Workshop on Artificial Intelligence in Practice

Part 2: AI Details and Applications in Navigation and Public Service

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Section 4: Application in Public Service

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)

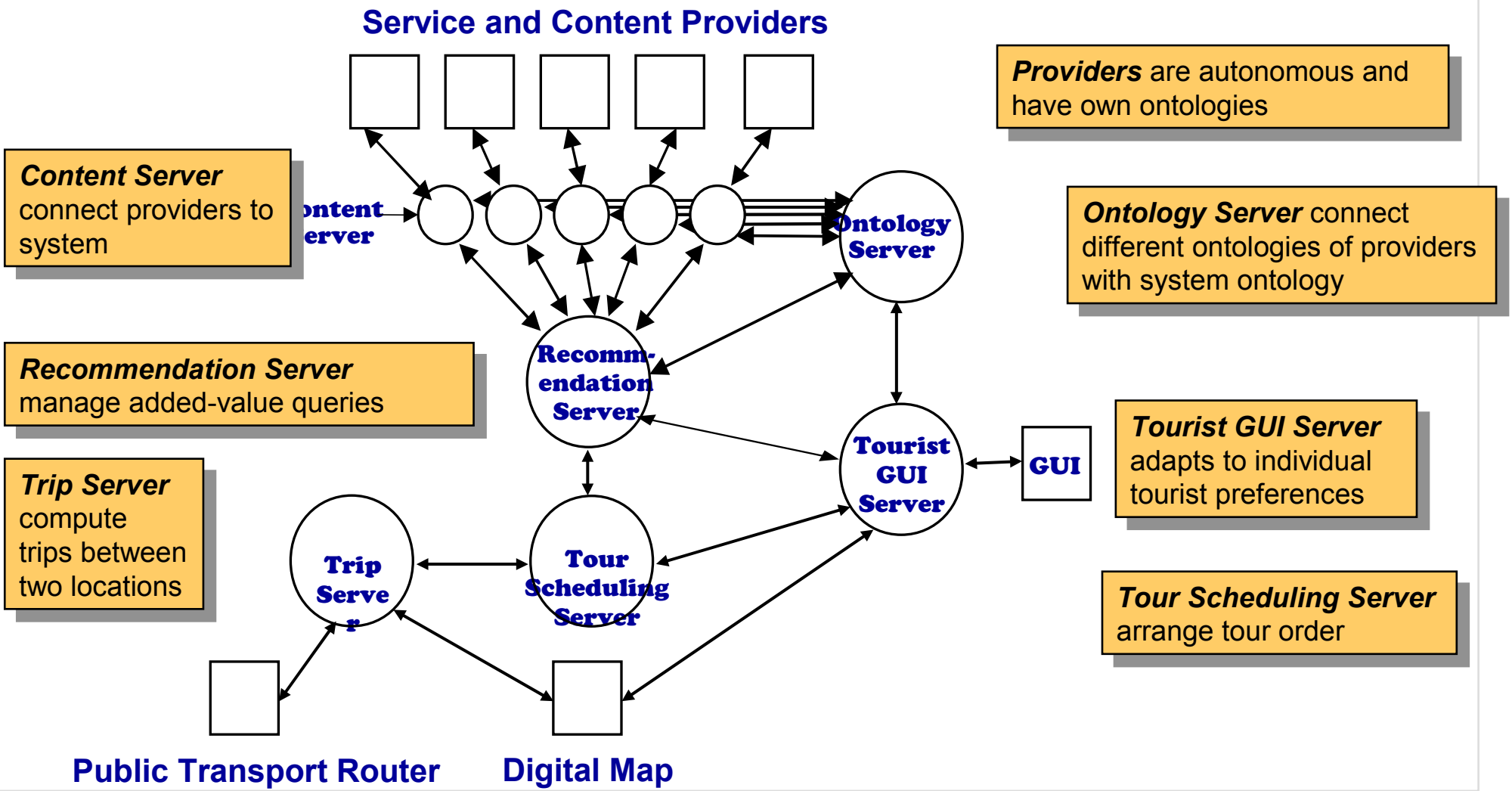
Tourist Information System

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)



Features of SOA

- **distributed**

  using autonomous units

- **loose coupling between services**

  services are not centrally controlled

- **using open standards**

  e.g., web services, semantic web

- **process oriented**

  connecting services, not data

- **simple**

  e.g. status-free, advertisement of service specification only

- **security**

  not considered yet in this application

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/~iw/eng/r-d/done/master/