Protégé based Knowledge Services within the AKT Project

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AKT is an IRC project funded by EPSRC
Started officially in 2000 for 6 years
Concerned with the management of the knowledge life cycle
Collaboration between the Universities of Aberdeen, Edinburgh, Sheffield, Southampton and the Open University
Aim of presentation

- Introduce some of Protégé-based AKT technology
- Find which part of our technology is of interest to you
- Collect feedback and ideas
- Discuss further requirements and upgrades
- Establish contact with those who share some of our interests
Protégé-based tools built by AKT Soton

- **Ontocopi**: Support for community of practice identification using ontology network analysis
- **MiAKTab**: Management and annotation of medical images
- **TGVizTab**: Knowledge visualisation plugin using TouchGraph technology
Ontocopi

- Ontocopi: Ontology-based Community Of Practice Identifier

- Communities of practice (COPs) are:
  - Informal groups
  - Self-organising
  - Members share interest in practice

- Ontocopi uses a spreading activation algorithm to crawl the knowledge network and identify similar objects

- More info and demo at:
  - http://www.aktors.org/technologies/ontocopi/
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Ontocopi
Medical Imaging & AKT

- MiAKT - Medical Imaging & AKT
- Project aims to provide assistance in the Multi-Disciplinary Meeting (Triple Assessment Meeting for Breast Cancer)
  - Medical Image annotation
    - Manually and/or with image analysis software
  - Semantic content-based image retrieval
  - Diagnosis and patient management recording
- Collaboration between 5 universities
MiAKTab

- Manual annotation of medical images with respect to a given ontology
- Add/remove instances interactively from the graph
- Display the ontology with TouchGraph
- Currently available as a standalone applet with DAML-OIL support
• TGVizTab - TouchGraph Visualisation Tab

• *I needed a graph visualisation tool written in java, interactive, multi-dimensional, open source, and free!* ... 2 years later .... TouchGraph came out

• TouchGraph
  – Uses a Spring layout algorithm
  – Fast real-time rendering
  – Extendable
  – Lightweight

GoogleBrowser

Amazon.com
TGVizTab

- Visualises Protégé’s ontologies and knowledge bases (classes, instances, and slots)
- Incremental graph navigation
- Neighbourhood size control
- Save/Load graph and settings in XML
- Interactive graph
- Hide/show individual slots and nodes
- Fast and dynamic pan and zoom
- Colour control
TGVizTab future development

• Soon
  – Hyperbolic effect
  – Semantic zooming
  – Source release
  – Back/Forward

• Later?
  – KB editing via graph
  – Handling of reified relations
  – Node icons and hints
• Are there any specific requirements for ontology visualisation?