MusicFootprints:
Designing interactions for outdoor places

Danai Tsouni
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tsouni.danai@gmail.com

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Supervisor: Mahmoud Keshavarz
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Abstract

This thesis is a research on how people can create a stronger connection to a place through the music that they are listening to in the specific place. It is about making a place’s identity stronger through social interactions based on people’s musical choices. A theoretical research on social interactions in public places and on the field of urban computing and urban interaction design has contributed to the formation of this thesis. Additionally, a study of design examples that have already been implemented by others and are possessed with common characteristics to the subject, as well as a set of design methodologies in terms of Research through Design process, all lead to the design of the final concept of MusicFootprints service.

MusicFootprints focuses on the design quality of “imageability” and on the experimental techniques of the Situationists “dérive and détournement” in order to show that it is the way of interactivity and the position of the system in the outdoor environment that matters. Finally, it leads to the creation of a music-living archive interactive system and opens a discussion about a connection between past, present and future’s peoples’ music choices.
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The two friends run into a music spot on a tree in Folkets Park.

The woman holds her smartphone inside the music hole, in order to start the interaction with the service.

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1 Introduction

1.1 Background
It is common for people to listen to music while being outdoors. Usually it is connected with mobility, as it can make walking/running/cycling/driving/travelling etc. activities more enjoyable and more enhanced. At the same time, different parameters, such as peoples’ mood, the weather, the kind of place that they are in and the reason for them being in that specific place, might make people decide which kind of music they will listen to at a given time. This process is mostly an individual one, as people use headphones when listening to music outdoors. More general, music also plays a role in our social lives, since talking about, displaying, swapping and sharing music are all ways through which we express who we are and interact with others (O’Hara, & Brown, 2006).

Focusing on the meaning of place, Jones, Grandhi, Whittaker, Chivakula, and Terveen (2004) in their research, state that people actively structure their outdoor environment. They create specialized types of places to support a variety of activities. According to Alexander (1979), as cited in Jones et al. (2004) and Genereux, Ward and Russell (1983), the design of a place simultaneously encourages certain activities and discourages others. Shared places promote informal social communication (Kraut et al, 1990, as cited in Jones et al. 2004 and Whittaker, Frohlich & Daly-Jones, 1992, as cited in Jones et al. 2004). The informal social communication and the activities that happen in a specific outdoor environment make places act like social filters: People with different social characteristics like age, gender, language, ethnicity, etc., will choose different places to do certain activities, since a place can feel familiar and safe for some people but not for others. It is this intersectional relationship between the place and peoples’ social characteristics that produces different type of social filters for a place. All these characteristics and social filters will subconsciously make a person choose what kind of music he/she will listen to in a specific place, of course in combination with his/hers musical taste.

As a result, while places play an important role in people’s informational and communicational needs, they do not stand alone (Jones et al., 2004). Activities in which people are engaged, their general geo-temporal routines, and their social relationships, also play key roles. According to Moore (1979), as cited in Genereux et al. (1983), activities that occur in a place are more likely to be remembered than its architectural features. Simultaneously, music is responsible for enhancing moments and for creating emotions. For every individual, the actual moment of listening to his/her music in a specific place is a unique feeling, but since people are social beings there has always been a tendency to share these kinds of moments in every possible way, for example by sending photos of places accompanied by songs. The goal of this thesis is to create social interactions that will strengthen the social filters of outdoor places through the music that people are listening to in that places, while doing outdoor activities.

1.2 Knowledge contribution
This is not a brand new contribution to the field of interaction design or to the field of social interaction in public places in relation to music, since previous research and design examples have already been executed. This thesis will enrich particular researches and design projects on the following fields: designing social interactions between strangers through music in outdoor environments, influencing relationships between strangers in outdoor places through social interactions and strengthening the identity of a place through the music that people are listening in that specific places.

1.3 Research questions
In order to start framing the subject, two main research questions can be formed:

- How can social interaction be enhanced from the connection between outdoor places and people, through the music that people are listening to in these places?
  - How can the individual way of listening to music outdoors becomes more social, open and sharable?
- How can the identity of a place be strengthened from the music that people are listening to in the specific place?
Places which include some kind of social interaction give people a reason to stay once they’ve arrived, if they didn’t have any. (Community tool box, section 8, chapter 26, Creating good places for interaction, n.d. Retrieved from: http://ctb.ku.edu/en/table-of-contents/implement/physical-social-environment/places-for-interaction/main).

People use places for many different reasons. The variety of reasons that will force somebody to choose a place, the peoples’ social characteristic that use the specific place and finally, the activities that people are doing there gradually mold an identity for the place. I believe that giving the opportunity to people to intervene in the public place with sharing something personal, like a song that they really like, it is possible that a supplemental social layer in the relationship that people have with that place will be added. Further, it is believed that the activities that are happening in the place will be more memorable.

2 Research Framework

2.1 Social interaction in public places

In this chapter, research that is considered related to the thesis at hand is going to be presented. The research contains issues and fieldwork about public interactions, an introduction to the subject of urban computing and urban interaction design, related design examples and an introduction to the Research through Design method that is going to be used for design implementation in the thesis at hand.

2.1.1 Public interactions

When it comes to interaction in public places between systems and people, the interaction may affect the social situation in which a person finds him/herself in, or the social situation may affect the way a person interacts with the system. Therefore, there are many different aspects and parameters that need to be taken under consideration when it comes to designing interactions for public places. In a specific place, there are people with many different characteristics: age, culture, gender, status, etc. According to those characteristics, people will act differently in a public place and will face not only different needs, but also barriers and obstacles. The variety of peoples’ characteristics in a place is adding social filters to it. It is important to understand the social filters of the place in order to figure out the condition of the interactive system that will fit and correspond successfully to the environment.

Dix et al. (2000), created categorizations that focus on providing a deeper understanding on a place’s identity in relation to interactivity. One of the categories focuses on the contextual nature on mobile systems: the location of the system in relation to other bodies, the bodies’ mobility through the space in relation to the system and the kind of bodies that may interact with the system, are issues that need to be considered and will affect the interaction. In the thesis at hand, the kind of bodies that are listening to music outdoors will probably define the target group. Their social characteristics are adding social layers to the place, and this contributes to the definition of the place’s identity. The kind of activities that are happening in the place and the fact of whether the activities are accompanied with music or not, will influence the condition of the interactive system. Further, peoples’ mobility and the frequency of
them being alone or in groups in a place, will affect the system’s design, since when people are together, it is not common to listen to music with headphones and being isolated, but it is common to interact with each other. Another category of Dix et al. (2000), focuses on the system’s mobility. System’s mobility can be fixed, mobile or autonomous. This issue affects dramatically the way that social interaction is achieved. If it is mobile, the social interaction is restricted in personal devices (probably smartphones), which by default are supporting social isolation. If it is fixed, issues like where the system should be placed, how many bodies can use it simultaneously, how private and intimate for a body the interaction is, will determine the condition of the system and will make it successful or not.

