
Strolling Across the City: Geo-Tagged Sound Loops for Augmenting the Urban Spaces

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Abstract

We present the activity of strolling as an artistic practice. With this we make an invitation to be lost in the geography of an urban setting. The main concept is to provide the physical space with a communication level that would be pleasant to discover while wandering without a destination. We want to support *flânerie* as a way for recapturing the dimensions of both time and space against the modern division between work, conviviality, rest and family life which are typical of modernism. Therefore the Post-Modern paradigm of valuing heterotopias drives this contribution. Along with considerations about semiotics, sonification, ecological psychology and digital jewellery we would like to furnish a possible way to imbue the sub-urban areas of *genius loci*, the spirit of a place.

Author Keywords

Strolling, *flânerie*, sonification, digital jewellery, neighborhoods, post-modernism, physical space.

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous.

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Introduction

Wandering into an unknown city or neighborhood without an aim is the topic of this paper. We present the activity of strolling as an artistic practice, with this we make an invitation to be lost in the geography of an urban space. Strolling (or *flânerie*) is a possible way for appropriation of the public spaces, a travel through ones' own unconsciousness, a practice of sensing by the act of walking, a moving hermeneutic in which the path is the co-created text between the physical space and the individual. The flâneur, with his unplanned, estranging and serendipitous wandering, creates novel spatiotemporal practices, builds connections, and gathers insights across the different cultural systems he crosses from an external perspective. Novel patterns become evident and perceptual relationships produce new experiences of places and spaces, enhance wandering, serendipity, regression, drift, exploration. There are emerging and consolidated approaches to augment the physical space. Location Based Social Networks have become part of the daily life for many [1], in particular made with texts [2] local clues [3], virtual graffiti [4], and Web 2.0 social media [5]. We want to present here a possible interpretation of a location-based social network that makes use of sound cues tagged in the geography of a place. In particular we are referring to suburban areas, especially the ones lacking of a strong identity. We first analyze the figure of the flâneur in literature, philosophy and architecture, then we describe what we mean for "the spirit of a place"; following we present the post-modern construct of *heterotopias*, and why is relevant to our argumentation. The design concept of attaching sound loops to the physical environment is described, along with considerations about the activity of walking, digital

jewellery, ecological psychology, and sonification, that are relevant themes in HCI, for the purpose of better describe the experience of the stroller with acoustic data.

The urban stroller

The literary figure of the urban stroller grew up in Paris during the second half of XIX century. It addressed to the walking without a precise aim in search of inspiration, that could raise not only while looking the beauty, but also the strange, the ugly, the chaotic or the ambiguous of a city. This inquiry fuses with the artist personal life and production by means of experiencing adventure, mystery, spell, decay and human. More recently [6] provided strolling as a methodological framework and an architectural practice of exploring the urban settlements. This methodology is particularly useful for analyzing the urban space, that is often layered across diverse ages, like ancient Roman invasions, industrial revolution, or mid-twentieth century peripheries for industry workers [7]. In this sense the flâneur takes the streets as an unfolding and open text, made up of infinite possibilities, and let himself be overwhelmed by the real soul of a place, which can be fragmented, dystopian, inconsistent, or contradictory [8]. In addition, wandering can be read across semiotics, while approaching flânerie as a text, and the outside as a continuous source of semantic drift [9]. [8] is the result of an intense analysis of the dimensions in the city like: its being situated as a human artifact across time and space, its aesthetic functionalities, its symbolic traits, to be appropriated from the stroller as an active (creative) sense making the (walking) agent, by means of his perception, feelings and past memories. *What we look for is not a definitive order, but an open order, able to a*

continuous further development (...). The environmental image is the result between the observer and his environment. The environment suggests distinctions and relations. The observer, while adapting and focusing on his intents, selects, organizes, and attributes meanings to what he perceives. Therefore the growing image anchors, limits and exalts what is seen, while being challenged by the observer's perceptual system, which is continuously filtered from his interaction. ([8] p. 28). Flânerie can be therefore a possible way to live the city as a vivacious, multilayered, complex, heterogeneous, lively organism that step away from utopian vision of architecture of the XX century and reveal in its traits the rise of heterotopias, the other places, where the order and reassurance of utopian architecture are substituted with disturbance, intensity, transformation and variety [10]. In fact in the end of last century post-modernism addressed to the failure of utopian thinking in favor of the co-presence of many different ways to look at the actual world, and in which one could identify with several different threads of thought. An important point of this current was the spatio-temporal analysis of the urban setting as divided among the city centre, where often workplaces are, and the suburbs, where people live. This daily time alternating between those two geographical areas was considered a source of mental division, discomfort, and, in the end, alienation. More, suburbs come out from the need of providing places for the workers' sleeping due to the '50 and '60 massive industrialization of the cities, but they grew without a proper vision for ensuring quality of life (e.g. services, schools, places for leisure etc.).

