due to technical limitations of the software, the prototype does not fully reflect the concept. For example, the program cannot verify if the entered number combinations are correct, allowing any combination to unlock the audio recordings. Despite this, the prototype is structured to hide this limitation from participants during the evaluation. Since all evaluation participants were fluent in English, the prototype was created only in English. In a real-world implementation, it would be available in both English and Dutch. Figure 67 shows snapshots of the digital prototype. More about the prototype can be found in Appendix I. As the core of the concept revolves around audio recordings of the voices of residents and other contributors to the mural, I collected audio from seven people involved in the project. These included the artist BEYOND, two organizers from the CANIDREAM Foundation and Museum Prinsenhof Delft, as well as four neighborhood residents. These recordings were used to create nine different audio clips for the prototype, each

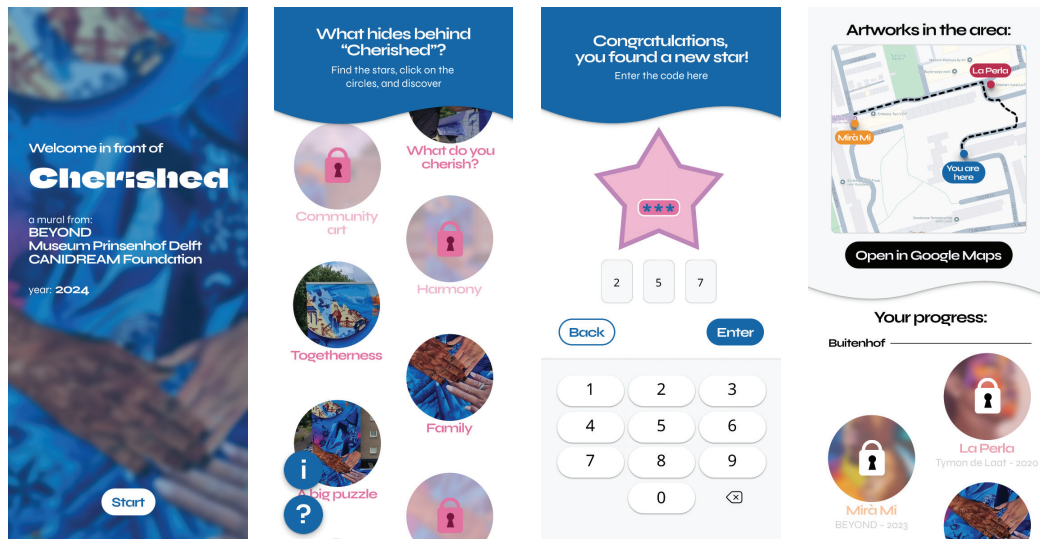


Figure 67. Snapshot from the final prototype.



Figure 68. Call to action sign and stars.

approximately one minute long. Subtitles were added in both Dutch and English to each audio. The nine audios and the explanation of how I obtained them are available in Appendix I.

For the physical component of the prototype, I designed, printed, and pasted on foam board the call-to-action sign and nine stars, each containing a code to unlock the corresponding audio recordings. I placed the call-to-action sign next to the mural, alongside existing informational signs, and distributed the stars in various locations around the mural, selecting spots with differing levels of visibility. All printed materials were bilingual, in both Dutch and English. The text for the call-to-action was chosen based on feedback from design explorations (section 5.02). Figure 68 shows some of the signs, and Figure 69 presents a map of the location of each star.