The thoughts described above are more characterized by a cognitive approach. By cognitive approach it is meant the internal, invisible and thinking processes that affect people’s behavior and will make them decide whether they would interact with a system or not, and how. Simultaneously, there are other aspects that need to be taken under consideration, such as the physical context that may vary a lot in terms of illumination, background noise, temperature, weather and therefore will cause different results during the interaction.

2.1.2 Dérive and Détournement

People are creating cognitive models for comprehension and prediction. Although it seems that the majority of the cognitive models that are being created in people’s minds are meeting same characteristics, there are also many that are far away from the usual. Guy Debord (1994) and the Situationists sought to reinvent everyday life in urban spaces by constructing situations which disrupted the ordinary and normal in order to jolt people out of their customary ways of thinking and acting. Using dérive (the urban flow of acts and encounters) and détournement (rerouting of events and images), the Situationists developed a number of experimental techniques that stressed the relationship between events, the environment, and its participants – urban strangers. By the term urban strangers, I believe that the Situationists were referring both to people that were part of them and to people that would see the results of their experiments, since they were public. Their approach can be very inspirational not only for the final design, but also for the formulation of the Research through Design part, as new ways of thinking and acting while evolving the design process can lead to unexpected and innovative results.

2.1.3 The Familiar Stranger

Focusing on the term “urban stranger” that the Situationists referred to, there is another one that tends to describe the relations between strangers at a public space and this is the term of “familiar stranger”. The familiar stranger is a social phenomenon first addressed by the psychologist Stanley Milgram in 1972, as cited in Paulos and Goodman (2004). Familiar strangers are individuals that people regularly observe but do not interact with. By definition a familiar stranger must be observed, repeatedly, and without any explicitly physical or verbal interaction. The claim is that the relationship people have with the familiar strangers is indeed a real relationship in which both parties agree to mutually ignore each other, without any implications of hostility. A good example is a person that one sees on the subway every morning. If that person fails to appear, it is noticeable. Familiar strangers make a place look smaller, while avoiding the impossible task of making small talk with every person which an individual sees daily. For this project, based on the above mentioned social phenomenon, I intend to extend and introduce a new type of familiar stranger that focuses more on the feeling that is created between strangers in a public place rather than on the regular observation. Namely, people doing same activities in common public places such as sitting alone in a bench, taking the dog out, running or doing a picnic, even if it is the first time they see each other, creates feelings, even empathy, and this leads to a specific unexpressed connection between these people. For the purpose of my thesis, I would apply the term familiar stranger also in the above mentioned type of relationships.

2.1.4 Reflection

Summing up the content of this section, an introduction to public interactions and to the place’s identity in connection to interactivity, a description of the Situationists’ experimental techniques “dérive and détournement” and of the social phenomenon of the familiar stranger have been presented. They provide a theoretical ground and inspiration for the design of the thesis at hand.
2.2 Urban Computing & Urban Interaction Design

2.2.1 Design qualities and challenges of urban computing and urban interaction design

The introduction of interactive systems in public spaces requires the study of how technology interferes in an outdoor public environment. The interdisciplinary field of urban computing focuses on how computer sciences intrudes into city-related fields like transportation, civil engineering, environment, economy, ecology and sociology, in the context of urban spaces. The term was first introduced by Eric Paulos and Elizabeth Goodman in 2004. With real-time synchronized data and clever computational algorithms, the urban environment becomes more operationally and instrumentally efficient. According to Paulos, Honicky, and Hooker (2008), urban computing establishes an important new framework for deconstructing and analyzing technology and urban life across five research themes: people, place, infrastructure, architecture, and flow. The last two, architecture and flow, can interestingly contribute to this thesis. When it comes to architecture, urban computing focuses on how new techniques and smart surfaces will emerge for interacting with buildings, public surfaces, sidewalks, benches, post boxes, phone boxes, bus stops, and any other kind of street furniture. The variety of street furniture that exist in a place can influence the kind of activities that happen in that place, and as a result, the peoples’ choice of whether the activities will be accompanied with music or not. For example, two friends may choose the place that they will meet depending on whether it includes benches or not, since they know that both of them are always late and they would like to be able to sit down while waiting and listening to music. Similarly, it is very common for people to listen to music while waiting at a bus stop, but not inside a phone box. Focusing on the flow, urban computing digs into how navigation and movement, either throughout an entire city or within a small urban space, will be influenced by the introduction of computing technologies. Reflecting this on the “dérive and détournement” section of the thesis at hand described in this chapter, that talks about the experimental techniques of the Situationists, social interactions between a system and individuals in outdoor places with a focus on individual’s music, may act as a guide for unknown navigation and movement in a specific place and lead in revealing parts of the place that people otherwise wouldn’t easily discover.

Engaging more on social interactions within the terms of urban computing, the discipline of urban interaction design should be introduced. According to Mitrovic, Smyth, and Helgason (2014), urban interaction design focuses on the interaction of individuals with their urban surroundings where technology is involved. The urban approach outlines the emphasis on issues around the spatial aspects of human relationships and social sciences. Interaction refers to technology, particularly the communication and networked technologies that convert the raw material of information and digital data (that urban computing mostly focuses on) into meaning. Design draws on an interdisciplinary and arts tradition bringing critique and creativity. The urban setting as a domain for interaction design is characterized by a number of circumstances and sociocultural practices that require different kind of approach, compared to traditional interaction design methodologies. According to McCullough (2004), as cited in Dalsgaard & Halskov (2010), it is of high importance to understand the urban situation (or the condition of a place as it was stated in chapter one of this thesis) in which the interactive system is going to be introduced.

Ewing, Handy, Brownson, Clemente, and Winston (2006), based on urban design literature, developed nine urban design qualities that can contribute to the urban interaction design domain: imageability, legibility, enclosure, human scale, transparency, linkage, complexity, coherence and tidiness. The first one, imageability, is the one that is of high importance for the thesis at hand. It is about “the quality of a place that makes it distinct, recognizable, and memorable. A place has high imageability when specific physical elements and their arrangement capture attention, evoke feelings, and create a lasting impression.” In my opinion, being able to intervene within an environment through an interactive system by leaving something personal, like the music that you are listening to, makes the place more memorable. Simultaneously, being able to access music from other people that are in the same place, is possible that personal feelings will be evoked, since music is something intimate and many times sentimental.

Further, Peter Dalsgaard and Kim Halskov (2010) developed a set of challenges that designers face when it comes to urban façades design. The term urban façades refers to the integration of displays into built environments, including buildings and street furniture, and is a part of urban computing. In my opinion, these challenges can apply to any kind of urban interaction design, since urban characteristics can be the same, no matter the nature of the interactive
One challenge of *urban façade* design is about the required medium for interaction. There is no expectation from people to carry with them interactive devices that would allow further interaction with a system, apart from their mobile phone. Thus, the system should either support direct interaction from the individual, or through the mobile phone. In the second case, it is possible that groups like elderly people or children may be excluded.

