

China Gates: A Work in Progress

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ABSTRACT

Most mobile music-works tend to isolate the public due to a focused use of headphones. The resulting isolation of the performer from the audience therewith deprives both sides of the most important function of public performance: social interaction. This paper hopes to address the concept of audience in public space through the presentation of a new GPS Controller and a new work developed for it.

INTRODUCTION

The work China Gates is technically based on the GPS clock synchronizing possibilities and is aesthetically rooted in work for open public space. It uses tuned gongs equal to the performers participating. An Eastern musical scale, in whole or part, gives the piece a touch of the orient on the horizontal, melodic side and a western type dissonance on the vertical, chord structure side. The work's basic sonic structure is therefore "harmolodic". A performance takes place in a city area with a radius of circa 500 meters. The limitation is based on a manageable walking distance and GPS signal quality. Players start and end at a single point and each has a unique route. Each player leaves after starting the GPS controller, trying to move when another is not. This "choreographic counterpoint" allows for rhythmic-melodic coloring caused by a vertical to horizontal unfolding of the struck gong chord. The performance ends for each player at the return to the start point.

HARDWARE & SOFTWARE

The hardware consists of a GPS chip, a micro controller, an antenna, and a LED array in a casing with adjustable wristband. The LEDs indicate when to strike the gong, lighting up one after the other with an interval of 250 ms between them. The first three act as "warning lights" and the fourth indicates the moment to strike. Two buttons on the casing reset and turn the device on and off. Programming the device is done by flashing to the on-board memory. The 1hz GPS Time Mark is used to synchronize all gong events. The relationship of the start point and the performer's position within the city area is used to place a time delay between the Time Mark arrival and the LEDs. The start point, located at the center of the area, has a 0 ms delay. At the area's circumference there is 500 ms delay.

When the delay is the same between players, their LEDs are synchronized and thus their gongs hits. This situation results in a single chord, whose constituents number in proportion to the number of players within the same coordinates. In the situation where players are scattered having diverse distances from the start point, the musically opposite result takes place. Instead of a chord, a melodic sequence is heard. The program divides the playing area into three "zones" that radiate out from the start point. In zone 1 every Time Mark is used to trigger the LEDs, in zone 2 every other Time Mark is used to trigger them, and in zone 3 every third is used. Therefore, at the edge of the playing area the banging on the gongs is reduced to 1/3 of what it was at the start point.

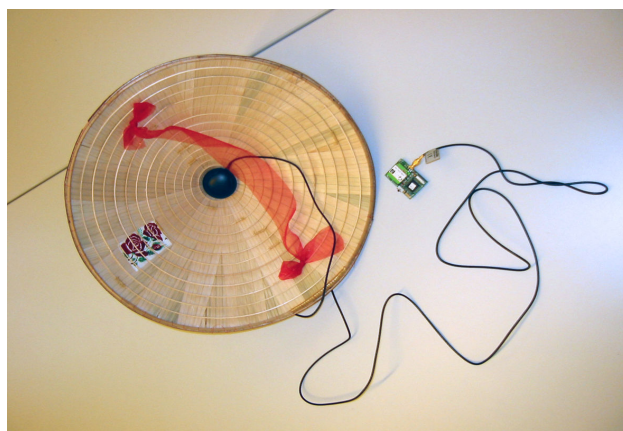


Figure 1: The GPS Wrist-Controller and wearable antenna

CONCLUSION

Using wearable computing technology within global ubiquitous networks as an art tool allows interacting with society as part of a collective consciousness. This bears significance for the creator of mobile art and also for its recipient participants who likewise realize that personal space endowed with added capabilities and explored as an extension of the self and body points to a global culture of the self in which the individual is no longer limited to what they are part of globally. The above statement represents the basis of effort and its goal.