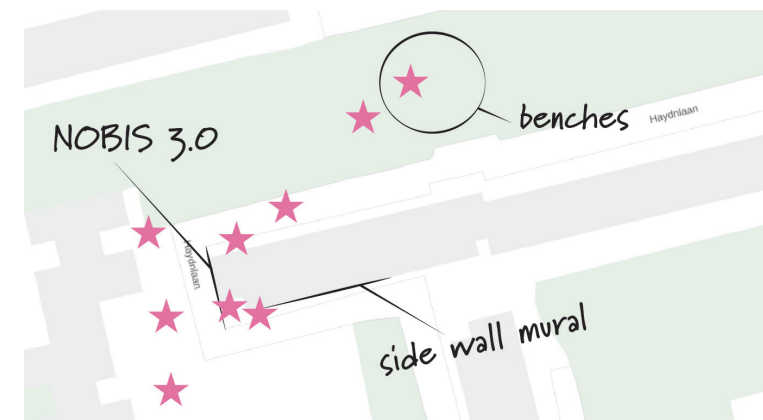


Figure 69. Map with the location of the 9 stars.

Personal reflection

When I reached the point in my project where I needed to create the prototype, I had to contact the different people involved to get voice recordings. Some of them were, of course, the neighborhood residents who had participated in the different discussions and events for the realization of the mural. This allowed me to explain my concept and show them my progress with the prototype, especially how I was using their voices. What followed were some really lovely conversations, and I could tell that it made them happy and appreciative of what I was doing.

At the start of this graduation project, I had a conversation with my supervisors about how important it is to give something back to the community at the end of a collaborative research and design project. We talked about how researchers often make the mistake of not sharing their work or results with the community they work with, which can lead to disappointment and lack of trust from the side of the community. This small experience of sharing my work-in-progress felt like my way of trying to give something back. It was a chance to show that my presence at their activities was for a good reason and that I wanted their approval for the work I was doing. I'm really glad I got to do that, and I hope I'll be able to share the final outcome with them once this report is done.

6.03. Evaluation

This section summarizes the evaluation plan and results of the final concept, where five Delft residents tested the prototype described in section 6.02. The evaluation aimed at testing whether the concept fulfills the project's design goal (see section 5.01) and reflecting on its possible impact, limitations, and further development. The first part explains the evaluation plan and context, while the second part presents the results. It is important to note that, due to recruitment limitations, all participants were between the ages of 20 and 30, which may have influenced the outcomes of the evaluation.

6.03.1. Plan

I tested the prototype with five Delft residents, aged between 20 and 30, none of whom were Buitenhof residents. Two participants were Dutch speakers while the other three were not and each of them had different starting point opinions about the district and different starting levels of knowledge about the mural. The test took place at the location of the Cherished mural, where the prototype was set up as described in section 6.02. Upon their arrival, I welcomed the participants and provided a brief explanation of the project, making sure to avoid any mention of the overall goals to prevent bias in their evaluation. I then conducted a short initial interview to learn about their emotions, opinions, and prior knowledge about the Buitenhof district and the mural. This helped assess their starting perspectives, such as whether they believed in existing stereotypes about the district or were aware of the collaborative nature of the NOBIS project. To start up the conversation I used a diagram inspired by the Arousal-Valence model of emotions to assess their emotions about

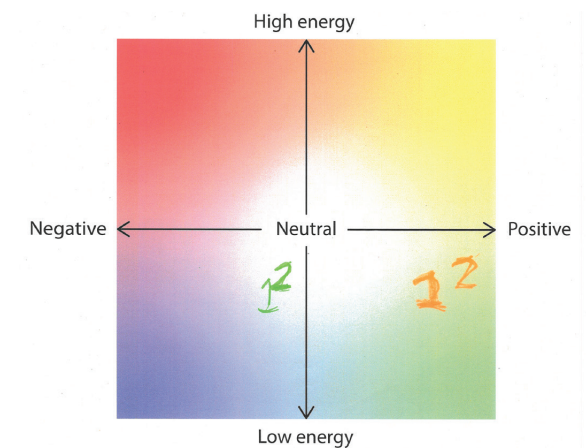


Figure 70. Diagram inspired by the Arousal-Valence model of emotions (Mneimne et al., 2010).