Other *urban façade* challenge is about the urban settings: shifting light, illumination, background noise, temperature and weather conditions present distinct challenges that probably designers can change or influence in a very small degree. Reflecting on the thesis, weather conditions are very important for people deciding whether to be out or not and enjoy the physical environment while doing outdoors activities and listening to music. Thus, it is possible that the interactive system should be placed in different positions according to season: during summer in outdoor places that support a variety of activities accompanied with music, like for example parks, but during winter would make more sense to be placed somewhere indoors or somewhere that there is a shelter, like for example bus stops or train stations.

The last *urban façade* challenge that is related to the thesis at hand focuses on the diverse roles that individuals may have, when being in the close proximity of the system. The main roles are two, active interactors and observers. Thus, issues like entry barriers for observing and interacting, the transition from one situation to the other, individual or shared way of interaction and the end of interaction, are meaningful topics that need to be thoroughly considered, since it is easy to feel embarrassed when interacting with a system in public terms, and as a result, to have a negative interactive experience.

### 2.2.2 Reflection

This section was about urban computing and urban interaction design. The research themes of architecture and flow of the urban computing area were analyzed in relation to people listening to music outdoors while doing outdoor activities, and were connected with the Situationists experimental techniques “dérive and détournement.” The design quality of *imageability* in the discipline of urban interaction design was described, and has become one of the goals for the system that is going to be designed. Finally, three challenges for designers about *urban façades design* where described, in relation to interactivity in public terms.

The research themes, the design qualities and the design challenges are all guides for the design of the interactive system in the thesis at hand, which will definitely constitute a part of urban interaction design.

### 2.3 Related work

According to Gaver (2012), “design examples are indispensable to design theory because artefacts embody the myriad choices made by their designers with a definiteness and level of detail that would be difficult or impossible to attain in a written (or diagrammatic) account.” Hence, four design projects have been studied and considered for the thesis at hand. The reason for choosing the specific ones is mostly because they provide different types of interaction: interaction with a screen (smartphone or tablet), interaction with analogue cards, interaction with a performer and no interaction at all.

#### 2.3.1 Capital Music

*Capital Music* is a mobile application enabling real-time sharing of song choices with collocated urban dwellers. It is a research project developed in 2012 by researchers in the Queensland University of Technology in Australia. It focuses on how the fact of sharing non-privacy sensitive but personal data in an anonymous way can influence the user experience of people in urban public places. The findings of this study are in relation to how *Capital Music* influences the process of “cocooning” in public urban places. The term “cocooning” is referring to the fact that using technology on public transport is sometimes utilized to “zone out” and create individuals’ own personal space while in public. Further, *Capital Music* influences the practice of designing anonymous interactions between collocated strangers and how the sharing of song choices can create a sense of commonality between anonymous users in the urban space.
After observations, they defined one of their goals: to create a more social and enjoyable feeling while spending time in a public urban place by visualizing real time song choices of collocated people and providing an opportunity for digitally mediated social user interaction based on non-privacy-sensitive data.

What is really useful for the thesis at hand are the results that came out of Capital Music’s user testing: when it comes to users’ feelings in sharing their currently played songs with collocated people, it seemed that there are three categories of people: 1. the ones that they are total comfortable with sharing music, 2. the ones that are comfortable sharing their music because of anonymity and 3. the ones who feel less comfortable, because either of embarrassment for their musical choices, or because the songs have been downloaded illegally before the releasing date. Additionally, users mentioned that Capital Music makes them more conscious about the people around them, and lastly, users enjoyed the interaction about sending messages to unknown people, they said that this was really fun.

The reason that I am inspired from this design example is because it supports social interaction in public places between strangers through music. Additionally, the user testing results provide me an insight on peoples’ opinion on the subject. On the other hand, Capital Music does not offer real connection to the place. It is a mobile application, hence the interaction is limited to the screen. Although it is location based, the user is focused on his/her smartphone or tablet, and the surrounding doesn’t play any role to the interaction. Further, the social interaction between users is still limited in the mobile application.

2.3.2 Drift Deck card game

Julian Bleecker and Dawn Lozzi created in 2008 a card game based on the philosophy of the Situationists, the Drift Deck card game. It is an algorithmic puzzle game, used to navigate in the city streets, offering instructions that guide people as they drift around the city. Each card contains an object or situation, followed by a simple action. Examples of situations may be: you see a fire hydrant, or you come across a pigeon lady. The action is meant to be performed when the object is seen, or when the player comes across the described situation. For example: take a photograph, or make the next right turn. The Drift Deck is mostly inspired from the urban “dérive” strategy that the Situationists were implementing throughout the city. It is inspired from the process of navigating in unconventional, unexpected
ways with the purpose of finding new places in the city, new perspectives and vantage points that would not have been discovered if the player was sticking to usual routes.

The way *Drift Deck* game approaches the experimental technique of the Situationists is really motivating for the thesis at hand. But, although it creates a unique connection between the player and the place through the tasks that the player has to do, there is no connection between the content of the tasks and the place, since the game can be played anywhere.

2.3.3 Mediated Body

The *Mediated Body* is a project developed in 2010 by Hobye and Löwgren in Malmö University. It is an exploration into designing for engaging experience in embodied interaction. *Mediated Body* entails a suit worn by a performer engaging in social play with a participant. The performer and the participant each wear a pair of headphones, and when they touch each other’s bare skin, they both hear a complex sound pattern. So, instead of having an object to interact with or around, the touch interface is converted into a suit. What I find extremely exciting and relevant to the design project at hand is how the suit efficiently transgressed social boundaries and norms between strangers and how it created an alternative social bubble where traditional contact (like getting to know each other before physical contact) were bypassed. As the creators say: “when the participant and the performer returned to the default world, by taking off the headphones, they had to take one step back and reconnect on the terms of the context the interaction had resided in”. Additionally, another aspect that makes *Mediate Body* interesting for this thesis is that part of the design is designed for the spectator, and that means the rest of the people that are present in the interactive moments between the participant and the performer. This is also an aspect that needs to be taken under consideration for the thesis at hand, since the focus is on public places and the interactions can be public as well.

2.3.4 Music in ScaniaParken

*ScaniaParken* is a park located in the western part of Malmö and since 2004 provides the possibility of listening to music streaming out of grass-covered hills. The music is on every day from 11:00 until 22:00 and it changes every
year. Although there is no interaction between the people and the system in the park, the music can increase the social interaction between people that are in the place. The fact that the music is played loudly, creates a really strong identity of the place. For this reason, this example is an inspiration for the design project at hand. However, the music installation can be a reason for people not to go there, as they maybe don’t want to listen to music continuously, or they want to listen to their music, or they are not music fans at all. This very strong music identity that the place creates can also repel people.

