



# To Design with Strings for Playability in Cities

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**Abstract.** This paper explores how Donna Haraway’s “String Figuration” together with Maria Puig de la Bellacasa’s concept of “touch” as a design method have worked in the process of an augmented reality (AR) play called Play/ce. The aim of this paper is to propose that designers of playful cities are creating the conditions for playability to show how players can try out and play with responses in a city by different acts of touch. I suggest that responding, which comes from the act of relaying, is part of designing ‘games as a social technologies’, a concept from Mary Flanagan. I will develop this concept since I think it is especially interesting to take into account when it comes to using cities as playgrounds and turn people into full body players to explore what touch means.

**Keywords:** Playability · Responding · Social technology · Touch  
String figure · City

## 1 Introduction

This paper explores how Haraway’s String Figuration [1] together with Puig de la Bellacasa’s concept of touch [2] as a design method has worked in the process of an augmented reality (AR) play called Play/ce. The aim of this paper is to propose that designers of playful cities are creating the conditions for playability of how players can try out and play with responses in a city.

The idea of playability opens up for responding to the city as a self-organized system [3] rather than a fixed entity and asking questions for how to design games (playfulness) as social technologies, a concept from Flanagan [4]. The emphasis on the social is especially interesting to take into account when using cities as playgrounds and turn people into full body players by practicing how cities could become playable when negotiating with its constraints and what might be possible [5].

Play/ce, which is still in progress during 2018, is a collaborative project with focus on playing and exploring an urban space. So far seven design activities, which will be explained in Sect. 5, is the start of forming an AR play for mobile phones. The work with Play/ce is an investigation in how to design a playable city by re-interpreting its system by different technologies of touch and to find the hidden narratives of play and meaning of the place [6]. Puig de la Bellacasa’s [2] concept of touch, deepens the knowledge of how bodies can create relations with cities and enhance the concept of play as a social technology. When playing with a city, the playing body is constantly encountering different physical objects and surfaces in the city which the body resists

[7]. In these physical encounters, norms and representations of places transforms into motion and meanings, and patterns of the places are changed or at least challenged. Playability in Play/ce questions fixed meanings of the city spaces. Instead of seeing objects and situations as games we can see them as playable and thereby explore the meaning of the limitations [5] of the physical bodies and the fixed materials of cities.

## 2 Play Through the String Figure

The cultural theorist Donna Haraway uses the string figure (cat's cradle) as a figuration for knowledge-making and world-making among other practices [1]. To play with string figures is a relaying practice [1], a passing on but also a receiving of threads to stretch or bend. It can be a collective play, with several players passing the string figures back and forth adding something new or proposing something else [1]. In my work the string figure as a practice puts focus on responding, which is an act of giving and receiving and the string figure making often comes from unexpected collaborations of players and combinations of the string [1].

For this paper I will transfer the string into the idea of the indefinite AR play for mobile phones, this is what we had at hand from the start. The string figures that will emerge as soon as the picking and passing of the string are initiated are in the paper transferred into seven different design practices which will later on lead to the final design of the AR play. Utilising Haraway's figuration the 'making and analyzing', has resulted in an entangled practice of various positions which are expanding and questioning the public space and changing the perception of it. From working with the figuration it has been clear that relaying is an invitation *to* respond and explore *how* to respond, which can be expressed in various playful ways when using the body as a (touching) sensor. The practice of relaying, to make something to pass on for someone else to perceive and continue, creates a connectedness between players as well as between players and the city.

The response of each design practice which leads to another, is what Haraway calls "response-ability, the collective knowing and doing in an ecology of practices" [8, p. 34]. This ability to respond, which in Play/ce is the collective practices of everyday life and physical matters in a city, becomes a shared experience of rules, behaviors, norms, taboos and possibilities. The response can also become a proposal and invention of new patterns [8] open up for the possibility to connect with a stranger or break a norm for what to do in a place, like walking backwards on the train platform. The response-ability as a collective practice, to play, is to be accountable [8] for relating to a city and its inhabitants and questioning how we can be more connected with one another.