Buitenhof and the mural (Mneimne et al., 2010) [Figure 70]. Following the interview, I accompanied participants to the call-to-action sign and invited them to test the prototype. During this phase I walked with them as they explored the area, observing their behavior and noting any comments they shared. I also provided assistance with technical issues of the digital prototype or if participants were particularly stuck while using the prototype. Throughout the test, participants were free to move around and engage with the prototype at their own pace, allowing room for unexpected insights [Figure 71]. Once the participants completed the test, I conducted a follow-up interview. I asked them to describe and evaluate their experience, with particular emphasis on their thoughts about the audio recordings. Additionally, I asked them to reflect on their emotions regarding the Buitenhof district and the mural and to describe if and how these emotions had shifted after the experience. Finally, we discussed their interest in visiting a complete art route and the conditions under which they would be willing to do so. The evaluation plan can be found in Appendix J.

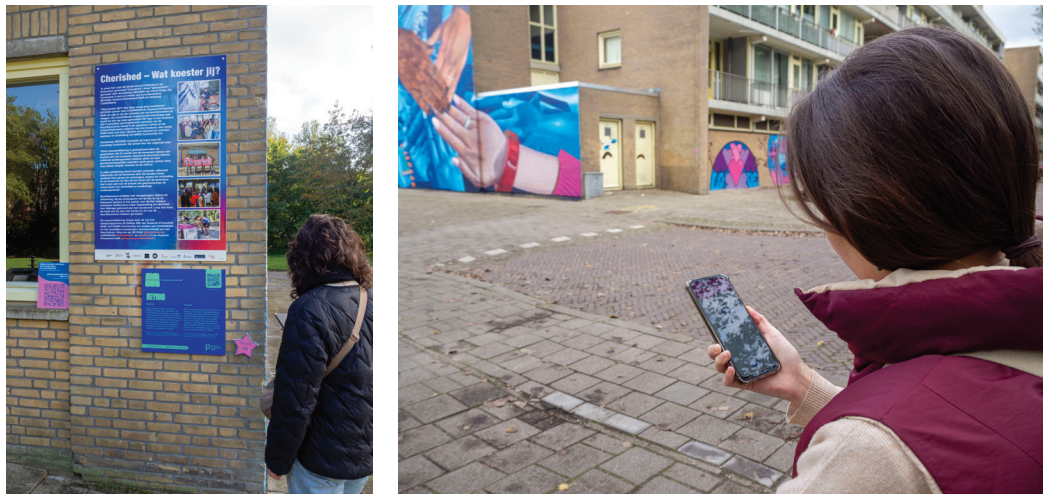


Figure 71. Participants engaging with the prototype.

6.03.2. Results

This section summarizes the results deriving from the evaluation of the final concept. The insights from the interviews with the five participants were analyzed through a thematic analysis. All the analyzed data can be found in Appendix J.

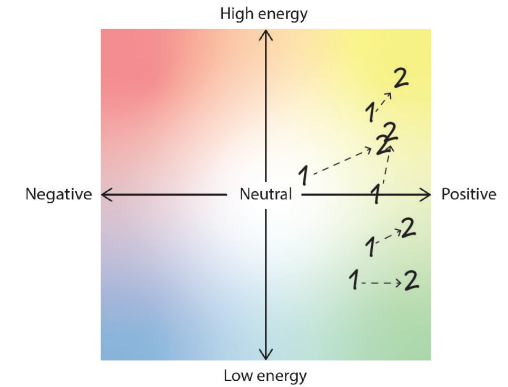


Figure 72. Participants' change of emotions regarding the mural.

Increased appreciation of the mural

All participants, regardless of their prior knowledge of the mural, reported an increase in appreciation after experiencing the project [Figure 72 and Figure 73]. Learning about the artwork, exposed details that significantly improved their opinion. They especially enjoyed discovering the collective effort behind the artwork and explained that they could feel that the mural was integrated into the district community. They also appreciated discovering the deeper meaning of the mural's elements and expressed that this newfound understanding would make the mural more memorable over time.



Figure 73. Quotes from the evaluation.



Figure 74. Quote from the evaluation.

