En passant Coupon Collection

A. Ferscha, W. Swoboda and Ch. Wimberger
Johannes Kepler University Linz, Department of Pervasive Computing
Altenberger Straße 69, 4040 Linz, Austria
{ferscha, swoboda, wimberger}@pervasive.jku.at

Abstract: Spontaneous interaction in public places has evolved as crucial concern in interaction design, particularly in the domain of public advertising. Implicit interaction is a mode of spontaneous interaction in which the user is not attentively or explicitly expressing input to a system, but the system from observing the user, and considering all the available information that describes the user situation, is used to generate input - and behaves accordingly. We have investigated implicit interaction as a potentially effective means to design for spontaneous interaction in the public. An *en passant* coupon collection system, CCS, has been developed to implement an implicit interaction based pervasive advertisement process. CCS is based on scanning and identifying Wi-Fi hotspots by their BSSID, and has been implemented for internet enabled smart phones. Scenarios demonstrate how the system collects bonus points, rewards, sales coupons, reward coins, etc. by users just walking by points of interest like stores, bus stops, schools or offices. CCS neither not being reliant to a preconfiguration of the Wi-Fi infrastructure, nor its use for wireless data communication, encourages for a parasitic use of existing Wi-Fi networks (already available in public places like shopping malls, airports, train stops, stations or city centers) as a pervasive advertisement system.

1   Implicit Interaction and Public Displays

Pervasive Computing has developed a vision where the "computer" is no longer associated with the concept of a single device or a network of devices, but rather the entirety of situative services originating in a digital world, which are perceived through the physical world. It is expected that services with explicit user input and output will be replaced by a computing landscape sensing the physical world via a huge variety of sensors, and controlling it via a plethora of actuators. The nature and appearance of these services will change to be hidden *"in the fabric of everyday life"*, invisibly networked, and omnipresent. They will greatly be based on the notions of context and knowledge, and will have to cope with highly dynamic environments and changing resources.

Interaction with such computing landscapes will presumably be more implicit, at the periphery of human attention, rather than explicit, i.e. at the focus of attention: *"we will be able to create (mobile) devices that can see, hear and feel. Based on their perception, these devices will be able to act and react according to the situational context in which they are used"* [Sch00].