## 3 The Vision of Touch

Touch is an often neglected sensorial universe since vision has been the dominant conveyor in modern knowledge amassment and concrete conditions [2]. Digitized technology has been focusing on visual experiences where increasingly more advanced

graphics cards and resolutions have been the goal, meanwhile touch technologies also have evolved rapidly, something Bill Gates calls “the age of digital senses” [2, p. 302]. Puig de la Bellacasa suggests that the haptic technologies are very much about gadget sprouts expectations of innovation which tends to ‘mimic the real thing’ [2, p. 32]. Instead she wants to turn to how to enhance everyday experiences which is for me intriguing when designing playable cities. We constantly touch our everyday surroundings with our bodies, both physically but also by feeling the sensations stimulated by all our senses [2].

I see the body as a sensory device which plays with the environmental inputs like buildings, other human bodies, materials of the city, the wind and light. Touching as an activity embody the materials of the city and create reassessments of relationships [2]. In extension this contributes ideas about how we could relate to your world, technology, our bodies and everyday practices [2]. To touch is to relate and to create a relationship with the surroundings.

#### 4 The Everyday Life Technology

A part of designing playability in cities includes how play can be a social technology [4] and how this social technology can help create a relation to a city when perceiving objects and situations as playable [5]. When designing play in the city as a practice or situation, the materials of the city has to be considered as the factor which pushes the development of the play forward [7] and has to take into account the network of humans, non-humans, spacing, timing, contexts and imaginations [9]. Flanagan does not go so much further into how social technology is developed and how it is functioning except that play has the ability to distinguish or abstract everyday actions [4]. The notion of everyday practices is what play designers have to defy to expand the full range of every-day life activities to research the area of playable cities.

Play as social technology embraces the social and cultural networks of a city. How does a city work? What makes a city? Who are in relations with whom, or what? Who are excluded from which networks? The focus of my work is daily life, or to be more precise, the daily movements and the activities which are performed, or not, in public places. What happens with the daily movements and activities when speculating about alternative possible practices and actions in a city? How to get out of the daily routines, like walking to and from the bus station, by the inquisitive question, what if? What if I shake hands with every person I meet on the street? As a designer perceiving players’ bodies as sensors I suddenly have a lot of opportunities to play with a whole range of senses and experiences. To be in touch with the city opens up for other ways of playing and being playful. It becomes an embodied experience and moreover embodied knowledge of the city. It is also possible to see these kinds of plays, which Stenros, Montola, and Björk call ‘ambient games’, like games that are activated when the player wants to play and highlight the players actions in everyday life, which in turn influence the playing [10]. This spatially expanding playfulness uses the city as it is always running in the background, with the possibility to tap in at any moment [10]. To see the city as an ambient playground is to open up to engagement in every day moments and situations and to play with situated responses.

