Creating Personalized City Tours
Using the CHIP Prototype

Natalia Stash     Loes Veldpaus     Paul De Bra     Ana Pereira Roders

Mathematics and Computer Science & Built Environment Dpts. of
Eindhoven University of Technology (TU/e)
The Netherlands
CHIP stands for Cultural Heritage Information Personalization/Presentation

CHIP project duration:
from 2005 till 2009

Resulted in a prototype of a personalized museum guide
http://www.chip-project.org/demo

Uses semantically enriched collection data of the CHIP Cultural Heritage partner Rijksmuseum Amsterdam

Other CHIP partners:
Eindhoven University of Technology (TU/e) & Telematica Institute, (NL)
Problem Statement

- Limitations of existing mobile guides:
  - separate apps for:
    - various cultural heritage places (museums & cities) => no generic tool applicable in different domains
    - operating systems (Android, iOS, etc.) => platform-dependent solutions
  - no user model information exchange between apps
The Rest of the Presentation ...

- Approach
- Example Scenarios in Museum & City Environments
- Implementation & Usage
- Conclusions
- Future Work
Approach

 aplicando CHIP software in a new domain
 • city rather than museum
 • Amsterdam, a World Heritage City, as a case study
 http://www.chip-project.org/cityguide

 Design & implementation of a prototype of a mobile city guide similar to CHIP mobile museum guide
 • example tour of the UNESCO protected 17th-century canal area of Amsterdam
 http://www.chip-project.org/cityguide/sightguide

 Sharing profile information between museum(s) & city/cities visits
The Town Hall on the Dam, Amsterdam

**Description**
Amsterdam town hall is pictured here in bright sunlight in all its glory. The building was designed by Jacob van Campen. The first stone was laid in 1648, after the signing of the Treaty of Munster. Van Campen left the technical execution of the building and its completion to the city architect, Daniel Stalpaert. The enormous classical building became famous even before it was completed in about 1700. The building soon became known as the 'eighth wonder of the world'. This painting, made by Gerrit Berckheyde in 1672, emphasises the general admiration of Van Campen's architecture. Berckheyde has filled the canvas almost entirely with the building. To liven up the painting he has placed a group of figures and a horse in the foreground.

http://www.chip-project.org/demo
# User Model in CHIP

### Topics I Like
- Rembrandt van Rijn
- Peter the Great
- Vermeer, Jan
- Chiaroscuro
- Steen, Jan

### Topics I Do Not Like
- Militias
- Bronze

### Creation Sites
- 5 Amsterdam
- 1 Haarlem
- 1 Jingdezhen
- 1 Unknown

### Artwork(s)
sorted by: Rating; then by... • ○ grouped as sorted

1. **Title:** Self Portrait as the Apostle St Paul  
   **Creator:**  
   **Creation Site:** Amsterdam  
   **Material Medium:** Oil paint  
   **Material Support:** Unprimed canvas  
   **Year of Creation:** 1661

2. **Title:** The Mill at Wijk-bij-Duurstede  
   **Creator:**  
   **Creation Site:** Amsterdam  
   **Material Medium:** Oil paint  
   **Material Support:** Unprimed canvas  
   **Year of Creation:** c. 1670

3. **Title:** Children Teaching a Cat to Dance, known as 'The Dancing Lesson'  
   **Creator:**  
   **Creation Site:** Haarlem  
   **Material Medium:** Oil paint  
   **Material Support:** Panels  
   **Year of Creation:** c. 1665-68
City Scenario: Description of a Point of Interest (POI)

**Royal Palace**

The Royal Palace Amsterdam is one of three palaces used by the Royal House. Most of the year, the Palace is open to the public. Visitors are welcome to discover the buildings rich interior. (text copied from http://www.paleisamsterdam.nl/en)

**vra:creator**
- ulan: Campen, Jacob van
- ulan: Stalpaert, Daniel

**Year of creation** 1642

**Material Medium** Unknown

**Material Support** Unknown

**Dimensions** Unknown

**Location** Centre District

**baseNS:usesTerm**
- aat: Classicism
- aat: Baroque
- aat: Royal palaces

**artwork ID** http://www.chip-project.org/Amsterdam#poi1

http://www.chip-project.org/cityguide
Museum Scenario

http://www.chip-project.org/demo
Museum Scenario

- Personalized museum tour on:
  - Rijksmuseum map &
  - Google maps

http://www.chip-project.org/demo
City Scenario

http://www.chip-project.org/cityguide
Museum Scenario: Mobile Museum Guide

http://www.chip-project.org/demo/mobileguide
Approach

Applying CHIP software in a new domain

- *city* rather than museum
- *Amsterdam, a World Heritage City*, as a case study
  
  [http://www.chip-project.org/cityguide](http://www.chip-project.org/cityguide)

Design & implementation of a prototype of a mobile city guide similar to CHIP mobile museum guide

- example tour of the UNESCO protected
  
  *17th-century canal area of Amsterdam*

  [http://www.chip-project.org/cityguide/sightguide](http://www.chip-project.org/cityguide/sightguide)

Sharing profile information between museum(s) & city/cities visits
Amsterdam As Case Study

The 17th-century canal ring area of Amsterdam inside the Singelgracht

Claus & Swart, 2012
City Scenario:
PUP Sight Guide

~ PUP stands for Protected Urban Planet
http://www.protectedurbanplanet.net/
City Scenario: PUP Sight Guide

Differentiator:
a travel buddy for walking city tours

Primary task:
sightseeing, exploring a World Heritage Property

Target audience:
app for people who like using smartphones

Focus is less on visualization and more on adaptive functionality
City Scenario:
New to ‘PUP Sight Guide’

Welcome in World Heritage City Amsterdam!

(Protected Urban Planet) offers the tour of The 17th-century canal ring area of Amsterdam

New to 'PUP Sight Guide'? Prepared tours in advance?

Follow

Bell gables

Elevated neck gables

Explore the City!

http://www.chip-project.org/cityguide/sightguide
City Scenario: New to ‘PUP Sight Guide’

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- Sharing profile information between museum(s) & city/cities visits
Online visit to museum/city website

Onsite visit to physical museum/city
Visiting Amsterdam

The Town Hall on the Dam, Amsterdam

Central Station

Rijksmuseum

Royal Palace/Town Hall

Interior with Women beside a Linen Chest

Visiting Rijksmuseum

Same style Dutch Renaissance

Same architect Cuypers

Same building

Tuesday, June 25, 13
Implementation & Usage

- Web-based (Java, HTML5)
- Open-source Apache License (v. 2)
- GPS-enabled (future work)

Can be used by any:

- art expert or city tour guide for adding/visualizing their content
- programmer/designer for adjusting the software to specific museum/city needs
Authoring an App for Creating Personalized City Tours

1. Description of the points of interest/artworks in the city/museum (RDF model)

2. Setting up a quiz page to quickly discover visitor’s interests
Conclusions

- Software was improved towards the use in both indoor & outdoor environments

- From authoring perspective it is even easier to use CHIP software for outdoor environments - no need to prepare museum maps (with all coordinates)
Future Work

- An ontology needs to be built on World Heritage

- Using mobile city guide not only to share but also to collect information

- ..., etc.

- Finally, we plan to perform user studies on the usability of the (improved) version of the PUP Sight Guide