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Department of Mechanical and Industrial Engineering

ESTONIAN ACADEMY OF ARTS
FACULTY OF DESIGN

MSc. Design and Technology Futures

**SYSTEMIC DESIGN: SOCIAL INCLUSION AND PUBLIC
PARTICIPATION IN TALLINN**

SÜSTEEMNE DISAIN: SOTSIAALNE KAASATUS JA
KOGUKONNA KAASAMINE TALLINNAS

MASTER THESIS

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Systemic Design: Social Inclusion and Public Participation in Tallinn

supervised by Kätlin Kangur

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Thesis topic:

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Süsteemne Disain: Sotsiaalne kaasatus ja kogukonna kaasamine Tallinnas (in Estonian)

Thesis main objectives:

1. Identify systemic design models for designing and implementing interventions that foster social engagement and collaboration in public spaces.
2. Understand, analyse the systemic methodologies on community-based public spaces and evaluate its effectiveness.
3. Develop a design concept to enhance social engagement and participation.

Thesis tasks and time schedule:

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1.	Desktop Research	15.02.2023
2.	Design Research, Interviews and Data Collection	25.04.2023
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Abstract

There is a surge in urban spatial developments and dwellings worldwide, including Tallinn, the capital of Estonia. While urbanisation has many cultural, economic and social benefits, the poorly planned and regulated urban interventions might have a direct effect on the quality of people's well-being and experience of the environment. For instance, this might lead to limiting public access to community spaces that are socially inclusive for people. Therefore, resulting in impeding social interaction, limited cultural engagement and frustrated capacity building within communities, with the side-effect of individuals reducing their sense of belonging to their communities.

This research work is divided into two main parts; the first part is a conducted research study that explores community engagement, participation and inclusion from a systemic design perspective, with a focus on promoting social cohesion in public spaces of Tallinn. It also evaluates underlying social challenges in existing public spaces through investigation and discussion. In addition to this, it provides reflection on understanding forms of public participation, the motivation and needs required to achieve active engagement of the citizens in community-based projects actually happening in Tallinn.

The thesis identifies and uses systemic design methodology and design thinking theories to analyse the significance of public participation and engagement. Furthermore, additional methods such as field observations, documentation and interviews are used to analyse, identify and recognize challenges that hinder social inclusion and puts emphasis on a shift needed to the existing practices and approaches of engagement towards public participation in the existing social structures and systems.

The second part of the thesis proposes the design concept on the basis of the conducted research findings, analysis and insights. The design concept is a digital platform that aims to foster community engagement, increase awareness, enhance social inclusion, and active participation in public spaces. This study further contributes to understanding different perspectives and social contexts to promote social inclusion and foster community participation more actively and effectively.

Keywords: systems design, social inclusion, community participation, community engagement, public spaces, design thinking, community-based design, sustainability

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Preface

As a design practitioner and researcher and having worked on creative design projects that involve using design as an intervention tool in community spaces, have allowed me to understand how co-design approaches and techniques work as an ideal tool for joint inquiry for community members to delve into co-creation practices that lead to meaning-making and sense-making.

These projects include a curatorial design project at the Centre Pompidou in Paris, where designers were given the opportunity to work in teams on subjects linked to the living museum and re-envision the idea of creating a new space for the cultural institution. I have also collaborated with the Social Innovation Academy (SINA) on a research project in East Africa to explore the possibilities of open design and participatory design in a communal work setting, using design thinking as a problem-solving tool.

Additionally, I participated in '*Sheherezade: The Walled City Anthropology*,' an urban intervention in Lahore, Pakistan as a curator and designer. This experience allowed me to gain insights into the inner city's materials, motifs, and mysteries, and to use them as a basis for creative invention. By blending the digital realm with the tangible aspects of the city's sacred heritage space, the project aimed to draw people in and encourage interaction, engagement, and community participation. The ultimate goal of *Sheherezade* was to facilitate exploration and rediscovery of both old and new stories within this historic space through the use of co-design approaches.

Overall, these previous experiences have led to an interest in exploring creative aspects of social design through community-based design or co-design approaches and how it can contribute to sustainability in relation to public spaces within a living city. Hence, the proposed research aims to contribute to this area of inquiry by investigating the potential of systemic design interventions to improve public engagement and participation in public spaces of Tallinn, with a focus on how these interventions can foster social cohesion and inclusion among community members.

1. Introduction

Urbanisation has already led to the creation of more compact and dense cities. The surge in urban dwellings in Estonia's metropolitan areas is part of a worldwide trend of urbanisation. *Statistics Estonia* reports that over 6,500 new dwellings were completed in 2022, with 65% in the form of blocks of flats, primarily in Tallinn and its neighbouring rural vicinities.

While urbanisation has numerous advantages, it also brings its share of challenges, such as affecting the quality of the environment and people's physical and mental well-being. Research has shown that young adults are particularly vulnerable to loneliness, and that the phenomenon of loneliness is directly linked to social isolation (Heinrich and Gullone, 2006; Sisask and Roosipuu, 2019), itself is a significant public health concern (Holt-Lunstad et al., 2015). Cities such as Tallinn have traditionally been designed and developed to facilitate economic growth and accommodate growing populations, often at the expense of environmental and social sustainability.

According to the *Human Development Report of Estonia 2023*, the interconnection between public space and health has largely been overlooked resulting in social isolation in Estonia (Sooväli-Sepping et al., 2023). In the *European Social Survey*, one out of every five people in Europe has undergone social isolation. This issue is especially common in Eastern Europe, with Estonia being one of the affected countries, where 35% of individuals suffer from social exclusion. This figure is notably higher than the average across Europe (d'Hombres et al., 2021).

Through a review of Matthew Carmona, Professor of Planning and Urban Design at University College London, study on public spaces and community engagement, it was taken into account that communication patterns, social connectedness, and isolation are all linked to spatial urban planning (Carmona, 2019). There is a direct connection between social isolation and spatial isolation. Being physically distant from regular communication opportunities are factors that can amplify and create social isolation (Sooväli-Sepping et al., 2023). Studies have shown that social isolation can be caused by various factors, including living alone, having a small social network, and a lack of social support (Cacioppo & Patrick, 2008). Additionally, research has suggested that social isolation is linked to spatial isolation, which refers to the physical separation from social networks and support systems (van Tilburg et al., 2021). By focusing on human needs, social isolation can be reduced through human-centred approaches that incorporate

inclusive mobility, green spaces, and easily accessible meeting places such as community-based organisations, public parks, museums etc. This can result in fostering social engagement, making people feel more connected and less isolated, and enhancing their overall wellbeing. This is in line with the *United Nations'* sustainable development goals for 2030, which aims to promote universal access to inclusive public spaces and green areas to empower socially excluded communities.

The role of community-based organisations in public spaces is particularly relevant here in relation to tackling social isolation and enhancing community engagement. For instance, such public spaces can take on a variety of forms and functions, this includes recreational spaces, spaces for social interaction, and sites for collective experience (Carmona, 2018). Carmona suggests that such forms of public space, which focus on engagement, social participation, involvement in community activities are referred to as spaces of 'empowerment' (Carmona, 2019) and play a critical role in promoting social cohesion and creating a sense of community.

In Tallinn, such community-based public projects or organisations include the *Centrinno project*, financed by the European Commission (H2020 grant. 869595)^[I], which aims to put 'the residents in the centre of sustainable transformation' by transforming former industrial sites into creative clusters and community centres within the area of Kopli 93^[II]. Thus, involving residents of Tallinn in community activities. Similarly, another space called *e-Tektron*^[III] in Kopli is a halfway virtual and halfway physical space, where performing artists and scientists come together to meet in order to work together, and initiatives like the *Disainiosakond*^[IV] which aims to create responsible design and along with making the surrounding city space in Tallinn more human-centred, with the main focus of the initiative is user-centred design in public spaces. More recently, *Paavli Kultuurivabrik*^[V], a newly formed community-based organisation emerged in April 2023 with the goal to provide a space for urban gardening, music, arts and cultural activities for the public. Hence, these public spaces provide both 'public value' and 'place value', fostering in turn social cohesion, and enhancing wellbeing, while uplifting economic activities and contributing to sustainable living within a given community.

Similar to Carmona's account on 'public value' and 'place value', Ezio Manzini says "the value of places goes hand in hand with the emergence of a new idea of well-being" (Manzini, 2015, p. 190). Thus, human-centred techniques such as co-design can play an essential role in facilitating community interaction and engagement leading to the idea of sustainable living. Liz Sanders and Pieter Stappers in their book *Co-creation and the New Landscapes of Design* (2008) propose that co-design involves and requires the active

participation of all stakeholders in the design process, as a way to create more sustainable and equitable solutions. Manzini in designing for social innovation and sustainability notes that community-based organisations provide a space for social innovation and sustainability within a community, therefore, having such spaces available which are engaged in various community based activities are essential for the existence of a resilient social, and productive system. He further notes that “social innovation is indicating, with its idea of a well-being based on the quality of places and communities” (ibid, p. 202). Elaborating on this concept, Manzini suggests that design “sustains social actors in the constant co-designing process in which we find ourselves. On the other, it works as a cultural operator, collaborating in the creation of the shared images and stories that underlie a new idea of well-being.” (Manzini, 2015 p. 204). He further adds that social innovation occurs when people, experts and material assets (in this case community-based organisations and their activities) come together to create ‘new meaning’ and ‘opportunities’, therefore, creating ‘value’ for the community involved (ibid, p. 77).

Co-design by nature involves activities that are focused on participation, communication, collaboration and is used as a catalyst for social innovation and social change. However, creating collaboration through co-design is challenging since it requires individuals to comprehend one another, establish trust, and form connections. Hence, to foster sustainable and livable urban environments, it is necessary to shift away from the perspective that urban development is primarily concerned with accommodating the growing urban population. Instead, urban planners and designers must adopt a more holistic approach that involves citizens in decision-making processes and considers the well-being, cognitive and mental development, and overall quality of life of individuals living within urban environments.

In the initial phase of this research work, various methods such as surveys, interviews, and the researcher's observation notes were utilised to gather information. The research findings revealed that community-based organisations like *Kopli 93* and *eTektron* in Tallinn are already engaged in co-design processes and practices. Similarly, the Municipality of Tallinn has also been involved in several projects that incorporated co-design related interventions, such as the *Putukaväil – Pollinator Highway*, *Maakri Art*, *Poetry Trail* and *Rohejälje installatsioonivõistlus – Green Tracks* project.

Despite the involvement of both community-based organisations and the Municipality of Tallinn in community-based projects, there were several significant issues that emerged. One of the major concerns was the lack of trust and time allocated to involve community

members in the community-based design, referred to as co-design projects. The communication channels among different stakeholders involved in these projects also proved to be a challenge. Additionally, the top-down approach of the municipality and other community-based initiatives often resulted in limited social impact on society (Lucas Lemos, interview, 21st February 2023). In spite of the involvement of various stakeholders in co-design initiatives, the impact on society was not optimal due to these core issues.

This thesis explores opportunities to foster and enhance community engagement and participation from a systemic design perspective. Furthermore, the research delves into understanding how residents can be more motivated and encouraged to take steps in community-based activities, acting as active citizens to help shape the city as per their needs and requirements. Since the study is conducted in Tallinn, Estonia, existing public spaces are evaluated that facilitate collaboration. The study then analyses the significance of collaboration and its influence on participants (the community, therefore, the residents) through researcher's observations on site and interviews with the stakeholders.

This research study aims to create and build a digital application that connects the general public with local administrative authorities and community experts in a common virtual space. The main objectives of this platform are to enhance engagement and awareness in community projects and activities, streamline project processes, and achieve the best outcomes possible. This will eventually contribute to making the city more sustainable based on resident requirements, needs, and motivations.

The study has also identified various design frameworks such as design thinking, community-based design (CBD), systemic design and community participation ladder framework as suitable theoretical frameworks at different phases of the thesis. It provides comprehensive design inquiry into participation, learning and community engagement. It puts emphasis and importance towards human interactions, participation and collaboration within social environments.

1.1 Terminology

This thesis introduces a set of terms created by the author to describe specific phenomena and conditions. Abstract concepts, like 'space,' are defined based on their usage within the thesis. To facilitate understanding, a comprehensive list of these terms and phrases are presented below, accompanied by detailed explanations.

- **Public Space:** The United Nations Program on the *Sustainable Cities and Human Settlements for All* defines public space as places which are “friendly for families, enhance social and intergenerational interactions, cultural expressions and political participation, as appropriate, and foster social cohesion, inclusion and safety in peaceful and pluralistic societies, where the needs of all inhabitants are met, recognising the specific needs of those in vulnerable situations” (United Nations, 2017).
- **Co-design/Community-based design:** Co-design or community-based design is a process that involves stakeholders (in this case it includes community members, experts, professionals and political authorities) in the design process, not only as users but also as co-producers. *Manzini, E. (2015). Design, When Everybody Designs: An Introduction to Design for Social Innovation.*
- **Community:** The word “community” can be defined in various ways. It can be defined as a group of people that (1) live in the same geography or neighbourhood and, (2) share similar identities, lived experiences or culture (e.g. the expat community or the Russian-speaking community in Estonia) and, (3) share a common interest (e.g. faith, farming, playing, etc.). One of the most critical aspects of “community” is that individuals come together in association with one another to reach common goals. *Community Engagement Techniques, DePaul University, 2019.*
- **Community-based organisations:** According to Cornell University Law School, the term “community-based organisation” means a public or private nonprofit organisation of demonstrated effectiveness that is representative of a community or significant segments of a community; and provides educational or related services to individuals in the community. *Cornell University Law School.*
- **Residents/Public/Citizens:** In this context of this research, the citizens living in or within the sub-urban areas of Tallinn.

1.2 Limitations of the study

This study was limited to specific conceptual and practical limitations. The practical limitations included the research work being limited to two community-based organisations, *Kopli 93* and *e-lektron*, hence, it cannot be assumed that this study represented all the community-based centres, initiatives or organisations in the city of

Tallinn or those with a similar demographic setup. In addition, these Tallinn based community organisations may not be representative of all other urban institutes within the city. It is important to note that the author's personal experience and practices may not be relevant or considerate for all practitioners in Estonia.

Furthermore, the nature of this study was short-term, and it did not measure how the co-design and/or collective decision-making processes had an impact on the residents' own learning and experiential success in the long-term timeframe duration. Moreover, the study was also limited to investigating aspects from a particular demographic which may not be representative of all other demographics in or outside of Estonia. The research focus was to understand what are the residents, community-based organisations and the city perspectives, how the existing methods, practices and processes are being applied, if any, to foster engagement and participation within the existing system. In addition, the participation and commitment of each individual in the study varied throughout the course of the research, which might have impacted the findings and results.

Considering the conceptual limitations, experiences of urban designers, service designers and community-based organisations members were taken into account. Additionally, their thinking patterns, language, values, and behaviours were influenced by other factors as well. The author's understanding and assumption on an individual's learning is subjective to socio-cultural contexts and experience that might influence their thinking, attitudes and behaviours as based on the literature review of this study.

Community: The research is not looking into all residents of the city of Tallinn. It does not focus on their daily activities, behaviours or any other reasoning of public engagement. The community or the residents are not the central focus of this research but rather are viewed as the problem owners and the study focuses on exploring possible solutions to enhance their social engagement and participation in community-based activities and projects.

