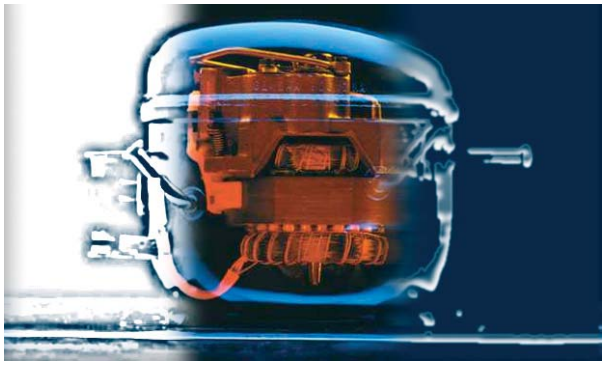
ITEA
INFORMATION TECHNOLOGY FOR EUROPEAN ADVANCEMENT

PROJECT PROFILE

Knowledge Intermediation Technology

securing the competitive power of Europe's Internet and UMTS industry



KLIMT is developing a networked Knowledge Management Platform for dynamic Virtual Private Cyberspaces in the emerging digital economy. The aim is to secure the competitive power of Europe's Internet and UMTS industry. Information is a strategic resource, which has to be managed if decision-makers are to acquire pertinent knowledge and make the right decisions.

New solutions for virtual communities

Providing adequate means to set up and operate virtual communities is a fundamental requirement in the new digital economy. In order to address this vital issue, three areas need to be considered:

- **Architectural**: developing distributed middleware that can cope with the flexibility of the underlying infrastructure, taking into account configurable fixed and mobile nodes, as well as the open and dynamic nature of networked applications (virtual community modifications over time).
- **Engineering**: developing generic services to support collaboration over networks. Key issues are the properties of the thematic groups (rules for cooperation, security, privacy, and user profiles), distributed knowledge management, homogeneous data presentation, and providing a set of basic intermediation services (search engines, data mining, downloading agents and catalogues).
- **Content processing**: specifying how to extract knowledge and/or information to help in decision-making, using emerging networked technologies (distributed processing over the network, cache technologies, text, data and video mining).

This type of infrastructure is relevant to many sectors, such as e-commerce, m-commerce, k-business, education, health care, economic intelligence, data mining for marketing, engineering and manufacturing (virtual and extended enterprises).

Infrastructures for Knowledge Management

Within KLIMT, we will validate infrastructures, frameworks and Intermediation Service Architectures, focusing on Knowledge Management (natural language content, databases and documents). We will define, develop and demonstrate semantic interoperability between components (workstations, PCs, servers, legacy systems, applications, databases, document repositories and information streams) within a

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virtual networked infrastructure. We will also validate concepts for new platform architectures for intermediation services using text, voice and data. More specifically, we will:

- quantify the characteristics of exchanges: type of data, data structure, legacy system architecture, brokerage protocols, standardisation of Application Programming Interfaces (APIs), ways of downloading software
- establish the generic services involved, such as mining, searching, processing, evaluating, indexing, distributing, profiling, customising and securing
- identify roles (content provider, end-user, intermediator) and standards for cooperative work
- specify the value chain for content processing
- create and demonstrate understanding of the issues and the acceptability of proposed solutions.

The market for value added intelligence

New intermediation services (trusted third parties, search engines, translation and cataloguing services, and certification agencies) will be located in a network to help users connect, facilitate their transactions, and assist them in searches. Such value-added services will be offered on the Internet, via UMTS, in creator-producer, distributor-user multimedia networks, and in telecom infrastructures. Communication and cooperation will be supported by general services, which will intermediate between the various actors and components, using high-level semantic protocols.

The uptake of these new platforms will depend on their value added intelligence. Other factors will be service suppliers' capacity to tailor their offer to individual needs and operators' ability to manage inherent complexity, such as customising user profiles for access, filtering, billing, security, etc.

Companies and individuals will increasingly need automated summaries of documents from a variety of sources, both internal and external. KLIMT intends to address the needs of suppliers that specialise in gathering such information on behalf of clients in a unified, structured way, rather than collecting it by laboriously navigating through numerous documents on the Web.

The potential market - including that for KLIMT clients and for KLIMT portals (large companies and specialised document brokers) - is expected to grow at 10% per year. Multimedia indexing and content mining services delivered through multimedia KLIMT clients and portals should be available to approx.1.2 billion Internet and TV users by the end of 2007. Such tools and services will be particularly useful for students, teachers, researchers and journalists.

We can also expect to see the design of new-generation tools implementing specific methodologies developed from KLIMT. Building toolkits for service companies that add value to heterogeneous knowledge sources will be a priority in the years ahead. These tools will need to integrate the various technologies addressed by KLIMT into a unified framework to provide answers to customers' requests for knowledge structures and multichannel media through an intermediation platform.

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ITEA - Information Technology for European Advancement - is an eight-year strategic pan-European programme for pre-competitive research and development in embedded and distributed software. Our work has major impact on government, academia and business.

ITEA was established in 1999 as a EUREKA strategic cluster programme. We support coordinated national funding submissions, providing the link between those who provide finance, technology and software engineering. We issue annual Calls for Projects, evaluate projects, and help bring research partners together. We are a prominent player in European software development with more than 5,000 person-years of R&D invested in the programme so far, and another 10,000 anticipated over the next five years.

ITEA-labelled projects build crucial middleware and prepare standards, laying the foundations for the next generation of products, systems, appliances and services. Our projects are industry-driven initiatives, involving complementary R&D from at least two companies in two countries. Our programme is open to partners from large industrial companies, small and medium-sized enterprises (SMEs) as well as public research institutes and universities.

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