



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

Flickr Blog **Mashup** Syndication

Vodcast Wiki YouTube Aggregators

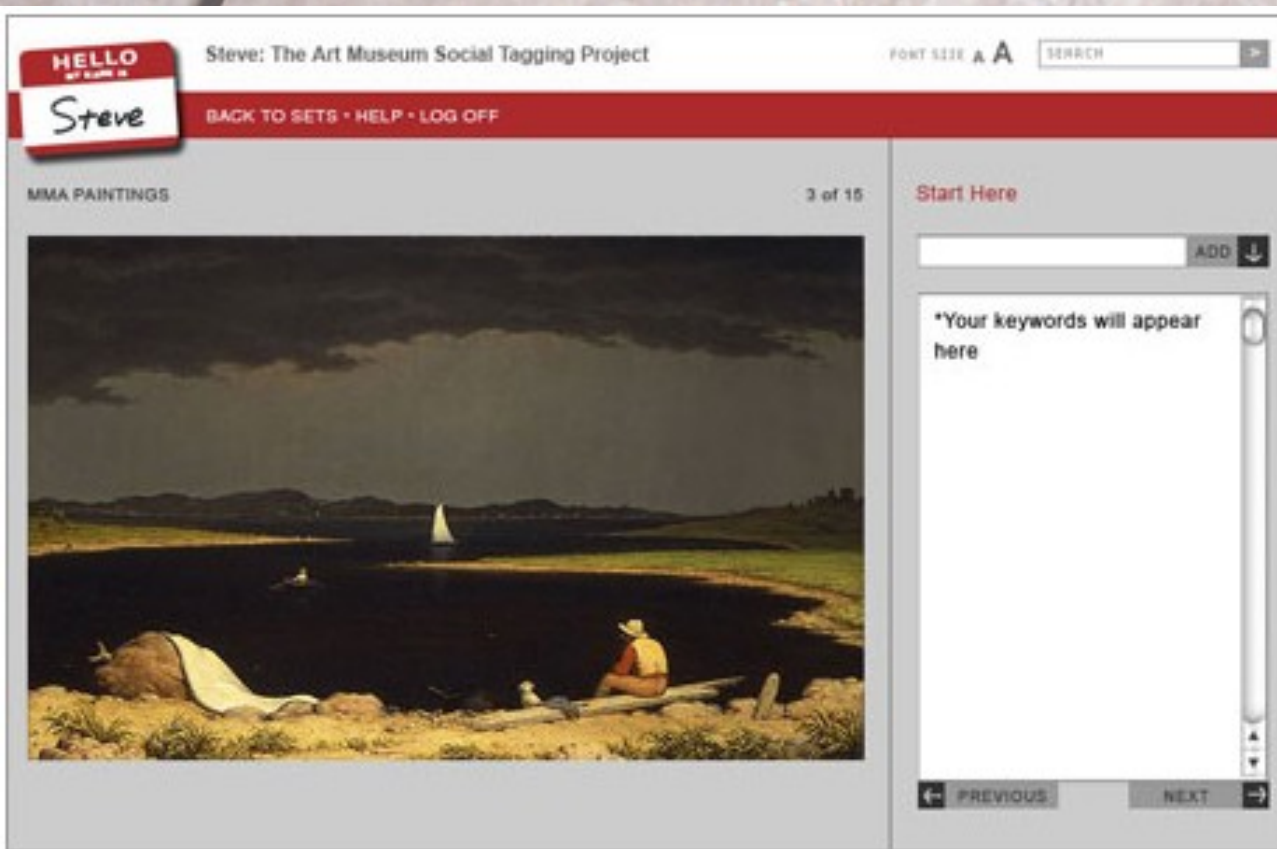
Myspace Video Widgets

del.icio.us PodCast

Mobile

Related Work: Web 2.0 applications examples

- Social Tagging
Steve.museum



carved carving castle ceramic
ceremonial chair cherub china chinese christ
christian church circle circles circular city classical
cliffs clock cloth clouds color colorful
contemporary cows cross crowd Crucifix
crucifixion cubism dance dancing dark death
decorative delicate detailed dragon
drawing dress elegant European expressive eyes
fabric face family farm female feminine field fierce
fight figure figures floral flower flowers
forest French fruit furniture geometric gilded girl
glass glazed gold gray green grey hair hands
hanging scroll hat haystack hazy heavy holes
horns horse horses house iconic illusion ink inlay
intricate Italian ivory jade japanese Jesus jewels
king landscape large laundry light linear
lines long Love male man Mary mask men
metal mirror modern monkeys moon motion
mountain mountains Movement narrative
nature ocean oil painting old orange oriental
ornate painted painting paper pastel

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



Related Work: Web 2.0 applications examples

MoMAudio




- Mobile Guides

- MoMA Audio

- (<http://www.moma.org>)


- On-site

- Web



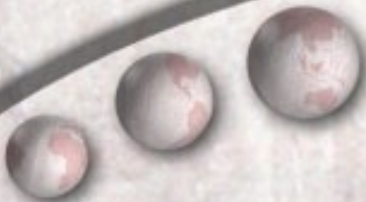
Related Work: Analysis and Limits

- 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
- ...

Reference Model: Application Context

- Location
 - On-site
 - es: 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)
 - ...



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

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