Emotional connection and empathy

Four out of five participants stated that the experience sparked feelings of empathy and connection towards the people of the Buitenhof community [Figure 74 and Figure 75]. Listening to the personal stories shared by residents was a key factor in fostering this response. The participants recalled specific stories that resonated with them emotionally, which helped them appreciate the mural even more and increased the likelihood of remembering it in the future. Authenticity was also a significant aspect, as participants responded positively to the imperfections and natural hesitations in the voices of the audio, which made it feel genuine. In an era where generative AI is

prevalent, this sense of real human interaction was especially appreciated.



Figure 75. Quote from the evaluation.

Shift in perception of the neighborhood

While participants' initial opinions of the neighborhood varied, the experience improved their perception of the district, even if only slightly [Figure 76, Figure 77 and Figure 78]. They became aware of the presence of art and cultural initiatives, making the area seem livelier and more interesting. Additionally, they appreciated seeing an active community working to improve the neighborhood, which challenged their previous stereotypes about the district's inhabitants and helped them view the area more positively. The game also encouraged participants to spend more time exploring the neighborhood, allowing them to see it firsthand and further challenge their assumptions.

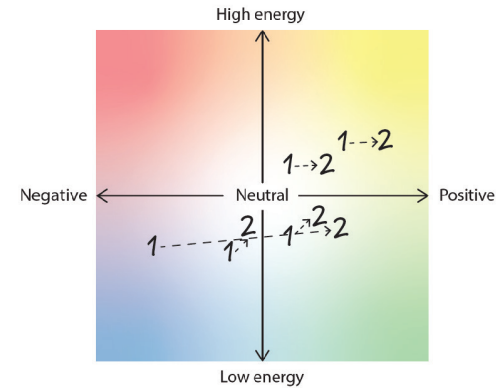


Figure 76. Participants' change of emotions regarding the neighborhood.



Figure 77. Quote from the evaluation over the picture of a participant exploring the area.

Positives of game mechanics

The interactive nature of the experience, particularly the star-finding game, was a significant source of enjoyment for participants. Three out of five explicitly stated that they found the activity fun, with all participants motivated to complete the challenge, even when they encountered difficulties. Only one participant gave up before finding the last star. The digital prototype's ability to track which audio segments had been unlocked played a key role in keeping participants engaged and encouraged them to listen to all the audio recordings. This shows that the gamification elements were effective in sustaining engagement and enhancing the overall experience. The audio-based format also contributed to the experience's success, particularly for Dutch-speaking participants, who enjoyed the freedom to explore the mural while listening [Figure 79]. This allowed them to engage with the artwork in a more immersive way. However, for English-speaking participants, the need to read subtitles detracted from their ability to



Figure 78. Quote from the evaluation over the picture of a participant exploring the area.

fully focus on the mural. This distinction highlights the importance of audio materials in promoting a more immersive experience compared to text-based alternatives.



Figure 79. A Dutch-speaking participant enjoying the artwork while listening to the audio recordings and an English-speaking participant looking at their phone instead of reading the subtitles.

I like the artwork I like to see it and I like to know a bit about it. But if it becomes too much knowledge, I'm just like, ouch.

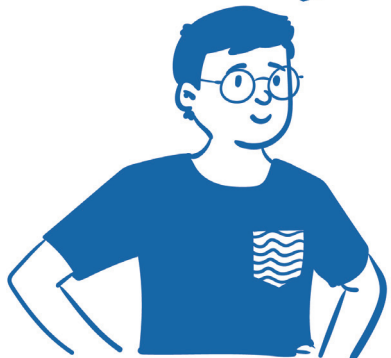


Figure 80. Quote from the evaluation.

Negatives of game mechanics

Despite the positive feedback on gamification, one participant found the difficulty of locating the stars frustrating, suggesting the importance of balancing challenge in the game mechanics. Some participants recommended adding a “hint” feature to aid in the search. Additionally, regarding the information load, participants had varied reactions. While the overall length and amount of information were generally well-received, some participants felt that there were too many audio recordings to absorb in one session [Figure 80]. Two participants also found some recordings less engaging, indicating that the appeal of the content was highly

personal and subject-dependent. This suggests that future iterations of the experience could benefit from optimizing the length and number of audio segments, while acknowledging that different participants may connect with different topics based on individual preferences. Overall, refinement and further testing in these two areas are still needed to improve the game experience.

