



Personalized Outdoor Audio Tour Guide

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Funded by

❖ EIT ICT Labs

<http://www.eitictlabs.eu/>

Action line: *Intelligent Mobility and
Transportation Systems*

Activity: *Emergent Social Mobility*

TU/e Involvement



❧ Prof.dr. Paul De Bra



❧ Dr.ir. Natalia Stash

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



Motivation

Possible solutions

• Paper guide



• Problems:

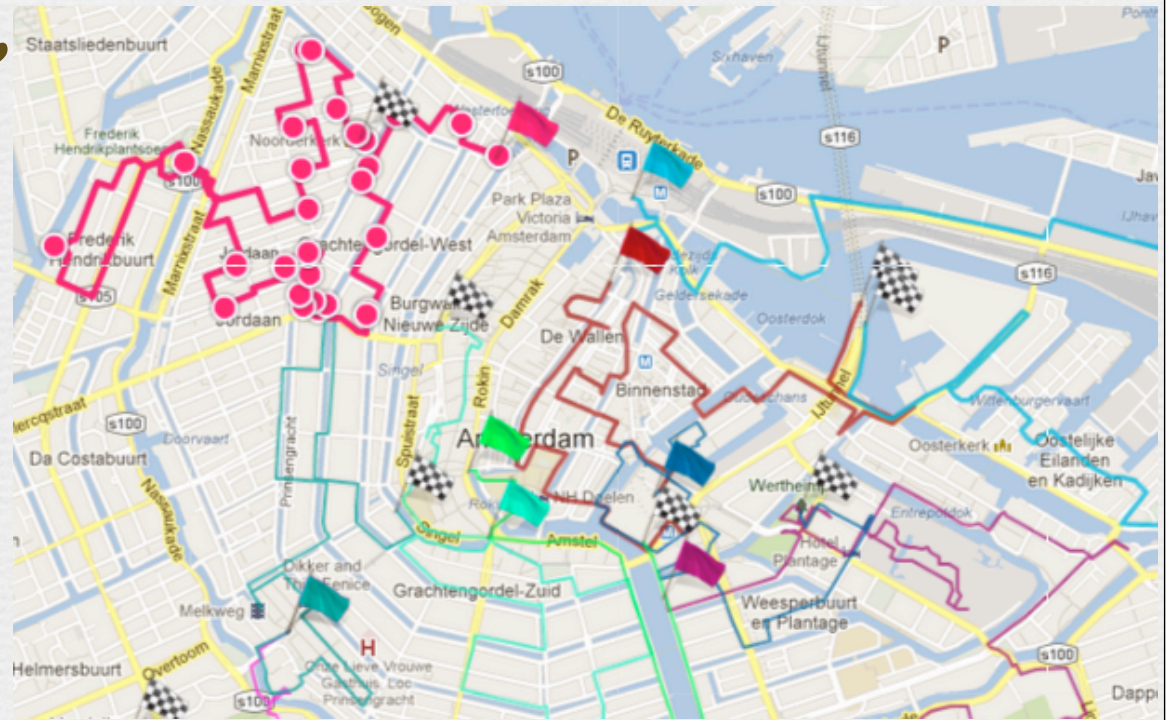
- no time to read in advance and prepare, e.g. business traveller scenario
- reading on a spot can be inconvenient



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

	Content	Selection of POIs
<p>preferences, ratings, time available</p>		Add/drop off POIs
<p>time of the day</p>  	<p>“Come back here at night to see how beautifully and romantically the bridges are lightened”</p> <p>“Look how beautifully & romantically the bridges over Amstel are lightened at night”</p>	
<p>weather</p> 		<p>Visit the nearby museum</p> 
etc.		

