
From Bluetooth naming to crowd interaction

Rui José

University of Minho
Information Systems Dep.
Azurem, Guimarães, Portugal
rui@dsi.uminho.pt

Nuno Otero

University of Minho
Information Systems Dep.
Azurem, Guimarães, Portugal
nuno.otero@dsi.uminho.pt

Abstract

In this paper, we describe how Bluetooth presence and naming can be used as the basis for crowd interaction. We also propose a number of exercises for the workshop where we hope to explore in-loco the emergence of multiple types of crowd behaviour

Keywords

Bluetooth, presence, crowd computing, situated displays

ACM Classification Keywords

H.5.3 Group and Organization Interfaces

Introduction

Instant Places is an investigation into the role of Bluetooth presence and naming as techniques for situated interaction around public displays. Our use of Bluetooth naming extends beyond identity representation and introduces a simple instruction mechanism where the system can recognise parts of the Bluetooth device name as explicit instructions. Multiple types of commands can be embedded in the Bluetooth name such as tags, user ids from external services, e.g. flickr or twitter, polls or music preferences.

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CHI 2009, April 4 – April 9, 2009, Boston, MA, USA

ACM 978-1-60558-247-4/08/04.

The commands found in the devices that are currently present will determine the information being shown on the display. For example, photos, videos or information feeds on a particular topic may be shown if enough people demonstrate that interest. This social awareness mechanism happens to be very engaging and, despite their simplicity, or maybe because of their simplicity, these techniques have been found to enable a broad range of situated interactions and social practices[1].

Bluetooth and Crowd Behaviour

Instant places is a system that was conceived for crowd contexts, even though not necessarily crowds interacting in the same timeframe or very large crowds. The system combines some level of individual control of the display with a shared use that matches the behaviour of the crowd. Because of its situated and shared nature, Instant Places is a powerful tool for studying the emergence of crowd behaviour and dynamics. Individually, people may have some influence on the system, but when acting in cooperation they will clearly have a much more powerful control of the systems' behaviour. An interesting characteristic, which is linked to use of Bluetooth naming, is that collaboration may arise spontaneously even between people who are unaware of each other's identity

Workshop exercises

Given the simplicity of deploying Instant Places for the workshop, what we propose as an exercise is to make it fully available for the entire workshop or part of it, enabling participants to engage in any type of individual or group control. This will be an excellent opportunity to experiment with situated control and observe which types of crowd behavior begin to emerge when the workshop participants start to interact with the system. We will make several types of commands available that appeal to multiple types of behaviour, from individual action, to small group collaborations, to crowd-wide challenges, and hopefully, we will see people adopting multiple strategies. We believe that the categorization of those behaviours and the identification of the respective design implications would be a relevant outcome for this workshop.

Example citations

[1] R. José, N. Otero, S. Izadi, and R. Harper, "Instant Places: Using Bluetooth for Situated Interaction in Public Displays," *IEEE Pervasive Computing*, October-December, pp. 78-83, 2008.