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Co-creation as an incentive for enhancement of public familiarity: Interactive artwork in the neighbourhood to connect

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Abstract: The consequences of the changing society emphasize the importance of an informal (care) network within the neighbourhood. However, amplifying or establishing local social networks is not straightforward. Instead of focussing on deep-rooted networks, public familiarity as social foundation, established through repeated social interactions, could be highlighted. The project Art of Connection investigates both the process of co-creating interactive art and the artwork itself as a catalyst for accessible encounters, using the neighbourhood Stadseiland in Arnhem as living lab. This article explores the process of co-creation as 1. a method for creating an interactive artwork that people feel a shared responsibility for; 2. as an incentive to experience interactions with unknown neighbours for establishing public familiarity; 3. as a means to amplify existing connections with neighbours. The various research activities proved themselves to be interesting starting points for different interactions, specifically the neighbourhood fair. The fair as contribution to connection could be examined more extensively by exploring its effect on creating new or strengthening existing ties between neighbours in future research. Furthermore, the group sessions contributed to strengthening existing connections, especially when focussing on topics related to encounters and the neighbourhood.

Keywords: public familiarity; co-creation; place making; neighbourhood; Empathic Design Framework

1. Introduction

In order to maintain a well-functioning healthcare system in the Netherlands, while dealing with social changes such as accelerated aging and the increasing pressure on healthcare, policy reforms in recent years have been focussing on innovations such as extramuralisation (Blank, Van Heezik & Niaounakis, 2016). This transition towards extramuralisation, shifting the focus and responsibility more towards the individual and the community with demand-driven care, emphasized the importance of an informal care network within the neighbourhood, especially for vulnerable seniors with reduced mobility (Buffel et al., 2011; Plemper & Van Vliet, 2003; Blank, Van Heezik & Niaounakis, 2016). However, there is a large leap between concepts as 'caring communities' and intensive caretaking. Expecting laymen to perform highly skilled care tasks next to or instead of professional caregivers is detrimental and provides a distorted image. However, over-reliance on informal networks is a glaring risk, with a possibility of being exploitative specifically towards women, who are traditionally assigned caregiver tasks (Haubner, 2020). Therefore, it is important to determine what is feasible within the community, such as aiming for a non-invasive social foundation as part of a preventative

strategy. However, amplifying or establishing local social networks is not straightforward. To lower the threshold, instead of focussing on deep-rooted networks, public familiarity as a social foundation could be highlighted.

1.1 Public familiarity

We interpret the concept of public familiarity as recognizing strangers in the neighbourhood to the point where they become familiar as neighbours, which can be established through repeated 'light' social interactions (Blokland, 2009; Fischer 1982; Van Eijk & Engbersen, 2011). This can contribute to establishing mutual trust, a sense of safety, a sense of belonging and a sense of home and community in the neighbourhood (Buffel et al, 2011; Blokland, 2009; Blokland & Nast, 2014). The notion of public familiarity is explored several times through the lens of interconnecting people from different social backgrounds, as it helps recognition through the visibility of co-existing in shared public spaces (Blokland & Nast, 2014; Piekut & Valentine, 2017; Van Eijk & Engbersen, 2011). One's connection to the 'other', a so-called social tie, is central for public familiarity. Granovetter (1973) distinguishes different social ties as either strong (relating to friends), weak (relating to acquaintances) or absent. In this formulation 'absent ties' refer both to the absence of a bond, as well as the presence of a bond with little profound meaning. To emphasize the difference, Felder (2020) introduces the term 'invisible ties' for the latter as ties to familiar strangers that you may not be aware of, but which are fundamental for your experience of public familiarity.

