

Servingo Diary: A Context-Aware Blogging System for World Cup 2006

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Motivation

With the appearance of camera enabled mobile telephone units, manufacturers and network operators expected photo sharing to become an application used by a huge amount of customers and, as a result, a growing demand for bandwidth. But as the development of hardware was a few years ahead the software, this boom failed to appear. In recent years, this situation started to change with the appearance of mobile blogging systems such as Picostation¹, Textamerica² or Flickr³.

These systems allow the user to upload photos or videos by sending an electronic mail or multimedia message to the provider. These are then listed in the user's blogs, either sorted by time, some tags classifying the content or by popularity or rating. Shortcomings of these are the restriction to visible media and the fact that the images are isolated and free of context: neither the location

nor the event or object shown on the picture is part of the metadata descriptions provided with each media.

Blogging in Context

Inspired by existing mobile web logging systems and keeping their shortcomings in mind, the personal diary is being realized as part of the servingo project. It allows users to document experiences during the World Cup 2006 in Germany, but not only using pictures and videos, but also audio recordings, text messages, contact information, and SMS. A new aspect with respect to existing systems is the consideration of the user's context when creating entries and the ability to create links among entries.

The diary is integrated into the servingo portal as a service, and thus part of the service interconnection concept presented in the article »servingo - an IT-based Service Plat-

German Abstract

Mit der Markteinführung mobiler Telefone mit integrierter Kamera und Audiorekorder erwarteten Gerätehersteller und Mobilfunkanbieter große Umsatzzuwächse durch den Austausch von Photos über die Mobilfunknetze. Diese Entwicklung blieb zunächst aus, bis sich vor wenigen Jahren mobile Web-Logging Systeme etablierten, die Benutzern erlauben, mobil erfasste Photos schnell und einfach zu publizieren. Diese Medien sind jedoch kontextfrei, d. h. weder Ort, Objekt noch Aktivitäten sind den Medien zu entnehmen, falls der Benutzer nicht alles mühsam per Hand eingibt. In servingo wird mit dem Persönlichen Tagebuch ein kontextsensitives Blogging-System entwickelt, das das Erstellen von Einträgen aus dem Benutzerkontext heraus erlaubt und so die Inhalte mit Metadaten anreichern kann. Dies erlaubt nicht nur die Generierung informativerer mobiler Weblogs, sondern auch eine spezifischere Suche nach beispielsweise Orten, POIs und Ereignissen.

Figure 1: Start screen of the servingo diary



form for Infotainment & Logistics«. It can be invoked each time a service creates a POI (point of interest, such as restaurant or hotel) or event (e.g. party or soccer game) as output and allows to add this object as a new text entry to the user's blog. This enriches the content without any typing, just by clicking a single link.

Using his camera phone, the user can then take a photo and link it to the previously defined entry. The result is a textual description, an address, a categorized entry, and a related photo showing the experience, without any textual input.

Functionality

The most important features of the servingo diary can be summarized as:

- Recording and linking media (pictures, videos, audio, but also contacts and SMS)
- Assisted metadata creation for enhanced media description with less typing effort on mobile unit
- Relating entries (e.g. photos or audio) to Points of Interests and events allows for a standardized vocabulary with advanced search functionality
- Private and public entries for personal information that will not be shared (like personal notes or contacts of people met)

Figure 1 shows the start screen of the diary portlet, which comes up with a list of the most popular entries like most photo blogging systems.

Architecture

The architecture of the diary is sketched in figure 2. It is distributed between client and server. The client application allows media recording, storage, and synchronization with the server. All media that is recorded on the client is transmitted to the server-side diary management over a secured HTTP connection using the XML-RPC protocol, as most web blogging systems do. On the server, the entries are stored in a relational database with an interface to the rendering component, which is realized as Java Portlet within the servingo portal. The connection to the context manager enables the diary to

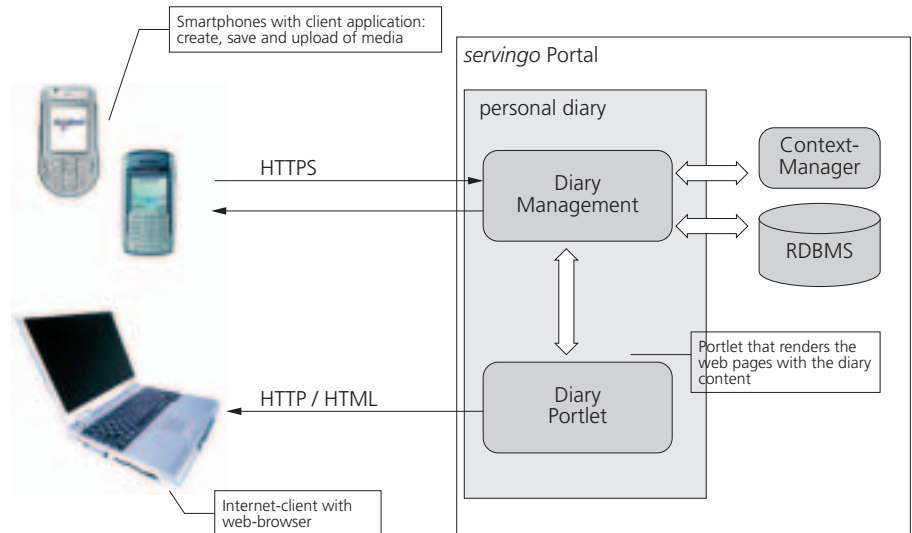


Figure 2: Architecture of the servingo diary

retrieve information about the user's current situation, such as his current location, the hotel he is going to stay, in or the events he is visiting.

Connected to the diary the service for personalized Points of Interests (Pol) provide the functionality of storing individual locations on site and to link these with e.g. pictures or videos captured by the built-in camera. These locations can be used in servingo for all services that deal with orientation and navigation. The user can store a favorite point that he wants to find again on his trip and that is not a common Pol like a hotel or restaurant. He can input the place of his parking car as personal Pol in order to find it after a game. Furthermore, the connection between personal Pols and the diary allows to arrange meetings with friends. The user creates a personal Pol where he will meet his friends, makes a diary entry for the meeting, and sends this information to his friends. They can use the personal Pol with the navigation services in servingo for finding this location.

Within the servingo platform the diary is connected to a StoryGenerator which enables the user to have short stories generated from his personal data. With the use of speech synthesis, virtual characters comment on the data according to the user's

input, such as titles and rankings. Once the story is generated, the user can send it as a video to friends and family via e-mail or MMS by using the server.

Points of Contact

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