Implementation Issues

❧ Platform-independent

❧ GPS-enabled



❧ Scalable user interfaces using

HTML5



❧ Open-source
Apache License, v. 2

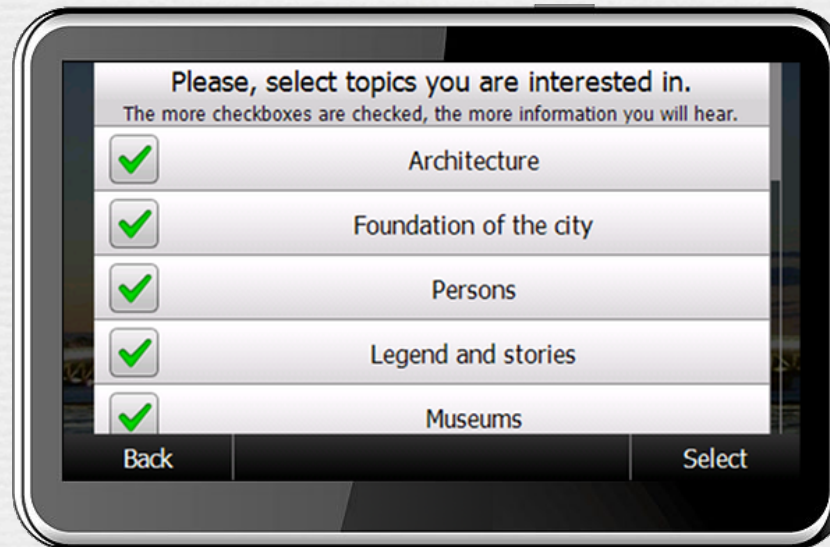


Sources of Inspiration

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

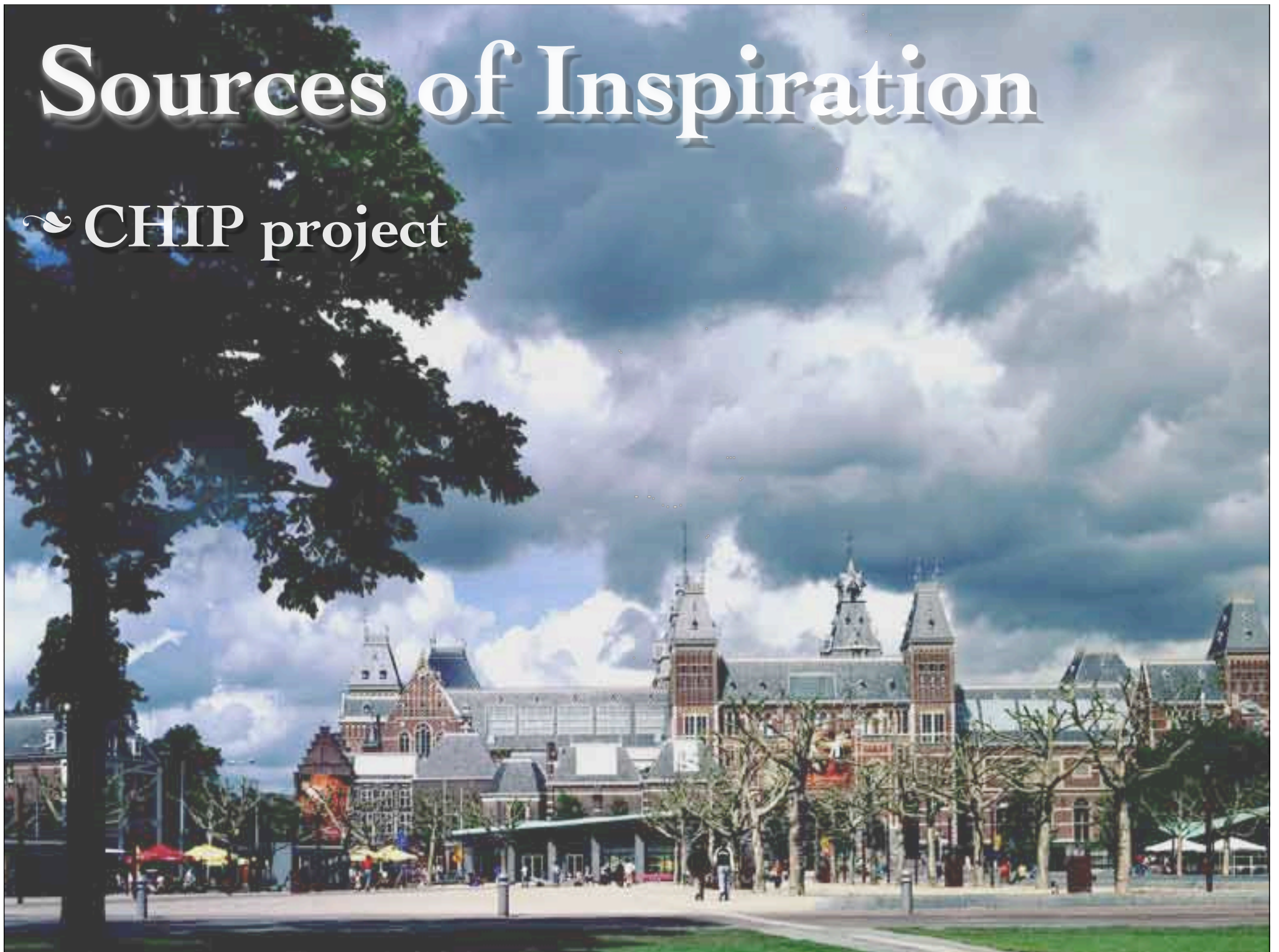
Excursia Audio Guide Project: Mobile Audio Guide Application