Therefore the post-modern stances point on the monetization and annihilation of time across space and

the losing of wellbeing as a consequence of modernization. The question here is what has changed with ICT and GPS technologies and how the designer can imprint or suggest possible ways for the technologies to support the time-space dimensions. ICT happily espoused with post-modernism in its letting individuals bring power and valuing differences, communication and freedom. In this setting this contribution presents a design concept for supporting urban strolling as practice for recapturing the dimensions of both time and space against the modern division between work, conviviality, rest and family life.

Can we consider neighborhoods as laboratories for growing playful attitudes, artistic practices (e.g. narratives, jokes, rhymes, songs, music, dancing, writing, painting) to be created collectively? How is it possible to enhance the experience of walking across a neighborhood?

Urban Life and genius Loci

According to [11], time and space always occur together, and often it happens that one gives the rhythm for the other. For example walking paths allow the unfolding of time in its linear or recurring dimensions, while landmarks are aggregates of past time. The feeling of a place can provide a layering of positive remembering and feelings of identity and belonging. This is the *genius loci*, the spirit of a place. For the development of this, positive and virtuous dynamics need to happen, like trust, dialogues, creativity, playfulness, and reciprocal knowledge. In this sense third places [12] are where conviviality, relationships, intergenerational exchanges arise. This in particular if we think that often residential areas tend to be specific of a community of a sub-community, and

therefore they already tend to have their own identity, ownership and relationships. In fact, places are never disentangled from their social dimension, that brings them emotions, belonging and sacral feelings. Cultural assets pervade locations and the urban stroller experiences them with its serendipitous walking. He creates novel spatiotemporal practices, builds connections and gathers insights from an external perspective. Art is a primary vehicle for incorporating skills, such as cognitive, social, cultural practices, beliefs, values, identities, issues, tensions, or questions. Some artifacts inhabiting neighborhoods include such things as flyers, posters, graffiti, painted political or humorous phrases, adhesives, or chalks drawings. Novel tools can include QR codes, digital mementos [13], digital graffiti [4], or location based narratives [14]. The objective is therefore to provide sub-urban spaces of those dimensions in order to increase the sense of place. Only by this we can provide to the categories of space and time the unity that has been dismissed with industrialization and modern arrangement of neighborhoods. Encountering, speaking, aggregating, relaxing, creating events, gathering people around practices, creating collective media can take novel shapes by means of ICT and GPS.

Heterotopias

While strolling along a place, different patterns merge, and what has been juxtaposed without an intent start to have a composite content that has an inner unity and an important communicative value the casual walker senses. Therefore the flâneur builds a coherent meaning about the discontinuous stimuli he receive, indeed he creates narratives by making sense of the heterogeneity he experiences. Heterotopias grew out from the layering of

architectural frameworks in the same place and represent the involuntary reaction to the rationality, the order and the utopian vision of modernist architects. The vision of the city as a machine rapidly gave place to the one of the urban setting as a lively organism in which multiplicity and confusion dominate the landscape [15]. An example of an heterotopian vision of a geographical area is the Las Vegas strip: wedding chapels, sauna baths, gasoline stations, casinos, hotels, drugstores and their colored lightings contribute to the peculiar aesthetic of this place. Heterotopia is an important concept and along with Dadaist compositions remands to the multiplicity rising from human activity, where the beauty lies in the casual the superimpositions and the layering of signs. Thus, dadaists and post moderns attack modernism, rationality with their alienating feelings, attitudes and appearance by advocating real life's lively chaos, having its own aesthetics.

In this contribution we wish to present a design concept for suburban areas that would enhance the heterotopias of these places by means of a collective, ongoing and bottom up practice of enriching the physical space with personal contributions of its inhabitants that could be experienced by the casual walkers.

