Mobile Social Software for Cultural Heritage: A Reference Model

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Background

- **e-Dvara Project**
  - A web platform for Indian cultural heritage content management
  - Financed by FIRB (Italian Fund for Basic Research)

- **Our Project:**
  - 3 years project started in November 2007
  - Preliminary work
  - Reference Model for developing Mobile Social Software for Cultural Heritage Systems
  - m-Dvara 2.0 implementation
Agenda

- Introduction
- Related Work
- Our Reference Model for Cultural Heritage
  - Description
  - Scenarios
- Open Problems
- Conclusions and Future Work
Introduction

Cultural Heritage

Web 2.0

Crowdsourcing

Google
Folksonomy
Wikipedia

Social Tagging
Feed
Trust

Mashup
Syndication
Aggregators

Vodcast
Wiki
Video
Widgets

Mobile
Podcast
del.icio.us
Related Work: Web 2.0 applications examples

- Social Tagging
  Steve.museum
Related Work: Web 2.0 applications examples

- Community Multimedia Sharing
- Brooklyn Museum
  - Blog
  - MySpace.com
  - Flickr.com
- Facebook
- YouTube
Related Work: Web 2.0 applications examples

- Virtual Worlds
  - SecondLife
  - Ad hoc 3D environments

Participate in The Tech’s virtual exhibit creation challenge in Second Life.
Related Work: Web 2.0 applications examples

- Mobile Guides
- MoMA Audio (http://www.moma.org)
  - On-site
  - Web
Related Work: Analysis and Limits

**Pros:**
- Large research interest
  - Management support
  - Better visitor experience
  - Communication, sharing and collaboration among visitors

**Contra:**
- Professional curators remain the content authority
- User role in content production is marginal
- Fragmentation of services, no general vision
Related Work: Analysis and Limits

- Needs:
  - User as the main content creator
  - Fully Web 2.0 approach
  - A reference model
Reference Model: Research Questions

- Can the crowd become an effective and reliable content producer for Cultural Heritage?
- How can users be motivated to participate?
- Can we achieve these goals by means of appropriate Web 2.0 and Mobile 2.0 tools already existing?
Reference Model: Description

- Reference Model of Collaboration and Participation in Cultural Heritage
  - Mashup model for a cultural heritage system
  - Reuse & Mix of Web 2.0 / Mobile 2.0 applications
- Minimum implementation
- “Social Web” Oriented Design
- Anytime and Anywhere Access
Reference Model: Functionalities

- Live Upload
- Live Tagging
- Evaluation and Rating
- Social Tour
- Social Guides
- M-Teach
- Wiki
- 3D collaborative environment
- Personal Profile and Social Network
- Moblog
- ...

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Reference Model: Application Context

- Location
  - On-site
    - e.g.: in the museum, in an archeological site, ...
  - Off-site
    - elsewhere

- Technology
  - Mobile devices (pda, smartphone ...)
  - Desktop
  - Laptop and Notebook
On Site Scenario

- **LIVE UPLOAD**

  - **Description:** to let users capture contents at the point of inspiration and upload it in real-time

- Suitable web 2.0 applications to integrate:
  - Video: YouTube Mobile (m.youtube.com)
  - Picture: Flickr (m.flickr.com)
  - Short Text:
    - Jaiku (m.jaiku.com)
    - Twitter (m.twitter.com)
  - ...
On Site Scenario

- **SOCIAL TOURS**

  - **Description:** to suggest ideal tour to tourists
    - custom tour (activities, profile)
    - dynamic tour (suggested by community)
    - contextual tour (specific topic)

  - **Suitable web 2.0 applications to integrate:**
    - MoBe (www.mobe.it)
      - context-aware mobile applications
    - Google Mobile - My Location
      (www.google.com/gmm)
    - ...

Vassena
Off site with mobile device Scenario

- **MOBLOG**
  - Description: to publish blog entries directly on the web from a mobile phone or other mobile devices

- Suitable web 2.0 applications to integrate:
  - MoBlog:UK (moblog.co.uk) similar
  - YouTube Mobile (m.youtube.com)
  - Flickr (m.flickr.com)
  - Jaiku (m.jaiku.com) or Twitter (m.twitter.com)
  - ...
Open Problems

- Realizing Aggregation
  - Selection of services to integrate
  - Data management
  - Data Portability (standard for interchange data)
    - how transfer data between applications
    - how keep up a unique user profile through apps
    - user identification policies
Open Problems

- User participation and content creation
  - Involvement
  - Quality
- External Service Dependency
  - What would happen if integrated services stopped to exist?
- Copyright and Legislation
Conclusion and Future Work

- Analysis of the state of the art
- Proposal of Reference Model for Cultural Heritage sector:
  - New pattern of user participation in cultural heritage
    - using already existing and populated services
    - user as real producer of cultural content
  - New scenarios involving Web 2.0 and Mobile 2.0
- Implementation: m-Dvara 2.0
Contact Informations

- Laboratory of Context Aware Mobile Systems
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