![Picture 4: Music in Scaniaparken. Entering the area there is a sign that provides information about the music installation. Speakers are embedded in the grass-covered hills as it is shown in the picture in the middle.](image)

### 2.3.5 Reflection

The four related work examples Capital Music, Drift Deck card game, Mediated Boy and Scaniaparken that have just been presented, combined with the section of urban computing and urban interaction design and the section of social interactions in public places have developed a strong theoretical background for the subject of designing interactions between a system and people based on people’s music in outdoor places.

### 2.4 Research through Design

The methodology that will be used for the design in the thesis at hand is the one called Research through Design. A big part of the Research through Design process is the design of artifacts: according to Gaver (2012), “Research through Design should be appreciated for its proliferation of new realities, and its theory considered as annotation of the artifacts that are its fundamental achievement.” As Stolterman (2008) suggests, “design is concerned with the ultimate particular, a concept that has the same dignity and importance as truth in science. Theories may be provisional, but designed artifacts (as opposed to demonstrators, for example) are not.” Carroll and Kellogg (1989), as cited in Gaver (2012), have argued: “a designed artifact is a 'theory nexus': the choices made by designers reveal both the issues they think are important, and their beliefs about the right way to address those issues. The implicit theories embodied in objects, from this perspective, range from the philosophical (what values should designs serve) to the functional (how should those values be achieved in interaction) to the social (what will the people who use this be like) to the aesthetic (what form and appearance is appropriate for the context). Moreover, artefacts do not address these issues analytically, but represent the designer's best judgment about how to address the particular configuration of issues in question.”

Reflecting the above in the thesis at hand, I would like to state again the two main research questions that are being explored in this thesis:

- How can **social interaction** be enhanced from the connection between outdoor **places** and **people**, through the **music** that people are listening to in these places?
- How can the **identity** of a place be strengthened from the music that people are listening to in the specific place?
Through a series of methodologies that belong to the Research through Design method, I will try to define the important issues of the subject at hand, and explore the philosophical, functional and social aspect. The methodologies will help me choose a specific place for my design, and define guidelines and requirements for designing interactions in outdoor places between people and a system based on peoples’ music choices. The methodologies that are going to be implemented are the following: observations in places, imaginary moments and artifacts. After these, the final concept is going to be introduced. In the next chapter each methodology is going to be explained in detail.

3 Design

3.1 Implementing methodologies

In this section the methodologies that have been chosen as part of the Research through Design approach are going to be implemented. For each methodology the results are going to be presented and discussed. The methodology of creating artifacts is also going to be user tested.

3.1.1 Observations

Influenced from the five research themes of Paulos et al: people, place, infrastructure, architecture and flow that were stated in Urban Computing and Urban Interaction Design chapter of the thesis at hand and also from Dix et al. categorizations of place’s nature in relation to interactivity, it was decided to start with a set of observations of some places in Malmö, in order to come one step closer to the initial thoughts that had been produced. It was decided to focus on places that are appropriate for people to do activities that can be combined with music, like for example parks.

Two sessions of observation occurred. The first one included the seaside in Västra Hamnen, Pildammsparken, Slottsparken and Folkets Park. The observations in each place lasted one hour. The process started at 12:00 until 17:30 on a Friday in April. The weather was sunny in the beginning and cloudy in the end. The temperature was approximately 6 °C and it was windy. Generally it was cold and not a lot of people were out. For this reason I decided to do a second session of observation during a weekend with sunny and warm weather, thinking that more people would be out. After the first session I came to the conclusion that Folkets Park is a place that already holds many activities: playgrounds, bars, cafes, and restaurant. Compared to the other ones, it does not encourage that much people to go to listen to music there. Hence, in the second session I observed the seaside in Västra Hamnen, Pildammsparken and Slottsparken. The process lasted one hour in each place, from 14:00 to 17:00 on a Sunday. The weather was good, it was warm and sunny. It was important that it was a warm, sunny Sunday, because more people were out.

3.1.1.1 Observation in the seaside in Västra Hamnen

I took a sit on the deck, among other people, while listening to music. There was a variety in the people’s age from 20 to 40 years old approximately. People were sitting mostly two by two, they were eating, drinking or just talking. There were also people sitting individually, all of them with headphones. There were both man and woman, around 30 years old. There were a lot of families with children, individual people, couples taking their dog out and runners.
3.1.1.2 Observation in Pildammsparken
I took a sit on a bench in front of the lake, as I considered this path as the most crowded one. Here the variety in ages was much broader. People in front of me they were walking or running, and behind me they were lying in the grass, either many friends together or individually. Elderly people were sitting on benches and walking around. Families with children, individuals, couples and friends with their dogs were also present.

3.1.1.3 Observation in Slottsparken
I took a sit on a bench, where I could observe more area of the park. It was very crowded, especially on Sunday. There were many people lying on the grass, mostly from 20-30 years old. There were a lot of families walking around with children and dogs, there were elderly people sitting on benches and walking around. In this park, the feeling was much more “just chilling”. There were also groups of people, around 30-35, playing games.
3.1.1.4 Observation’s results

I divided the observations in two categories, in relation to music and in relation to place:

In relation to music:

- People who were with company did not have headphones on them. These people were equally men and women, and their age varied from 18 to 40 years old approximately.
- People who were with headphones were either walking, cycling or running. These people were equally men and woman, approximately in the age of 25-35.
- The majority of the people who were just sitting individually were listening to music. Again, these people were equally men and woman, approximately in the age of 25-35.

The observation shows that mostly young people are having headphones while doing activities. None of the elderly people that were sitting on benches had headphones. People with headphones can listen to various audios: music, podcasts, audiobooks or documentaries, even nothing.

In relation to place:

People were taking advantage of the benefits that each place has. There are places that support specific activities, and some others not. The most common activities that are being done in the places that I observed are the following:

- walking/strolling
- running
- cycling
- sitting on benches/ on the grass/ on the deck
- pick nick
- going for a walk with the dog
- lying on the grass
- playing games
- eating

I can assume that it’s not the music that brings people to outdoor places in order to do any kind of activity, but it is a way of making situations more comfortable and pleasurable. In my opinion, first comes the activity, then the decision if it will be accompanied with music or not.

From the three different places that were observed, all of them are appropriate for supporting my design project. But, since one needs to be chosen in order to start executing and testing the artifacts, the seaside in Västra Hammen
was chosen, because the area is smaller and the fact that it is in front of the sea creates a specific atmosphere. Also, it is a place that supports almost all the activities described above.