Time: The study does not review the history of community participation in Tallinn or Estonia, rather the study takes into consideration the current state of community participation and engagement in public spaces.

1.3 Chapter Overview

This thesis comprises seven chapters in total. **Chapter one** introduces the topic of discussion and sets up the theoretical context of the research and the premise of the study in relation to providing background on urbanisation and its effects on social exclusion and isolation and the existing challenges and problems within the existing system.

Chapter two gives a detailed explanation of the research process and methodology used for the purpose of this study. Furthermore, this chapter also included methods that were used for data collection and synthesis.

Chapter three gives a detailed account of the theoretical ground and foundation. In addition, it includes descriptions of systemic design approach to community engagement and participation.

Chapter four discusses the literature reviewed for this thesis in contrast to the problems and challenges presented in chapter one. It further analyses the existing urban social systems and its challenges of community involvement and participation from a systemic design point-of-view and gives an account of stakeholder interviews results and analyses of their role in the system.

Chapter five provides the analysis built upon the researcher's insights and findings from the data collected.

Chapter six is the proposed design concept, with descriptions to the concept system, its features and the value it offers and creates. Furthermore, it provides discussion and conclusion of the study.

Chapter seven is the summary of this thesis, it gives an overview of the study, the research question and the data reviewed and reflection on the theoretical framework.

2. Methodology

This chapter presents the research overview, the research hypothesis and in-depth details of the chosen methodologies used.

2.1 Research Overview

This thesis is an open-ended design research study. The initial focus of this thesis was to explore the subject of co-living in relation to community-based design in public spaces as well as communities. Also, with the aim of investigating meaningful co-design practices that can positively impact people's lives. The initial aim looked towards emerging forms of collaboration in urban co-shared spaces, with a particular emphasis on how the constant development of urban areas is leading to a decrease in social connectedness and impacting the overall quality of the environment. The project aimed to address this issue and find ways to overcome it. However, as the research progressed, the focus of the study evolved due to the insights, knowledge, and data gathered through various research methods, which included interviews, surveys, observation notes, and literature review. The author began to understand the challenges and point-of-views of community-based organisations, the residents and the city municipality of Tallinn on urban spatial planning, co-design interventions and initiatives.

This was followed by the research focus then being centred on exploring and understanding the current system. During the research process it was identified that there is a significant deficit between different stakeholders in terms of the lack of trust and communication. Moreover, it was found that enhancing collaboration and communication between all stakeholders could promote more social connectedness and facilitate collective interventions that can have a positive social and cognitive impact. This led to reframing the focus of the research question as mentioned in the following subsections.

2.1.1 Research question

How can a community engagement system support and foster social inclusion and participation among residents of Tallinn in their neighbourhoods?

Goals

- Investigate and explore a systemic approach to enhance collaboration, participation and communication between residents, community-based initiatives, and city municipalities in urban spatial planning.

The goal of the research is to address the lack of trust, cooperation and communication between stakeholders involved in urban spatial planning, co-design interventions, and initiatives. By identifying effective strategies and mechanisms for collaboration, public engagement and communication, this research can provide insights to promote more social connectedness and facilitate collective interventions that reflect the needs and aspirations of the community. This can result in a more inclusive and connected community that may have a positive impact on people's well-being and quality of life.

- Evaluate and develop a community engagement system that measures the impact of existing public engagement interventions on social inclusion in urban communities.

This research aims to evaluate the impact of community engagement interventions on social connectedness and well-being in urban communities. By examining the outcomes of such interventions, this research can provide insights into the effectiveness of community engagement practices and their potential to positively impact people's lives. This research also identifies best practices and lessons learned that can inform future initiatives and interventions in urban communities.

Objectives

1. Identify and apply systemic design models for designing and implementing interventions that foster social engagement and collaboration in public spaces, specifically in Tallinn.
2. Understand the systemic methodologies on community-based design public spaces and how effective they are
3. Argue on the value of participation in community-based co-design public projects and the need of involvement of all stakeholders in the process to increase efficiency and quality of the process.

2.1.2 Hypothesis

- Social public interventions that are bottom-up, holistic, visible and adhere to the needs, requirements of the community would have an impact on the perception and relation of the different stakeholders.
- Human-centred approaches fostering social engagement, making people feel more connected to their community, bringing a sense of ownership
- Models applied and designed can be replicated in other cities to have a larger social impact.

2.2 Research Process and Methodology

This study uses qualitative methods to examine the current system, practices and strategies of the city municipality, community-based organisations and evaluates the quality of public engagement and its social impact on people, as well as the success of the process. The study is qualitative in nature, drawing from observations, notes and experience in the system and a literature review.

The research uses the systemic design thinking process as a principle method proposed by designer and researcher Peter H. Jones (2020) as a way to understand community sustainability from a systems point-of-view aided with design.

2.2.1 Mapping

Mapping is a common technique and process to have a "systematic organisation of complex information in a communicable visual form" (Tschimmel, 2012, p. 12). The process offers to see the patterns and extract meaning from the quantity of data from literature review, through observation or by interviews.

Therefore, for the purpose of this research the synthesis mapping technique was adopted to understand and analyse the interaction with the multiple stakeholders involved in the research. Such mapping format allows to view, identify and express complexity of the existing social systems in a more structured and comprehensive way. See Appendix 5 for the visual map.

Rather 'co-creating' with users or a system of concern, "synthesis maps document the results of design teams conducting systems research through open evidence collection, expert interviews, and transdisciplinary analysis" (Jones, 2020, pp. 16-17). The visual narrative construction of these maps aided the researcher to "facilitate a methodology for representing and conceptualising the inherent complexity in social system design challenges" (Jones, 2020, pp. 16-17).

2.2.2 Observation

For the purpose of understanding the multiple stakeholders, such as the city municipality, community-based organisations and residents, multiple data collection methods were utilised. These methods facilitated the identification of the challenges, concerns, and insights shared by the stakeholders. One such method was the use of

observation which served as a valuable research method, as it was particularly useful for capturing the behaviour, attitudes, and interactions of individuals in real-world situations (Gobo, 2008).

Initially, the research study gave an opportunity to make observations and experience existing community-based public initiatives such as the community-building of *Kotisatama*, a housing community for mid-life and elderly people, situated in Kalasatama, a new housing area in Helsinki in an old harbour and industrial milieu, involved the residents to actively take part in the co-designing process of the space during the planning phase and architectural designing.

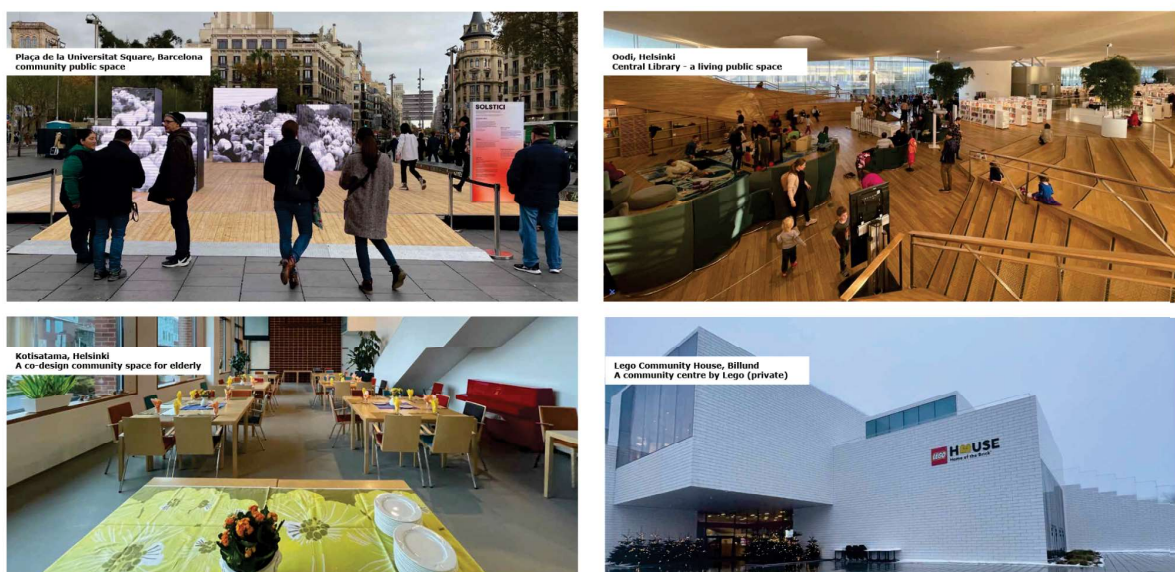


Figure 1. Sites visited to explore and see existing forms of public participation and co-design initiatives. Created by the author.

Soon after it was followed by experiencing, exploring and making observations at *Oodi*, Helsinki's Central Library and a living meeting place. Its aim is to function as an open living room for residents where there is a constant exchange and opportunities for the users to delve into social immersion. *Oodi* provides its users with knowledge, new skills and stories, and is an easy place to access learning, story immersion, work and relaxation, a living and functional meeting place which is open for all.

Other places included *Lego House* Community Centre in Billund, Denmark and *Plaça de la Universitat* central square in Barcelona, Spain to see, experience and understand existing forms of community participation and spaces of continuous public interaction and engagement. These anecdotal records (Hubbard & Power, 2003) and reflective

observations (Craig, 2009) provided insight on interactions and experiences relevant to the study.

Also, as the research progressed and centred more on different stakeholders in the current system. Reflective observations were made based on the responses of experts from Tallinn City Municipality and community-based public organisations as part of this research study (Craig, 2009; Hubbard & Power, 2003). New developments in the design of public services are facilitating a more thorough engagement in public sphere problematics and providing a space to engage with core ethical values that cannot be reduced to profit and usefulness (Julier and Kimbell, 2019).

2.2.3 Literature Review

The use of literature review as a research tool allows researchers to examine existing theory and identify gaps in current literature on the basis of which they can inform their own research (Ramdhani, Ramdhani, & Amin, 2014). Stringers (2007) comments that literature review can produce valuable descriptions and interpretations of social processes, which is especially relevant in the context of community engagement and participation from a design perspective.

Keeping in view the goal of this research, review of existing literature can shape the foundation for a sound theoretical framework. Ridder (2017) in his study on research designs notes that literature helps identify relevant theories which provide the basis for the theoretical framework best suitable for the given research.

Burns (2007) adds that critical review of literature can be used as a tool to stimulate and assess change, combining inquiry with action. Thus, as the literature review progressed multiple themes of interest emerged: I reviewed what is public space in the context of Estonia, the community engagement and participation in Estonia, public space projects, and strategies to design community engagement.

2.2.4 Qualitative Survey

Qualitative surveys are open-ended questionnaires used to collect rich data that allows researchers to understand the narratives of the participants in depth (Marshall & Rossman, 2014). Such a survey method allows the stakeholders to express their opinions about relevant questions in a detailed manner thus bringing forth the diversity of the beliefs, experiences and ideas within a population (Jansen, 2010).

In this study, a qualitative survey method was used to gather data from the residents of Tallinn. The survey prompted questions to extract opinions from the residents of Tallinn about their understanding of the available public spaces in the city and how these spaces enable community engagement. A total of 17 responses were collected which were used to guide further investigation while identifying themes as referred in Appendix 4 and 5.

2.2.5 Photo documentation

Visual research methods such as photo documentation enables researchers to capture and analyse visual phenomena at play. Hogan (2022) explains that documenting through visual mediums allows to capture ongoing subjective experiences of the participants.

Considering the excessive use of imagery in today's time Cleland and Macleod (2021) argue that in times when people are 'digital natives', photographs have become a reflection of everyday life thus their incorporation in research as a qualitative research method becomes meaningful to understand social constructs. For this research photo documentation aided in capturing and interpreting the existing public spaces as they function to help map their efficacy as a tool for community engagement.

2.2.6 Interviews - Verbal Data

In this study, data was collected through semi-structured interviews conducted in two stages. The participants included experts from community-based organisations, the city municipality's strategic centre and space creation department, as well as residents from Põhja-Tallinn (North Tallinn district). The focus group comprised a service designer, an urban designer, and an urban-art curator from the Tallinn City Municipality's Strategy Centre, while the community-based organisations previously mentioned were represented by the community manager, co-founder, and core community members and two other expert stakeholders who were directly or indirectly involved with the organisations.

The fieldwork took place between December 2022 and April 2023, with interviews conducted either in person or through online video-call tools. Some interviews followed pre-written questionnaires and topics outlined in Appendix 1, 2 and 3, while others were conducted in an open-ended semi-structured way. Of the total number of interviews conducted, six were recorded, and four were not recorded to allow the interviewees to express themselves freely and as per the consent of the interviewees. Throughout each

interview, written notes were taken to record the interviewees' answers and responses. These notes were used to analyse and collect the data, with emerging themes identified.

The goal was to gain insights into how the current system is viewed from various systemic perspectives and identify pain-points, challenges, and issues that they might be facing. The selection of various stakeholders allowed for a deeper understanding of their different needs, desires, and commonalities.

Additionally, the research study aimed to gather the perspectives of residents who actively participated in community-based organisations' projects and workshops. Three separate interviews were conducted with residents to understand their point-of-view on the persistent challenges and issues faced by community-based organisations, the relationship between community-based organisations and the city municipality, the working processes involved, the visibility and connection among residents within the city of Tallinn, and the importance of community engagement, co-design, and collective decision-making. The interviews with the residents were open-ended in nature and allowed the researcher to be in a dialogic conversation with the stakeholder to deepen the understanding of the core issues that are embedded in the current system in relation to the lack of community engagement and participation in Tallinn.

By gathering data through these interviews, this research work aimed to provide a comprehensive understanding of the challenges and issues faced by community-based organisations and their relationship with the City Strategy Centre from the perspectives of various stakeholders. The insights gained from these interviews can be used to inform strategies for improving the effectiveness of community engagement from all mentioned stakeholder perspectives.

List of Interviewees

Tallinn City Strategy Centre

1. Service Designer, Tallinn City Strategy Management Centre, in-person interview, duration 50 minutes. Interviewee opted for the option of not to be named.
2. Kati Ots, Urban Curator for Public Art, Tallinn City Strategy Management Centre - Department of Space Creation, in-person interview, duration 75 minutes
3. Eva-Maria Aitsam, Urban Designer, Tallinn City Strategy Management Centre - Department of Space Creation, Strategic Planning Services, online video interview, duration 90 minutes

Kopli 93 - Community-based Organisation

4. Karin Kruup, Co-initiator and Project Coordinator, Kopli 93 Tallinn, in-person meeting and online video interview, duration 75 minutes
5. Ave Timburg, Community Coordinator and Representative of the Tallinn City at Kopli 93, in-person interview, duration 30 minutes
6. André Pichen, Workshop Specialist and Master, hired by the Tallinn City at Kopli 93, in-person interview, duration 30 minutes
7. Anne-May Nagel, Head of Communication for Centriino Project at Kopli 93, in-person meeting and online video interview, duration 60 minutes
8. Lucas Lemos, Administrator at FabCity Foundation, Partner organisation for Centriino Project at Kopli 93, online video interview, duration 45 minutes

e-lektron - Community-based Organisation

9. Taavet Jansen, Curator and Head of R&D Department at Elektron, in-person meeting and online video interview, duration 60 minutes

Residents and other stakeholders

10. Sema Aksu, designer and resident at Põhja-Tallinn - regular participant at Kopli 93, online video interview, duration 60 minutes
11. Maari Hinsberg, Curator of Art Studio Programmes at Kumu Art Museum and resident at Põhja-Tallinn, regular participant in art-based public projects, in-person meeting, duration 60 minutes
12. Noor Basit, expat and resident in Põhja-Tallinn, recent participant in public community gardens, in-person meeting, duration 45 minutes

3. Theoretical Foundation

In this chapter, an overview of the selected theoretical frameworks that were used in the thesis are provided and argued.

