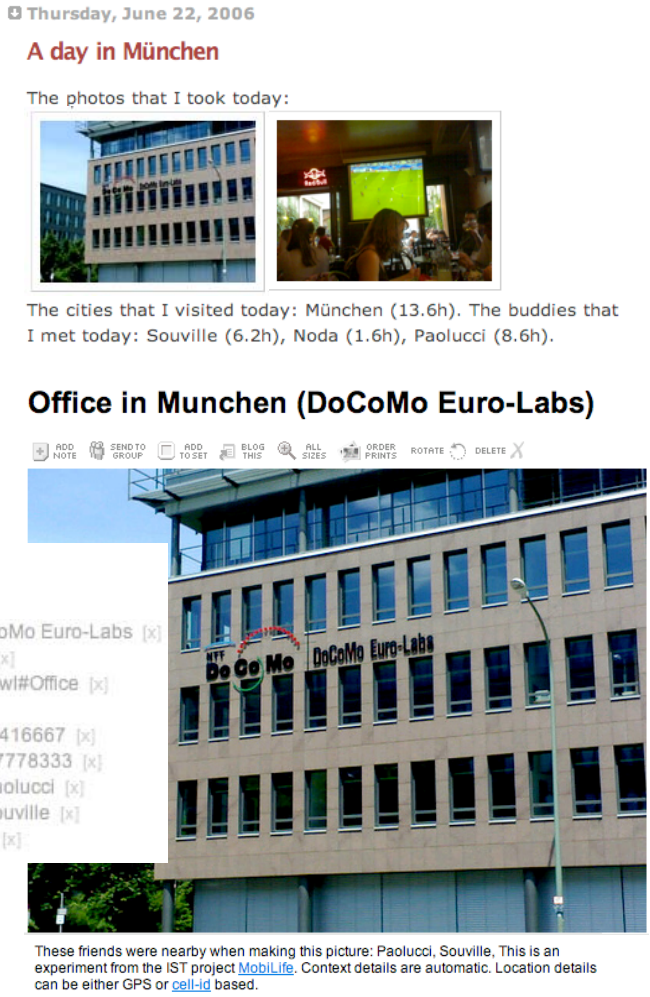
ContextWatcher – Connecting places, people and the world

Appendix: Demo Explanation

This demonstration shows how the mobile ContextWatcher application makes it easier to organize your life and helps keeping track of the experiences of your friends, family and colleagues, just by carrying your mobile phone in a 24x7 fashion.

ContextWatcher is implemented in Python and runs on Series 60 phones, including various models from Nokia and Samsung. It collects context information from different sources, including spatial data, current activities, the local weather as well as body data. This allows the user to exchange personal context information with friends and family members, or to simply tag pictures taken with the mobile phone. We use situational reasoning to derive human-interpretable information from these raw context streams, so that e.g. buddies can see that you are attending a business meeting instead of simply showing the street name as part of the current location.

In this demonstration we provide an insight into the technologies under the hood of the ContextWatcher and its corresponding Context Providers, with respect to the following themes:



- *Context gathering and exchange via the buddy list* Shows the interaction patterns between context providers and consumers in order to deliver a rich buddy list that displays real-time experiences of buddies, also including inferred context data coming from remote context reasoners.
- *Personal location clustering* Demonstrates how frequently visited locations are detected and presented on the mobile device, via a web form and visualized in Google Earth. Since temporal aspects are components of the context state vector, personal time patterns are shown. In addition, these time patterns can also be used for further activity predictions (e.g. personal office hours or workdays).
- *Situational reasoning* Shows how ontology-based reasoning can be used to detect specific situations such as business meetings or leisure time together with the family, based on the context information about location, local time, people nearby and the relation between those people and the user.
- *Contextual tagging* Real-time context information can be used to tag media objects created by the user, be it automatic signing of SMS messages with the current location and activity, or enhancing pictures with rich meta data, making it easier to trace back pictures of specific situations (e.g. pictures of that trip to Munich together with Bob while it was snowing).
- *Context-aware life blogging* With all automatically recorded and inferred context information, daily activity summaries are created, which give a precise overview of all personal activities, visited locations and encountered buddies. Blog entries are augmented with the pictures made throughout the day, also featuring auto-generated descriptions of the context in which those pictures were taken. For now, the daily reports are rather factual, but we have concrete plans to make these summaries more pleasant to read for humans. Furthermore, such blog entries will become highly interactive by providing links to similar situations in history and by creating more visual representations that make it easier to spot trends and extremes.