Summing up the observations, they did not provide me amazingly new feedback, since I am using very often these specific places and I am also listening often to music outdoors. But, the execution of them made me go out of the studio and think in the outdoor place while listening to music. So, while observing the people that were listening to music, I was thinking how they would react in specific situations, related to music in the place. Hence, I came up with some imaginary moments that helped me restrict my broad field of research. Imaginary moments are responsible for building a creative way of framing the place and music. It is a form of hypothetical exploration that took place inside my mind while I was observing. While watching the people passing in front of me and listening to music, I was thinking how these people would react in specific situations. I was thinking how the person that is sitting in the next bench and listens to music will react if I was asking him/her to do any task related to his/her music. For forming this kind of thoughts, I was also influenced by one of the nine design qualities that were defined in chapter two about urban interaction design, the design quality of imageability (Ewing et al., 2006). According to it, a place is recognized by high imageability when physical elements and their arrangement capture attention, evoke feelings, and create a lasting impression. This is what I would like for the imaginary moments to cause to people when applied.

3.1.2 Imaginary moments
The imaginary moments that were created in a theoretical level while observing are the following:

- Imaginary moment #1

While you are sitting somewhere and you are listening to your music, imagine that there is a socket for headphones. It has a sign that suggests you to put your headphones in the socket to listen to a song that a person who was here before you had “left” it. What is your reaction to this?

- Imaginary moment #2

Look around you. Are there other people listening to music with headphones? (If there are not, please imagine them.) Imagine also that you have the secret ability to see (or listen) what music the others are listening to. How do you react to this?

- Imaginary moment #3

Imagine that you have to leave your musical “trace” when you leave from the place. How would you do this? (Consider that there is available any kind of equipment, and that there is no case of stealing your equipment- this world is thief-free!)

Without implementing the imaginary moments but just considering them while observing, I came up with two very important issues when it comes to sharing music in public places:

- the issue of anonymity
- the issue of whether the system should be site specific, or a mobile service

3.1.2.1 The issue of anonymity
The construct of anonymity has long been of interest to social psychologists and other social scientists. "Anonymous" is used to describe situations where the acting person's name is unknown, non-identifiable, unreachable, or untrackable. In terms of social interaction in public places, the frame and content are highly influenced by the fact of whether people that are interacting are anonymous, named, or provide information that reveal some anonymity. Additionally, when it comes to sharing personal data, the approach is different when the action is anonymous or named. Looking back at the Capital Music project in the Related Work chapter, there were people that were comfortable sharing their music because of anonymity.
Further, it is also an issue for public interactive systems how people will characterize themselves. A name or a tag makes it more personal, and reveals the frequency that the person is using the service, but still is anonymous. Looking back again at the Capital Music project, people said that they enjoyed the interaction about sending messages to unknown people, it was really fun.

3.1.2.2 The issue of whether the system should be site specific, or a mobile service
One goal of this project is to create a stronger identity for a place through the music that people are listening in this place. Focusing on this and simultaneously being inspired from the example of music in ScaniaParken that was described in the Related Work chapter, I argue that a stronger identity can be achieved in a more successful level if the interactive system is located in the specific place. This can be translated in two ways: either the system is located in the outdoor place so that people need to be in the same position with it in order to interact, or it is a mobile application that is activated in the specific place. Both options demand different treatment. Further, if the service is located in the place then the interaction is public. Hence, there is another aspect that needs to be consider and this is the design for the spectator.

One more reason that supports the site specific option is that when people are not feeling comfortable or familiar with a place, they reach for interaction with their mobile phones, an action that will probably make them look busy and occupied. Undoubtedly, this decreases the possibility of interacting with other individuals. It is believed that a site specific service could improve this kind of community solidarity, increase a sense of belonging and cultivating new views of comfort, safety and inclusion.

3.1.3 Artifacts
From the two points described above, in order to understand what is most appropriate for my design, (anonymous or not, site specific or mobile), I decided to create some artifacts based on the first Imaginary moment described below:

- Imaginary moment #1

*While you are sitting somewhere and you are listening to your music, imagine that there is a socket for headphones. It has a sign that suggests you to put your headphones in the socket to listen to a song that a person who was here before you had “left” it. What is your reaction to this?*

Two main artifacts were created and tested, each of them with two variables:

1. Site specific artifact:
   - that supports anonymous interaction
   - that supports named interaction
2. Mobile service
   - that supports anonymous interaction
   - that supports named interaction

I will go through them one by one:

3.1.3.1 Site specific artifact
The site specific artifact is a laser-cut wooden box that was placed on the deck in the sea side in Västra Hammen. In the top surface of the box it is written: *Welcome to the music box of Västra Hamnen!* Below there is a socket for headphones with the following text next to it: insert headphones. On the front side of the box there is a play/pause button and a fake paper screen next to it. Under the button is written: *Press play to listen what your familiar stranger is listening to!*
By placing the headphones in the socket and pressing the button, the songs start to play. In order to make it appear more realistic and understandable how somebody could have shared his/her song in this box, the following sentence is included: (the QR code is not working.)

What are you listening to? You can put it in the box through here:

The two versions about the anonymity are being differentiated in the paper-screen’s information: in the anonymous version the information provided is the name of the song and the artist, time, date and location of the person that had shared the song to the box. In the named version it is also included: a name of the person and the activity that was doing while listening to this song.

3.1.3.2 Mobile service
The content of the mobile application follows the same pattern as the Music Box does. The first screen of the application welcomes the user to the Music Box of Västra Hamnen. Then the user can listen to different songs that people have shared.
As far as the level of information is concerned, in the anonymous version the information provided is the name of the song and the artist, time, date and location of the person that had shared the song. In the named version it is also included the name of the person and the activity that was doing while listening to this song. Below there are the screens of the two versions.

Screens of the anonymous version:

*Picture 10: Screens of the mobile application-the anonymous version.*

Screens of the named version:
3.1.3.3 Testing the artifacts

The next step for the artifacts were to be tested. Four users participated in this process that took place on the deck by the sea in Västra Hamnen. Each user was tested separately and each user testing session lasted approximately half an hour. The user chose a place to sit whenever he/she felt comfortable and then I placed the Music Box next to the user. The user started to interact with the Music Box. When he/she was pressing the play button, I was placing the paper screen on the box, first the anonymous version and after a while the named one. When the user decided that he/she had seen enough and had taken all the possible information and interactions, I was asking the following questions in terms of discussion:

- When it comes to the amount of information, which of the two versions do you prefer and why?
• What more or less information would you like?
• Would you scroll down to see more songs?
• Would you share a song yourself?
• Would you like to have the option of contacting the person?

After the discussion the mobile application user testing started. I was turning on the application on my phone and gave it to the user. First the user was navigating and listening to the songs in the anonymous version and after was doing the same in the named version. When the user was over, I was asking the same questions that were asked in the Music Box, but also including the following:

• Comparing the mobile application and the box, which of the two versions do you prefer?
• Which of the two versions you think creates a stronger connection between the people and the music in Västra Hamnen?