3.1 Theoretical Research Phases

Selected theories were the main focus of this thesis in understanding and supporting the systemic challenges, practices and possible opportunities in relation to community engagement and participation. Figure 2 showcases the methods considered and outlines the theories on which this research work is based upon.

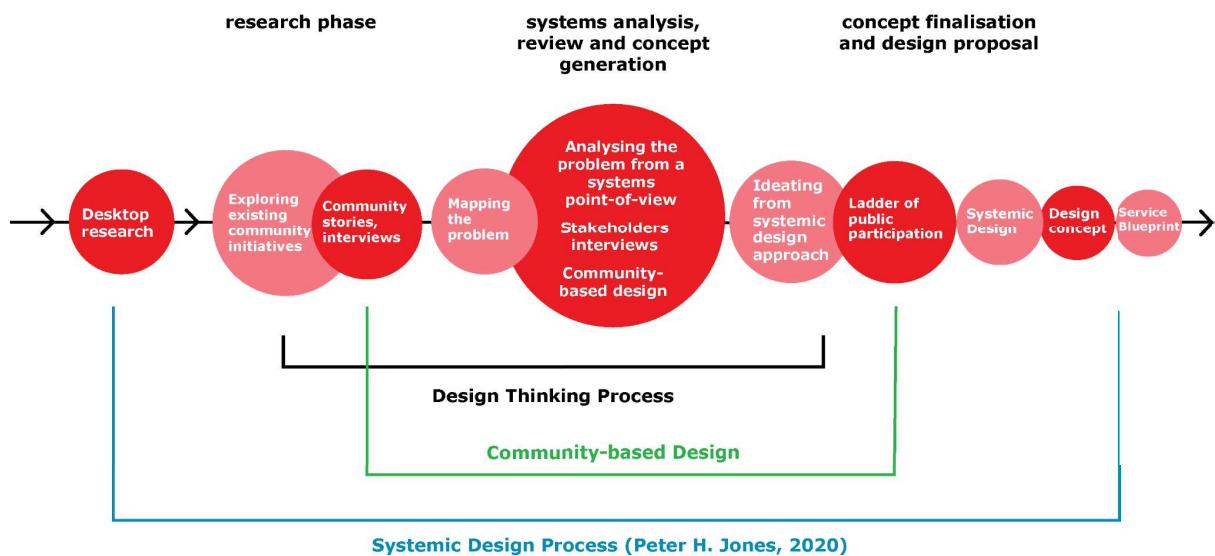


Figure 2. Theories and methodologies used throughout the research in different phases. Created by the author.

3.1.1 Phase 1: Design Thinking Process

During the initial stage of the research, the design thinking framework was considered as a research method to understand challenges associated with public interaction in community-based public spaces which are shared by the residents of Tallinn from a human-centred point-of-view.

The design thinking framework provides a space to explore, identify, navigate and develop possible solutions to problems and consequently delve in an iterative cyclical process to evaluate challenges and solutions. According to designer and researcher, Peter H. Jones design thinking shares a similar consensus to systems thinking as both

processes share a “common aim to address complex system problems by the intuitive and abductive approaches implicit in design thinking informed by the reflexive and analytical methods of systems science” (2020, p. 9).

Similarly, Marc Steen in his article, *Co-design as a Process of Joint Inquiry and Imagination*, while referring to Lawson (2006), Cross (2006), Dorst & Cross (2001), and Kolko & Cross (2011) proposes that design thinking process offers an opportunity to ‘co-evolve’ in consideration to and within the process of solving problems and developing solutions. Steen adds that “design thinking is needed to cope with “wicked problems” — problems that cannot be clearly defined using “facts” at the start of a project and that cannot be solved by selecting a “best” solution. Many real problems in the real world are, in fact, “wicked problems” (2013, p. 18).

Hence, during the first research phase in understanding the problems and challenges the design thinking model proposed by *The Hasso-Plattner Institute* was taken into consideration. According to Thoring & Müller (2011), the model follows six stages starting with *Understand*, which focuses on existing information about the topic gathered through secondary research. The second stage, *Observe*, is a qualitative research approach which includes interviewing and observing techniques, to collect insights about the users’ needs (p. 38). This is subsequently followed by *Point-of-View* which allows synthesis of the visual framework from the insights and findings collected and followed by *Ideate*, *Prototype* and *Tests* stages.

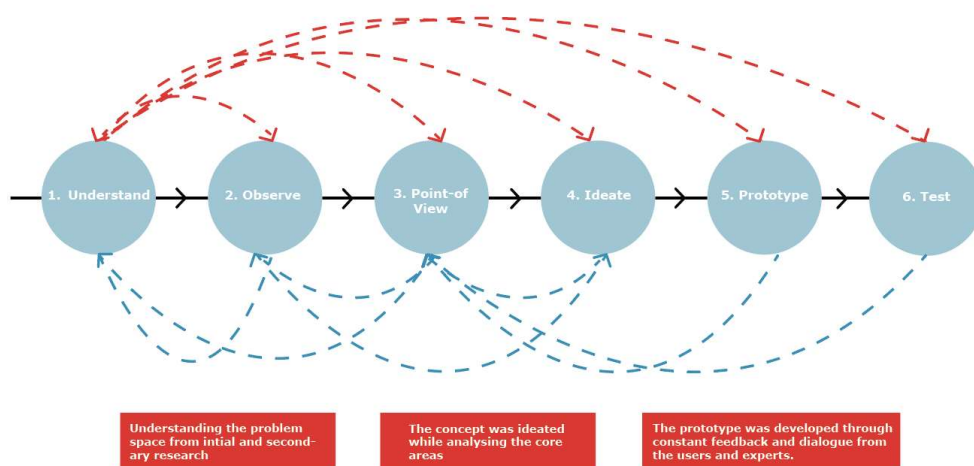


Figure 3. *The design thinking process, original figure by The Hasso-Plattner Institute, recreated and modified by the author.*

This nonlinear process provided a space to be reflexive, reflective and reiterative between various stages of the research to understand the existing problems in-depth and gather insights and new-knowledge from the data collected.

The framework further helped in evolving the research and identifying and being aware of opportunities from an analytical perspective to understanding the needs, and desires of users, however, it was not sufficient and efficient in addressing complex social and environmental systemic issues. Figure 3 illustrates the iterative cyclical process of the author, highlighted in red.

3.1.2 Phase 2: Community-based design (CBD)

As the research paper evolved and more insights were gathered by interacting with different community-based organisations such as *e-lektron* and *Kopli 93* and looking into an in-depth account of community-based public projects such as *GreenTracks*, *Pollinator Highway* and *Klindipark Project* that are being led by the City Municipality of Tallinn - the theoretical frameworks of community-based design (CBD) and co-design proposed by Anna Meroni in *Massive Co-Design: A Proposal for a Collaborative Design Framework* (2018), were particularly relevant here. Meroni views the role of design in creating more livable, inclusive and sustainable cities, therefore using design for social innovation. Furthermore, to access a greater depth and knowledge into the community-based design process Ezio Manzini's work was taken into account. Lastly, Hella Hernberg's research on transformative design that focuses on the role of design in society and its impact on the community was accessed.

Anna Meroni et. al. (2018), she discusses the importance of community involvement in the design process and presents a framework for implementing community-based design (CBD). The author argues that traditional design approaches, which often prioritise the needs and preferences of the designer or client over those of the community, can result in designs that fail to meet the needs and values of the intended users. In contrast, CBD involves actively involving members of the community in the design process, with the goal of creating solutions that are both functional and meaningful to the community. To support the implementation of CBD, the author proposes a framework consisting of six steps: (1) identify the community, (2) establish a relationship with the community, (3) co-define the problem, (4) co-create solutions, (5) co-evaluate and reflect, and (6) co-implement and co-maintain.

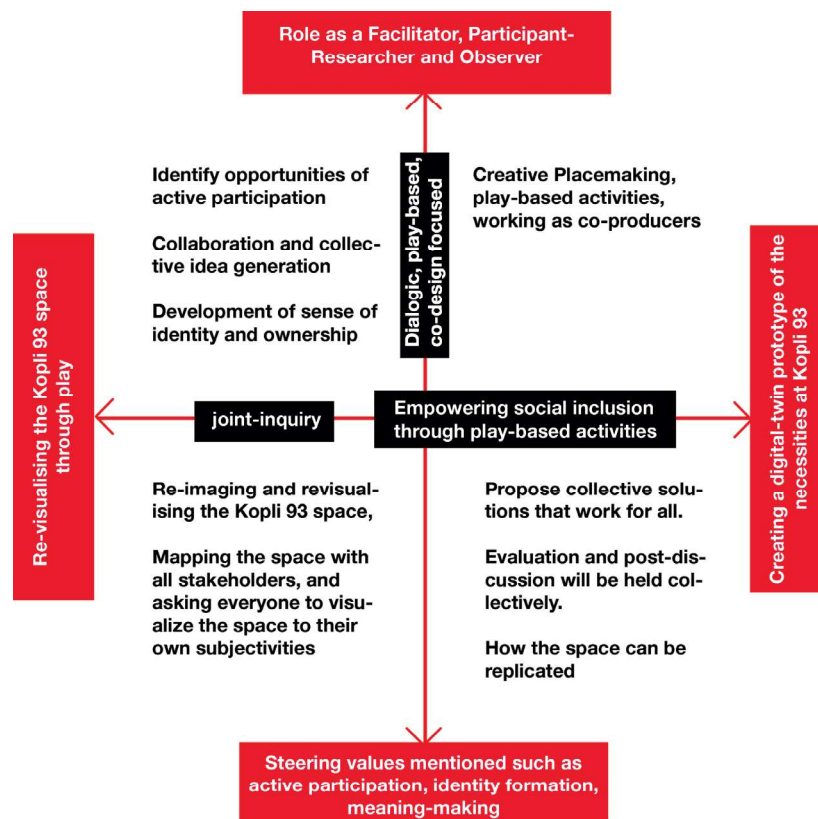


Figure 4. *The CBD model, original figure by Anna Meroni et. al (2018), recreated and modified by the author as a framework for Kopli 93.*

Manzini, in his book *Design, When Everybody Designs*, notes that design should be seen as a social process that involves the participation of all members of a community. He proposes the concept of "social innovation through design," (Manzini, 2015, p. 66) which involves the co-creation of new solutions by designers and community members.

Ezio Manzini's research focuses on how local communities are able to use 'social innovation' (p. 66-67, 2015) as a way of creating new solutions that can help address pressing issues faced by society today. He has identified four main elements which are necessary for successful community-based design; collaboration between different stakeholders, engaging citizens in decision making processes; developing resources locally; and finally building networks among those involved (Manzini, 2015). These ideas provide an important framework to explore how these concepts could be applied within the context of Tallinn city planning initiatives. Manzini's approach to community-based design and co-design shares many similarities with the community-based design (CBD) framework proposed by Anna Meroni. Both approaches emphasise the importance of involving members of the community in the design process and aim to create solutions that are meaningful and relevant to the community and socially innovative. According to

Manzini, co-design can be used to create more sustainable systems and ways of living by addressing the root causes of environmental and social problems.

These frameworks offered valuable insights into what kind of practical strategies might need to be put in place if we want to see positive changes taking shape in public places of Tallinn and other urban areas across Estonia. One of the key challenges that designers face in facilitating co-design is building trust and relationships with the community and this was prevalent in existing community-based projects that prompted co-design from both community-based public organisations and the city municipality. The communication channels among different stakeholders involved in these projects also proved to be a challenge and led to many missed opportunities for all stakeholders involved to collectively work in sustaining and shaping the city.

Hence, while exploring CBD and co-design approaches, it was realised that the underlying problem is more systemic, complex and wider as there were multiple community-based co-design projects already happening in Tallinn but resulted in little to limited social impact - therefore largely keeping the main problem space of communities being excluded from participating in large numbers (Verbal interviews with members from Kopli 93, Elektron and the City Municipality, 2023). This is mainly because these spaces in Tallinn do not guarantee the users to experience their collective participatory decisions independently and in a continuous space that does not have any interruptions (Paavar and Kiivet, 2020). Keiti Kljavin et al. (Estonian Human Development Report, 2020), suggests that “forms of meaningful co-creation have not yet fully developed in Estonia”. She argues that it is an approach to design that involves the participation of the community in the design process, recognizing the unique knowledge and expertise that community members bring to the table.

Thus, at this stage it was essential to view the research from a systemic point-of-view to understand the underlying embedded challenges and problems that were linked directly with community engagement, social inclusion and how it is affecting the residents both socially and cognitively in terms of their well-being.

3.1.3 Phase 3: Systemic Design

For the third phase of the thesis, the research work of systems designer Peter H. Jones was considered. He describes systemic design as a process and approach to address social system problems such as stakeholder governance in public policy, urban planning and habitability, community sustainability through the use of design. He further adds

that it is "distinguished from service or experience design in terms of scale, social complexity and integration... systemic design brings human-centred design to complex, multi-stakeholder service systems" (2020, p. 2). Similarly, Birger Sevaldson and Linda Blaasvaer (2022) reiterates this and says that it is a method and approach for "handling complexity and creating and sharing a holistic picture of a problem or situation."

Jones (2020) further highlights several stages to systemic design that need to be followed to understand the complex nature of the social contexts and systems (p. 9) such as in this research case of community participation and engagement leading to a more socially inclusive and equitable urban environment. Jones (2014) proposes ten principles which are essential to analysing the sociotechnical design aspect of systems, as listed below:

1. **Idealisation** being able to frame a complex problem, understand the value of a future system
2. **Appreciating Complexity** acknowledging and sense-making of the dynamic yet complex nature of a system and factors that are cognitive in nature to understand the varying relationships in a complex problem.
3. **Purpose Finding** is defined by being iterative in the process to analyse and identify embedded problems and having the ability to seek new information from multiple stakeholders with purpose.
4. **Boundary Framing** is defined as a mutual way between a concept and the focused environment, works as both concept framing and boundary critique.
5. **Requisite Variety** is a process to see the functionality of a complex social system from the view of design and providing sufficient options for interaction with the known and realising potential factors of its focused or target environment complexity.
6. **Feedback Coordination** is the ability to identify critical feedback in relationships in social and technological systems.
7. **System Ordering** is defining the functionality of design as a process of coordinated formation of options that enable visibility and salience within complex situations.
8. **Generative Emergence** is the emergent manifestations for design signification. It can be *compositional emergence* which is design activity as an outcome of micro-systems or *created emergence* which include physical connections, designed forms and organised processes.

9. **Continuous Adaptation** is being able to adapt to a system’s purpose and objectives throughout its lifecycle and conform to environmental changes and demands and related systemic changes.
10. **Self-organising** to enable actions in order to increase awareness, incentives and social motivations and accelerate organized behaviours.