## 5 Play/ce, a Play in Progress

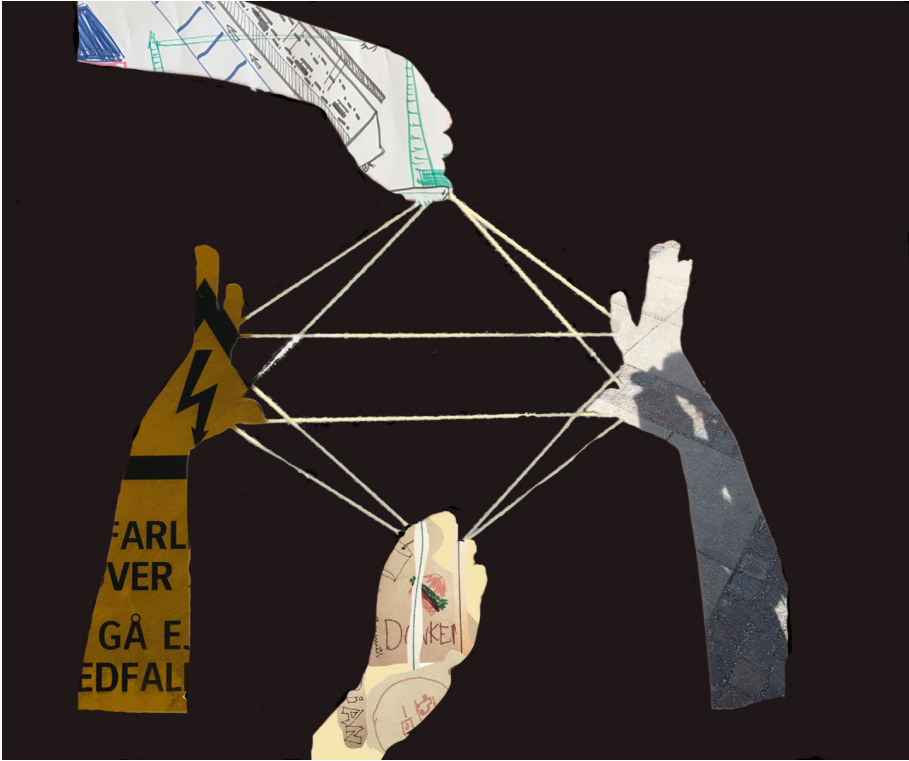
### 5.1 Background

Play/ce has the outspoken goal of achieving participation in a city planning process and a set collaboration with the municipality and its city planning office. Even if the project has not finished, it can still show a pattern of the experimental proposal for designing a playable city. The project is a collaboration with Blekinge Institute of Technology, and the municipality of Karlshamn in south east of Sweden. The aim of the project from the municipality perspective is to get more youths to express their opinions about the planning of a city since few young people are involved in the city planning process. The municipality tried summer 2017 together with the youth council, a Minecraft camp, to get more engagement in the city planning process. The initiative was not very successful due to technical issues the youths faced when adapting a real city area into the engine. The participants also had problems working independently to find motivation for problem solving and they experienced working with Minecraft dull and monotonous. The fact that the youths did not explore the physical area until very late in the project, created a distance to the environment and how it was experienced. There were no female participants in the project.

Since I am interested in what designing playfulness in public places actually mean and what these kinds of play do to the players, non-players and the city, my approach to the Play/ce project was to combine the physical world with the digital to explore how these two approaches could benefit from each other. Rather than focusing on building Karlshamn in a digital game like Minecraft, which require a lot of time and focus in front of a computer, I wanted to consider another technological solution, to approach a mix of different technologies, both physical and digital, to explore the physical city. During a conversation with a technically skilled colleague, who also became part of the project, he saw that an AR solution for the smart phone could be the solution we were looking for to get away from a to fixed computerized world. To sit in front of a computer to plan a future city is contradictory when relating to playability, touch and body as a sensor. Smartphones are also under development to become “prime loci for digital mapping practices” and the creation of spatial stories to pattern the everyday movements [11]. To this mapping other practices can be added, which is not only about locations but about sensations and touching. The mobility of the phone gives the possibility to combine both digital and physical technologies influenced by touching and responding with the digital and the physical world.

### 5.2 String and String Figures in Playce

The string loop for Play/ce is the idea of the AR play. We do not know how the play, the final combination, at the moment made from seven design practices, will be experienced or how it will work out but we do have this string to figure it out. When draping the string over the hands the design process starts. The idea is to let the play design emerge from different design practices to follow up on each one to see what emerges. It is a slow and sometimes frustrating process since the eagerness to know or at least imagine the final result can sometimes take over. It is not about me as a designer



**Fig. 1.** String figure game Picture by the author.

or researcher but about the collective “knowing and making” [8] slowly becoming a part of the city through everyday practices and experiences.

The seven different design practices/string figures, so far, which has started to shape the combination for Play/ce, have been a practice of relaying in the sense that different players, in different constellations have participated from time to time. It was not planned from the beginning but since all the players (young women in the age 15–17) have been busy with school and sport activities, it turned out to be the best solution for the project. In the next Section I will explain the seven design practices with different technologies of touch and how they follow on each other.

### 5.3 Mapping

When a city is the playground a convenient start could be to take a map to see its shape and structure of streets, buildings and in between spaces.

