Lunch Seminar Colloquium – March 25, 2010

A Tourist Information System for Hamburg and More

Presentation, Scientific Background, Perspectives

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Tourist Information System

System Functionality (present):

- Tourist chooses places to visit from a category tree (with option to insert new POIs).
- System offers details for any place on demand (pictures, descriptions, location, etc.).
- Tourist gives preferences for tour (durations of stays, order of POIs, etc.).
- System arranges everything nonspecified automatically.
- System displays complete tour for individual transportation (pedestrian, car) as well as for public transportation.

Tourist Information System

System Functionality (future):

- Tourist gets all information on mobile device (with option to change tour whenever required).
- System informs tourist about local POIs while tourist is on tour.
- Tourist gets information about events (anything where time is relevant).
- Tourist may book events on-line / on tour.
- … (insert your own idea)

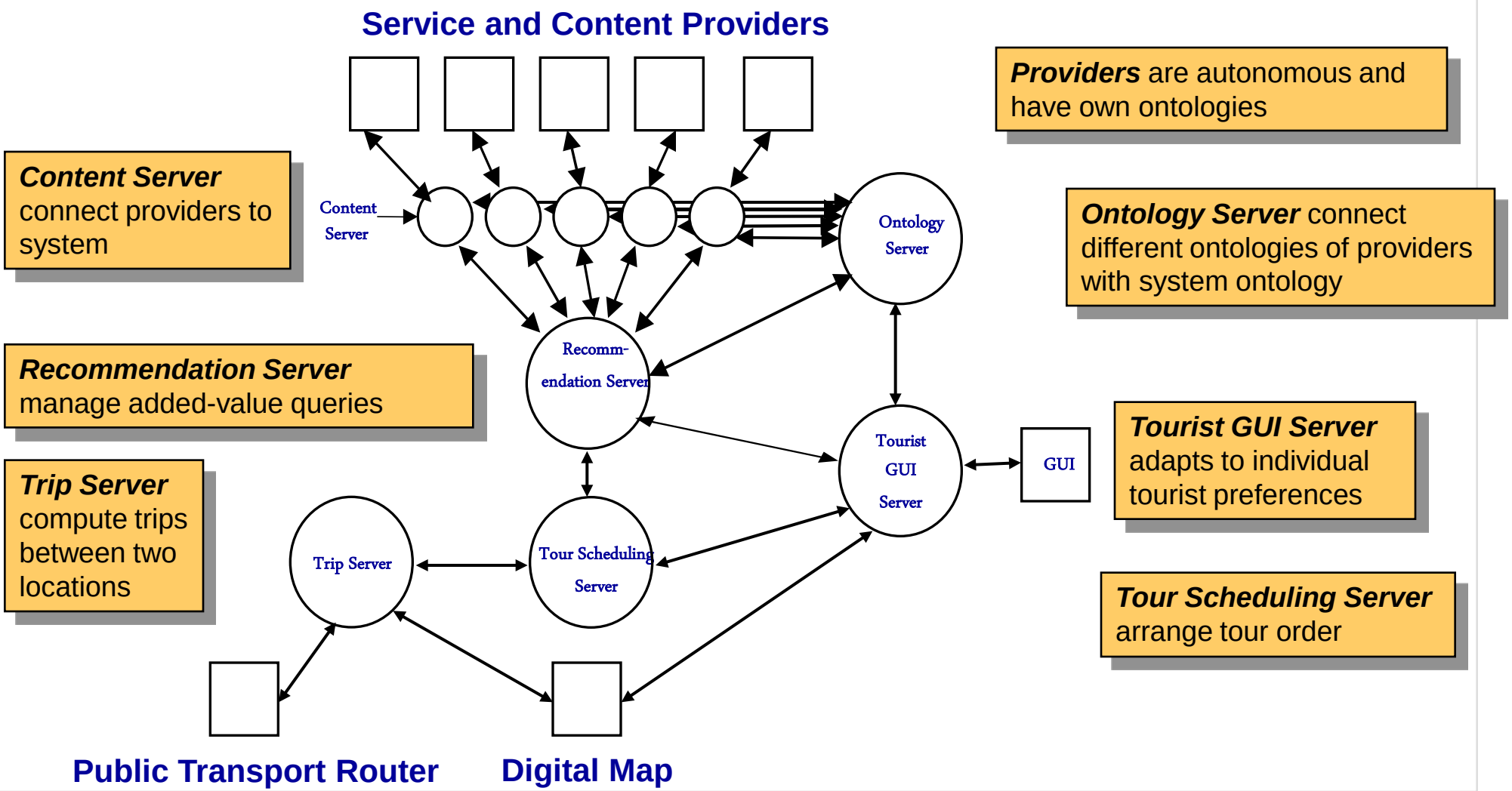
Tourist Information System

Underlying principles:

- Tourist has always final decision and control.
- The content is managed by on-line providers, not by this system.
- Several providers are consulted for any service
  (achieving fault tolerance and more objective information).
- System generates added-value information that is not given by any single provider.
- New providers may enter the system whenever they want (also for new categories of interest).

Tourist Information System

System architecture: Service-oriented (SOA)



Providers are autonomous and have own ontologies

Content Server connect providers to system

Ontology Server connect different ontologies of providers with system ontology

Recommendation Server manage added-value queries

Tourist GUI Server adapts to individual tourist preferences

Trip Server compute trips between two locations

Tour Scheduling Server arrange tour order

Semantic Web Services

Web Services

- enable automatic call of service in the web without need for human interaction.
- document meaning of call parameters and interpretation of answer only in human readible form (not to be interpreted by machines)

Semantic Web Standards

- standardise meaning of ontologies in machine-interpretable form.
- do not deal with automatic invocations.

Semantic Web Services

- try to combine the goals of web services and semantic web standards.

Semantic Web Services

- machine interpretable and invocable standards for ontologies
- standards: WSMO (Web Service Modelling Ontology)
  WSMX (Web Service Modelling Execution Environment)
- so far only in a prototypic state

Details in master thesis Max Herold 2008 (in English):
http://www.fh-wedel.de/fileadmin/mitarbeiter/iw/Abschlussarbeiten/MasterarbeitHerold.pdf

Perspective for Edinburgh

Hamburg already got a tourist information system with the features described.

How about Edinburgh ?

Project idea:

- FH Wedel sends a computer science master student to Edinburgh Napier University.
- Edinburgh Napier University provides facilities and contacts.
- ERASMUS pays.

Perspective for Edinburgh

Tasks to be done for adaptation for Edinburgh:

- English user interface
- Integration of local content providers
- Web service adaptation to public transport system

Time scale:

- One student for 3 month
- Candidate is available for spring / summer 2011

Academic interchange between Edinburgh Napier University and FH Wedel

Exchange of people:

- Lecturers
- Students
- ERASMUS pays

Transfer of ideas:

- PhD and master students work at the other institution
- Students take classes for credit at the other institution