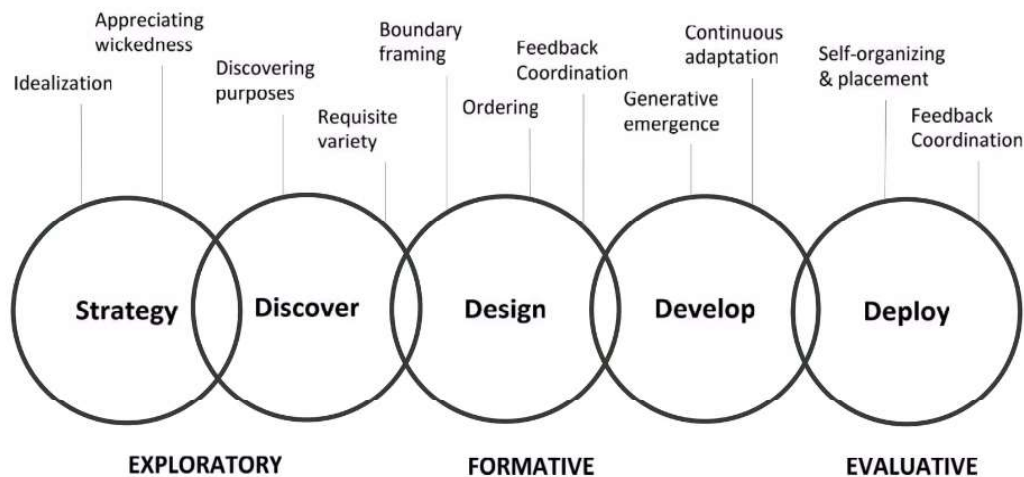


Figure 5. *Systemic Design methodology process, original figure by Peter H. Jones (2020).*

These ten principles played a crucial role in understanding the complexity of the existing system of community engagement, participation and social inclusion in the context of Tallinn. It allowed the researcher to view the research from various stakeholders perspectives and dig-deeper into realising the embedded and underlying challenges that involve in each individual organisation, such as understanding the problems of the community-based public organisations, the residents and the city itself in terms of how each social system has its own challenges and processes that hinder community participation and inclusion at large.

According to Sevaldson (2022) in *Systems-Oriented Design and Democracy* such a process allows “to build a deep understanding of the systems at hand and their environments and wider landscapes; to initiate a very rapid learning process; to uncover “unknown unknowns” and serves as a precedent to investigate deep creative processes with extensive information and insights. Thus, systemic design became the principle method of this research work.

4. Literature Review

This chapter gives an overview of the literature reviewed, in relation to the topic of discussion, particularly understanding what and how a public space is and viewed as in Estonia in the local context. Furthermore, it gives an overview of the existing community-based projects and organisations that aim to encourage public participation and inclusion, the problems and challenges they enlist within Estonia. Lastly, provides a detailed account on tools for community participation and designing community engagement.

This is followed by analysing and providing findings of the qualitative interview-based research to understand the role of community-based organisations, the city's perspective and the residents from a systemic design approach.

4.1 Public space in the context of Estonia

Toomas Paaver and Elo Kiivet (Estonian Human Development Report, 2020) interprets public space as something belonging to "the state or municipality; occasionally it may be privately owned", therefore, these spaces form an interconnected nature of public space that is best displayed on cadastral maps of cities, depicting ownership structure (Paaver and Kiivet, 2020). "Public property makes up an interconnected system, while private property consists of single separate parcels." (Paaver and Kiivet, 2020) argues that 'public space' can never be defined completely and comprehensively, as it may contain parts of private property, not accessible at any given time, accessible for a fee or only open for use by members of a specific community.

In relation to this, the Estonian legislation provides no explicit definition of public space, rather it includes the definition of a 'public place' (Article 2 of the Advertising Act, Article 54 of the Law Enforcement Act)^[VI], and defines it as "a territory, a building or a part thereof which is open for public use or which is actually in public use, or a means of public transport"^[VII], therefore not focusing on public needs, requirements or giving any indication of improving spaces in relation to sustainability and community-building.

Also, in an interview with *Maja*, Toomas Paaver (2017) reiterates the concept of 'public space' in Estonia in the sense of physical space and conceptualises it as a connecting network through various different constructions. In the context of Estonia, he puts emphasis on the importance of cooperation and involvement of architects or citizens and stresses that the developments in public spaces in Tallinn differ to include architects or

citizens in the design process. He further reiterates that “there has been no significant, conscious and comprehensive work done on the development of public spaces in Estonia”, therefore resulting in restricting forms of collaboration, social interaction and community-building in public spaces within the city.

4.2 Public participation in Estonia

This section of the chapter provides an overview of public participation and engagement in-depth. In addition to this, community-based organisations that are open to public participation and engagement in some form or shape such as Kopli 93 and e²lektron based in Tallinn are discussed. Afterwards, public projects that involved participation from the community such as Pollinator Highway Installation project and Klindipark project are referenced and analysed as well.

Estonia has adopted increasingly democratic spatial planning practices, leading to a societal expectation that the active participation of the public and interest groups is crucial in creating high-quality spaces. However, according to Keiti Kljavin et al., “the current practices of inclusion do not lead to a better public space in the creation of space” (Estonian Human Development Report, 2020) and it is mainly because these spaces do not guarantee the residents to carry out their collective participatory decisions independently in a continuous space, without any interruptions (Paavar and Kiivet, Estonian Human Development Report, 2020). According to the *Council of Europe Report* on civil participation in the decision-making process in Estonia states that there is an essential need for the public sector, referring to the local governments and municipalities, to hear and understand “the needs of the citizens and co-operate with possibly many of them.” (Council of Europe Fact Finding Report Estonia, 2017, p. 18).

The report further suggests that there is an utmost need to engage the public in “decision-making, in order to consider the special interests, values and goals of the members of the society, the residents, and their associations, and take them seriously also in case they form a numerical minority.” (Council of Europe Fact Finding Report Estonia, 2017, p. 18). Similarly, Tõnis Saarts and Maari-Liis Jakobson in their research *Civic Engagement in Policy-Making Processes in Estonia: A Controversial Success Story* adds that public sector play a very important role in either accelerating the progress or limiting the access of public engagement, and therefore there needs to be a change in the current attitude to every policy being directly being made by the local administration, governments or municipalities rather than involving people it is important to make civil society participation in public policy processes regular and relatively smooth (Saarts and

Jakobson, 2016, p. 35). The *Council of Europe Report* also addresses that in the current state “the impact of various interest groups on legislative drafting is unclear, and at times it seems unequal, which in turn amplifies the prejudices of the bias of politicians when making decisions” (Council of Europe Fact Finding Report Estonia, 2017, p. 14)

The lack of public involvement and lack of interest in involving citizens to partake in decision-making processes by the local governments and municipalities in Estonia and the limited inclusive spaces that allow for the free flow of ideas, creativity, and has resulted greatly in hindering social interaction and community-building, and ultimately leading to a less sustainable and equitable future for Tallinn and its residents (Interview with Anne-May Nagel, 14 April 2023). Hence, there is an essential requirement that should involve “a rethinking of spatial arrangements and social relations, so that the city becomes a place where different groups and cultures can interact and learn from one another” (Fainstein and Campbell, 2003, p. 282).

A study conducted by the *Kondanikuühiskonna Sihtkapital and Interior Ministry of Estonia* revealed that the quality of communication between local governments and communities in Estonia was not very high. The cooperation between the two parties mainly revolved around funding issues, with limited meaningful engagement and dialogue. As a result, community participation in activities was modest, with only 48% of communities reporting involvement in development plans and decision-making (Kondanikuühiskonna Sihtkapital and Interior Ministry of Estonia, 2014).

This lack of communication and participation underscores the need for greater collaboration and engagement between local government and communities, particularly with regard to decision-making, community involvement and the overall well-being of citizens. Tallinn, the capital city of Estonia, recognizes the importance of community involvement in the preservation and development of green spaces. Despite the challenges of spatial isolation and usage of green areas, Tallinn aims to expand and enhance these spaces as outlined in the *Tallinn Development Strategy 2035*.

Moreover, in an attempt to create community spaces and work towards sustainable futures, there has been a growing trend of utilising vacant public spaces across Estonia (Leetmaa et. al, 2014), such as the (re)adaptation or renewal of industrial sites, historical, and building structures into regenerative spaces for artists, residents, or entrepreneurs (Szaton, 2018; Riegler et. al, 2020; Pastak & Kährrik, 2016). This repurposing or renewal of vacant public spaces has been found to play a significant role in connecting communities through various activities. In some cases, it has supported

social cohesion and welfare, however, while in some others it has facilitated gentrification processes (Pastak & Kährik, 2016; Martínez, 2017).

Kopli 93 and e^lektron



Figure 6. Members of Kopli 93 participating in a community workshop. Source: pealinn.ee <https://pealinn.ee/2022/11/18/taltech-opetab-kopli-tanav-93-asuvas-kogukonnakeskuses-huvilisi-tuulegeneraatorit-ehitama/>

One such example in Tallinn is that of the Centrinno project, financed by the European Commission (H2020 grant. 869595)^[1], that aims to put 'the residents in the centre of sustainable transformation' by transforming former industrial sites into creative clusters and community centres within the area of Kopli 93^[11].

The Centriino Project in Kopli 93 is a community organisation, which aims to promote community engagement and trust by organising regular cultural and educational events to diversify the community and provide them with a wider range of resources. The project intends to create a network of local stakeholders and establish a self-governing community to enhance the local productive, creative, and economic environment.

The Centrinno project in Kopli focuses on the following:

- *To strengthen community relationships and trust in Kopli by organising regular cultural and educational community meetups in Kopli 93.*
- *To collect, experiment, and teach traditional skills merged with modern innovation to diversify the community and enlarge the collection of tools available for them in times of need.*
- *To build an ecosystem of local stakeholders (vocational schools, NGOs, makerspaces, artisans, businesses, activists) to diversify and boost the local*

productive, creative and economic environment in order to make the neighbourhood more self-sufficient and resilient.

- *To build a self-organised community to make the community members more capable of governing without the government.*
- *To build a community of researchers to enhance and disseminate the work that we are doing in Kopli 93*

During the interview with Karin Kruup, co-initiator and project coordinator of Kopli 93, she highlighted that although the community-based organisation is trying to be self-sufficient, there are multiple challenges such as financial limitations and difficulty in communication with the policymakers as well as changing their perception of the public space as they view the community initiative like a business. To address this concern she added that “the ways of operating here, or to interact, there’s no possibility here (Estonia) for people to [come together and] interact with one another... The developmental level hasn’t reached where we can provide people with a lot of benefits - a cultural space in Estonia is like a real estate business. This shouldn’t be [the case]” (Karin Kruup, online-video interview, 15 March 2023). In parallel, Lucas Lemos from the FabLab foundation suggests that considering Kopli 93 “we still don’t have any clear dynamics to articulate community engagement in this process. It’s hard to do more activities because of this reason” (Lucas Lemos, interview, 21st February 2023).

Similarly, another space called *e⁻lektron* ^[111] in Kopli is a halfway virtual and halfway physical space, where performing artists and scientists come together to meet in order to work together. Taavet Jansen, curator at *e⁻lektron*, suggested that “co-creative spaces don’t work in Tallinn, the people are too busy. I am doing three jobs to survive, everyone wants to survive... The cultural ministry has a fixed perception about art and spaces, and they don’t want to change” (Taavet Jansen, online-video interview, 15 March 2023).

Pollinator Highway Public Installation

The city, through the Strategic Management Centre of Tallinn, developed a green corridor project titled *Putukaväil – Pollinator Highway Public Art Installation* between the city’s six districts (City Centre, Põhja-Tallinn, Kristiine, Haabersti, Mustamäe, Nõmme) which allows the movement for green mobility and follows the movement pattern used by pollinators (butterflies, bumblebees and honeybees) and other groups of animals to move from one green area to another. Additionally, the public space offers new green mobility connections and different activity opportunities to the people.

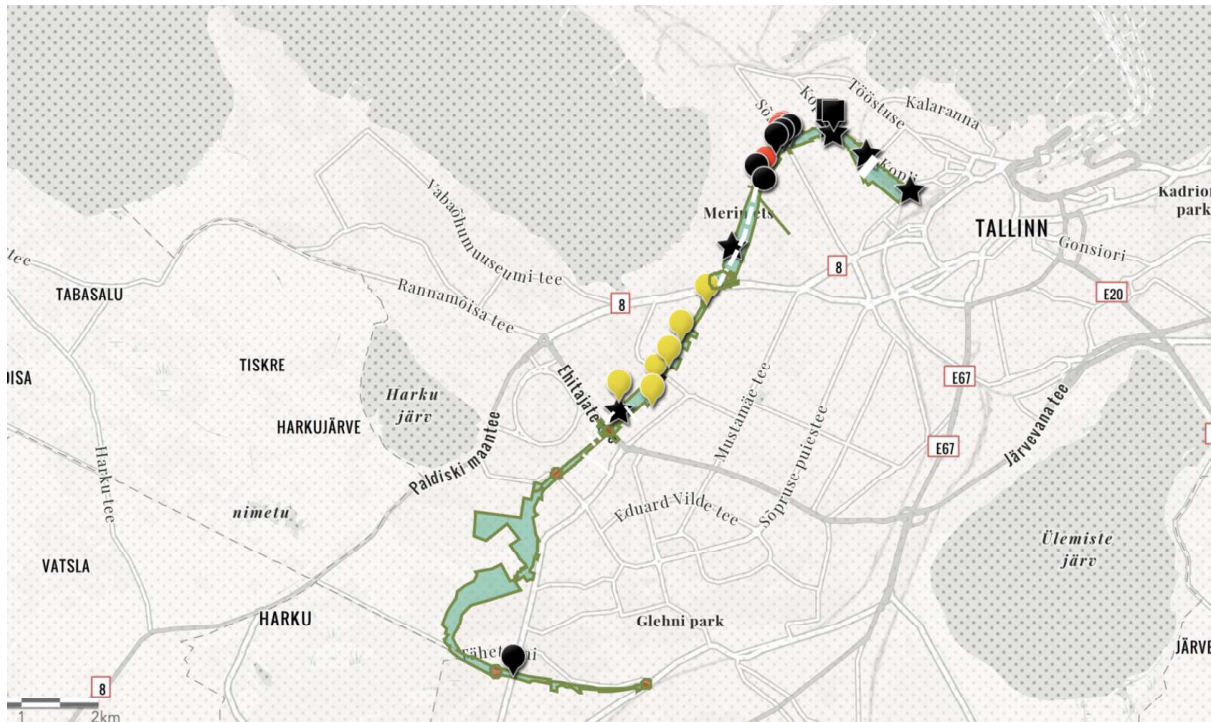


Figure 7. The Pollinator Highway green corridor route that stretches to 6 districts of Tallinn.

Source: <https://www.putukavail.ee/?lang=en>

Whilst interviewing Kati Ots, urban art curator at the Strategic Management Centre and the lead for this project, in understanding how the city approached people to engage in the process of developing the project, she confirmed that residents from the chosen districts were first consulted and their feedback was considered initially for the highway project public art proposals through an online public voting system. (Kati Ots, in-person interview, 13 April 2023). However, it was limited to Estonian speaking participants mostly and only approached digitally through a third-party involved (Kati Ots, in-person interview, 13 April 2023).