*Picture 12: The Music Box while user testing in Västra Hamnen.*
3.1.3.4 User testing results of the artifacts
The results of the user testing were really interesting and revealed more aspects than the two points that was the initial goal of exploration. The results will be presented according to the questions:

- When it comes to the amount of information, which of the two versions do you prefer and why?

All the users agreed on the named version. They liked that they could see a name (mentioned also that a name does not necessarily speak to a specific gender) and they were interested in the activity. Some comments:

“I prefer the name, but still it doesn’t say much. I am feeling more connected to it though. I think the activity is more interesting.”

“I would like to know more about the person, like for example his/her mood and age.”

“I would like to have some details about the activity, like for example if the activity is reading a book, which book it is.”

“I would like to understand better the person, I don’t know how though.”

- What more or less information would you like?

All the users said that they would like to have the option of saying that they liked a song. They prefer to be able to comment to the song, not to contact the person. They wouldn’t like to be totally free to send anything to the person who shared a song, but the system to provide standard messages. Additionally, the person should be notified when his/her song is being liked.

Another idea is that songs that are more liked, should appear first.

Further, almost all users said that they would like to see more music categorized by different filters, like for example activity, the latest, the most popular, etc.
• Would you scroll down to see more songs?

Everybody responded positively.

• Would you share a song yourself?

Everybody responded positively, only if the process is easy though.

• Would you like to have the option of contacting the person?

The general answer was no. Some users said that they would like to contact the person if the uploaded song is very rare and it happens to be one of their favorites.

• Comparing the mobile application and the box, which of the two versions do you prefer?

In this question, I will quote the results on the following table:

<table>
<thead>
<tr>
<th>User #1</th>
<th>I definitely want the mobile application. I would ignore the box, I wouldn’t like to interact with it because I don’t want other people to look at me when I am doing it. I think it is too much. I prefer the app because it is more personalized and private and I have more control.</th>
</tr>
</thead>
<tbody>
<tr>
<td>User #2</td>
<td>I like the box, but the mobile application is movable. It doesn’t make you stuck in one place. The experience of a place is not just sitting in a specific point.</td>
</tr>
<tr>
<td>User #3</td>
<td>I definitely prefer the box. I wouldn’t download the application, we already have so many applications. The box is more interesting, more local. I like interacting with the box.</td>
</tr>
<tr>
<td>User #4</td>
<td>I prefer the box, but I don’t like the fact that it is stationery. I would prefer a combination of the two.</td>
</tr>
</tbody>
</table>

Table 1: User testers’ responses in the question: “Comparing the mobile application and the box, which of the two versions do you prefer?”

• Which of the two versions you think creates a stronger connection between the people and the music in Västra Hamnen?

All the users agreed to the Music Box. They said:

“The box is much more focused on the place. You can get the feeling of where the person was sitting and what he/she was viewing when he/she shared the song in the box, and this is really nice.”

Other general comment that came out from the user concerning the box was that the static characteristic of the box does not allow mobility on the place, since it keeps the user next to it. Hence, the box so far supports only the activity of sitting in a specific place. Further, one user mentioned that is not clear what the box is about, whether it is for pure entertainment, advertisement, or promotion of a service. Being unclear about the goal of the service causes insecurity during the interaction. Concerning the mobile application, users mentioned that they would like if the application provides a variety of ways in inserting music to it, like for example from their music library, Spotify, Soundcloud, etc.

3.1.3.5 Reflection

The methodologies that were implemented, (observations in three different places, imaginary moments and artifacts) showed that the most appropriate approach is a combination of the two perspectives. The box itself is a piece that enhances the connection between the place and the people through music, but it doesn’t allow further
mobility. Simultaneously, the box as it is now is part of the whole service, as the act of giving a song to the box requires the mobile phone. Additionally, the interaction through the mobile application doesn't offer any further connection or enhancement to the place, since it is like using any other application on the phone. Reflecting back to the issue of imageability (Ewing et al., 2006) that was presented in chapter two, it is the music box that can be characterized by high imageability, but not the mobile application. Further, the “dérive and détournement” experimental techniques of the Situationists that were also presented in chapter two, they are not depicting adequately in the project, it can be achieved in more concrete way. The social phenomenon of the familiar stranger was included with success. What is lacking is a stronger way of interaction between the system and the user and a better connection between the music box and the mobile application.

3.2 Concept development: Towards the design of MusicFootprints
In this chapter the main design concept is going to be developed. In order for it to be detailed explained, guidelines and restrictions are going to be stated, as well as the conceptual model of the system and a sketch that focuses on how the interaction is achieved. Description about the implementation and terminology of the concept is included. Lastly, in order to visualize the flow of interaction, two user case scenarios are described with images.

3.2.1 Introduction to the final concept
In this point I would like to state again the two main research questions:

- How social interaction can be enhanced from the connection between outdoor places and people, through the music that people are listening to in these places?
- How the identity of a place can be strengthened from the music that people are listening to in the specific place?

Focusing on the terms “social interaction” and “identity” of a place, I argue that it is the interactivity of the system that can successfully connect these two terms. Each place has unique characteristics and identity. Since the goal of the system is to enhance the identity, the interaction should be mixed up with the physical environment. This will make the interaction unique and adjustable to each place. The above conclusion is visualized in the following figure:

![Urban Identity Diagram](image)

*Figure 2: In order to enhance the urban identity, the interaction with the system should include interaction with the physical environment.*

Taking under consideration all the above, some key points about the system’s design are summarized below:

- The way that individuals interact with the system will influence in a high level the connection between identity and place.
- Using the system should cause the feeling of leaving or getting a musical trace on/from the place.
- After the interaction with the system, the place should be characterized by high imageability.
- The interaction should be simple and not require many personal details.
- The system should not be damaged from weather conditions.
For the final concept a selected area needs to be chosen again. The selected area now is Folkets Park. Although Folkets Park was excluded from the second session of observations, for the formation of the new concept seems the most appropriate. Folkets Park is a place with a lot of history, and already, for many people a strong identity surrounds the place. Driven from my last experience of the Collaborative Media class project in Malmö University, that the concept was based on Folkets Park, I believe that it would be promising to start implementing my design in there, since it is full of meanings and has already created a sentimental connection with people.

The final concept is the design of music spots in the environment of Folkets Park. The music spots are embedded either in the physical surrounding or in street furniture, as it was inspired by the architectural research theme of Paulos et al. (2008) in the field of urban computing, described in chapter two. The music spots are equipped with technology that will not be visible. A music spot is in the shape of a cube, but only the façade of it is visible, since it is embedded. In the façade there is a small text that introduces the service and brief instructions for how to use it. Below this, there is an empty area in the shape of a circle for the smartphone to be hold inside it. When a user wants to receive a song, he/she holds the smartphone inside the hole. When the phone vibrates, the song has been received. The same interaction will occur if a user wants to give a song. After choosing the specific song, he/she holds the phone inside the hole. When the phone vibrates, the song has been delivered.

