

# Location aware interactive applications (sketches\_0051)

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## ABSTRACT

In this sketch we describe two novel location aware interactive applications; *Riot! 1831*, an interactive historical play, and *Moulinex*, an interactive ambient sound piece. Both of the applications discussed have the common trait of using GPS to calculate the user's location which is then used to control the participant's interaction with the application. Thus the user's interface is their whole body movement through the physical environment around them.

## 1. INTRODUCTION

*"There is more information available at our fingertips during a walk in the woods than any computer system, yet people find a walk among the trees relaxing and computers frustrating. Machines that fit the human environment, instead of forcing humans to enter theirs, will make using a computer as refreshing as taking a walk in the woods."* [Weiser 1991]

The novel applications we describe in this sketch try to accomplish Weiser's vision. The application's use of the user's GPS location to trigger content delivery allows the user to have an unconscious or semiconscious interaction with the experience. This style of interaction reduces the need for complex user interfaces which the participants have to consciously interact with. This type of pervasive mobile technology has mainly up to now been used for tourist guides or artist installations [Abowd et al. 1997, Cheverst et al. 2000] but there are many different types of applications that can benefit from this novel technology, as we will demonstrate.

## 2. THE APPLICATIONS

In contrast to structured museum audio tours the applications in this sketch allow the user to choose spontaneously where they move next to receive a new media piece, without having to make a conscious physical interaction, such as pressing a button. *"Audio presentations are normally far more disciplined like go over there, stand and look that way, something will happen press the button and so on. Whereas this one there was no pointing, no button pressing, it was all around you."* A participant describing their experience of *Riot! 1831*.

Each of the applications uses a mediascape<sup>1</sup> which is simply controlled by the user's movement. As you walk around the outdoor environment with a GPS enabled iPAQ and a pair of headphones you trigger different regions which play media according to predetermined logic designed by the content authors/creators. Both applications described were designed for Queens Square in Bristol, England, Figure 1.

### 2.1 *Riot! 1831*

*Riot! 1831* was an interactive historical play and was based on the actual riots that took place in the public square in 1831, thus this application had a strong link to the physical location which it was designed for. The audio files were located according to what was

going on in the particular sound piece, for example if you stood outside the Mansion House you would hear looters breaking in and raiding that house.

The experience was as if you were walking through an invisible riot, eavesdropping on a magic parallel world. It was designed to be full of surprises, funny, poignant, and moving, bringing history alive for the users. It ran for three weeks, was open to the public, and over 700 people experienced it.



Figure 1: Queens Square, Bristol, England.

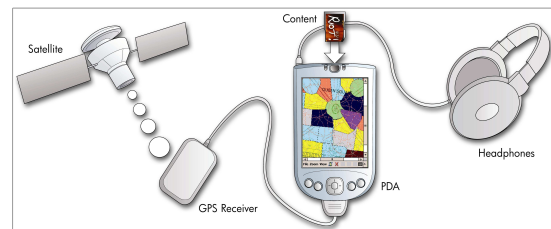


Figure 2: The *Riot! 1831* setup.

### 2.2 *Moulinex*

*Moulinex*, in comparison to *Riot! 1831*, had no obvious physical link to the location it was designed for. It was a purely ambient sound piece which merged dialogue and scores from two films, the *Moulin Rouge* and the *Matrix*, along with sound effects. This created an immersive space which enveloped the participants in an evocative sound environment with no obvious structure. It also meant that it was quite difficult for users to develop a mental map relating a particular audio piece to location, unlike *Riot! 1831* where there was a direct link between the sound file and the physical location. *Moulinex* was demonstrated to 30 invited guests.

## 3. CONCLUSIONS

This sketch focuses on two projects which highlight the fact that by using location as the user's interaction mechanism a variety of novel applications can be created which are not hampered by complex user interfaces.

## 4. REFERENCES

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<sup>1</sup> An application that runs on a mobile client which delivers digital media in response to contextual cues such as GPS location.