A flexible experience

All participants expressed their intention to visit other artworks, especially if they were located nearby. However, they had varied preferences for how they would approach the concept if it expanded into an art route [Figure 81]. Some participants, taking advantage of the ability to save progress, would prefer to listen to a few audio pieces at a time as they passed by murals. Others viewed it as a one-day experience and would set aside a chunk of free time to visit multiple artworks and complete the game in one go. One participant even suggested unlocking the stars but saving the recordings for later, similar to listening to a podcast. This indicates that, for future implementations, the experience should be flexible enough to cater to different visitor preferences. Additionally, I observed that none of the participants noticed the screen directing them to other pages or initiatives, suggesting that further work is needed to effectively connect people with real-life events where they can engage with the Delft community.



Figure 81. Quote from the evaluation over the pictures of a participant.

6.04. Discussion

Overall, the concept appears to fulfill the design goal of the project. Most participants reported feeling a sense of empathy and connection towards the district's inhabitants, and their overall opinion of both the mural and the district improved. The use of the voices of people involved in the project was the most impactful element of the prototype. Participants found the recordings to be authentic and meaningful, expressing a strong preference for hearing personal stories over more abstract facts. The artwork became more believable to them because it was communicated by the people directly involved, rather than an external party.

The dynamics of the experience were also well-received. Participants appreciated the ability to listen instead of read, which allowed them to engage with their surroundings while learning about the artwork. Additionally, the gamification elements, such as searching for stars, made the activity engaging and enjoyable. However, some aspects of the game mechanics and other features could benefit from refinement. For example, some participants found some of the stars too difficult to find, and the length or number of audio recordings occasionally felt overwhelming. Additionally, some sections of the digital interface were not visible enough. Addressing these issues would be an important next step in the development of the project.

An interesting finding of the evaluation was that each participant expressed a preference for structuring their experience differently, suggesting that the final experience should be flexible enough to accommodate different kinds of approaches. The prototype has already hinted at how the concept could be scaled up to the whole district or even the city in the future, though this element was not explored in detail. Future iterations could investigate how to scale the experience by incorporating more artworks.

One aspect that was not fully explored during this evaluation was the effectiveness and visibility of the call-to-action. Since all participants were guided to the sign, its ability to attract attention was not tested. In an unsupervised setting, a small sign like the one used in this test may not be sufficient to catch the attention of passers-by, which could limit participation. During earlier design explorations (see section 5.02),

I considered painting on the ground as a method of drawing attention, but I did not explore further this direction due to the project's scope. Future implementations should place more emphasis on exploring ways to attract attention, particularly next to such a large and impressive mural.

The evaluation also had some limitations to consider when assessing the results. Firstly, all participants were young adults between the ages of 20 and 30, primarily due to recruitment challenges. Assuming that young adults are generally more comfortable with digital tools, this may have influenced the performance of the prototype. A different group, such as elderly participants, may have found the experience more challenging. Additionally, the content of the audio recordings may not be as engaging for children. Testing the prototype with a more diverse group of participants in the future would help ensure that the experience is accessible, fun, and engaging for a wider audience.

Another limitation was related to the digital prototype itself. Due to the constraints of Figma, I was unable to implement all the desired features. For example, the prototype could not provide feedback on whether a code was correct or incorrect, and any code could unlock any audio recording. These small imperfections may have impacted the overall user experience and ease of use. Developing a more functional prototype would be a logical next step in improving the project.

