XMLGuide: an open format language for audio guides

Wojciech R. Wiza
Poznan University of Economics, Poland
wiza@kti.ue.poznan.pl
www.kti.ue.poznan.pl/
www.virtual-museums.eu/
Agenda

- Rationale
- XMLGuide
  - Idea
  - Interface
  - Content
  - Behavior
- Scenarios
Digital museums

- Increasing amount of technology in contemporary museum exhibitions
  - Need for new methods for reaching young people
- Including
  - Multimedia stands and presentations
  - Interactive games
  - AR and VR installations
  - and audio guides
Audio guides

• One of the most widely used methods for informational content presentation

• Technologies
  – From tape based devices
  – through digital memory-based devices
  – up to PDAs

• In most cases:
  – Specialized devices tailored for the use in museums
  – Especially prepared content
  – Specialization increases if we are using more sophisticated interaction methods (GPS, bluetooth)
Problems

• Devices are expensive
  • Purchase
  • Maintenance
  • Content preparation
    – Only in big museums with enough number of visitors audio guides are economically justified
• Each device is different
  – A user has to learn how to control the device
• Content is left in the museum
  – A user cannot recap the story at home
• Content is prepared by museum staff
  – Sometimes hermetic, sometimes focused
How to solve

• Devices are expensive
  – Lets use a device which is already in museum (together with a visitor)
• Each device is different
  – Lets give a user a device well known for him/her
• Content is left in the museum
  – Lets permit a user to take a content with them
• Content is prepared by museum staff
  – Lets permit users to prepare their own descriptions/guides/tales…
XMLGuide

• We propose a new language

XMLGuide

for building a content for audio guides

• Open
• Extensible
XMLGuide: the idea

• A language that describes:
  – a multimedia content to be played as a guiding tour
  – interface look
  – behavior and interaction possibilities

• A language that can be used as a data format for different vendors offering playback software for different platforms
XMLGuide: rationale

- Devices sold by audio guide companies use proprietary or non-extensible formats (e.g. Flash)
- There is no content description language (incl. SMIL) supporting different non-keyboard based interactions: GPS location, WiFi/Bluetooth designators, etc.
XMLGuide: the structure

www.virtual-museums.eu/xmlguide
XMLGuide: the interface
XMLGuide: the content
XMLGuide: the behavior

- keyCode
  - lat: in decimal degrees notation (DD)
  - long: in decimal degrees notation (DD)
  - radius

- GPS
  - triggers
    - wifiSID
      - signalMin
      - signalMax
    - rfidld
    - bluetoothId
    - time
XMLGuide: the use

- Scenario 1: user makes a planned visit
- Scenario 2: user makes a spontaneous visit
- Scenario 3: user is preparing the content
Scenario 1: planned visit

• A user before leaving home visits a museum site and downloads prepared audio guide using home computer (mobile device?)
• He/she choose the most suitable version: age, interests, duration, disabilities
• A user downloads a content to his/her mobile device
• A user when visiting the museum plays the downloaded content
Scenario 2: spontaneous visit

- A user visiting a town finds an interesting museum
- A user entering museum is actively informed ("please turn on bluetooth in your device") about the active content to be downloaded
- A user retrieves a content visiting a page on a mobile device or by sending and receiving an SMS message with a link to the content
- A user plays an online content which is stored on the device
Scenario 3: user-prepared content

• A user after the visit in a museum is disappointed with lack or inadequate content.
• By the use of specialized web portal he/she prepares their own guided tour – audio, text, images, etc.
• A user shares their content among other users using different platforms: FB/Twitter/Myspace...
• A content may be downloaded and played on other user’s devices.
XMLGuide pros

• Devices are **not** expensive
  – A user entering an exposition is already equipped with its own device and downloaded content (or just to be downloaded)

• Each device is **no longer** different
  – A user is accustomed to his/her own device

• Content is **not** left in the museum **anymore**
  – Content registered on an user device can be “taken home”

• Content **should not be** prepared by museum staff
  – Users **may** prepare and share their own guides and thoughts about an exposition
Conclusions

• Future plans
  – Extending a language (e.g. national languages support, QR code support, more complicated behavior, more navigation)
  – Micro-macro support
  – Dissemination and/or standardization efforts
  – Building a portal
  – Building content players: iPhone, Android, Symbian(?)
    • Users driven development
Potential problems

- Enterprises selling equipment, sell also services: content preparation and recording, device maintenance.
- Copyrights
Thank you!

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