

Cultural Heritage Knowledge Exchange Platform Annual Report



<http://smartmuseum.eu>

The goal of the SMARTMUSEUM project is to create an open IT solution for museum visitors enabling personalised access to existing digital content of artworks. Already existing huge amount of digitized cultural heritage information opens enormous user experience opportunities but at the same time rises difficulties to discover relevant data as well. Cultural heritage exponents - museums, exhibitors and historic site promoters are have remained conservative not using the whole potential of digital libraries and web content to attract walk-in visitors. Through the adaptive user profiling and localization, semantics driven content discovery SMARTMUSEUM solution will help users to access easily desired cultural heritage information through the personal smartphone type devices.

Summary of activities

The recent activities of project were focused on integration and internal testing of developed methodologies and software components - adaptive user profiling and content recommendation engines, multimedia capable application software for supported handheld devices. Important activities were focused on content enhancement of participating museums - Institute and Museum of the History of Science and Museum of Fine Arts of Heritage Malta. The prepared content annotation now includes information about social and age groups and references to related outdoor objects. SMARTMUSEUM has established active co-operation with Europeana network- the largest source of European digitized cultural information. To propagate project results several national level dissemination events were organized. Dissemination activities will be concluded with public demonstrations at international conferences SEMAPRO2009, Cultural Heritage on Line in Malta and Florence. Research results of the project are reflected in ten scientific papers published during year 2009.

Important work area

Market prospects, user requirements and resulting *product* profile

In today's society several changes and trends are shaping the way individuals and organizations find, use and share information. One of the main trends people are confronted with is an ever growing load and diversity of information including digital cultural heritage content and the lack of ability to find specific content based on their interest and previous experiences. SMARTMUSEUM project aims to broaden the variety of possibilities to efficiently find and access existing digital cultural heritage content on-site, both indoors (museums) and outdoors (historical locations), according to user preferences resulting improved cultural experiences of individuals.

Significant amount of digital content that is already prepared by museums is weakly utilized, especially for walk-in visitors. New business models for created content have to be found. Mobile Internet information services supporting instant decisions, payed content delivery, revenue sharing schemes are emerging topics of potential business cases. Due the universal scalable SMARTMUSEUM solution museums can deploy multimedia content access system with significantly reduced costs and get additional benefits of visit statistics.

Technology outlook and innovative features

The SMARTMUSEUM technology portfolio starts with RFID and GPS based user localization and interest monitoring, push-mode wireless network messaging and ends up with global web services for user profiling and content discovery. The developed hybrid profiling solution combines user explicit cultural preferences, abilities, skills and experiences with statistical user preferences and takes into account visit context information. Since profile information and content annotation is described through world widely accepted ontologies, e.g. Getty and GUMO vocabularies, the SMARTMUSEUM system is easily deployable at any cultural heritage institution having structured and annotated content. While existing tourist recommendation systems give recommendations only on artifact level the SMARTMUSEUM system is able to provide different content to different users as well, even in case the data is not annotated.

The demonstrator and results of field tests

All developed software components were integrated for internal and public testing performed during second half of year 2009. While the internal testing was focused on evaluation of quality of artifact and content recommendations and software infrastructure dependability, public testing should give feedback about interest potential and usability. The received feedback of first public demo in Malta, special event of SEMAPRO2009 international conference, participated by more than 40 researchers in semantics and mobile technologies, was clearly positive indicating high demand to SMARTMUSEUM mobile personalized content access solution.

User involvement, Promotion and Awareness

The SMARTMUSEUM technical solution is targeted towards European museums and digital content providers. The solution has been demonstrated to national museum communities in Estonia, Italy and Malta. Additionally, the user perspective of solution has been introduced in several scientific conferences in Europe and Far-East. The second public dissemination event targeting professionals of museums and European digital libraries will take place in Florence, December 2009. While the first demonstration presented indoor scenario only, the second one includes outdoor demo as well targeting wider user community.

Since the high quality content is a key issue for users, consortium established dialog with semantic branch of Europeana system. SMARTMUSEUM partners are continuously participating Europeana events, project exploitation committee includes Europeana researchers. Based on already achieved results two follow up projects are prepared in Finland

and Malta related to content annotation and mobile use.

Videos and slide presentations describing SMARTMUSEUM solution are shown on project public website www.smartmuseum.eu.

Future Work or Exploitation Prospects

The further activities of project will focus on promoting project results among museums, other content providers, research communities. It is essential to synergize effort of content creators and SMARTMUSEUM solution as the flexible cultural content distribution channel. Data compatibility with Europeana public release will be continuously monitored by consortium. As the SMARTMUSEUM solution supports sophisticated metadata schemes content annotation recommendations for museum authorities will be published. It is expected that the solution will acquire critical amount of users for effective services in 2-3 years.

Related links

SMARTMUSEUM usecase video: <http://smartmuseum.eu/>

Upcoming dissemination event: http://www.imss.fi.it/news/esmartmuseum_technology.html

Recording of TV news containing SEMAPRO2009 dissemination event: http://public.dive.com/streaming/on_demand_event_encoding.aspx?id=2922&backUrl=streaming/on_demand_event_programs.aspx&groupID79