Mobile Interaction with Web Services through Associated Real World Objects

Demo @ MobileHCI, 2007, Singapore

Gregor Broll\textsuperscript{1}, John Hamard\textsuperscript{3}, Massimo Paolucci\textsuperscript{3}, Markus Haarländer\textsuperscript{1}, Matthias Wagner\textsuperscript{3}, Sven Siorpaes\textsuperscript{1}, Enrico Rukzio\textsuperscript{2}, Albrecht Schmidt\textsuperscript{4}, Kevin Wiesner\textsuperscript{3}

\textsuperscript{1} Media Informatics Group, University of Munich, Germany
\textsuperscript{2} Computing Department, Lancaster University, UK
\textsuperscript{3} DoCoMo Euro-Labs, Germany
\textsuperscript{4} Fraunhofer IAIS, Sankt Augustin and B-IT, University of Bonn, Germany
Motivation

- Usage of mobile services is restricted by constraints of mobile devices (e.g. small screens, keys and joysticks)
- Leveraging mobile service interaction through the interaction with augmented objects that are associated with services
- Generic framework that combines Semantic Web Services and Physical Mobile Interaction
- Automatic generation of customizable interfaces from Semantic Web Service Descriptions and UI extensions
- Less constrained and more intuitive interaction with mobile services
The Perci Framework

[Diagram showing the Perci Framework with components like Service 1, Service 2, Service n, Interaction Proxy, Universal Client on mobile device, Service Client, Physical Object, Web Service Domain, and Physical Mobile Interaction Domain connected by arrows and labeled with terms like Service description (WSDL/OWL-S) and Service Annotation (OWL/SUIA).]
Physical Objects

Transportation Tickets

1. Assemble Ticket...
2. Select Departure Zone
3. Select Destination Zone
4. Select Duration of Journey
5. Select Number of Passengers
6. Drop

or use Quick Drop

MOVIE TICKETS

1. Start
2. Select a movie
3. Select a cinema
4. Choose time

Munich City Guide

Neues Rathaus
Universität
Chinesischer Turm
Theatinerkirche
Frauenkirche
Asamkirche
Viktualienmarkt
Altes Rathaus
Hofbräuhaus

Gregor Broll, Demo @ MobileHCI 2007, Singapore
Physical Mobile Interaction

- Objects from the physical world are associated with information
- Mobile devices can capture, process and use this information
- **Touching**: reading object descriptions from NFC-tags
- **Pointing**: recognition of visual codes through phone cameras
- **Direct Input**: typing of number identifiers (e.g. in a HTML-browser)