

mummy

mobile knowledge management

Executive Summary

The vision of the EU-funded project MUMMY is to enable mobile, personalised knowledge management based on the usage of rich multimedia to improve the efficiency of mobile business processes. MUMMY will provide:

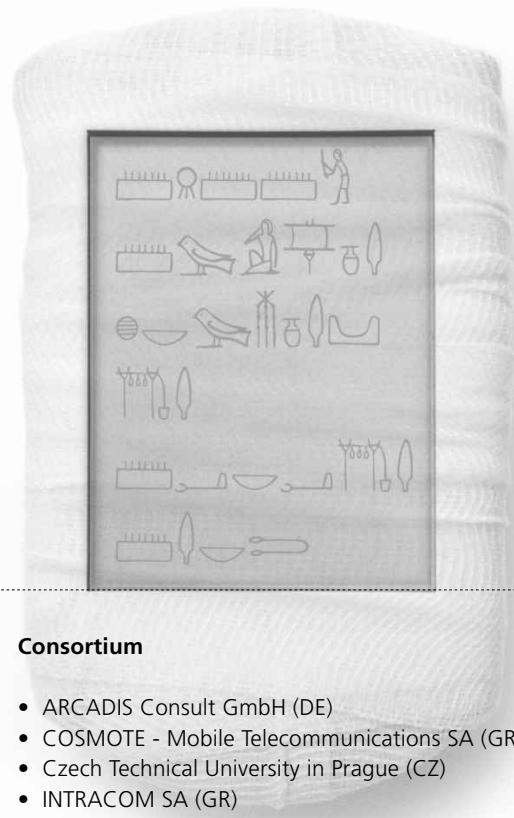
- new multimedia and hypermedia technology for a seamless integration of handheld devices into the knowledge management control loop, addressing the topics of knowledge development, distribution and use;
- substantiation of the expedience of the developed components through portal prototype establishment and trials in the application areas of facility management, the building trade and the service domain.

MUMMY will use new mobile connection technology (like "always on-line", high bandwidth) offered by wireless networks, and will take advantage of new hardware options offered by camera-equipped wearable devices, such as smart phones, PDAs or Tablet PCs.

We believe that MUMMY's knowledge management capabilities in mobile processes will result in time savings, cost reductions, and an improvement of overall "work" quality.

Project Manager

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Consortium

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- COSMOTE - Mobile Telecommunications SA (GR)
- Czech Technical University in Prague (CZ)
- INTRACOM SA (GR)
- University of Applied Sciences Waedenswil (CH)
- ZGDV- Computer Graphics Center (DE)



Project Facts

Title: MUMMY –
Mobile Knowledge Management
using multimedia-rich portals for context-aware information processing with pocket-sized computers in facility management and at construction site

Project no.: IST-2001-37365
Duration: 01/10/2002 - 30/09/2005

Further Information

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Mobile KM

“Mobility” is understood today in a broader sense than simply the physical mobility of persons. Even non-personal aspects, such as mobility of work, content, and devices, are being included more and more.

On the other hand, mobility, in all of its aspects, is still increasing in our society and is accompanied by a growing market penetration by mobile devices, such as mobile phones, personal digital assistants and other light-weight computers. These wearable computing devices serve as permanent companions and their support for *anywhere, anytime*, up-to-date and on-line knowledge access will have a great impact on our everyday life and work life in the future.

The current use of the term “mobile KM” is not yet very specific or well-defined. Often, it is used to simply refer to the technical focus on mobile data access to some kinds of information systems in the context of KM. Our understanding of mobile KM has its focus on spatially distributed business processes (short: mobile processes), in which

- knowledge is associated while performing tasks,
- tasks necessitate out-of-office work, and
- tasks necessitate communication.



Users Needs

Efficient mobile KM using pocket-sized devices is still faced with open issues, such as on-line KM facilities for mobile-rich multimedia and hypermedia support to link personal notes, project documents, and other knowledge objects within a knowledge base. For instance, project managers in the facility management domain are still faced with an error prone decision-making process, because of missing physical files and folders or unseen plan material. Neither integrated ad hoc notes nor image capturing is provided for mobile, business-relevant decisions and planning, nor a possibility for a context-sensitive retrieval. The conventional workflow acquires data onsite in a paper form and the digital update is done afterwards in the office. Incorrect input is harder to recognise offsite and corrections are frequently not performed at all, or done only with big delays.

Expected Results

Efficient collaborative communication of interrelated knowledge objects is a main objective of MUMMY. With a strong user focus, we surveyed different domains and analysed relevant business processes. Thereby, we identified three core requirements for the MUMMY mobile KM approach:

- Seamless integration of mobile (sub)processes in the corporate KM control loop
- Privacy-aware situational support for mobile workers, especially in ad-hoc situations
- Exploitation of available and accessible resources, whether remote or local, for optimised task management.

MUMMY will ascertain through research and trial how rich multimedia content and collaboration can be best applied within mobile knowledge portals and what potential business opportunities exist. The portal prototype will enable, for instance, a facility manager to have situation-aware mobile access to up-to-date project data, such as a construction plan, multi-modal annotations, and deficiency lists, or to collaborate on acquired material and plans with remote experts. The problems to be addressed within the identified application scenarios are defined with respect to the needs of the MUMMY users and the specific mobile processes.

Technical Focus

- Mobile annotation and collaboration mechanisms
- Video hyperlinks on mobile devices
- Ontology-based solutions using the Semantic Web technology
- Personalisation for access to situation-specific knowledge
- Data Integration based on the semantic models provided by IFC in the FM / construction domain

MUMMY’s new mobile multimedia communication mechanisms will become important technological groundwork, upon which future efficient mobile knowledge portals for quite different application domains can be established.