Aside from relations to familiar strangers, familiarization could be understood in terms of environmental familiarization. This could be explained as becoming so used to the experience of your environment, encompassing all senses, that the surroundings fade to the mere background as habitual furniture (Felder, 2021; Cogger, 2016; Henshaw, 2014). The process of familiarization can lead to stagnation of superficial, yet comfortable knowledge towards the familiar stranger and the familiar environment: there is no need to pay extra attention or learn more about each other if everything is as expected (Blokland & Nast, 2014; Felder, 2021). Disrupting the familiar (and this stagnation) is therefore not necessarily a bad practice, as long the disruption is non-threatening: it could lead to checking in on the neighbour after noticing that they are not doing their routine walk or to a new-found appreciation for the environment (Felder, 2020; Felder, 2021). This gentle disruption could be achieved through initiating a conversation instead of the usual understanding with a familiar neighbour (Felder, 2020). Interactive art can be an interesting and engaging medium for facilitating low-key interactions for familiarization, while simultaneously supporting different types of interactions away from routines as gentle disruption.

1.2 Interactive art & public familiarity

Using interactive art in the public space as a catalyst for accessible encounters or the enhancement of public familiarity is not new. Interactive art can aim to bring people together in multifaceted ways, for example through multi-sensory interaction responding to touch such as 'Marbles' (Studio Roosegaarde, 2011), encouraging teamwork to create interaction with the artwork similar to 'Urban Lights Contacts' (Scenocosme, 2015) or guiding people towards each other using lights such as 'Let's Get Physical' (Northern Lights, 2019), while simultaneously opening up the possibility to monitor its effect on interaction.

In addition to connecting people through interactive art itself, using the process of designing public art in co-creation as facilitator for social interaction is a well-known topic (Matarasso, 1997; Lowe, 2000; Kay, 2000;

Carpenter & Horvath, 2022). By involving local residents in the (design) process, they get the opportunity to adopt the artwork and feel shared ownership. Therefore, the responsibility can be transferred to the neighbourhood after completing the research, in order to remain a lasting connecting factor (Lowe, 2000; Semenza, 2003; PSAA, 2019).

1.3 The Art of Connection

This brief overview shows a clear discrepancy between the 'state of science' and 'state of the practice'. Various completed (inter)national projects are described, however research into effects is lacking and the potential of combining the multifaceted connecting qualities of an interactive artwork with a co-creation process is underexplored. Therefore, the project Art of Connection aims to connect knowledge institutes, artists and residents to investigate both the process of co-creating interactive art and the artwork itself as a catalyst for accessible encounters, using the neighbourhood Stadseiland in Arnhem as living lab. Stadseiland was chosen as a living lab, since the initiative came from an active residents' group itself. Bordering the river Rhine and with the green areas, the neighbourhood has many places with potential for encounters. However, solely focussing on accessible encounters for promoting public familiarity does injustice to the rich existing social structures in the neighbourhood of Stadseiland, which could be built upon. Therefore, this paper explores the co-creation process focussing on three objectives:

- As a method for creating an interactive artwork, through which people could establish a feeling of ownership and responsibility over the artwork.
- As an incentive to experience informal and fleeting interactions with unknown neighbours as a way to establish public familiarity.
- And lastly, as a means to reinforce and amplify existing connections with neighbours.

2. Methods

2.1 Framework

The Empathic Design Framework (Mohammadi, 2017) was used as a basis for the research of the project Art of Connection. The framework comprises of four phases (explore, translate, process, and validate) in order to gain insights to realize and test a human-centred living environment. According to this framework people are not only subject of the research, but they can have an active contribution, in which perceptions, needs and wishes are explored through a co-creation process.

What sets this framework apart is its iterative approach, tailored for the scope of the Stadseiland neighbourhood, encompassing a diverse array of individual perspectives and voices. In the project of Art of Connection, the phases of the Empathic Design Framework are completed in two iterations, as the project impacts the scale of the entire neighbourhood Stadseiland. Initially focussing on smaller, representative groups within the neighbourhood, the approach evolved into a broader inclusion in the second iteration, marked by a neighbourhood-focused event: a small-scale fair in the local park.

