1. Ontology-based User Interfaces

- How users visualize / interact with the Semantic Web
  - Annotating (static or dynamic) HTML pages, HTML forms
  - Ontology editors (e.g. Protégé, OEmpa)
  - Custom standalone clients (e.g. Java Swing + HTTP + RDF APIs)
- Our focus: dynamic generation of web pages from ontology-based semantic networks
- Our approach: take advantage of extra semantic information in the Semantic Web
- Current technology for dynamic web page generation is not suited for ontology-based knowledge
- XSL, DAP, CGI/Servlets alone require advanced programming skills
- Adaptive Hypermedia Systems provide canned user interface solutions
- Our approach: take advantage of extra semantic information in the Semantic Web
- Explicit knowledge classification and structure
- Information about users, services, platform...

2. Context-Sensitive Web Pages

- Better user experience
  - Automatic adaptation of the user interface
    - Content selection
    - Type of presentation components, layout & style
    - Link generation & annotation
  - Conditions for adaption
    - User model: static profile, action history, state of knowledge, goals
    - Type, structure, and properties of knowledge
    - Platform characteristics: screen resolution, network bandwidth, I/O devices
- Support for designers
  - Semi-automated web page generation
  - Free knowledge representation
  - Explicit available Semantic Web metaknowledge
  - Retain control over presentation design
  - Presentation consistency and reuse
  - Interactive authoring tools

3. Our Approach

- Made to measure Ontologies
  - Class hierarchies, attributes and relations
- Domain Model
  - Semantic networks of ontology instances
- Explicit Presentation Model
  - Associate presentations to ontology terms

4. The Interaction Cycle

5. The Presentation System

6. An Example