This specific way of interaction aims to achieve a parallelism of giving something personal in a public environment and receiving something that is intimate and valuable for other people in the same place. A smartphone is the device that people usually use for listening to music. By actually placing this device in the music spot, a stronger connection between the place and the user will be created, since the personal device is interacting with the environment and musical traces “appear” and “disappear”. The smartphone is now turning into the medium for achieving the interaction, in combination with a simple interface. It is characterized by a mysterious approach, simulating the isolated act of listening to music outdoors with headphones, but interacting in public terms. The isolated act can become shared if a user takes out the headphones and uses the smartphone’s speaker. The fact that the music spots are differently covered according to the environment’s morphology and the street furniture that exist in each place, makes it unique and adjustable to each environment. Finally, after interacting with the system and leaving personal musical traces, it is believed that a supplemental social layer in the relationship between the place and the user will be added, and this will enhance the identity of the place from the user’s perspective. It also aims to the fact that people, after interacting with the system, will consider it as a the place of high imageability, as it was mentioned in chapter two from Ewing et al. (2006): “a place has high imageability when specific physical elements and their arrangement capture attention, evoke feelings, and create a lasting impression,” of course subconsciously. This feeling will also contribute to strengthening the place’s identity.

The choice of the music spots’ position need to be carefully chosen. Hence, specific guidelines and restrictions have been created:

<table>
<thead>
<tr>
<th>GUIDELINES</th>
</tr>
</thead>
<tbody>
<tr>
<td>The music spots should be easily accessible for everyone.</td>
</tr>
<tr>
<td>The music spots should correspond aesthetically to the surrounding.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>RESTRICTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>The music spots should be protected from weather conditions.</td>
</tr>
<tr>
<td>The surface that that the smartphone would be placed should be clean and dry.</td>
</tr>
<tr>
<td>The smartphone should not be damaged or become dirty when placed inside the music spot.</td>
</tr>
</tbody>
</table>

Table 2: Guidelines and restrictions for the system.
3.2.2 Conceptual model
A conceptual model shows via a diagrammatic way the main meanings and activities of the system. The target is to communicate these meanings without focusing on the technological part. For a successful design, the conceptual model should:

- Remain as simple as possible, containing the minimum of information in order to show its functionality.
- Be focused on its target (less is more, Jeff Johnson, 2002).

The more direct the mapping between the system’s operation and the task-domain it serves, the greater the chances that the designers’ target conceptual model will be correctly reproduced and adopted by the users (Norman, 1986).

In the figure below is presented the conceptual model for the system at hand:

![Figure 3: Conceptual model of the system.](image)

The main actions that a user can do when interacting with the system are two: pick up songs and give songs, one at each interaction. When a user is in front of a music spot the main interaction flow is shown in the following sketch:
3.2.3 Implementation

In order for the above to be achieved, a second pair of artifacts has been created. A wooden box and a mobile application:
The new pair of artifacts. On the left is the box-music spot that is going to be embedded in the environment or street furniture. On the right is the mobile service. A combination of both is required in order for the interaction to be achieved.

The design of the wooden box is not the final one. It is an artifact in order to user test and simulated the function of the service. In order for the final one to be designed, further issues need to be considered, as aesthetic choices depending on the position of the box, material and color of the box, appropriate size that would fit the technological equipment, appropriate dimensions for smartphones to fit in, etc. All these require further research and study that will not be included in this thesis due to lack of time.

The service is only working in the specific area. The users can save songs that they like on their device and listen to them while being in the area. When they are not in the area, they can only see the name of the artist and the song.

3.2.4 Terminology
One of the key points that was defined in the beginning of Concept development chapter is: “Using the system should cause the feeling of leaving or getting a musical trace on/from the place.” In order for this to be expressed and achieved, system’s terminology is of high importance. Hence, the system is titled “MusicFootprints”. This aims to give the impression that the music which individuals are listening to in outdoors places remains there as an intangible footprint. Through the MusicFootprints service, this music can become accessible.

Further, other terminology used in the system is the one of the familiar stranger. (The term familiar stranger is described in chapter two, Research Framework). It is used every time it wants to refer to other people. Its’ intention is to create a sympathy between people that are in the same area and they are interacting with the service. There are still strangers of course, but they may feel more familiar to each other and to the place.
3.2.5 User case scenarios

User case scenarios are created in order to show how the service is working. In the scenarios described below, the pictures are not visualizing the concept in its final version, since the box needs to be embedded either in the environment or in street furniture and needs to be further designed as far as the aesthetic is concerned. They provide though a clear flow of the interaction, and they test if the service corresponds to user needs.

3.2.5.1 User case #1

Two friends in Malmö are meeting for spending some time together. The weather is warm and sunny so they decided to go for a walk in Folkets Park. While they are walking around, they run into a music spot.

![Picture 15: The two friends run into a music spot on a tree in Folkets Park.]

They read the sign:

WELCOME TO THE MUSICFOOTPRINTS OF FOLKETS PARK!
There is a lot of music in front of you!

Discover what music your familiar strangers are listening to, and give back yours.

Just hold your smartphone inside the music hole below and wait for it to vibrate. (Plug in headphones if you don’t want to be noticed).

ENJOY!

One of the friends takes out her smartphone, plugs in her headphones (gives one of the two headphones to her friend) and holds the smartphone inside the music hole.
The woman holds her smartphone inside the music hole, in order to start the interaction with the service.

After some seconds the phone vibrates. She takes it out and the service is activated on her phone:

Picture 16: The woman holds her smartphone inside the music hole, in order to start the interaction with the service.

After some seconds the phone vibrates. She takes it out and the service is activated on her phone:

Picture 17: Screenshots from the MusicFootprints service in Folkets Park. In the first screen the service asks for Bluetooth permission. In the second screen asks which of the three main functions the user wants to do: pick up a song, give one of his/her songs or search for something specific. In the third screen the service notifies the user to hold his/her phone inside the music hole. When the phone vibrates, he/she can take it out.

The woman holds again her phone inside the music hole. After the vibration she receives a song from a familiar stranger:
Picture 18: The woman holds her phone inside the music hole in order to pick up a song as it is shown on the left. In the mobile service she can see the song from her familiar stranger. In this case, it is Christina.

In this screen the woman is getting the following information: a familiar stranger with the name Christina was running on the 21st of May at 12:03. This familiar stranger was listening to the song Buena, from Morphine. The familiar stranger commented: I want to run like the wind.