In order to situate ourselves in the city of Karlshamn, the first string figure to emerge when picking up the string was to jointly draw a map over the city. By mapping important places like home, school, library, café, and how each and every one of us moved around in the city on a daily basis, an emotional map appeared. Usually maps

are used to understand and grasp a city but when drawing your own map it becomes more emotional and not just a graphic representation of the spatial understanding [12]. Maps are a set of codes and conventions that follow cultural, political and even ideological interests, and for a map to be useful it must offer a categorization of the real world [12]. To draw your own map is a highly subjective but nonetheless situated act to get an image of how young women perceive their city, disrupting the coherence of the planned city and open up for possibilities which showed an alternative taxonomy [12]. The drawing did not only become a pattern of young women's movements, orientations and what places they found valuable for their daily life and socializing, but the drawing also broke the conventions of what a map looks like and how it represent a city. Now the map showed favorite places like the library, the shopping mall and home in a non-representational way and added an invisible story about the issues between youths and their communities, which was marked as symbols for telling about for example a big fight outside the MacDonald restaurant. The vivid storytelling about everyday life through the drawing gave a new layer of experiencing a more sensorial map of embodied knowledge.

#### 5.4 Walking

The experience of the mapping was not enough, so to be more in touch with the map the new pull of the string gave an alternative drawing of the map, this time with the body, by walking. Walking as an act to explore a city is well known from Baudelaire with his idea of the 'flaneur' and from the Situationists with their 'dérivé'. The concepts have during decades been widely used by artists and game developers [4]. When becoming aware of our surroundings the walk can generate an embodied engagement with the surroundings [13], a sensing of the physical resistance as surfaces, traces, and marks that the body creates. Walking creates an active engagement through the perceptual and the material in the landscape [13]. From drawing a representation of the spatial understanding to an embodied action, the drawn lines expanded the spatiality of the city. To move through the physical environment, which on the map is plotted in various lines in different colors, is like turning its symbols into lived experiences by using the body as a sensor. Our first place to visit was a secret spot upon the big tunnel leading in to town, through a rock, sheltered but also vulnerable because of its distance to people. When reaching the top, it was obvious that from above the rather small town gave the impression of being bigger through a bird's eye view. One of the players recorded the sound and we all agreed that the traffic noise below, from a distance gave the impression of a far bigger city. Shifting from looking to listening the experience of the city expanded our embodied knowledge.

#### 5.5 Placing

The combination of mapping and walking, gave the feeling of too much drifting, and to not risk to lose the players' interest, I took the decision to choose one site to work closer with. The municipality had in earlier meetings expressed an interest in the train station, which was undergoing plans for a combined housing and station development.

A train station is a transfer of people and when spending time there it was obvious that the area in many ways was a non-place, a place which is not relational, have no identity or is historical [14]. People pass it to depart or arrive with trains or busses, coming and going. By inviting two architects to come and have a conversation about the station area my idea was to see how they wanted to continue the relay of the non-place which had emerged. One of the architects told us how she had when commuting, continually photographed her feet leaning on the bench while waiting for the train. A photo sequence showing different shoes, different lights. From the story the waiting as an activity emerged, and sparked us to think what kind of touching activities could be possible to do while waiting.

## 5.6 Photographing

When asking ourselves how to turn a non-place to a place of content, to sense it differently, while waiting, the starting point was to pay attention to all the details of the area, details that at first did not seem to matter at all but when noticing began to come into play. By taking photos with our phones, details were traced and caught. First some of the players thought it was odd to take photos of the station but when a player suddenly saw themes like shadows, squares, green colors, trash, writings, and circles, the act of photographing turned the eye sight into touch to get the experience of the materials in the area [2]. The countless chewing gums traded into the asphalt became secret marks leading to somewhere specific. The close up details of things that otherwise had been invisible now emerged with its fabrics, outlines, colors, and importance of giving the station area its specifics. Very soon the feeling of familiar became more noticeable and we ended up with hundreds of pictures.

