

Mobile Interaction with Web Services through Associated Real World Objects

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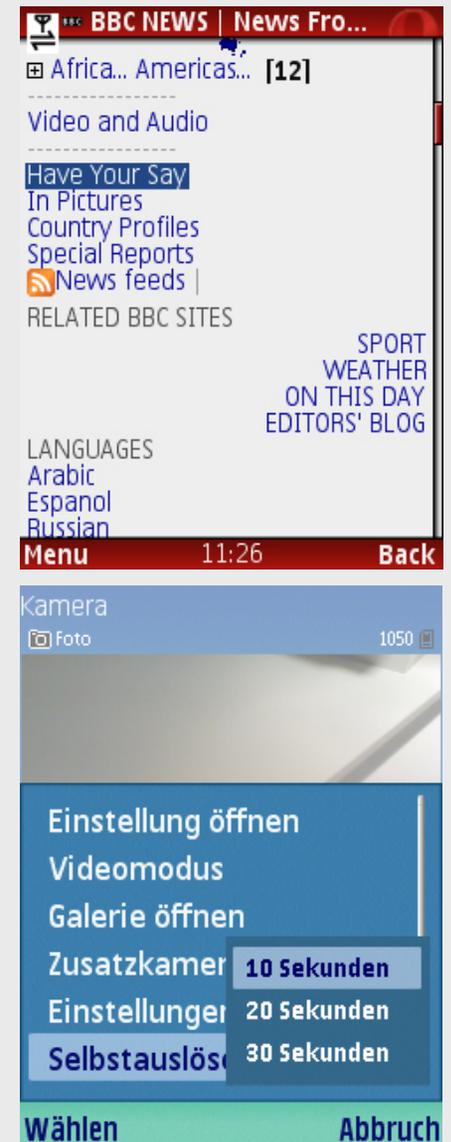
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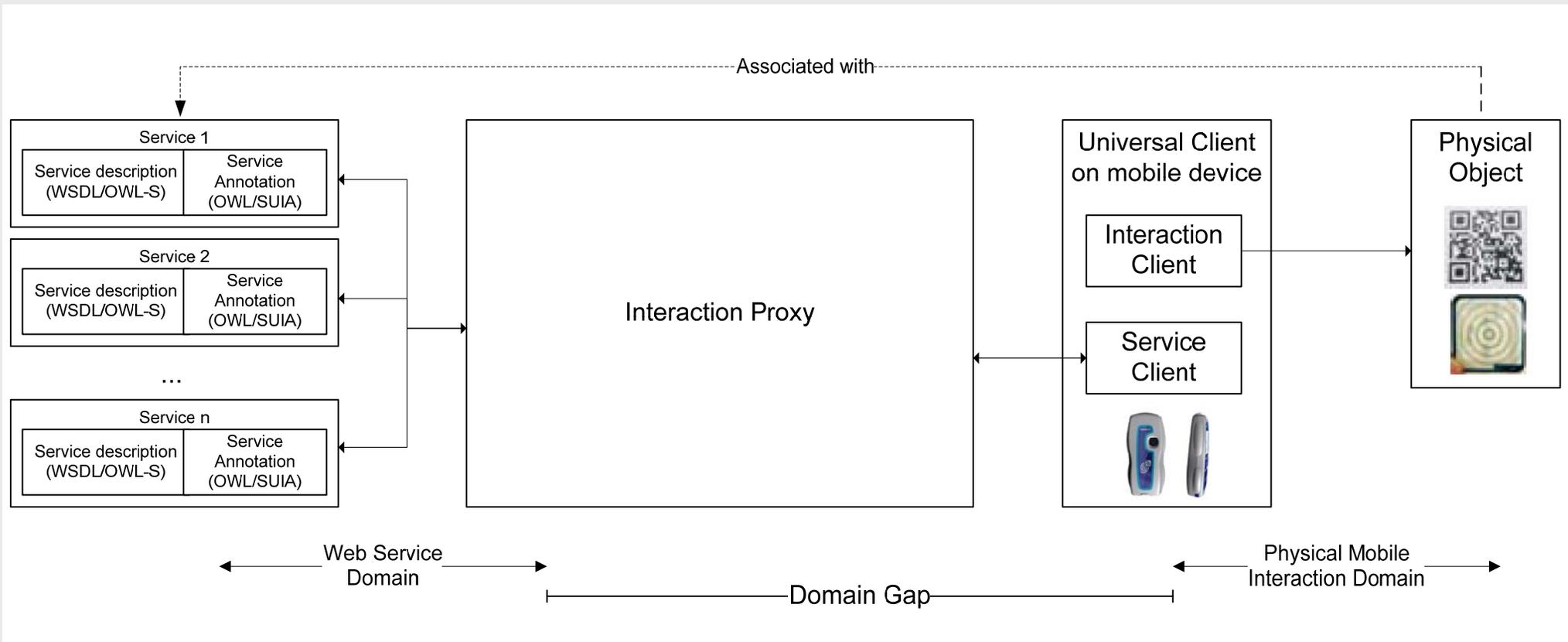
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- Usage of mobile services is restricted by constraints of mobile devices (e.g. small screens, keys and joysticks)
- Leveraging mobile service interaction through the interaction with augmented objects that are associated with services
- Generic framework 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







Transportation Tickets

1. Assemble Ticket...

Start your PENCi Client Application and simply follow the numbered steps:
Assemble your ticket by selecting departure zone, destination zone,
duration and number of passengers.
To finish and get your ticket, drop your collection to the MUV service by using the Drop tag.

... or use Quick Drop

You can use data from compatible collect&drop posters in order to
purchase a single ticket (person, hour) from your current location (zone 2).
If you have already collected compatible data,
e.g. from the Cinema Ticket poster or the Munich City Guide,
just use the tag next to the text and get your ticket to the cinema or the sight.



2. Select Departure Zone

3. Select Destination Zone

The map shows four zones (Zone 1 to Zone 4) with corresponding 'From' and 'To' selection buttons. Each button includes a QR code icon and a small map icon.

4. Select Duration of Journey

1 Hour, 3 Hours, 4 Hours, 1 Day, 1 Week, 1 Month

5. Select Number of Passengers

1, 2...5, Child, Bicycle

6. Drop

Finished your collection?
Drop your data here to the
MUV Ticketing Service in order to
receive and pay your individual ticket.



MOVIE TICKETS

1. Start

Start the PENCi Client Application on your mobile phone and select a movie, a cinema, the desired time and the number of adults to simply following the numbered steps.

2. Select a movie

Movie posters for X-Men, Geisha, Pirates of the Caribbean, and The Da Vinci Code.

3. Select a cinema

Cinema posters for Maxx, Leppny, and Maxx.

4. Choose time

13:00, 15:00, 17:00, 20:00

Munich City Guide

Start
Start the PENCi Client Application on your mobile phone and select the sight you want to see from the poster.
When finished, use the Drop tag in the right bottom corner of the poster to open the person's information with your individual sightseeing tour.

City guide interface with a central map and various sightseeing tags: Universität, Chinesischer Turm, Neues Rathaus, Frauenkirche, Asamkirche, Viktualienmarkt, Altes Rathaus, Theatinerkirche, Residenz, Hofbräuhaus.

Finished?
Use this tag to open your Webbrowser with your individual sightseeing tour.





- 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)



Touching



Pointing



Direct Input