Ots further pointed out that although the entire project had its own challenges, specially when it comes to funding limitations, the lack of a collective framework and the internal communication between the varying departments of the city's Strategic Management Centre and its sub-departments. She added that it was of importance to her to establish a framework to initiate the project itself. (Kati Ots, in-person interview, 13 April 2023). Moreover, the city only keeps the maintenance of the project and once the project was finished and executed, no post-research has been done to understand whether the project has had a positive social impact on the people from the districts where the project has been executed or whether the project measure community engagement and participation throughout the green corridor (Kati Ots, in-person interview, 13 April

2023). From the researcher's perspective, questions and concerns are raised in understanding how effective this public space intervention has been for the residents and the larger community of Tallinn, and what kind of effects, if any, have it had in terms of their social engagement, participation and overall well-being.

Furthermore, it was also understood that the project does not aim to look into how the residents from within the local districts or other parts of Tallinn and/or the country allowed people to interact with each other more openly and gave space to social inclusivity (Kati Ots, in-person interview, 13 April 2023).

Klindipark Project

The most recent green space community project of Klindipark in Lasnamäe and Pirita districts by the Space Creation Department under the Strategic Management Office of Tallinn is a part of Tallinn's 2035 development strategy (Tallinn, 2020).

The objective of Klindipark is to make an interconnected green network by connecting adjacent areas and increase the mobility of Tallinn's green spaces. Eva-Maria Aitsam, urban designer, involved in the project discussed that the City took steps in ensuring public participation during the initial phase of the project which included one-off public events, online participation of the locals and survey (Eva-Maria Aitsam, in-person interview, 10 April 2023).

She elaborated that the starting point was to walk through the site and use mapping techniques by making geo-references and notice different patterns of the landscape and start to interpret what active zones and less active zones exist in terms of people's activities. She added that while analysing the geo-references and its data, it gave insights to develop a "hypothesis that these spaces would be more interesting to the locals as they might visit mostly by the locals and used by the locals" and another input was to look into the using various research methods on how the environment, animals and plants and the local species, to put an initial balance at what are the challenges and areas to look into (Eva-Maria Aitsam, in-person interview, 10 April 2023). The third stage of the project involved 'pre-design framework' to organise and have a public consultation that lasted for three months and was approached through Maptionnaire online tool. The idea was to understand how the local residents perceive these spaces, which were divided into different sections, so the locals are able to give comments and feedback to specific areas by interacting and drawing on the site map using Maptionnaire. (Eva-Maria Aitsam, in-person interview, 10 April 2023).

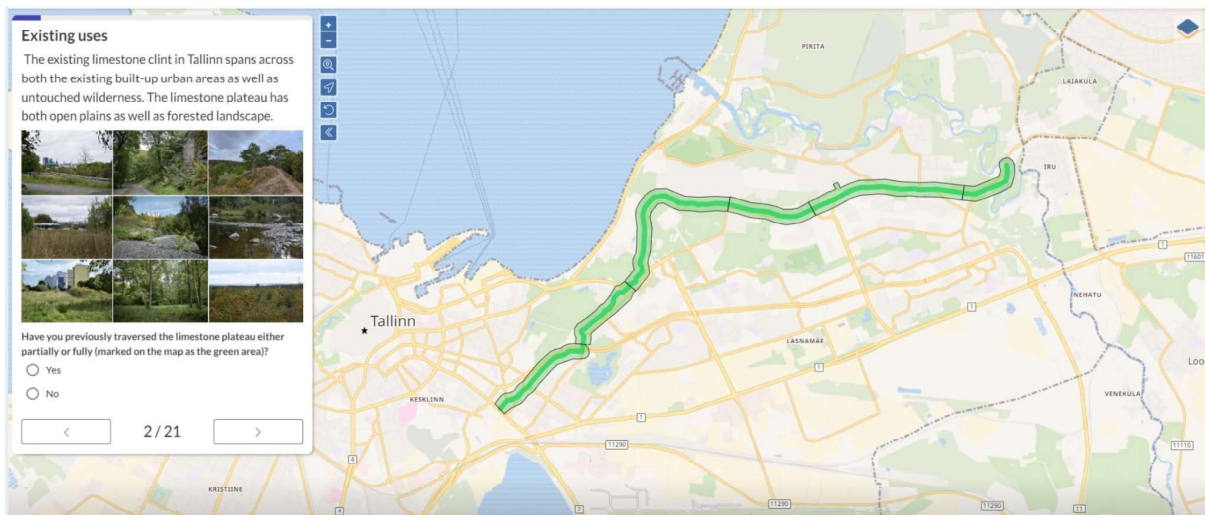


Figure 8. Screenshot of the civic engagement and participation done with map-based survey tool using Maptionnaire. Source: <https://maptionnaire.com/best-participation-practices/examples-of-civic-engagement-from-tallinn>

4.3 Discussion and conclusion

These projects and interventions play an important role to enhance the physical, social, and economic fabric of a place, and “improving the quality of urban space and thereby increasing the competitiveness of cities,... and creating a more dignified and functional space for locals” (Sooväli-Sepping et al. 2023). However, the dismissive perception and identity, and the lack of interest of the public sector’s to these organisations and the city’s own projects has resulted in these public spaces having to limit their potential to engage community-building and enhance community participation at large in Estonia. (Anne-May Nagel, in-person communication, 4 April 2023 and online-video interview, 14 April 2023).

Furthermore, while discussing the limited engagement of existing public spaces towards public, Lucas Lemos said that “it is very hard to find out how the community can be effectively organised and have an agreement with the stakeholders so they can operate independently - this is the current state right now” (Lucas Lemos, interview, 21st February 2023) which is a direct result of the city’s attitude and mindset that makes it extremely difficult for such projects to be successful in relation to engaging the public and encouraging participation and collaboration of the public directly. In relation to this, Lucas Lemos iterates that it is “very hard to have a voice - when there are so many partners [as stakeholders involved], unable to communicate directly.” (Lucas Lemos, interview, 21st February 2023). Hence, the city finds itself difficult to position itself due to the structural processes and policies followed within the local governments and

municipalities. As a result, it is understood that there are recurring challenges to understanding community involvement, participation and engagement once an urban spatial project is executed and developed by the city of Tallinn.

5. Research Analysis

This chapter provides the analysis built upon the researcher’s insights and findings from the data collected. In addition, the concept of boundary framing and critique as referred to in the systemic design approach mentioned in Chapter 3 is used to frame and map the problem space in the existing system and The Ladder of Public Participation by Sherry Arnstein (1969) is used as an analysing tool to further understand the challenges and the systemic design opportunity.

5.1 Systems Overview and Analysis

In the systems analysis phase, the concept of boundary critique is considered to framing the existing systems. The analysis is built upon the researcher’s insights and findings from the data collected. From the systemic design aspect, this approach allows one to identify “systems problems within an integrated methodology that balances the application of systems thinking and design approaches” (Jones, 2020, p. 26).

STAKEHOLDER	KEY INSIGHTS	FRAMING
Community-led Initiatives and Organisations	<ul style="list-style-type: none"> ○ Lack of communication between the City Municipality and the Community ○ Too many stakeholders involved externally and internally. ○ Can't engage more community members, as limited number of people in our team and limitations of space ○ Funding limitations doesn't allow us to function throughout the week ○ The city or the Estonian legislation doesn't have any law or regulation for public spaces like ours ○ We try our best to keep things afloat, but eventually we will have to transfer everything to the city as they have the finances and they want to overlook this project 	How might the communication between the city and community initiatives be seamless?
Residents - Community/ Public	<ul style="list-style-type: none"> ○ Lack of awareness in relation to existing spaces ○ Most of the spaces are too far apart and not accessible ○ The spaces are not inclusive, they don't cater to other residents of Estonia such as expats, refugees, these spaces are exclusive for Estonians only. ○ Lack of communication/cooperation between the city and the citizens. ○ Lack of involvement in projects or community initiatives due to the nature of how they are run. ○ Too many bureaucratic processes involved when engaging communities. It is limited or exclusive to a few people only. 	<p>How might the residents be more actively involved the city projects and initiatives?</p> <p>How might a community engagement support system help residents to be aware of the projects and be able to take actions against any urban problems that they face?</p>

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- **Difficult to communicate internally** with different teams
- Community **members are only involved when needed**, depends on the project - mostly it is in the initial phase only through webinars, one-off events and through surveys.
- Once initial research is done the project is transferred to another team and they look into the project, the other **teams/departments only engage once the project is transferred to them internally**.
- Once through the procurement process a company is hired to do the project, we expect them to finish the project.
- There's **no post-research once a project ends**, however, we do go for one-off observation of the sites to keep up with maintenance
- There is **no such guidelines or framework that we follow internally**, each department in the Space Creation have their own framework as per a project - we need a more centralised set of guidelines and framework.

How might we increase engagement between the city and the public throughout the process?

How might the communication be made easier between internal and external stakeholders that are directly/indirectly associated with the city?

Figure 9. Key insights and recurring themes identified that emerged from analysing the data collected, created by the author.

This process first involves framing the system as proposed by Dorst (2015), but rather is considered a way to understand the system-oriented process in an interactive way and to understand individual challenges within the existing system. In this dissertation the interviews with stakeholders (experts from the city municipality, community-based organisations and residents) and dialogues held during the interview-phase of the study in Tallinn were analysed and the insights from the interaction with different spaces and personal observation was gathered. Below is a visual representation of the main insights, observations and the recurring themes that emerged from this analysis.

Furthermore, to further analyse the overall systems of the different stakeholders involved and understand their varying needs, and motivations, the next step involved "to develop deep insights into the behaviour and relationships of system functions through analysis of feedback and system dynamics" (Jones, 2020, p. 26) using the *Boundary Framing* method of systemic design in order to see how the different systems interact with each other and identify the problem space. Below is a visual model created by the author (Appendix 4).

The current system

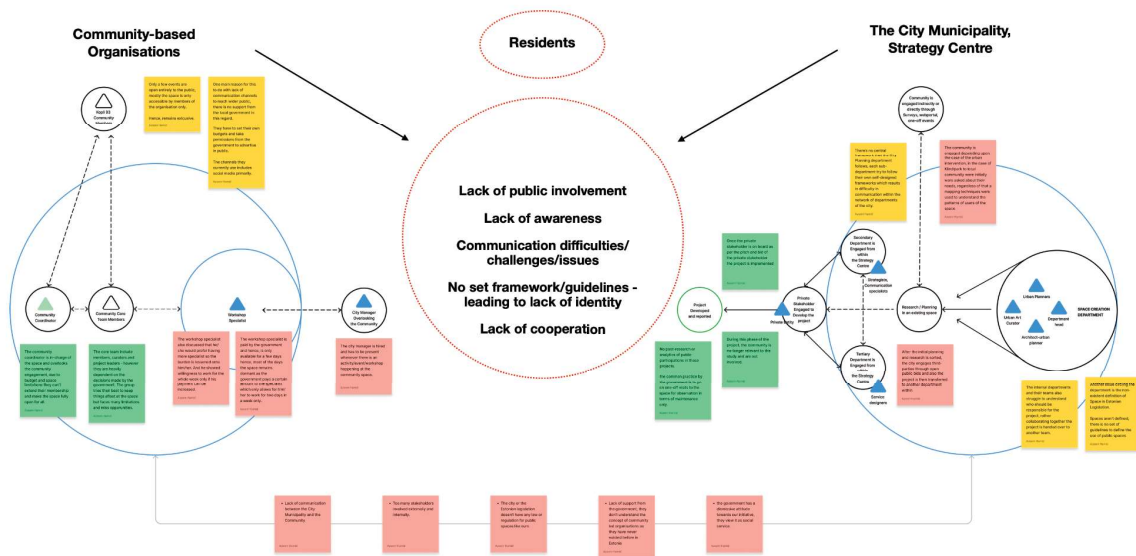


Figure 10. Overview of community-based initiatives, the city municipality and the involvement of residents within the existing system. Created by the author.

During this process it was realised that the recurring theme included challenges in communication, cooperation, identity issues and awareness between all stakeholders, therefore the city, the people and the community-based organisations that are public, resulting in the lack of interest, trust and willingness of residents to be actively taking part in public spaces.

Therefore, to further deepen the understanding the *finding the purpose* and the *requisite variety* methods from the systemic design approach are used. Thus, it was important to see at this point how public and community participation and engagement can be increased and be made more inclusive as one of the main problems within each system was found that the public is only involved to a certain extent and are not fully engaged in Tallinn's public spaces and its projects. To understand it better, the model *Ladder of Public Participation*, designed and proposed by Sherry Arnstein (1969) is considered. The purpose of the ladder is to help communities shift towards democratic and user-centred approaches, as opposed to the manipulative and controlling methods of community engagement. The rungs of the ladder, in this model, represent a step closer to citizen empowerment, thus promoting citizen power as it moves up (Community Engagement Techniques, DePaul University, 2019). The effectiveness of this model, though, can be affected by various factors such as contextual and organisational factors like attitude of the public officials, representation criteria and collaboration quality (Community Engagement Techniques, DePaul University, 2019).

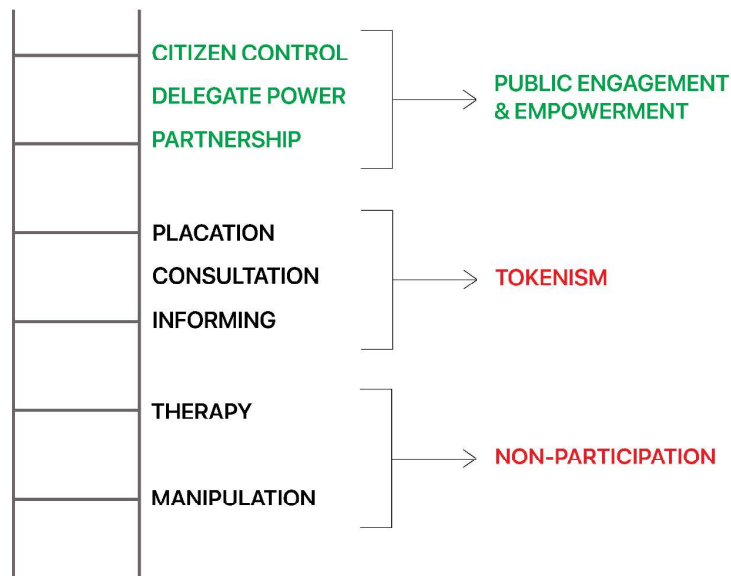


Figure 11. *The Ladder of Public Participation by Sherry Arnstein (1969), recreated by the author.*

It was identified that current approach of the Tallinn City Municipality - Strategic Management Centre towards public participation and engagement has a passive approach and mindset and is solely based on *therapy* and *manipulation* - therefore, giving limited access to the public and providing specific information, not involving the public throughout the process of a co-design/community-based design project but rather only in certain stages of the process. Thus, this was evident in the current city approach to engaging community members by keeping the control and power dynamics under their control and does not allow access to. Such an effort to engage the community from the public officials is unlikely to produce effective collaboration (Ianniello, Iacuzzi, Fedele, & Brusati, 2019).

Hence, it is important to foster community/public participation more actively. There needs to be an effort in bringing both local government and public to work well together, resulting in trust in the government, leading to better governance and more transparency in decision-making, "...the greater the participation of excluded groups in the design... and in the political decision-making processes which impinge on their lives; the less necessary it may be to address their problems in isolation from the rest of the population" (Kabeer, 2006, p. 70).

