Supporting Mobile Service Usage through Physical Mobile Interaction

Demonstration Proposal for PerCom 2007

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Summary of Contribution

The proposed demonstration will present a generic framework that takes advantage of Physical Mobile Interaction in order to leverage and facilitate mobile interaction with Web Services.

Physical Mobile Interaction is an interaction paradigm that is based a) on the increasing augmentation of everyday objects with information through technologies such as RFID, NFC (Near Field Communication) or visual markers and b) on the increasing capabilities of mobile devices to acquire and process this information.

The presented framework leverages mobile interaction with Web Services, as it exploits their semantically extended descriptions for the automatic generation of adaptable mobile user interfaces. These interfaces in turn support Physical Mobile Interaction with objects and associated services. For that purpose, we push service options off mobile phones onto everyday objects (e.g. posters, see Figure 1) and exploit the more intuitive and convenient interaction with them. Instead of having to browse glutted menus, users simply interact with physical objects by touching or pointing at them with their mobile phones (see Figure 1), thus acquiring information and using it for the invocation of associated services.

For more details on the framework and the PERCI (PERvasive ServiCe Interaction) project for which it has been developed, please see the PERCI website and the paper "*Supporting Mobile Service Usage through Physical Mobile Interaction*" that has been accepted for PerCom 2007.

Description of Demonstration and Setup

The proposed demonstration will present a front-end for the framework. The demo setup will consist of a prototype poster for mobile ticketing that has been prepared for the Physical Mobile Interaction techniques Touching (through NFC, see Figure 1), Pointing (through visual marker recognition) and the direct input of parameters into a form. The augmented poster as well as suitable mobile phones will be provided. For the demo setup, a vertical space of approximately 1.5 by 2 meters for putting up the poster will be required.

Figure 1: Poster for Physical Mobile Interaction

Visitors will be able to invoke a movie ticketing service from the poster through mobile phones using both a simple HTML-browser and a Java ME prototype client that supports the interaction techniques Touching and Pointing. They will see how interfaces for the service invocation – though based on the same abstract interface description – can be rendered differently depending on which mobile device and interaction technique they use.

About the Author

Gregor Broll has been as a research assistant at the department of Media Informatics, Ludwig-Maximilians-Universität (LMU) in Munich since July 2006. After his work in PERCI, he is currently involved in the European project "Simple Mobile Services" (SMS). For more details please see www.medien.ifi.lmu.de/team/gregor.broll

Project Link

PERCI (PERvasive ServiCe Interaction) Website
http://www.hcilab.org/projects/perci/index.htm