

# Urban Whispers

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## ABSTRACT

Urban space whispers. Memories and adventures of everyday life wait to be discovered and collected in someone's common-place-book. The UrbanWhispers project treasures these memorabilia and shares them with the open ears of the audience strolling through the city. UrbanWhispers approaches the subject of perception of urban space through story-telling by composing audible pictures and scenes on the fly from pieces out of an active archive of the mental state of the city. The listener is guided in an ambiguous way and unique stories develop throughout the explorative walk. We present the narrative concept and the design of a prototype system running on a WIFI- and GPS-enabled mobile device.

## Categories and Subject Descriptors

H.5.5 [Sound and Music Computing]: Systems; H.5.1 [Multimedia Information Systems]: Artificial, augmented, and virtual realities; J.5 [Arts and Humanities]

## Keywords

Urban space, perception, database narratives, audio walks, sound design, wireless technology

## 1. INTRODUCTION

The UrbanWhispers project relies on the awareness of its' interdisciplinary team, that although living in the same city and sharing a common interest in the matters of its surrounding, much of the individual experience of urban space remains hidden from and inaccessible to the other. We believe it worthwhile to enable experience of the other's experiences.

To do so, we connect to a tradition of story-telling and we loosely take up impulses relating to a long history of obsessive urban behavior trying to unravel cities [1]. A glance at the topics touched by this endeavor reveals for our work four fields of interest:

(i) **The urban setting, the city, the real.** We listen to the city whispering of its uncertainties, of its daily and extraordinary horrors and pleasures, of its addictions, of its virtues, of its scars and dreams and hopes. What do these whispers tell us about the city, to what places do they lead us?

(ii) **Narratology, story-telling, audio.** Rules of story-telling, immanent to any verbal tradition, are experimented with by breaking down any information into smallest narrative units [2], which then allow the system to develop unique stories

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throughout the walk. Through listening to a personal story, formed out of a common pool of urban experiences, and as such part of a much larger story altogether, we aim to reveal the myths of the city.

### (iii) Technology, computing, databases.

Mobile computing and communication technology has become ubiquitous and has changed the daily way of perceiving familiar places as well as exploring new surroundings. A new medium was created to memorize and transmit personal and public experiences pertaining to the urban space. To make these experiences graspable to others they firstly need to be collected and secondly they need to be woven into fabrics that allow sharing. Manovich speaks of the hyper-narrative as "the sum of multiple trajectories through a database" [5].

(iv) **Movement, walk, time, interaction.** Walking is essential to the human experience and has been a topic on itself, the flaneur being the user of urban space par excellence. Walking involves the need of direction and orientation, but it is also the experience of resistance, of obstacles, of engagement, of touching and contact, that makes walking the experience it is.

## 2. NARRATIVE CONCEPT

The story develops in the course of walking through the urban setting; it reacts to the individual's directional and time-related decisions. Different ways of experiencing the city are expressed in topics, which work as the categories of thinking and constitute the basis for decision within the narration. These topics are derived from the collected topoi, the commonplaces that are collected in the common-place-book, a notebook in which one enters memorabilia. In our set-up these weblog-entries are fed into a database as "smallest narrative units", SNUs. Attached to each SNU are attributes: the activation region, relevant topics and its story-telling characteristic, which names the function each piece has within the story (see Fig. 1).

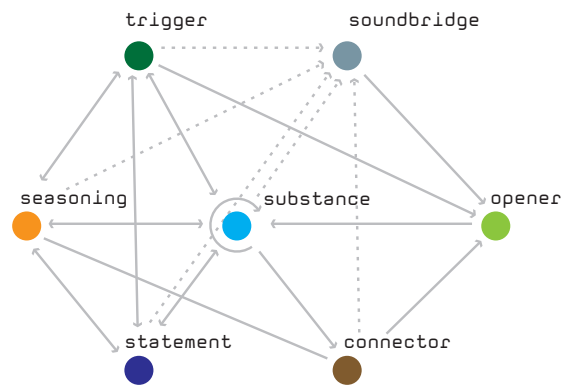


Figure 1. Story-telling characteristics of the SNUs and the allowed sequence in the composition of the narration. Every sub-cycle has to start with an opener-SNU.



Figure 2. Active regions attached to the SNUs collected in the common-place-book visualized on the city map.

The activation regions assigned to the SNUs serve to assure the spatial interrelation of the units combined in the narration (cf. Fig. 2). A SNU can only be incorporated in the current narration stream when the listener sojourns in the activation region of the SNU. If the local context (i.e. the activation region) of the currently playing SNU is left, the audio signal is faded out notifying the listener that he is about to lose the plot. In this situation the listener faces the choice of either returning to the current narration or interrupting the current narration sequence and seeking after new whispering tracks. In addition to the active region, every SNU is classified into one or multiple topics. Consequently, the thematic coherence can be assured by requiring at least one common topic among subsequent SNUs, unless the next one to be chosen is an opener. The opening of a new narration cycle thus involves the freedom to completely change the topic of the narration.

### 3. IMPLEMENTATION

The narration engine operates with the three states narration, transition, and background sound and is depicted in Fig. 3. In the narration state, the system is in the process of playing a SNU that was chosen based on the current context of the narration. If the user leaves the active range of the currently playing SNU, the system changes in the transition state, which is indicated to the user by slowly fading out the narration stream. Depending on the chosen path of the user, the system either falls back in the narration state, or changes in the soundbridge state, where sound units are played until a new opener SNU is available to initiate a new narration cycle.

The UrbanWhispers project relies on commodity hardware and custom software based on Microsoft's .NET framework. The

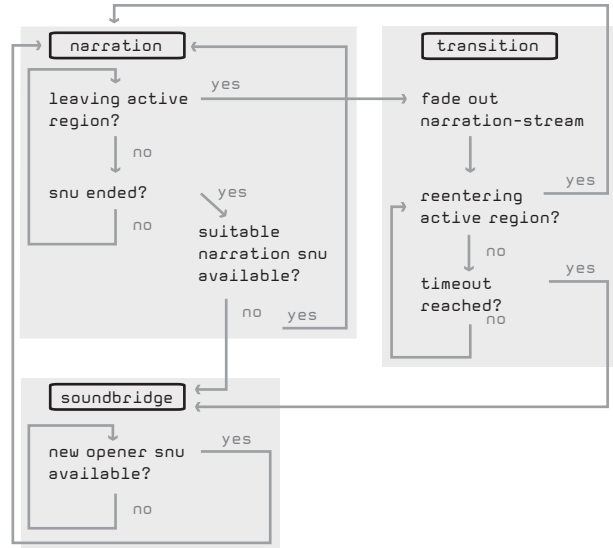


Figure 3. States and corresponding state transitions of the narration engine.

GPS- and WIFI-enabled device that accompanies the listener carries a local copy of the common-place-book in a SQL CE database which is compiled and edited using a graphical editor. The current position of the user is robustly and accurately estimated by combining the signal of the GPS receiver with location information computed from known 802.11 radio beacons (WLAN access points) [4]. The audio stream played to the user is composed from 3 audio channels using the FMOD library [3]. Channel 1 is assigned the narration, channel 2 the sound bridge elements, and channel 3 is used to play any sounds on top of the other two channels that do not obey the rules.

### 4. REFERENCES

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