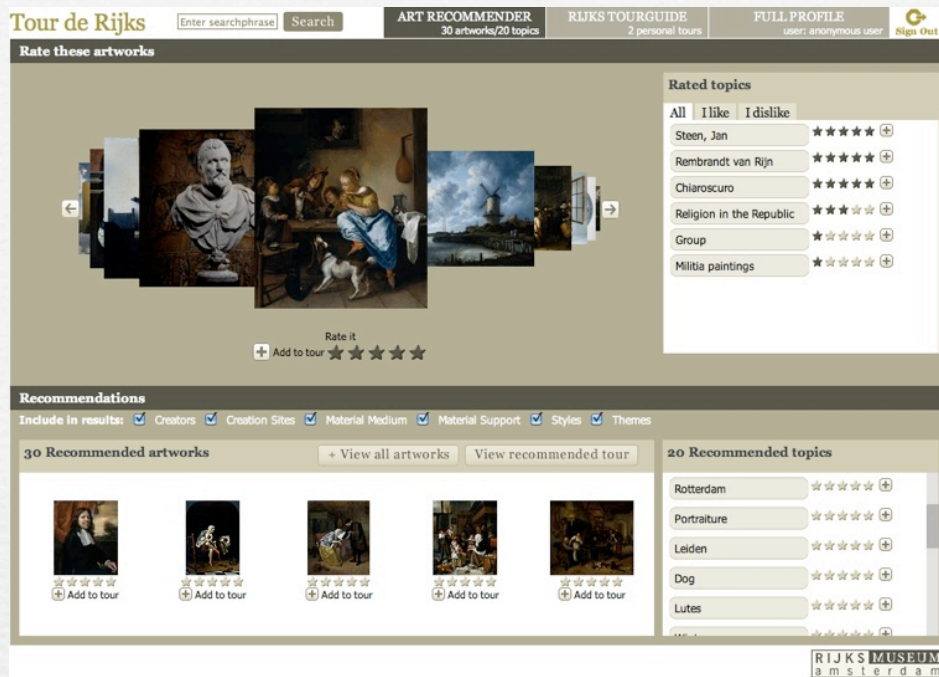
- Selection of Points of Interest (POI) based on user preferences
- Story about the same POI adapted to the user
- Story for visited POIs is not repeated anymore