Finally, a key aspect of the concept involves integrating a collaborative process in the creation of the audio recordings. In a real-world implementation, I envision residents and other stakeholders working together to plan and produce the content. However, due to time constraints, I was unable to organize such activity during this project. Instead, I collected the recordings one-on-one through interviews and WhatsApp conversations. I believe that involving residents in a group setting would enhance the quality and diversity of the content, resulting in a richer experience for visitors. While this test primarily engaged Delft residents who do not live in Buitenhof, future developments should also incorporate feedback from the local community in Buitenhof, as their input was central throughout the whole project.

In this final chapter, I reflect on the contributions this project makes to the field, explore future opportunities for its development, and summarize the key findings of the research. I also address the limitations of the work and share my personal learnings gained over the past months.

7.01. Final discussion

This thesis explored the potential of mural art to foster meaningful social connections in the Buitenhof neighborhood of Delft. The project began by investigating the context, the nature of social dynamics in the area, and how mural art could be utilized to strengthen social connections. Over time, I concluded that while there are various ways to foster social bonds in urban environments, what this context needed was to address stereotypes and negative perceptions surrounding the district. By humanizing the area, the project aimed to increase empathy among Delft residents, making them more likely to connect with one another. In this section, I will discuss the most significant findings, opportunities, and limitations of this project.

The role of mural art in social connections

A significant focus of this project was to evaluate how the NOBIS murals could enhance social connections in Buitenhof. While the murals present an opportunity to bring people together and foster social connections, there are also notable limitations, such as the ambiguity surrounding their message and origin. If left unaddressed, these limitations could diminish the positive social impact of the artworks. My final concept aimed to bridge this gap by integrating the findings into an interactive experience that educates visitors about the mural in a more engaging and authentic way. This experience not only improved participants' appreciation of the artwork but also fostered a greater sense of empathy and connection to the members of the local community and challenged their negative stereotypes about the neighborhood. For this reason, I can affirm that the main goal of the project was successfully reached.

The power of authentic personal stories

A central theme that emerged throughout the design explorations (see section 5.02) and final evaluation (see section 6.03) was the power of personal narratives in meaningfully communicating something. During the various tests, it became evident that personal, real-life, specific stories resonated far more with participants than generic, third-party explanations of the artwork. Additionally, the use of voice recordings

from real community members in the final prototype, as opposed to the AI-generated voices I occasionally used during the design explorations, made a significant difference in how authentic the audio content felt. This authenticity played a crucial role in ensuring the content was engaging, memorable, and believable. This made me conclude that the real strength of my work was that I recorded the voices of real people who shared their real stories and opinions. This leads me to affirm that collaborative art projects need to be communicated in a similarly collaborative way to maintain their power, meaning, and emotional impact. Authenticity ensures that the artwork's narrative is relatable and sparks connection.

Subjectivity and uniqueness in urban interventions

One of the recurring challenges throughout this process was addressing the diversity of perspectives and preferences. During my research in Buitenhof (discussed in Chapter 2), I repeatedly unsuccessfully tried to create categories of people to describe the district. Similarly, during the design explorations, I aimed for a universal solution, only to find that it was unrealistic. This made me conclude that, especially in urban environments, that consist of diverse populations with often conflicting needs and desires, it is impossible to create one-size-fits-all interventions. As a result, my concept represents just one possible intervention out of many that could be applied, also in combination with each other. Furthermore, this finding highlights the importance of continuous exploration, engaging with a variety of different people, and embracing their differences and uniqueness. This also brings me to one of the project's limitations: participant recruitment. The research and design phases relied heavily on university students and young professionals, which may have influenced the final outcome. Different results might have emerged with other participant groups that better reflect the complexity of urban environments.