## 5.7 Combining

The photographs opened up to a place of new emotions and meanings [15] but the pictures were scattered pieces of the station with no internal coherence. How to put the place together again but this time with emotions rather than representation? One player suggested a collage to fit the pictures together as a jigsaw and by putting the pictures together while asking what each picture does to the other, a pattern of the station area emerged. Obviously, it was a rather grey area with only some solitary color dots like the red ticket machine, the yellow post box and the green grass growing between the paving-stones. There were not many circles in the station area except from the manhole covers, the big pots with planted flowers, signs, and buttons on the ticket machine. There were more squares, like doors, boxes, house, windows, and ventilation gaps and straight lines showing directions. The string figure was a collage over the station area with details that have been unseen and untouched until now. The details did not reveal much activity.

## 5.8 Adding

From the absence of activity in the station the following discussion was about actions and practices. What if activities were added to the collage? We started to cut out



pictures from different magazines of people and animals doing things, like running, cooking, gardening, kissing, caring, drinking, sporting, washing, talking, cheering and even slaughtering a sheep. When adding these pictures into the silent and still collage, the train station now turned into a far more exciting place, more livable and active. A space of potentials and speculations. Could it be possible to play sports in front of the station house? What if people washed their clothes and hanged them on strings? Could strangers meet on the staircase over a cup of coffee and share their dreams and desires? All possible activities were raised from the new collage as an alternative world-making process [2].

## 5.9 Acting

The adding and speculating of activities reminded us that places have rules in themselves which could possibly be linked to different activities. What practices were already waiting for the player to activate? When returning to the area we found the rules dominating the train station were the visual signs of prohibitions or warnings like, ‘don’t smoke’, ‘watch out for trains.’ There were also invisible rules, ‘how to sit on a bench’, ‘how to wait in the lounge’. What if our group cheered people as a welcome when arriving with the train? When the train arrived, we cheered the passengers and got responses of surprise or confusion. We discussed what it felt like breaking an invisible rule and the common reaction was that as a collective it felt much easier to do so. After tweaking other invisible rules like walking backwards back and forth on the platform and start talking to strangers, we discussed what new rules to add. One player from Syria wanted a rule which says: ‘Speak Swedish with me’, since she never got the chance to learn Swedish. The embodied experience of making new rules opened up for opinions of how to expand the relation with the station to create more encounters.

## 6 Play as a Social Technology

In this paper I have proposed that designers of playful cities are creating the conditions for playability in which players can try out and play with responses in a city and its materials. By using Haraway’s ‘string figure’ together with Puig de la Bellacasa’s concept ‘touch’, as a design method I have shown how the practice of responding in the process of Play/ce opens up for multiple technologies, behaviors, wishes and practices.

These responding connections craft conditions [1] where different experiences and knowledges can expand and shape various possible cities. The city means different things to different people, or even further, have no meaning at all, for example some of the players from Syria and Somalia did not even know what city they lived in since they mostly stay in their housing area when not being in school. There are women of all ages and nationalities who do not want to walk in cities when its dark and after the stores are closed. Cities are often depicted to counter women’s needs and desires [16]. To play with only women reveals what is not working in a city, that women in all ages do very often feel insecure in public places, that men take bigger part in public and that some places excludes women in fear of sexual harassments [16]. The city is not an



open playground, it is very much predefined by city planners, imposed by hierarchies and various social relations.

How can playability in a city become “respons-ability”, playing with relaying practices where the collective knowing and doing [8] but also previous experiences, are generating new string figures for others to respond to? The process of Play/ce has shown several examples of how play is a way of testing the city’s unknown and hidden systems, and how to speculate about responses while trying them out. For example, the player who wanted a sign in the station, which says “Talk Swedish with me” made her desire outspoken but also pointed to the fact that very few people talked Swedish with her. This in turn led to another player to sit down with a stranger on a bench and start talking.

Relaying is a constantly changing practice which do not preserve one player’s ideas or concerns but connects combinations of experiences and desires which creates unexpected responses. Playing in the city becomes a way to negotiate with what already is there and to consider alternative relations by re-configuring rules and behaviors in an urban area. To design playability with the embodied player is undoubtedly to challenge the principles of how to live, behave, relate, move, share and connect in an everyday city [17]. Play as a social technology is to enable relaying. It is to design for giving and receiving of manifold collective responses for learning how to live with others and become able to respond for the becoming of a city [2] as a playful and flexible system of belonging.

The process of Play/ce will continue in the autumn of 2018.

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