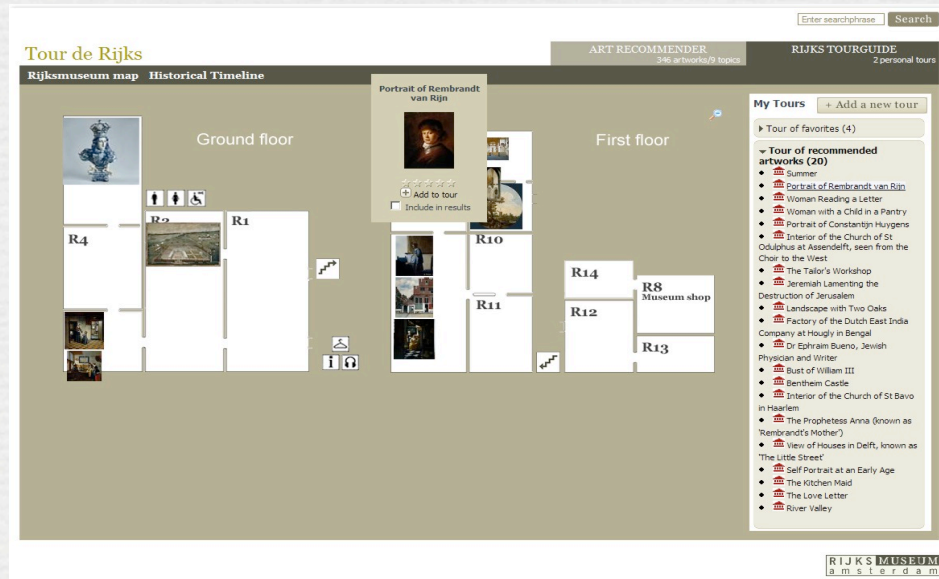
Sources of Inspiration

❧ CHIP project





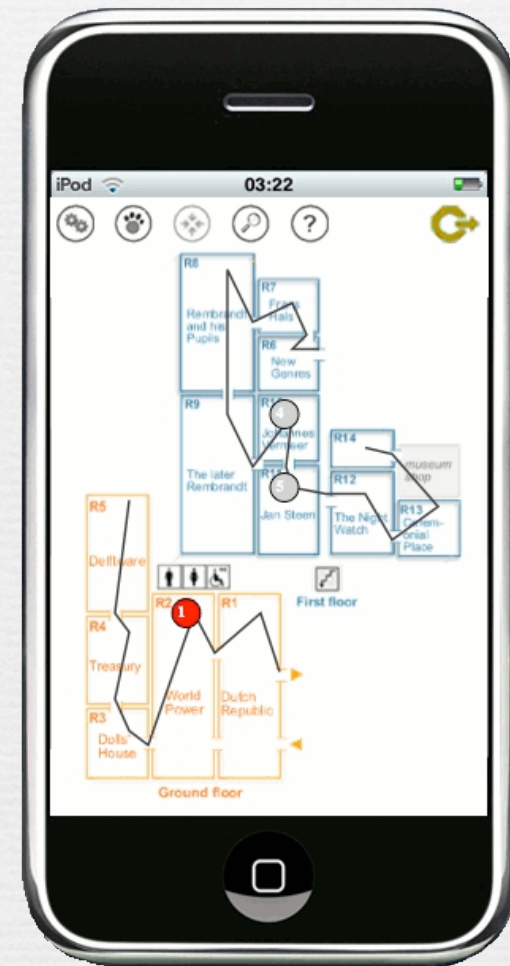
Art Recommender



Tour Wizard

CHIP: Cultural Heritage Information Personalization

<http://www.chip-project.org>



Mobile Museum Guide

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)

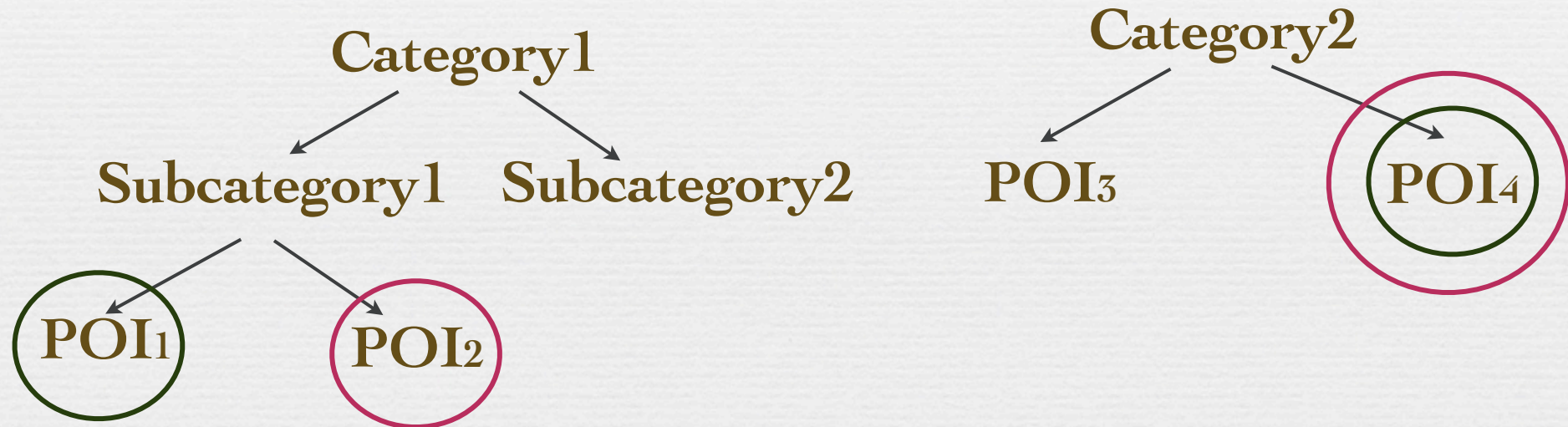
Discovering Relationships

- ❧ 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

• TIE Holding

<http://holding.tiekinetix.com/>

Providing with wireframe specifications