Contextual adaptability of the design

A question that emerged towards the end of the project was whether this concept could work in other settings. The design was tailored to the specific artwork, outdoor space, and community of Buitenhof, but

how would it translate to other murals or neighborhoods? For example, if applied to NOBIS 1.0 or NOBIS 2.0, the concept would likely look very different, mostly influenced by the different content of the artwork but also because of differences in the environment. As BEYOND explained during an interview, the experiences of working on NOBIS 2.0 and NOBIS 3.0 were very different, despite the murals being only a short distance apart. This suggests that the concept would need significant adaptation for use in different cities or countries. While I believe that the final concept of this thesis could be beneficial for multiple environments, I think it is essential to adapt it according to the differences between local contexts. For example, other districts or cities might benefit more from an increase in social activities and events, while some areas may need more emphasis on fostering appreciation for public art. Based on the needs of different environments, different elements of the concept could be enhanced to give more emphasis on one or another aspect of it.

Long-term impact and future research

One area that I was unable to explore during this project was the long-term impact of the design. Time constraints prevented me from measuring how the concept could influence mindsets and community connections over an extended period. However, it would be valuable to investigate whether the combined small shifts in the perception of multiple people, like those achieved by the project, could contribute to lasting improvements in social cohesion across the city. It's clear that the concept alone cannot solve all challenges facing the district, but it could serve as part of a larger effort to improve interconnectivity with the rest of the city, and it would be interesting to see how it plays a role in this. Further research might also explore how this concept could affect tourism in Delft. While it could increase the interest of tourists in exploring the outskirts of the city instead of limiting their visit to the city center, there's a potential risk of gentrification that needs to be considered. These are important matters to keep in mind when thinking about the future of this project.

7.02. Recommendations and opportunities

In this section, I provide some recommendations for the future development of the project and discuss opportunities for further exploration and improvement in the context based on insights gained during my research.

Recommendations for the development

1. As explained in previous discussions (see sections 6.04 and 7.01), incorporating the recording of residents' voices into the collaborative process of creation of the murals is an important next step for future design interventions. By embedding this step into the mural's creation, the community's voice would not only shape the artwork itself but also how it is communicated to the public. Additionally, this would ensure that the content communicated by the intervention I designed not only remains unique to each artwork but also preserves authenticity, which emerged as a key factor in engaging participants. Whether or not this specific concept is implemented, I strongly recommend exploring ways to involve the community at every stage of the realization of the murals, from the design to the final communication to the public. This requires a consistent effort to spend time with the community, deeply understanding what people value and like, and keeping them engaged through new and diverse activities that they find enjoyable. It's also essential to plan the final collaborative communication activities in advance to ensure the community is well-informed and expects to be involved at each stage of the process.
2. The interactive, gamified experience proposed in this thesis is just one of the possible ways to approach this project. While it served as its focus, more strategies could be tested to find other effective ways to engage diverse visitors. Trying out different variations of the concept would be especially beneficial to identify how best to communicate with different kinds of people. For this reason, it is essential to involve a wider and more varied group of participants, representing different ages, backgrounds, and neighborhoods. Expanding the diversity of participants would help improve the concept and find

new complementary strategies to reach a broader group of people.

3. Simply replicating the same concept for multiple murals across the city could make the overall experience feel monotonous. Each artwork has its own story, and it is important to find a way to scale the project that maintains the individuality of each mural while still creating a cohesive experience. This challenge is particularly noticeable when comparing NOBIS 3.0 with NOBIS 2.0. NOBIS 3.0, a complex mosaic representing various elements and values, required a communication strategy that focused on highlighting those distinct aspects. On the other hand, NOBIS 2.0 has a completely different communication approach, as it is centered around one symbolic story. Should then the audio content for NOBIS 2.0 feature personal stories from various people, or should it emphasize a single narrative told by multiple voices? Experimenting with these approaches would offer valuable insights into what works best in different contexts.
4. Another area worth attention is the call-to-action. The design explorations (see section 5.02) and final design discussion (see section 6.04) demonstrated that murals, being large and colorful, often overshadow smaller explanatory signs placed nearby. Throughout the project, I briefly explored ways to make these signs more noticeable. One example was extending the mural's design onto the ground in front of the signs to attract attention to that portion of the wall. However, due to the project's scope, I didn't continue with this idea. More research should focus on how to make such informational materials more visible and attention-grabbing, without taking away from the mural itself.