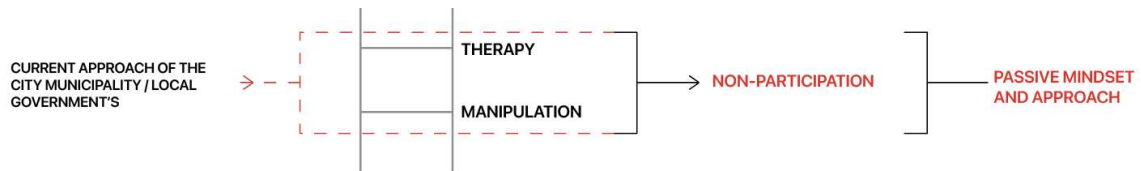


Figure 12. Showcases the current state of Tallinn City Municipality approach towards public participation and engagement in Design and decision-making process. The Ladder of Public Participation by Sherry Arnstein (1969), modified and recreated by the author.

Similarly, it was found out that community-based public organisation, although wanting to be responsive in community engagement, through analysis and insights it was found that it ranked within the degrees of tokenism. It was identified that such organisations were responsive but not actively involved in engaging the public at large due to complications and challenges as previously mentioned in this study. According to Arnstein, the first step towards genuine public participation is "Informing," which involves providing information to residents (Arnstein, 1969, Pg. 219). Consultation is also important for achieving full participation. However, if these stages are not followed by further action, they can be seen as superficial forms of participation (Arnstein, 1969, Pg. 217). Arnstein refers to this as "window dressing participation" which is evidently identified as a common case of community-based organisations and public projects in Estonia (Arnstein, 1969, Pg. 217).

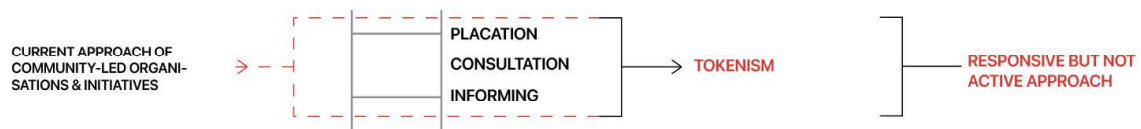


Figure 13. Showcases the current state of Community-based public Organisations in Tallinn approach towards public participation and engagement in design and decision-making process. The Ladder of Public Participation by Sherry Arnstein (1969), modified and recreated by the author.

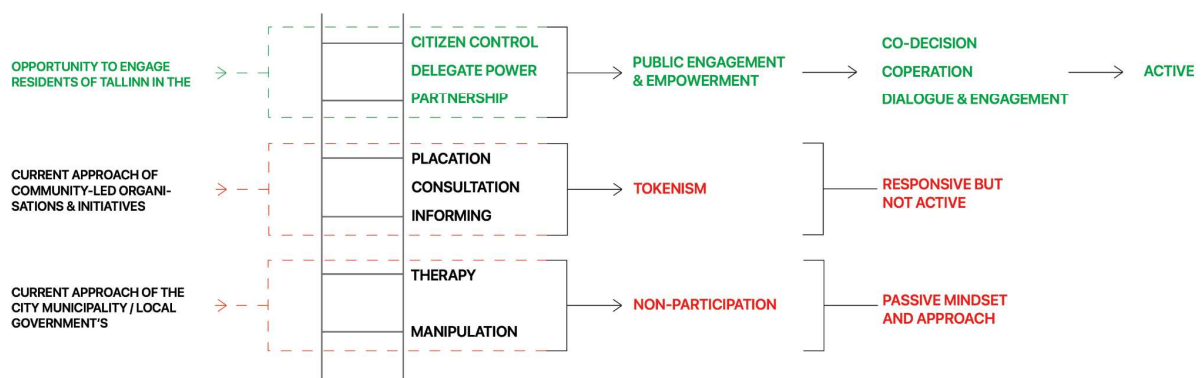
To sum up, this model gave an opportunity to conceptualise community engagement strategies which would yield maximum engagement and empower citizens to make informed decisions. Such engagement techniques ultimately lead to more empowered and just communities, enhancing the welfare of its stakeholders.

5.2 Systemic Opportunity

This stage is referred to as *System Ordering* by finding a space for intervention in the existing complex system by understanding “the pathways and leverage points within the system” (Jones, 2020, p. 27) as emerging through design and analysis. Thus, it is determined through analysis and research that a shift is needed to the existing culture and practices of engagement towards public participation.

Engaging and having dialogues with the community/public can significantly influence decisions and services. When the local municipality views the public as an asset, it can lead to positive outcomes. Therefore, a third space is necessary for the public, community-based organisations, and the city of Tallinn to come to a common space, collaborate and participate in decision-making, aiming to create a more inclusive environment within the city.

Using Arnstein's model of public participation (1969), and approaching the complexity of the problem from systemic design (Jones, 2020). There’s an opportunity to create a common system which ensures and delegates power to the public, enables partnerships and involves the public in decision-making processes. Thus, it helps bring more transparency, trust, foster the residents and community interest in public spaces, help them have ownership of spaces and enable them to be more socially included and have active participation along with a continuous dialogue with other stakeholders within the social system. In Figure 14 (below) the opportunity to engage residents of Tallinn in various public spaces and projects is highlighted in green and how it enables them to be more active participants and be socially included in the decision-making processes.



Sherry Arnstein's (1969) Ladder of Public Participation.

Figure 14. *Illustrating the opportunity to engage public participation in Tallinn using the Ladder of Public Participation model, modified and recreated by the author.*

5.3 Conclusion

Community engagement is a collaborative effort between policy makers and the community for the purpose of achieving desired outcome of various initiatives but effective engagement and participation requires flexibility towards the outcome and expectations from all stakeholders. Effective community engagement is crucial to successful planning, but it can be challenging to design a collaborative engagement process (Swedish Association of Local Authorities and Regions). However, designing a flexible system that allows for a productive discourse on policy measure and ensures public collaboration in the planning process, execution and future of a public space is essential. Citizen participation through “different contexts is inherently good, and strengthens the social capital in the community as well as the individual.” (Swedish Association of Local Authorities and Regions)

Community engagement can arise either from opposition or support but it can also be designed into a project. Designing a community engagement system can have positive outcomes, including higher success rates in implementation, a sense of community pride, less opposition to planning initiatives, and more creative and feasible project outcomes. While planning community engagement to foster community pride, it is also important that the traditionally marginalised communities are not overlooked in the process (Chamberlain, Crabtree, & Davies, 2013).

Additionally, depending on the anticipated outcomes, policy makers and community-based organisations can design the public involvement. The extent to which the community engages then varies from project to project. Where at times the involvement is more centred towards co-designing goals, other times it takes a more hands on approach so a balance is achieved.

Based on the findings and insights gained through this research, there is a need to create a community support and engagement system. Figure 15 illustrates the forms of meaningful participation that needs to be considered while designing the design concept as proposed in this study.

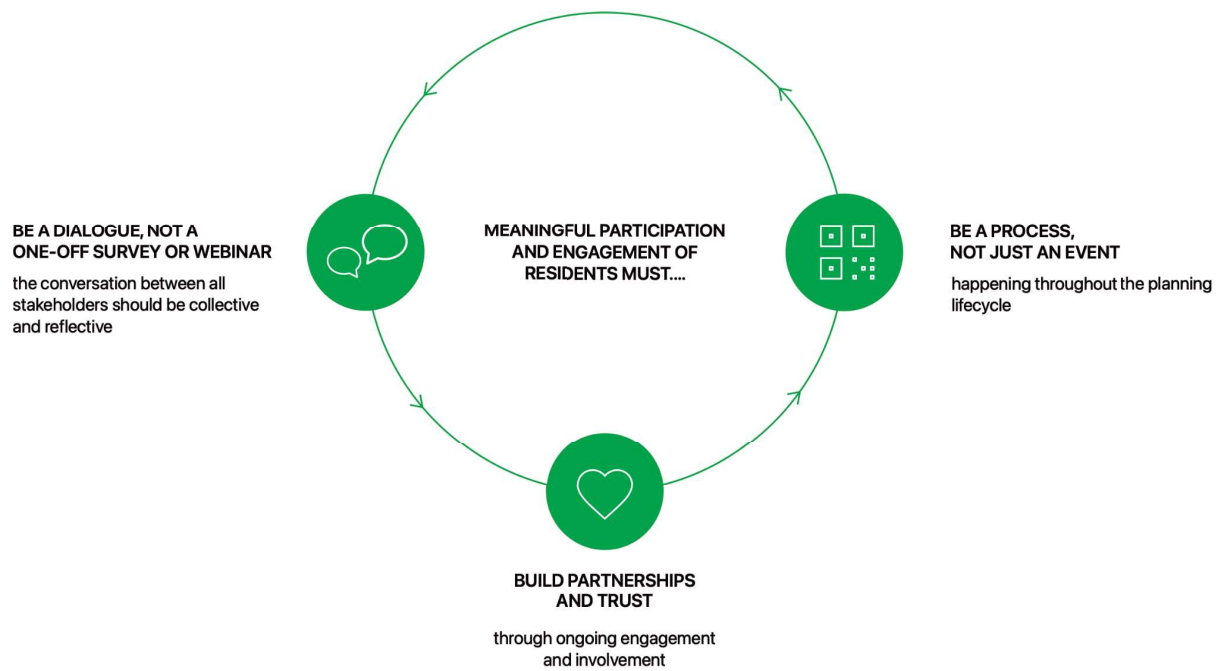


Figure 15. *Features of meaningful participation and engagement of the public. Created by the author.*

Lastly, it is evident from the research that to have a positive social impact on individuals and the community at large, it is essential to create a system that provides a platform for meaningful participation and engagement which should be continuously dialogic, reflective and open to collective decision-making. Also, it should focus on values like establishing and building partnerships and trust through ongoing engagement and involvement and should indulge a user in a process throughout the lifecycle of a community-based intervention, activity or project.

6. Design Concept

Based on the findings, insights and analysis in chapter 3 and 4, the design concept is proposed in this chapter with details provided about the concept, its use-case and the value it offers to the users.

The design concept developed and proposed is titled *Communal*. According to *Cambridge University Dictionary*^[VIII], a communal is one in which everyone lives and works together and property and possessions are shared rather than being owned by a particular person. Therefore, drawing inspiration from the definition of the design concept, the logo is stylized and interpreted by reflecting the following keywords: community, collective, codesign, connection and all (illustrated in figure 16).



Figure 16. *Communal* logo. Created by the author.

6.1 Designing Communal: A community engagement platform

The Communal is a platform that connects members of the public (individuals and communities) and relevant city administrative authorities who act as facilitators (responsible for public spaces and spatial planning), as well as experts (with a background in spatial planning, community development and engagement) in a shared virtual space. Also, towards a shared goal to fostering and enhancing community involvement and awareness in infrastructure projects, streamlining project processes, and maximising results in order to make the city more sustainable as per the needs, and motivations of the people.

The proposed design concept for the community engagement is a digital app platform that gives access to users to directly interact with the stakeholders, access information, join discussions, do community tasks/activities and socialise with other members from

the community and therefore develop new relationships which can promote social well-being.

The platform also has a purpose to navigate and find other communities of interest and see opportunities to participate in on-going community projects and events in public spaces that gives an opportunity to promote social inclusion, community interaction, increase social awareness as well as have an impact on both physical and social well-being not only on the individual but collectively on the community.

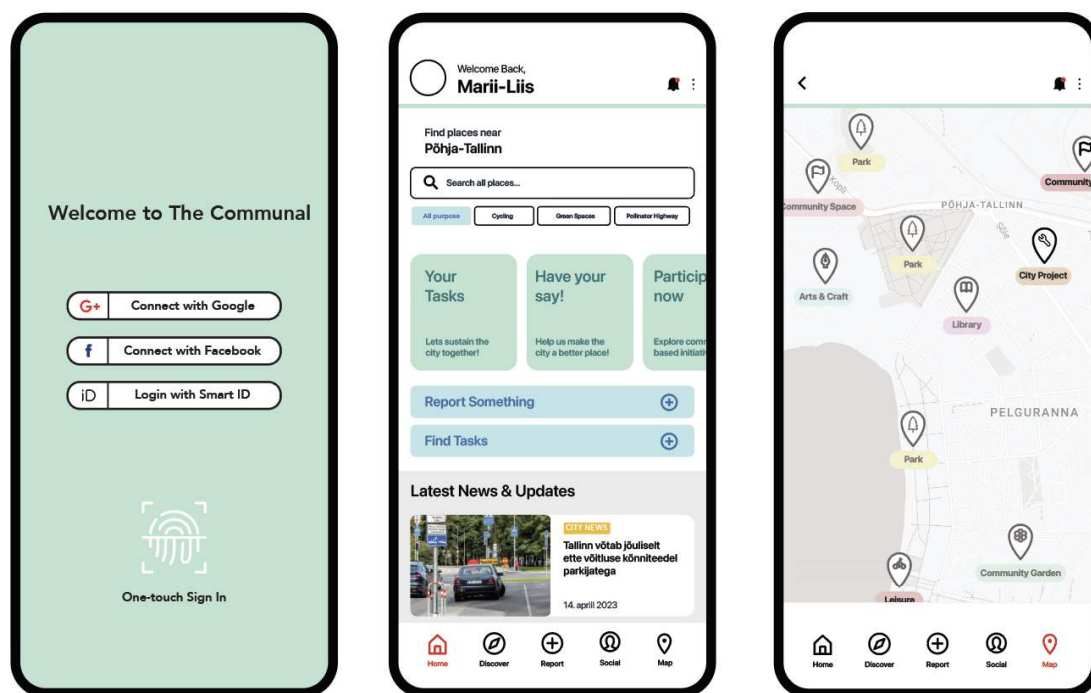


Figure 17. Design concept of the digital platform application. Figure, illustration and wireframes custom made by the author, icons taken from thenounproject.com

The platform allows the user to do community tasks within a community forum, discuss it with other members of the community and actively engage themselves personally by involving themselves in community challenges that may be problematic and can be solved by notifying and joining the task on the platform and resolving it. This helps and can result in encouraging and motivating a community within a neighbourhood to be actively involved in co-designing their community public spaces and also allows residents to actively validate the actions of other members and collectively make decisions to shape and sustain the existing fabric of their neighbourhood.

The platform further provides a social forum for the community members to be educated and guided with information on how they can intervene in the system, make co-created

decisions and be socially more active as well as enable them to personalise their interest in the choice of communities they want to be part of within the network that helps sustain it.

6.2 Concept system

The eventual aim of the design concept is to provide a community support system to the community for a more efficient communication, awareness, engagement and participation in public spaces. Additionally, to promote community inclusion by enabling direct and secure communication with the users. This quick and easy method enhances connectivity and helps to bring the community together.

The overall goal of the platform is as followed:

1. **Fostering Communication and Participation** - to achieve better infrastructure solutions, it is essential to have effective communication.
2. **Improving the Community Quality of Life** - by maintaining continuous communication and collaboration, the community's requirements and suggestions will guide project planning and decision-making, ensuring that the ultimate solution aligns with the user needs and improves their standard of living.
3. **Providing Accessibility** - involving a combination of channels that are customised to the particular community, with clear objectives and relevant content, must be utilised.
4. **Connection and Socialising** - by allowing users to have direct access to connect to other individuals of the society and a particular community to connect, join a community and interact with experts and other users with a common interest.
5. **Transparency** - it is crucial to provide ample information that is easily accessible, with clear and publicly stated information on the project's scope of influence and process, right from the beginning. Using language that is easy to understand further enhances accessibility.
6. **Timing and process** - it is crucial to consider and understand community needs, employ an iterative process to continually improve the solution, and deliver it within an appropriate time frame.