This methodological framework aims to foster an interactive artwork that encourages informal interactions between unfamiliar neighbours and strengthens existing neighbourhood connections. By directly involving residents and employing a variety of methods, our research process reflects a deep understanding of the social and cultural dynamics within Stadseiland, essential for achieving the project's objectives.

2.2 Resident involvement

Identifying and engaging specific resident groups active within the neighbourhood was achieved through the connections of an engaged resident and discussions with the neighbourhood coordinator, the so-called liveability coordinator. This engagement led to the participation of three distinct groups: Stadseiland-Noord, consisting of residents active in various community initiatives, Impian Kita, which includes residents united by their shared cultural background, and Eilandstaete with residents grouped by shared care needs. This diversity enriches our project with a wide range of insights and perspectives.

2.3 Methods and activities

Our qualitative approach is designed to delve into residents' needs and wishes deeply. We employed a variety of methods including co-creation sessions and focus groups, facilitated through creative sessions, participatory mapping, collage making, and brainstorming discussions. These methods served multiple objectives: informing about the project's progress, inspiring by highlighting the neighbourhood's significance for its residents, collecting direct feedback on design alternatives for the artwork, and connecting residents with each other and the project. The activities, ranging from focus group sessions with different resident groups to a neighbourhood fair, and meetings organized by residents themselves, were integral to these methods. They were not just aimed at gathering feedback on the art object but also played a crucial role in achieving the project's broader goals.

This integrated approach highlights the coherence and depth of our research methodology, clarifying how each component contributes to the overarching goals of the Art of Connection project. The direct involvement of residents and the use of diverse methods and activities underscore a commitment to understanding the nuances of social and cultural dynamics within Stadseiland, crucial for the project's success.