Other opportunities in the context

While researching the communities and organizations that operate in the Buitenhof district (see section 3.02), I identified several reasons why residents choose not to participate in local activities. These reasons fall into three main categories: emotional, organizational, and personal. While this was outside the scope of my thesis, I believe these three topics are worthy of further research.

1. Addressing the emotional barriers that prevent people from

attending events could have a significant impact, particularly in combating issues like loneliness and social isolation.

2. Investigating the organizational challenges of local organizations could lead to interventions that better support them in their efforts to collaborate more effectively with one another.
3. Focusing on personal reasons, such as the disengagement of individuals from vulnerable sociocultural situations, could reveal ways to make participatory processes more inclusive and accessible.

7.03. Personal learnings

Reflecting on the process that led me to the end of this project, I can see that I've had two main personal learnings. First, although it doesn't come across fully in this report because it was beyond the scope, this project constantly made me reflect on what collaborative design really means and what it takes for a project to truly be called "*collaborative*." I don't have a definitive answer, but I noticed something interesting. In academia, people often approach collaboration in a systematic way, which makes sense because it leads to clear, measurable insights. But sometimes, focusing too much on expected results makes the activities feel a bit forced, like they're being imposed on the context rather than growing naturally from it. On the other hand, I've seen CANIDREAM approach collaboration much more spontaneously. They embrace the pace of the community, allowing themselves to be surprised by outcomes rather than aiming for predetermined, measurable results. This approach felt more in tune with the community but lacked that "*structured*" quality we're taught to value in academia. Now, at the end of this project, I keep asking myself: where's the right balance between these two approaches? Is it even possible to do research that's as deeply rooted in the community as CANIDREAM does, while still producing clear, measurable findings? Do we even need clear, measurable findings, or can we trust our feelings and intuition? Looking back on my own process, I realize that it was much less structured than the projects of many of my fellow students. A lot of my insights didn't come from formal interviews or generative sessions but from simply being present, experiencing the place firsthand, and paying close attention to what was happening around me. Coming from an academic background, I'm often inclined to think that this approach is somehow less valuable. But now, at the end of the project, I see that the most valuable insights came from those spontaneous activities and conversations. If I could do it all over again, I would give a lot more credit to those unplanned moments from the start.

Another big learning for me was having to step outside of my comfort zone. As a shy person, it wasn't easy to dive into a new context with unfamiliar people and participate in all sorts of activities. On top of that, the language barrier made it even harder, and I know I missed out on

some communication nuances that could've helped me make more intuitive decisions. This became even more obvious during a visit to a community garden in my home city over the summer. I immediately noticed how much easier it was for me to connect with people and understand the social dynamics there. In the end, two things stand out for me: first, stepping into such an unfamiliar situation gave me the confidence to handle similar projects in the future with much more ease. If I ever work with a community without a language barrier, I know it will be so much easier. And second, looking back, I can see that I also learned how to deal with that language barrier over time. If I could start this project again, I would approach this limitation with more confidence, I would try to speak Dutch more often and to communicate to people my difficulty with the language early on to quickly connect with who is willing to talk in English. I would also bring written material with key concepts and instructions at all activities, it is a great support to communication and makes everyone feel more at ease. Finally, I would not be shy asking for help, there's always someone in any situation that wants to support you. Overall, I'm really glad I went through this process. I can genuinely say that I've had some major learnings that will definitely shape how I approach my future work as a designer.



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Appendix

The appendix of this report can be accessed through this link or by scanning this QR code: https://drive.google.com/drive/folders/1s6XBeFXchZ3plQWX6n-RybgdmKsuh1lz?usp=drive_link



Video

A video showcasing the concept can be accessed through this link or by scanning this QR code: <https://youtu.be/BQ2VPAVdoWI>



Artwork in the front cover:
“*Cherished*” by BEYOND from Mural Kings, co-created with
Buitenhof inhabitants, Museum Prinsenhof Delft and CANIDREAM
foundation, Delft, 2024. Photo by author.