6.2.1 The Communal - User Experience

To give an in-depth account of the interfaces, features and user experience, the digital user application and the dashboard are described. The user journey overview (see Figure 18) explained thoroughly on what they can expect from the application and what features and options it offers to them.



Figure 18. Overview of user journey using the Communal. Created by the author, illustration from freepik.com under free licence use by storyset.

Onboarding / User Dashboard

The user application dashboard page allows the users to navigate through five sections: homepage, discover, report, social, and map. The homepage, as illustrated in Figure 19, enables the user to search for communities, public spaces in their neighbourhood.

In addition to this, it lets the user experience first-hand information in relation to the latest news and updates happening in the city, what tasks the user can do within his community to sustain it better and how they can participate in community initiatives and events instantly. Additionally, it allows the user to receive push notifications, report issues immediately that they see are obstructing the community or public space with ease.

It is easy for the user to navigate and be guided through the interface and is able to select options as per their concern or personal interest and the push notifications allow quick access to all the important updates, personal notifications regarding the tasks or reports.

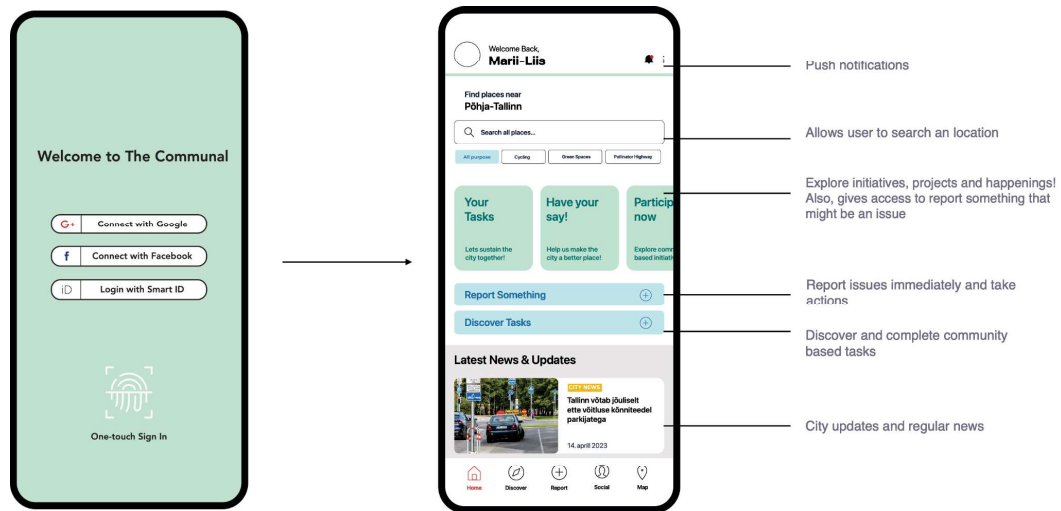


Figure 19. Digital mockups of the Communal. Created by the author.

Finding a community

The map section in the application allows the user to navigate community-based organisations, green spaces, parks, community gardens and city projects that are happening in their locality. Each public space is categorised individually so it is easy for the user to know and understand what spaces interest them.

Additionally, as the user selects a space within the map, the followed-up screen gives information of the type of space selected, access to information about the space such as news, events, feed and location as well as gives an opportunity for the user to join in the community that instant by selecting the join community tab.

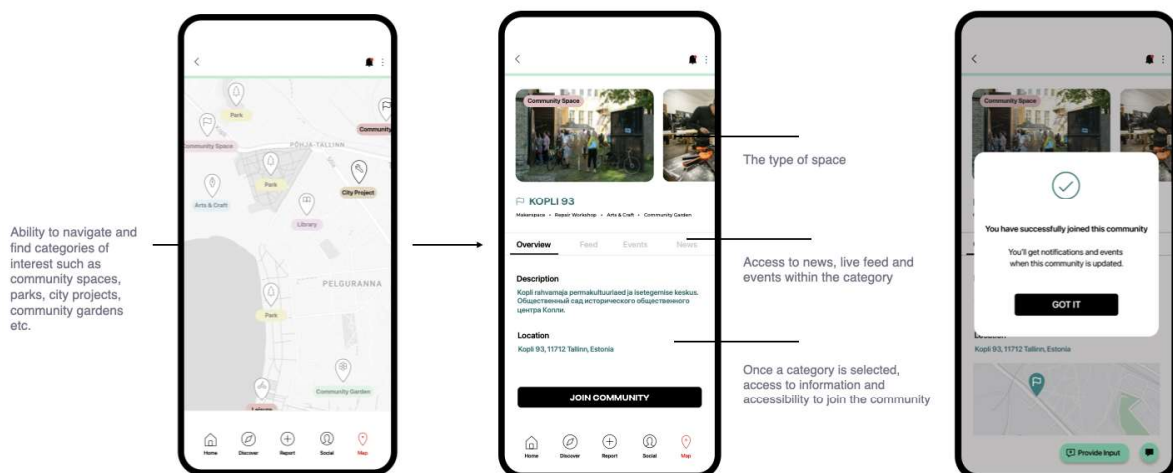


Figure 20. Digital mockups of the Communal. Created by the author.

Providing input

Once a community is joined, it enables the user to give direct feedback, provide input to improve the space by location, category and/or respond to surveys. The report is forwarded instantly to the dashboard used by the city and they are able to see and respond to the report submitted.



Figure 21. Digital mockups of the Communal. Created by the author.

Moreover, an AI-based automated chatbot named 'Kaarel' (refer to Figure 22) is available to interact with and find answers and tips as per the user's concerns. In addition to this, the user is guided to learn from experts by either interacting with them within the community social section and/or through chat with the AI chatbot which gives suggestions on steps recommended by the City in relation to their concern and try to resolve the issue/problem on their own.

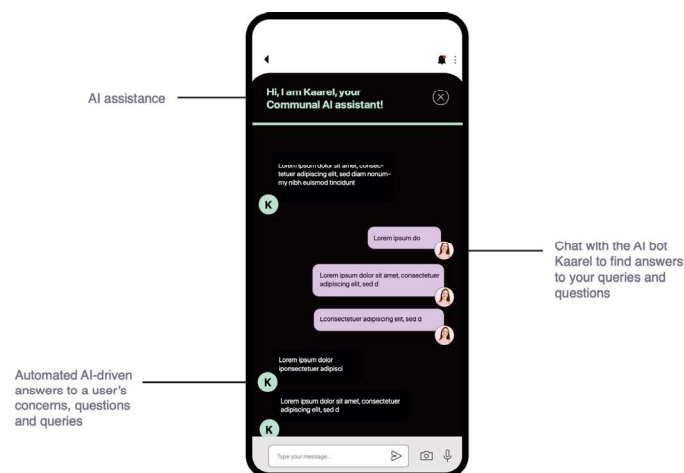


Figure 22. Digital mockups of the Communal. Created by the author.

Socialise, Network and Connect

Once a community is joined, the user can navigate it through the social section and view communities they have joined within their neighbourhood and join live group discussions and interact with other active members of the user's chosen community.

The live group discussion feed/messenger allows the user to introduce themselves, and if they are a new member their user avatar is highlighted and are prompted to introduce themselves to other members of the community.

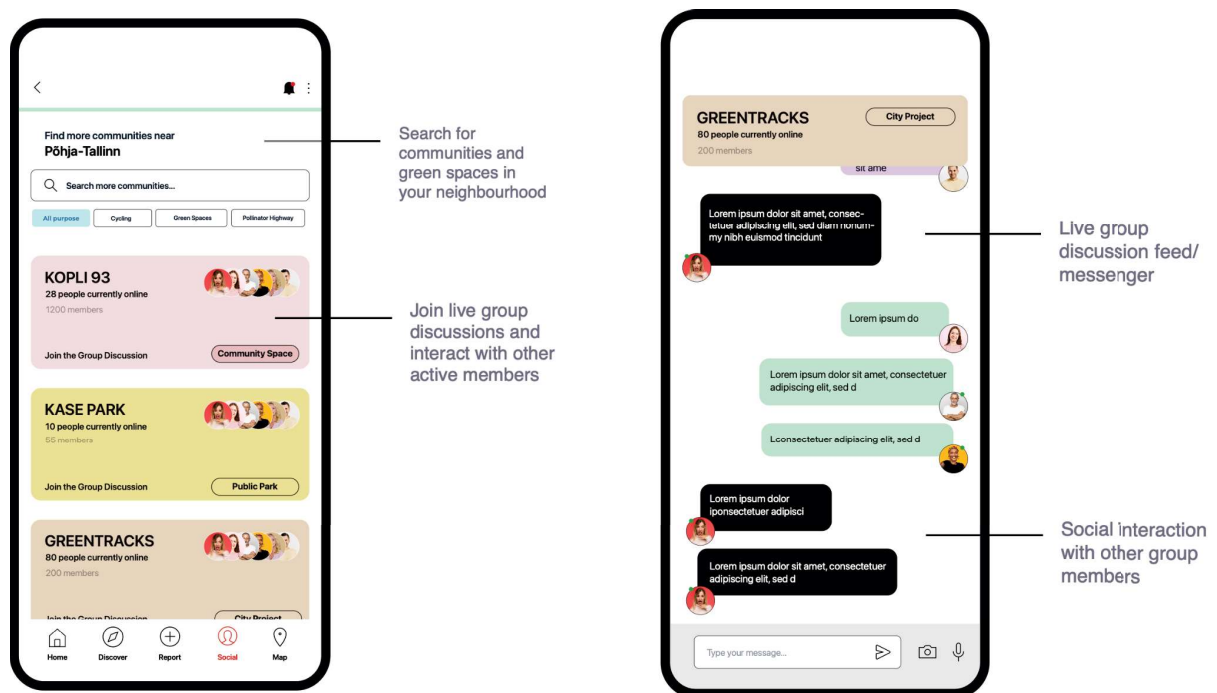


Figure 23. Digital mockups of the Communal. Created by the author.

Community tasks

The user also has the access to take ownership of the challenges and problems they see in the community or are reported by other members of the community within the neighbourhood.

First, through the homepage screen, they select the 'discover tasks' tab or 'discover' option and followed by selecting the category of the location of their choice the users are taken to the followed up screen where they can identify the task and be guided how to resolve it with support information from the City and experts provided (as illustrated in

Figure 24 and 25). The users can take direct help from experts if they fail to understand a task or need help in understanding it better or can be referred to manuals and guides.

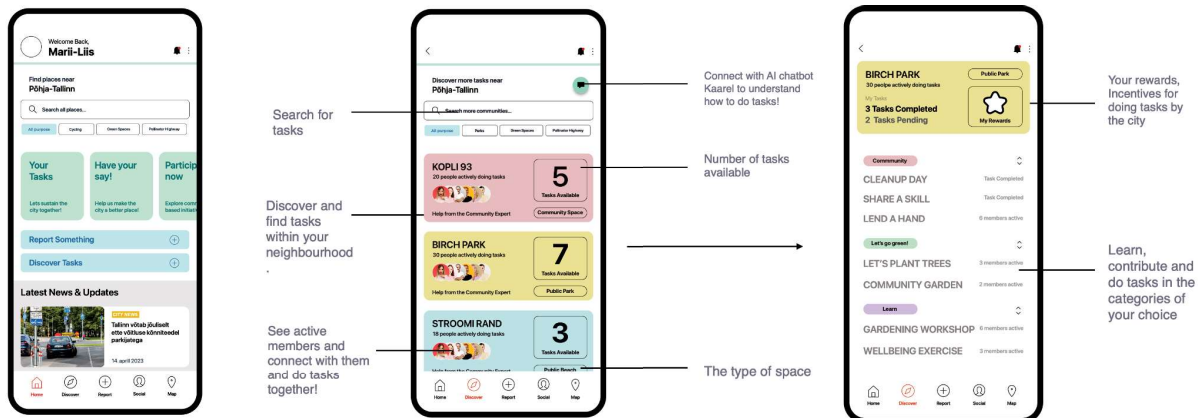


Figure 24. Digital mockups of the Communal. Created by the author.

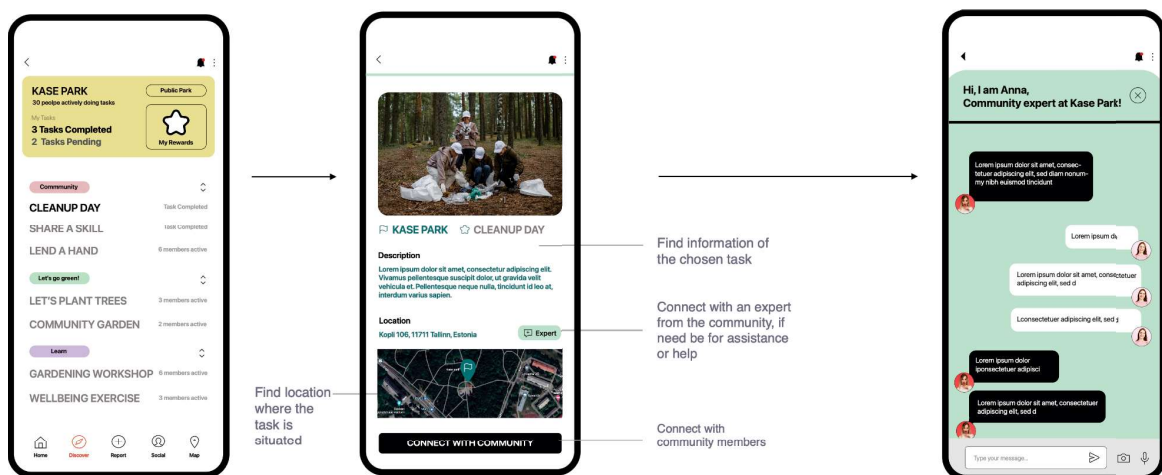


Figure 25. Digital mockups of the Communal. Created by the author.

Once the task is resolved, the user can upload an image and share the description within the same section and click on the 'task resolved' button to complete their task.

6.3 Value offer

The Communal platform creates and delivers value to the users through its features and applications. The platform's value can be measured and perceived through the user value.

The entire application and platform is designed to aid the city and make it a much more sustainable place and with the intention of public good. The value offered to the users is as described in the following:

Focused on community public spaces

The application is solely focused on public spaces that are open and accessible to all and does not require any membership or explicit fee. The intention is to provide the users a common platform to engage, actively participate in public spaces and be aware of the happenings in the city.

Decision-making

By giving an opportunity to users for completing community-based tasks in order to sustain their neighbourhoods and have a sense of ownership. Also, provide direct access to learn and educate themselves by interacting with experts from the city, AI-assistant and local community-based organisations (as illustrated and referred to as in Figure 26).

