Personalized Outdoor Audio Tour Guide
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Funded by

ário EIT ICT Labs
http://www.eitictlabs.eu/
Action line: Intelligent Mobility and Transportation Systems
Activity: Emergent Social Mobility
Motivation

❖ Not everyone likes traveling in a large group

❖ Everyone has different interests when visiting a city:
  ❖ general visitors,
  ❖ visitors interested in certain topics, etc.

❖ Not everyone can afford an individual tour guide
Possible solutions

- Paper guide

Motivation

Problems:
- no time to read in advance and prepare, e.g. business traveller scenario
- reading on a spot can be inconvenient
Motivation

Possible solutions

Audio guide

- GPS-enabled - hands-free

Existing problems:

- offering only pre-defined static tours
- no interests storage between visits to different cities
- platform-dependent solutions - apps for Android, iOS, etc.
Project Proposal

Implementation of a personalized outdoor tour guide:

Utilize knowledge about:
- user preferences, interests
- context - location, visited places, time, date, day of week, weather

Creating own tour:
- selection of Points of Interest (POIs) for the tour
- content adaptation
- dynamic recommendations/tour adaptation
- proactivity (on demand) - while walking to the next POI the guide informs you:
  “Look at the magnificent building on your left. It is ...”
## Examples of Adaptation

<table>
<thead>
<tr>
<th>Content</th>
<th>Selection of POIs</th>
</tr>
</thead>
<tbody>
<tr>
<td>preferences, ratings, time available</td>
<td>Add/drop off POIs</td>
</tr>
<tr>
<td>time of the day</td>
<td>“Come back here at night to see how beautifully and romantically the bridges are lightened”</td>
</tr>
<tr>
<td></td>
<td>“Look how beautifully &amp; romantically the bridges over Amstel are lightened at night”</td>
</tr>
<tr>
<td>weather</td>
<td>Visit the nearby museum</td>
</tr>
<tr>
<td>etc.</td>
<td></td>
</tr>
</tbody>
</table>
Implementation Issues

- Platform-independent
- Scalable user interfaces using HTML5
- GPS-enabled
- Open-source Apache License, v. 2
Sources of Inspiration

- Excursia Audio Guide Project
  - tourist-oriented customizable location-based audio guide
- CHIP Project (Cultural Heritage Information Personalization)
  - personalized museum guide
Excursia Audio Guide Project: Mobile Audio Guide Application

- Selection of Points of Interest (POI) based on user preferences
- Story about the same POI adapted to the user
- Story for visited POIs is not repeated anymore
Sources of Inspiration

CHIP project
CHIP: Cultural Heritage Information Personalization
http://www.chip-project.org
Why Choosing This Project?

- Mobile World
- HTML5 is the future of Web development
- Real interest from companies, e.g.
  - Bosch project with OOTI students
    “Scalable User Interfaces Using HTML5”
    for Public Address System
More Ideas for the Project

- Investigate how could outdoor and indoor guides work together
- Gathering/applying both explicit and implicit data
- Gathering/applying information about users from social Web sites
- Recommendations based on statistical information (see the following slides)
Discovering Relationships

- Association rules analysis methods

- 98% of visitors that visit POI1 visit POI2 as well

- Quantitative association rules

- 100% of visitors between age 16 and 25 visit POIi
Discovering Relationships

- Generalized association rules
- people visiting POIs from Subcategory1 visit POI4
External Companies Interest

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TIE Holding

http://holding.tiekinetix.com/
Providing with wireframe specifications