The options that the woman has for further interaction are:

- listen to familiar stranger’s song
- save song
- pick up another song
- give one of hers song
- search for something specific

The two friends are pressing the play button and they are listening to the song. Then, they want to pick up another song. After pressing “next please!” the screen that encourages the user to hold the phone inside the music hole appears. After doing so, the phone vibrates and another familiar stranger’s song appear:
In this song there are also some comments from other familiar strangers. They listen to the song, they both like it, so they press the button “save song.” An informative message appears: “the song can be played in your phone as long as you are in the area of Folkets Park. You can always find it though in your MusicFootprints library”. The following screen appears:

The woman decides also to give one of her songs, the one that was listening while waiting for her friend. She presses the button: “I want to give mine too!” She can see three different options for giving one of her song: Spotify, YouTube
and her music library. She chooses Spotify, and picks up her song. Then, the service asks for a name, activity and a thought, all optional choices:

![Image showing the process of inserting details for giving a song.](image1.jpg)

*Picture 21: Screenshots for inserting details for giving a song.*

After the vibration the phone can be picked up. A confirmation message makes it clear that the song is available for the familiar strangers.

![Image showing the process after pressing the vibration.](image2.jpg)

*Picture 22: After the vibration the phone can be picked up. A confirmation message makes it clear that the song is available for the familiar strangers.*

A confirmation message informs the woman that her song is available. The woman is curious how her song looks like, so she chooses “pick up song”, thinking that the one that appear will be hers. She holds her phone inside the hole and her song appears:
3.2.5.2 User case #2

Anna goes every day to her work through Västra Hamnen. One day her boyfriend called her and told her that on her way back home she should stop in a specific point in Västra Hamnen and find the music spot. There is a song inside for her. She can search for her song using the term: “teddy bear my love.” When Anna finishes her work, she stopped at the specific point that her boyfriend had said. She sees the music spot. She picks up her phone and holds it inside the hole.

After the vibration the following screens appear on her phone:
Anna reads all the available options that appear on the screen for searching something specific: song, name, activity and share a thought. She is not sure where to write “teddy bear my love”, but probably she thinks it doesn’t make any difference. Finally she chooses to write it in the name section. After pressing search, the screen that encourages her to hold the phone inside the music hole appears. After Anna does it, the screen with her boyfriend’s song appears. The interaction is shown in the picture flow below:

It is her favorite song. Anna sees that Magnus had written that he had left the song while he was thinking of her. She is smiling while listening to the song and continues her way back home happily.

3.2.5.3 Reflections on user case scenarios

From the scenarios described and visualized above, it is obvious that in the mobile application the background changes according to the place where the music spot is located. This aims to create subconsciously a connection between the place and the users, through the mobile service. Additionally, it targets to make each music spot unique and to create a curiosity for the user to discover “what this music spot will look like”.

In the second scenario, although Anna and Magnus are not familiar strangers as they are a couple, they are still using the service. This is one example that shows how easy and common is, for an interactive system located in public place to be used in a different way than the designer’s initial intention. It is very interesting and welcome of course,
since the intention of the system is not to be used exclusively from strangers (that would be irrational), but this is how it all started.

3.2.6 Technology
The technology that the system requires is a combination of Bluetooth, Wi-Fi and a hardware. The Bluetooth and the hardware are placed inside the box. The Wi-Fi is essential for the user to access the service. The Bluetooth is responsible for sending the files between the box and the smartphones. The hardware keeps the data from the users.

4 Conclusions & Future work
In this thesis I explored the field of how social interaction can be enhanced from the connection between outdoor places and people, through the music that people are listening to in these places and how the identity of a place can be strengthened from the music that people are listening to in the specific place.

Having designed as an answer to the topic the concept of MusicFootprints service, the key findings were that for enhancing social interaction in outdoor places it is not enough to decide that the system should be placed in an outdoor spot, but to include an uncommon interaction. It is the interactivity of the system that will determine whether the connection between the people and the place will be strengthened when using the system. If the connection is strong, then the identity of the place is also strengthened from people's perspective.

Although it is not clearly explained on the concept, the multiple music spots in a specific area aim to create the ground for applying the Situationists experimental techniques “dérive and détournement.” The music spots can be the way for discovering new places, or the guide for moving inside a specific area from one point to another. It is desired to place in the areas that host the MusicFootprints service analogue maps that will show where the music spots are in the place. Similarly in the mobile service, once activated from the first music spot, a digital map can appear with all the music spots marked on it. This can be a very interesting way for tourists to discover parts of the city and feel closer to the citizens, since they will be familiar with their music, and also share theirs. Further, as Malmö is a very international city, tourists or newcomers maybe feel like home if they listen songs from their countries.

Further, another perspective that was revealed in the end of the project is the archive aspect that MusicFootprints provides. Over the years, considering that MusicFootprints is used successfully by people, the content of it will be a music-living archive. This can create connections between the past and the future. The starting point for this can be the initial content of music spots. The music spots, once installed, should contain a content, otherwise the first person that would interact with them would not find any song inside. The initial content can be songs from the past. That idea came while thinking about Folkets Park, since many songs are already connected with the place, because of the history that contains. Folkets Park was the meeting point for the strikers in 1909, who kept the strike for thirty days. Songs from that times can be the initial content for the music spots in Folkets Park.

Focusing on the contribution of the thesis at hand to the field of Interaction design, it is the imaginary moments methodology that was developed as part of Research through Design process. This method seemed really helpful as it revealed quickly the issues that I had to focus on and explore in an amusing way. Further, in the project at hand, the imaginary moments were just imagined inside my head. Sharing them with users and asking how they would react in the different situations while being in the appropriate place, I argue that would create extremely interesting results, since this process promotes imagination. The design of artifacts is a next step, but I don’t support the idea of turning all the imaginary moments into artifacts in order to test, because then the imagination from the users will be lost.

For future development, as a first step it is required for the concept to be user tested, since in the project at hand there was no time for applying the technology and faking it would be worthless, as the feeling of appearing and
disappearing musical traces would have been lost. The goal would be, the system to be user tested in an early stage of implementation from random users in outdoor places. Additionally, the exact positions of the music spots need to be set, in order to define also the aesthetic of them. Adding to this, it is understandable that music spots’ position need to be defined for all seasons, since different activities are taking place in the winter and different in the summer.

Further, it was mentioned in the text that the design for the spectator is also an issue. One part of the future user testing should be focused on this aspect, how the rest of the people react while watching others interacting with MusicFootprints. In the same terms, the interactor’s perspective should be examined. What impact does it have on the interactor the number of people that are around and the activities that they are doing?

Final goal for the project would be to limit as possible the interaction with the smartphone and increase the interaction with the music spots in order to use MusicFootprints service. The reason for this is that the interaction with the phone does not really contribute to the connection between the user and the place. The whole concept is based on the idea that the interaction should be mixed with the environment, which is achieved in a way, but definitely there is growth potential.
5 References

5.1 Bibliography


5.2 List of pictures