The Main Design Concept

In this framework, wandering becomes a space of enunciation, the spatialization across time of rebellion, statement, artistic practice, or search for identity. In fact, serendipitous walking means to experiment novel productions of space-time experiences. This seed of post-modernism then sparkles across the new conditions brought by social media and provides design

guidelines. There can be several approaches to do this, e.g. taking inspiration from nineteenth century avant-gardes. Many creative processes are at stake, like resemantization, deconstructing, collaging, humorous combinations, or self-biography. This ought to be explored under the light of GPS and social media web 2.0 technologies. In this sense, those material conditions reflect an historical shift toward a sort of post-modern-enlightment, providing technologies for the people to pursue their happiness, and at the same time freeing creativity, individuality, multiplicity and connectedness. Also it would be possible to provide probes in terms of self-biography, heritage, culture and identity. People could go outside their houses, meet, and create/share traces, as living appointments, creating music and media and texts, and changing the role of spatiality in their culture: the active production of spaces with special qualities becomes an important stake in spatial competition between localities, cities, regions and nations.

In this context we can better situate the striving for cities to forge a distinctive image and to create an atmosphere of place and tradition that will act as a lure to both capital and people of the right sort [10]. There are many connections between space and social identities: they shape superimposed spatial images, and everyone occupies a space of individuation (a body, a room, a home, a community, a nation). As well, the way in which we individuate ourselves shapes our identity. The main design concept is to provide the experience of collaboratively making music that the listener is able to orient by means of his walking behavior. Music loops can be assigned to city blocks or streets, in such a way that the pedestrian can compose the music of their own paths while walking across the

city. The system would compute the walking of the user by composing the effects of fade in and fade out among the block/loops. In the same way auditory icons [16], e.g. a few seconds of recording of a vocalist intonation, can signal landmarks [17] or street objects (e.g. manholes, traffic lights, zebra crossing, hydrants, monuments, public buildings). Hence, there would be a nice dialogue between harmony (music loops creating soundscapes) and melody (objects or landmarks marked by auditory icons; [16][18][19]. Accordingly, signs, spatial discourses, imaginary landscapes, and even material constructs such as symbolic spaces, built environments, paintings, museums, can provide new meanings, combinations or possibilities for spatial practices. Wandering then becomes a space of enunciation, rebellion, statement, or a search for identity. In this way, serendipitous walking means to experiment novel productions of space-time experiences.

About walking and listening

We wish to make the point on how the experience of the sound loops geo-tagged in a neighborhood, would provide in the end the experience of the place. For making this, few notions of Ecological Psychology [20] and Phenomenology of Perception [21] will be presented. Perception is a relational property occurring between the environment and the body movement, emerging dynamically from this interaction, having an occasional and contingent nature, and actively produced, maintained and enacted in the course of the activity. Movements define perceptions are progressively and continuously redefined by human activity. This dialogical and active process is generative, continuous and take different shapes according to the changing conditions. Therefore it is possible to say that

from the collection of fragmented sound loops, the walker ought to create an organic experience which have an inner consistency and that in turn provide the feeling of the place. This brings to the act of perceiving, considered as an emerging and ongoing activity resulting from motion that continuously modifies perception, cognition, emotions and the previous knowledge, in order to feel the environment [20]. Therefore a constant co-coordination and mutual feedback between perception and action, body and mind, individuals and environment takes place. The physical space is, under a phenomenological perspective [21], mutually defined in an emerging and continuous process of interpretation and reinterpretation across the moving body. Indeed, the term *flânerie*, from a literature perspective, is an invitation to be lost in the urban setting, it is a voluntary diving into one's unconscious, a journey toward the inner life of the casual walker, bringing bewildering and a feeling of confusion. In this sense the ambiguity of the scattered sound loops would support this travel toward the stroller inner self and provide a *gestaltic* experience that is integrated to the integument of the *flâneur*, and in which a casual composition of stimuli provides a holistic experience of the neighborhood. Therefore we can consider the following elements at stake: the sound loops (governed by the gestalt principles stating that the humans make always sense about what they perceive, regardless its' discontinuity), the moving body (orienteering the perceptual processes and taking part to the process with its kinesthetic value), the natural sounds of the environment (as counterparts of the sound loops, and dialoguing with them), and the physical asset of the neighborhood, with its buildings, signals, people and living beings. Those dimensions of the experience

mutually concur to provide the experience we are describing in here.