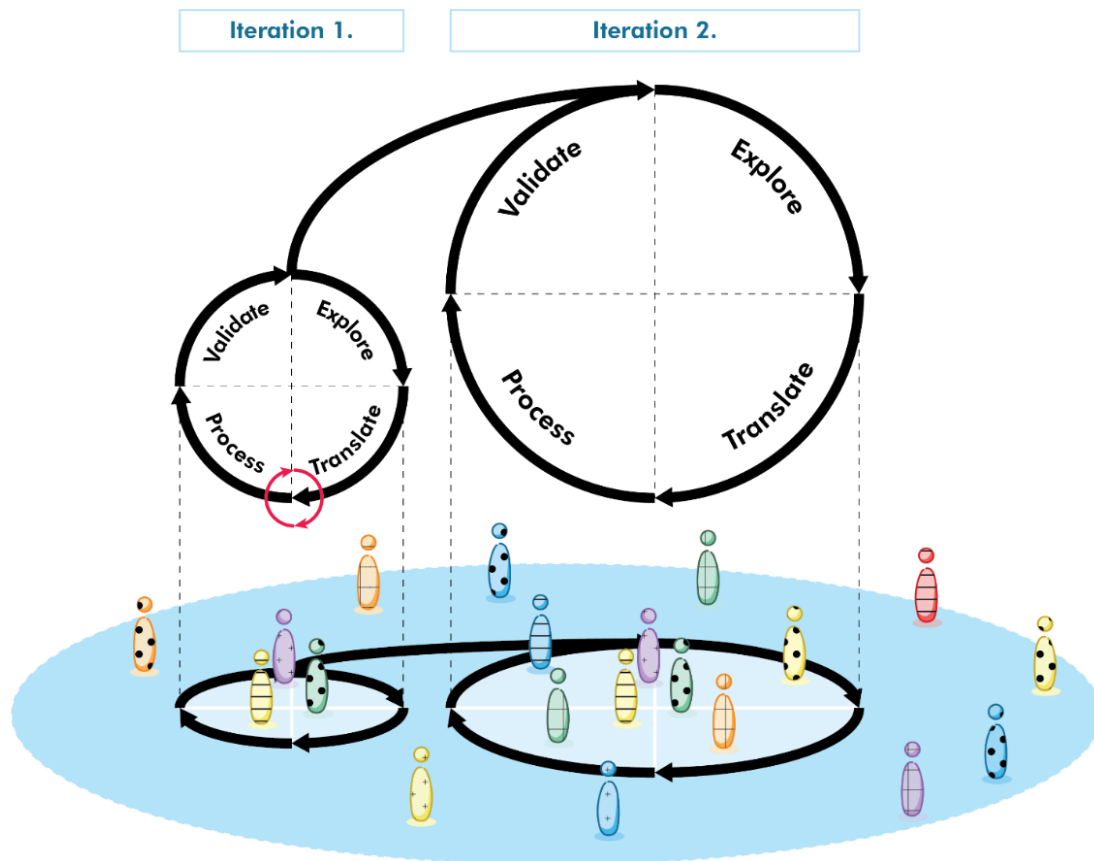


Figure 1. Adaptation of Empathic Design Framework (Mohammadi, 2017), showing the inclusion of resident groups during the process

3. Results and analysis

3.1.1 Iteration 1: Group sessions

The group sessions (n=7) focused on the topics 'interactive artwork', 'encounters' and 'the neighbourhood', addressing the latter two in a combined session. Prior to the group sessions, an introductory meeting with each resident group was held during which the structure and purpose of the project were discussed. The sessions were guided by at least two researchers, with the exception of one session in which a researcher was assisted by a resident who had already experienced a few sessions themselves.

- **Artwork.** During these sessions, participants reflected on different design alternatives presented by either the artists or the researchers using presentation boards with visualizations. The focus of the sessions alternated between individual input using post-its and group discussions. Aside from the post-its and the researchers' notes, data was collected using sound recordings and in one case a video recording during a hybrid session. This data was analysed and incorporated by the artists into new design alternatives, which were the focal point of subsequent co-reflection sessions. These sessions provided direct feedback for the artwork.
- **Neighbourhood:** These sessions started with a brainstorm regarding encounters, the neighbourhood itself and making new contacts in the neighbourhood. Following the brainstorm, participants made and presented

collages of their ideal situation regarding encounters in Stadseiland. Next, participants indicated their perceived boundaries of their neighbourhood individually on a map. During the sessions, the researchers combined participants' responses into a symbol for the neighbourhood, in order to verify the interpretation of their experience, which were discussed to wrap up. Aside from the physical data, such as the brainstorm paper, the maps and the collages, data was collected through sound recordings. This data was incorporated as indirect feedback in the artwork.

3.1.2 Description of the groups

Stadseiland-Noord. These residents consciously play an active role in the neighbourhood. They live throughout the neighbourhood, especially in the northern part. They are affiliated in various formations with various active clubs or committees, such as the community garden ('de Burchttuin'), the residents' association and the residents' initiative 'Stadsburen'. Residents from Stadseiland-Noord feel a strong and proud bond with their neighbourhood. They value the sense of shared identity in Stadseiland, coming from local characteristics and the neighbours, stating: "You just can't do without the neighbours", "you cannot move the neighbourhood with you" and "I'm proud of Stadseiland." The residents repeatedly used 'encounters' and 'activities' as interchangeable concepts, highlighting their expectation of an active attitude and approach from both parties of the encounter. They view encounters either as organized, planned or semi-spontaneous activities, for example sitting at a public place with a small group ("and a bottle of wine!") and see who comes along and lingers.

Impian Kita. These residents consciously live together due to their shared cultural and Indo background. They live spread over two apartments facing the central neighbourhood park and have a common room in one of the two apartment complexes. Residents from Impian Kita feel a strong bond with each other. Aside from their local community they appreciate the opportunities to connect with the lively Indo-community across Arnhem, during recurring party nights and activities. Similar to Stadseiland-Noord, these residents interpret 'encounters' as doing something together, such as a game of chess or a BBQ, perceiving this as an attractive idea.