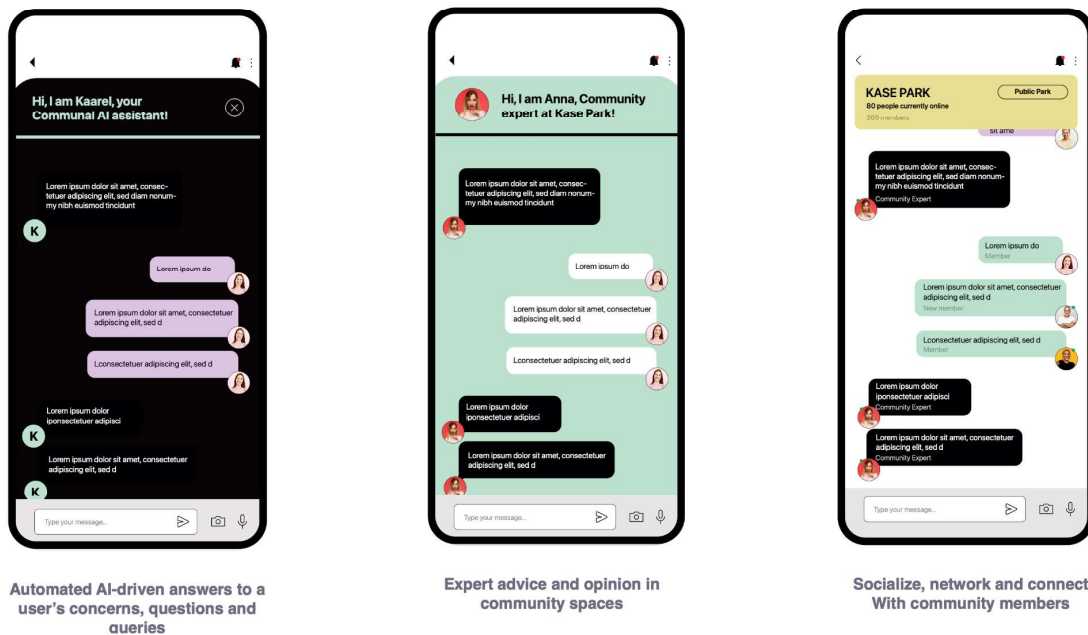


Figure 26. Digital mockups of the Communal. Created by the author.

Ease of communication and Transparency

The current procedures and processes are too bureaucratic and are time-consuming. It is difficult for the users to have a direct voice.

This platform allows the access to have a voice and be heard directly by the city which allows the city to understand the users needs. This can directly help the city to make

more informed decisions while making public interventions in the future. Also, it enhances the trust in the city from the citizen's point-of-view. Gives open transparency to the user in relation to what the city is intending to do for the public.

Ownership and sense of belonging

Being able to connect and socialise with like minded individuals from within a specific community can foster social engagement and inclusion at large. Besides this, being able to take actions and do tasks that benefit everyone in the community reflects on empowering and motivating the user to take ownership of their community and neighbourhood and have a sense of belonging to it.

Data access for future development

By collecting data entered by users the platform dashboard enables the city to examine the needs, desires, and demands of the people and gain insight into the community's perspective. This tool facilitates the collection of suggestions and feedback and fosters transparency and promptness, ultimately building trust and commitment with the community. Moreover, the data collected can help make the city make informed decisions in terms of spatial planning and other public interventions.

6.4 Service design blueprint

A service design blueprint is an analytical tool that provides an overview of different roles. According to *servicedesigntools.org*, a blueprint portrays a comprehensive overview of service delivery, outlining the sequential activities carried out at each stage involving various roles. The schematic mapping of the blueprint gives a descriptive presentation of what the user is viewing, what actions they make and provides an account of the actions happening in the backstage of the service in order to deliver the complete experience for the user.

The service design blueprint for the digital application, The Communal, follows through the main points of the customer journey, physical experience, onstage digital actions and backstage actions that support the systemic service. The service design blueprint map, as illustrated in Appendix 6, showcases how the service would be and gives answers to the actions of the users.

6.5 User stories

There are various ways to showcase how users interact, feel connected and engage themselves with the Communal. Figure 25-27 enlists user experiences and stories elaborating on how the concept is perceived by users.



The user story card for Laura is presented on a light gray background. On the left side, there is a stylized illustration of a woman with dark curly hair and glasses, wearing a black top with white polka dots, set against a yellow circular backdrop. Below the illustration, the text reads: **Laura**, **Age: 23**, **Recently moved to Tallinn for studies.**, **Enjoys Arts and crafts, music**, and **Goal** To find way to integrate with the community. To the right of this information, a large white rounded rectangle contains the main user story text, which is divided into three paragraphs. The first paragraph describes Laura's initial experience with the app. The second paragraph details her discovery of a community art project. The third paragraph explains her active participation and the sense of belonging she found.

Laura
Age: 23

Recently moved to Tallinn for studies.

Enjoys Arts and crafts, music

Goal
To find way to integrate with the community

Having recently moved to Tallinn, Estonia, Laura feels lost and is finding ways to integrate into the society and make meaningful connections. By a simple google search she comes across the Communal digital app and downloads it to see what community based events and activities she can partake in. The app greeted her with a welcome message and guided her through the on-boarding process. She filled out her interests, including art and cultural events hoping to discover projects that would resonate with her passions.

As she navigated through the app's home screen, Laura tapped on the "Discover" button and was instantly presented with the array of community-based projects and events in Tallin. One project particularly caught her attention—a community art project that aimed to bring people from diverse backgrounds together to foster social inclusion through art. The app provided a detailed description, explaining how the project fostered collaboration

Excited about the possibilities, Laura decided to attend the project's introductory meeting. Prior to the event, Laura used the app to connect with other participants who had already joined the project. Through the app's chat feature, she engaged in conversations, exchanged ideas, and felt a sense of belonging within the budding community.

In the weeks that followed, Laura actively participated in the project's art sessions, where she bonded with fellow participants from different walks of life. Together, they explored their artistic expressions and shared stories that revealed their unique cultural backgrounds. The app continued to be Laura's companion, reminding her of upcoming sessions, notifying her of new project updates, and providing a platform for ongoing communication with her new friends.

Figure 27. User stories. Created by the author.



Martin
Age: 64

Regular community member

Enjoys gardening, cooking and woodworking

Goal
Meet new people, exchange knowledge, facilitate community engagement

Martin, nearing the age of retirement, wants a platform that allows him to browse and join community-based projects that align with his interests and skills, so that he can actively contribute to meaningful initiatives and make a positive impact in the local community. Having years of experience, he is eager to share his knowledge and expertise with a broader audience.

While attending a regular community gathering at his local park, a community member suggests the communal app. He downloaded the Communal app and began exploring its features. The app's interface allowed him to easily navigate through the different sections. He then discovered that each community project had a dedicated section to discussions on community development. Here, he could engage in conversations with other users, offer insights, and answer questions based on his extensive knowledge. He eagerly participated in these discussions, finding joy in sharing his experiences and helping others navigate the challenges of community-led projects.

Considering he had lived all his life in Tallinn, and watching the urbanization of the city, he particularly enjoyed public spaces such as parks and events planned around these spaces such as cleaning day or gardening day as he feels that such initiatives brings a sense of belonging as

well as responsibility within the community.

Reflecting on his journey with the Communal app he felt a renewed sense of purpose and fulfillment. The app had become his gateway to connecting with a new generation of community activists.

Figure 28. User stories. Created by the author.



Siri
Age: 33

Works as a community manager

Passionate about Volunteer work

Goal
Meet new people, exchange knowledge, facilitate community engagement

Siri is a community expert hired by the city municipality to voluntarily work for the communal application. She overlooks the Kase Park community space, where she acts as a community expert within the digital application and in real-time. Her tasks include engaging with the members of the park in order to deal with their concerns but also to encourage and facilitate people to take up different community initiatives.

Members regularly reach out to her with problems and concerns related to space, funding, information or management. Hugo and his friend, wanting to create a gardening space to grow herbs within the community garden of the park were having problems understating how to initiate the project in terms of the usage of the space and involving other members of the community. She walks him through the process, suggesting ways to bring his idea to life and also ways on how he can engage and involve other community members.

She also acts as a link between the city municipality and public as she reports more complex problems to them that need to be resolved.

Moreover, Siri is always available on ground as well when a community task or event is taken place and whenever needed she quickly responds to the concern and facilitates in a process to resolve the ongoing problem.

If there is a serious concern that is not manageable by local community members, she reports directly to the City municipality local government to take actions, or find ways to the ongoing problem.

On the side note, Siri loves helping people and loves to socialize, making deeper community connections both on the digital application and on offline community tasks/events spreading awareness to the users of the application.

Figure 29. User stories. Created by the author.

6.6 Future development of the design concept

The design concept proposed in this study can be further developed allowing the local authorities to study people's needs, and understand the community's point-of-view, collect suggestions and input, and build the community's trust and commitment with transparency and promptness. Additionally, it can provide the stakeholders to analyse public participation and responses, collect and categorise insights, and make data-driven decisions for on-going public interventions as well as future projects. In addition, it can enable them to obtain instant and quick feedback and start conversations with community members in ways on how the public can act.

6.7 Discussion and conclusion

The proposed design solution and concept only offers limited context on community engagement and participation. However, there is a dire need for more research work on it as in the current scenario, there is not much research available in the context of Estonia.

Moreover, this study has identified issues relating to active public engagement. The research observations and findings indicate that there are people who desire to engage in discussions and contribute to the progress of their local community, but they seek to do so on their own terms and conditions. Although there is an understanding and consensus that the dialogue and communication between citizens and policymakers should be meaningful and driven by a genuine interest on the part of the latter to understand public concerns on specific issues, for instance, the public should actively participate in the advancement, development and sustainability of their local community.

Public participation can be perceived as a fundamental right, therefore, granting individuals the access and ability to have a voice in decision-making processes that impact their community. Alternatively, it can be viewed as a means of exercising personal preferences regarding public services, or even as a challenge to assume responsibility for the management of essential services that one relies upon. Irrespective of the standpoint, it is essential to enhance public dialogue, participation and establish a more systematic approach. By doing so, it can result in creating a stronger foundation for decision-making within local government authorities, ensuring that their decisions are well-informed and reflect the needs of the community.

Furthermore, the design concept would benefit from more community-based activities and projects to propose a more in-depth solution. The active involvement of more

stakeholders in the process would provide more valuable insights, and information to further develop the proposed concept and add more functionalities. The current design proposal and research study are intended to be expanded in the future. The goal is to include other community engagement activities, public interventions, and urban spatial planning projects in the City.

7. Summary

The research paper comprises two main parts; a conducted research and a design concept. The research part of the thesis explores the theoretical foundation, frameworks and explores as well as studies the challenges of social inclusion, community engagement and participation in-depth. This is followed by the design concept, which is based on the analysis and findings of the initial research part of the study. The design concept proposes a solution to enhance and foster social inclusion, community participation and engagement in Tallinn. In addition to this, it recognizes systemic challenges faced by multiple stakeholders who are directly or indirectly involved in urban public spaces and its design. A framework of systemic design methodology as proposed by Peter H. Jones (2020) and design process theories such as design thinking and community-based design (CBD) were used to understand complex social structures and systems.

The structure of the research follows the systemic design approach stages. As part of the process, the research question was framed: How can a community engagement system support and foster social inclusion and participation among residents of Tallinn in their neighbourhoods? It was realised that to foster and enhance social inclusion, it is important to reflect on the needs and desires of the public. For instance, involving them in decision-making processes, having a continuous dialogue and encouraging them to partake in community activities. The proposed solution of the problem came as a result of the systemic design approach process and other design methods while investigating and understanding the complexity of the social structure.

This was prompted by conducting a series of interviews, mapping the problem, and doing on-site observations and documentation. This enabled the author to understand the existing community engagement process, accessing knowledge of what methods and approaches are currently being used. In addition to this, it gave insights and reflection towards tangible ways to address the concern of the residents in having a lack of trust, awareness, motivation and encouragement to be actively involved in community-based public spaces and its activities. Hence, it became evident at this point to create a system that would enable community engagement, foster social inclusion and actively increase participation of the users.

According to the findings and insights, the proposed solution is a digital platform that provides a space for the residents to be aware, interact, socialise, do community tasks,

engage, participate actively in public spaces. It also enables and prompts the users to participate in the physical environment and take steps to feel a sense of ownership and belonging in these spaces within the city and their neighbourhoods. This results in having a direct social as well as physical impact on their well-being and aid in making the city much more sustainable and livable with a positive social transformation for the future.

Kokkuvõte

Käesolev magistritöö koosneb kahest osast: uurimistöö ning lahendus disainkontseptsioonile. Uurimistöö uurib ning diskuteerib sotsiaalse kaasatuse ja kogukonna osaluse teemasid teoreetiliste raamistike alusel. Uurimuse analüüsile järgneb disainlahendus: kontseptsioon, mille eesmärk on edendada ja soodustada Tallinna linna elanike sotsiaalset kaasatust ning kogukondlikku osalust. Töö toob välja erinevate osapoolte süsteemsed väljakutsed ja raskuskohad, seda nii kodanike kui Tallinna linnas avaliku ruumi planeerimise ning disainimisega tegelevate inimeste perspektiivist. Sotsiaalsete struktuuride ja süsteemide mõistmiseks kasutati Peter H. Jonesi (2020) süsteemse disaini meetodika raamistikku ja disainiprotsessi teooriaid nagu disainimõtlemine ja kogukonnapõhine disain.

Uuringu ülesehitus järgib süsteemse disaini meetodikat. Protsessi käigus kujunes välja uurimisküsimus: Kuidas saab kogukonna tugisüsteem toetada ja edendada Tallinna linna elanike sotsiaalset kaasatust? Lisaks sellele selgus, et sotsiaalse kaasatuse suurendamiseks on oluline mõista elanike vajadusi ja soove erinevatest vaatenurkadest; näiteks kaasates inimesi otsustusprotsessidesse, pidades jätkuvat dialoogi ning julgustades neid osalema kogukondlikes ettevõtmistes. Probleemi lahendus sündis süsteemse disainilähenedamise protsessi ja erinevate disainimeetodite tulemusena, uurides ja mõistes samas sotsiaalse struktuuri keerukust.

Uuringu käigus viidi läbi mitmeid intervjuusid, kaardistati probleeme, tehti kohapealseid vaatlusi ja dokumenteeriti infot, et mõista olemasolevaid kogukonna kaasamise protsesse, saada ülevaade sellest, milliseid meetodeid ja lähenemisviise kasutatakse. Lisaks uuriti millised on teostatavad viisid, kuidas lahendada elanike muresid seoses puuduva usalduse, teadlikkuse, motivatsiooniga ja julgustada neid aktiivselt osalema avalikus ruumis ning sellega seonduvates tegevustes. Protsessi tulemusena selgus, et tuleb luua süsteem, mis võimaldaks edendada kogukondade arengut ja sotsiaalset kaasatust ning suurendaks süsteemi kasutajate aktiivset osalust.

Uuringu järelduste kohaselt on lahenduseks digitaalne platvorm, interaktiivne keskkond kogukonnale info levitamiseks, suhtlemiseks, kaasamiseks, aktiivseks osalemiseks avalikus ruumis. Samuti kutsub platvorm kasutajaid üles osalema linnaruumi kogukonna tegevustes ja astuma samme, mis suures pildis tekitaksid neis linnas, oma naabruskonnas ja selle piirides kuuluvus- ning omanditunnet. Selle tulemuseks on ka otsene sotsiaalne ja füüsiline mõju nende heaolule, mis see aitab muuta linna palju

jätksuutlikkumaks ja elamisväärssemaks ning ühtlasi toob kaasa positiivseid sotsiaalseid muutusi tulevikus.