Urban Strolling and Sound Experience

The adoption of sound loops for our system brings us toward a relatively recent field in HCI, that is Sonification. Actually, Acoustic Ecology is a discipline grew up in the last century analyzing and deconstructing the soundscapes of physical places [22]. Its researchers divide the acoustic partition of the environment into biophony (the sounds of the biological sources from microscopic to megafauna), geophony, the sounds of non-living elements of nature, and human noise. In HCI, sonification [23] makes us of sound to deliver information and offering the perception of data in an auditory modality. If sonification propose a way to accessing data through music, we would like to deploy it to convey data for the purpose of enchantment, that [24] is the "*pleasurable sense of fullness and liveliness that charges attention and concentration. This combination of emotional attachment together with a sense of something not yet understood leaves us feeling disrupted but also alive, attentive, and curious*". In this sense transmitting information from the inside of a house to the street, available for the stroller, can progressively build an overall feeling of the neighborhood. Sparse clues about the author, his preferences, his mood, his routines, his dialogues, mingle with the outside sonic environment and provide a disperse partition that the stroller makes sense about by means of his wandering and listening. In sonification, and in general in auditory displays, the reason to convey information by means of sounds allows the use of auditory perception leaving free the sense of sight, here the idea is providing sound as a

way to integrate the experience of wandering, in order to provide a holistic experience of the neighborhood. The geo-tagged loops will merge with the natural acoustic environment and the activity of walking, triggering in turn the feeling of the place [11]



Figure 1: The proposed acoustic collar for augmenting the experience of flânerie across the physical places.

Digital Jewellery

Beside the explained design concept and its related theory, there is a concern about the activity of listening the auditory landscape as imagined in this contribution. Both the sounds coming from the system and from the environment contribute to the coupling of the flâneur with his surroundings. In fact the intent of this project is indeed to provide an experience of the physical space in its fullest; therefore an important element is to avoid the user to be isolated by e.g. earphones. Accordingly, the vision here is that the user senses both the environment and the sound beats and collate them for an augmented perception of a physical space, with its ordinary sounds but also with the acoustic contributions of its inhabitants. For this reason it is here presented the idea of a collar with speakers (Figure 1) incorporated that allow to hear the compositions created with the walking without isolating the user from the surrounding space. This collar is inspired by the past work on digital jewellery (e.g. [24]).

Conclusion

The flâneur is the urban vagabond in search of experiences and inspirations from serendipitously exploring a city environment. We presented his possible role in some of the post-modern stances about the suburban areas built and populated after the Second World War industrialization. The revitalization of these areas could be made by providing them a communication level that would be pleasant to discover while wandering without a destination. For this reason we imagined a system able to interact with the soundscape of a physical space by means of geo-tagged sounds posted by the inhabitants. We provided the description of a system aimed at living and experiencing the physical space and diachronically

relating in a dialogue with the people living in it. In order to grow positive feelings around places, one of the primary sources can be the domestic environment. There is the need to create bridges between intimacy of a house and the streets where the other people walk through. Therefore activities, sounds, dialogues and noises in the houses can be catalogued and ranked while seeking to gather interesting sounds to loop into the system. Therefore, we want to provide communication bridges between the privacy of the houses and the liberty of the outside streets. This would be a source for creativity, individuality, multiplicity, connectedness, self-biography, heritage, culture and identity. The design concept presented is an invitation to be lost in the geography of suburban space and experiencing the aesthetic appreciation of landmarks, architectural overlaying from history, psycho-geographical cues, or *negative spaces* [6]. The urban stroller plays and reinvents them, by searching the pleasure of discovering the unknown. As *homo ludens* [25], he produces his own time and space within unfolding time-space emergent itineraries. His activity is an existential and artistic inquiry on the post-modern deconstruction/construction of space and time across the lives of a city. Multiplicity, dismantlement, fragmentation, inconsistencies, creative chaos, voids, contradictions, and negative places are spread throughout casual wandering [8] with which he creates a heraldic [15], Hertzian space [26] collectively composed of playful self-expression, humorous voyeurism, and generative music. *Flânerie* is a possible way to regain public spaces, often neglected by past urban planning. It is also a reflexive and hermeneutic practice in which the Fordist patterns of production and consuming are broken for allowing the

experience of bewilderment, estrangement, surprise and otherness. In this context, the activity of strolling is an hermeneutic movement co-created by the walker, the inhabitants, and the physical space. The project intends to restore sense of place, *genius loci*, and third places into residential neighborhoods, often lacking those spatial qualities, by fostering self-disclosure, sharing, discovering, democratization, heterotopias, playful attitude and multiplicity.

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