Eilandstaete. These residents live together due to a shared need for care, focussing less than the other two groups on their collective community. Due to the vulnerability of the group, as the participants had different physical and cognitive disabilities, the session was adjusted to the capabilities of the participants. During the session, residents from Eilandstaete commented predominantly on individual basis, sharing personal experiences and stories from their lives before living in the care home. For one resident the potential demand for an active attitude towards encounters seemed quite overwhelming: "There is already so much to do, I don't need more activities". Others stated widely varying needs regarding encounters: "They are all strangers". "But that is so much fun to me!", emphasizing the need to facilitate different settings and possibilities for different kinds of encounters.

Table 1: Participation of different resident groups in co-creation sessions

Type of residents	Distinct characteristics	Overlapping characteristics	Number of residents	Focus of the co-creation session	Applied methods for sessions
Stadseiland-Noord	-Choice to take an active role in the neighbourhood -Strong bond and shared identity as 'Stadseilander'	Mainly 60+, affinity with art, interest in the neighbourhood	14	Artwork	Brainwriting & group discussion
			7	Neighbourhood	Brainstorm, collage, participatory mapping & group discussion, walking interview
Impian Kita	-Choice to live together -Strong bond, related to their common cultural background		5	Artwork	Brainwriting & group discussion
			4	Neighbourhood	Brainstorm, collage, participatory mapping & group discussion
Eilandstaete	-Need for care -More individually oriented rather than a group		5	Neighbourhood	Brainstorm, collage & group discussion

3.1.3 Bridging islands

All three groups emphasized the presence of different social islands within the neighbourhood, with Stadseiland-Noord and Impian Kita expressing the desire to cautiously bridge those different social islands. Both these groups indicate that they are struggling with connecting to other groups. For Impian Kita this means that they would strive to be more approachable for interactions, even though they appreciate being a close-knit group. According to one resident: "Other residents from the neighbourhood used to walk by and ask questions when they saw us on the terrace. Now they know already that we are quite a closed community. It is a pity that they pass by now." Residents from Stadseiland-Noord mention that they find it difficult to connect with residents outside their bubble, and simultaneously like to attract new active people to join their group. They would like to envision the neighbourhood as one big house, with the public space as an extension of a common living room, but admit that this vision does coincide not with the current situation. Residents from Eilandstaete affirm the complication of bridging social islands, but point more to physical accessibility due to limited mobility as an obstacle.

3.2 Iteration 2: The fair

The results distilled from the group sessions were translated by the artists into a Augmented Reality (AR) prototype of the artwork, which was then tested during the neighbourhood fair. Aside from the AR prototype (n=15), the fair consisted of different (research) activities, including participatory mapping for outlining the perceived neighbourhood (n=8), a preference study regarding various interaction techniques (n=10), writing a card for an unknown neighbour (n=4), an exhibition with student projects for inspiration and live music by the neighbourhood band. In addition to the band, residents from different resident groups were also actively involved in the organizational side of the fair, by providing satay for the visitors, assisting during setting up and dismantling the stands and promoting the fair with posters in their windows, highlighting their position as equal stakeholder within the project.

Aside from the posters on the windows, the fair was promoted with flyers delivered door to door, a message on the neighbourhood Facebook, announcements on (websites of) local newspapers and a poster at the local supermarket. The fair attracted about 80 curious residents, considerably expanding the group of participants compared to the first iteration and including resident groups that were not represented before, particularly parents with kids. The fair proved to be a nice setting for accessible encounters connecting neighbours to the project and, more importantly, to each other.

Both the direct and indirect feedback were analysed again and translated into a physical prototype, specifically changing the artwork into a movable object.



Figure 2 and 3. The fair as setting for accessible encounters connected neighbours to the project and each other

4. Discussion and conclusion

The prototype has not yet been completed, so its effect on providing accessible encounters is still to be explored and validated. In addition, it has not yet been demonstrated whether and how the project will have a future impact on extramuralisation. However, the process of working towards the prototype in co-creation with the residents has been finished.

