CONTEXT-AWARE PERSONAL VIDEO DISTRIBUTION SERVICE

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ABSTRACT

VTT has created context aware personal video sharing and retrieval service for mobile phones. Service includes mobile content creation platform that allows to attach context information to self created content as metadata. Videos may be shared and retrieved by utilizing any RSS client.

1.1 Content sharing - Video Retrieval Service

Services for creating and sharing personally created multimedia content are becoming increasingly more important since the amount of self created content is increasing. The ExpeShare Video Management Service (EVRS) has been designed especially for utilizing available context information (e.g. location) with this kind of content. The service can be used for example with Nokia Video Centre like in our demonstration or some other suitable RSS reader in mobile phone or PC.

The EVRS consists of a RSS web server, a streaming server and a storage database. Figure 1 illustrates how these different components act together with Content Creation Platform (CCP) and Nokia Video Centre located in user's mobile phone.

The content is created by user with their mobile phones using the CCP. The EVRS, build on top of the CCP, utilizes the interfaces offered by the CCP for accessing the user created video clips and context information. When a user opens up the RSS-video feed offered by the EVRS, his/hers context and personalization data (e.g. location) is sent to the RSS web server. The EVRS combines the context information both of the content as well as the user who's requesting the feed and based on this information offers suitable personalized feed as a response to the user.

The service utilizes the context and personalization data in form of different channels in the RSS file. It provides for example a list of the nearest videos relative to user's current location. Other list in this service are the most viewed videos, the most recent videos, all user's videos and user's most recent videos.

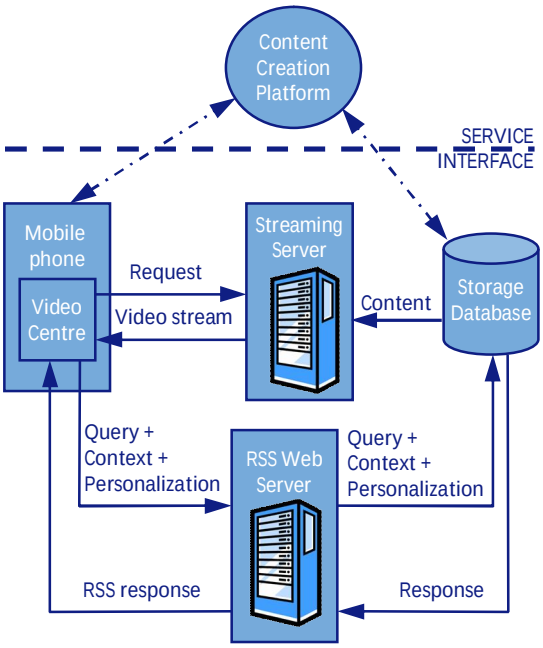

Figure 1. Components of Video Retrieval Service

1.2 Content creation - Context-aware Mobile Content Creation Platform

The CCP has been developed to support creation of light-weighted (mobile and non-mobile) web based services and applications. Using the CCP-platform the application developers can easily create context-aware lightweight services, which utilize the content created by users with their mobile camera phones.

This architecture (Figure 2) of the CCP has been designed to provide real-time combination of content and context information to different applications. Basic idea behind our solution is to create a simple and cost-effective way to provide user created content (currently videos and pictures captured with the mobile phone) along with the context data to various services in the network and locally on the mobile device. Using our architecture the applications can be easily ported on different device platforms (mobile phones, tablet PCs, PDAs, laptops or IPTV set-top-boxes) as the platform is transparent to the overlaying services. The interfaces to the content and context service and information are implemented using web services.

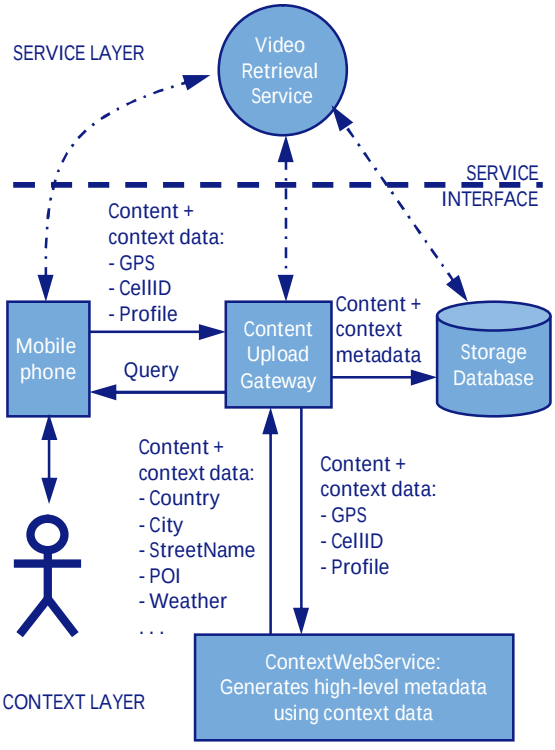

Figure 2. Context-aware Mobile Content Creation Platform

2. Conclusions

The video distribution service allows to:
• Create own video clips with mobile phones and attach context information as metadata to the content.
• Content is categorized according to the creator, date, popularity or context information such as GPS location.
• Share and retrieve video content using context aware service that presents available videos in different channels. Use of context information in creation and retrieval time allows to e.g. locate videos that have been created close to user's current location.
• Content creation platform facilitates the development of context and content aware multimedia management services.

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