4.1.1 Co-creation as a method for creating an interactive artwork, through which people could establish a feeling of ownership and responsibility over the artwork

Sense of ownership

One of the groups involved has demonstrated a pronounced sense of ownership and responsibility regarding the artwork, as reflected in their enthusiasm and initiative to organize the maintenance of the artwork even before construction, and by inviting us to join their own meetings after the research activities were completed. The other two groups have not shown a sense of ownership this explicitly. Because the artwork is movable and needs shelter during the night, it is possible to temporarily make different groups responsible for providing accommodation, potentially including groups that are not yet involved in the project. This way, we will try to balance between the different groups to prevent appropriation and exclusion in the upcoming phase. However, we should not have too high expectations of assigned responsibility converting into an experienced sense of ownership: although some groups were assigned a specific task in the organization of

the fair, their involvement in the fair was not outward translated into a deeper connection to the artwork or the process.

4.1.2 Method for interactive artwork

As the co-creation involved (vulnerable) residents, the research asked for a flexible and accessible approach from all stakeholders. This resulted in a dynamic process in which not only the design for the prototype was adapted, but the process as well, both through input from the residents and external factors such as the change of location and involvement of partners. Because of these constant changes, it was important to guard the original goals of the project and to prevent an endless continuation in the hope of improving the design to everyone's wishes.

Although the project specifically targeted seniors, there is a notable group that was absent from the conversations, namely young people. They have been the subject of discussion multiple times, particularly in relation to fear of nuisance or vandalism and the recognition that there are not many facilities for young people in the area. Even though we organized different research activities aimed at different resident groups, specifically during the fair, we were not able to include the youth within the timeframe of the project. We hope to get their perspective from the tests with the prototype.

4.2 Co-creation as an incentive to experience informal and fleeting interactions with unknown neighbours as a way to establish public familiarity

Residents are very aware of island formation and separation in the neighbourhood, so much so that indicating the boundaries of the neighbourhood could even give a feeling of exclusion towards the other groups: "It feels so unkind." "Yes, you are not allowed to join!". This awareness of the 'other groups' already might suggest the existence of invisible ties. At the same time, the groups indicated both the challenge and aspiration of bridging the islands, emphasizing the importance of a safe setting for fleeting interactions with unknown neighbours.

The fair temporarily established this setting for informal, accessible and easy contact, with neighbours from different groups being in close proximity to each other. A local, convivial and relaxed event like the fair proved itself an interesting starting point for low-key interactions and could be used more extensively for exploring its effect on creating new or strengthening existing ties between neighbours in future research.

In addition to making new connections with neighbours, connections with researchers were also made. Particularly with Eilandstaete, residents used the session to talk about their own past and to share personal stories with the researcher. These connections provide valuable insights for the research, but after the project the researcher disappears from the neighbourhood and with it this connection disappears. This relationship between researcher and participant is something to be aware of in order to also involve other residents in such moments.

4.3 Co-creation as a means to reinforce and amplify existing connections with neighbours

The group sessions were organized with groups that already had an existing connection. Especially the sessions focussing on the neighbourhood and encounters appeared to contribute to solidifying those existing connections, as residents themselves proclaimed: "This session itself is already connecting". During the sessions regarding the artwork this contribution was not explicitly mentioned, possibly as these sessions evoked more individual perspectives and personal preferences.

Aside from organizing our own research activities, we were invited to join activities from the different groups. This gave us the opportunity to benefit from existing structures in the neighbourhood and to embed our research as part of a sequence of fun activities and in-depth discussions. The activities from Art of Connection served as a nice addition, but for truly amplifying and deepening their local connections, it is important that the resident groups continue the work and enthusiasm they already embody.

Future research

This project aimed to create and reinforce a foundation for neighbourhood connections in Stadseiland, acknowledging the importance of having different types of relationship ties for different aspects in life. This foundation showed to be an interesting starting point to further explore, especially focussing on establishing invisible ties between different resident groups. However when moving beyond public familiarity and working towards more rigid aspects of extramuralisation, it is important to examine what ties are actually necessary for a type of relationship revolving around receiving and giving (informal) care in the neighbourhood.

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