Advanced Knowledge Technologies

The next generation of knowledge lifecycle technologies

Description:

- Multi-million pound 6 year collaboration between 6 university groups:
  - Aberdeen: cooperative KA & knowledge refinement;
  - Edinburgh: lifecycles & ontologies;
  - Open Univ: internet-based services & knowledge modelling components;
  - Sheffield: text analysis & information extraction;
  - Southampton: two groups with skills in multimedia, ontologies, agents, knowledge acquisition, etc.

- Aims to identify or invent the next generation of technologies for capture, modelling, publishing, reuse and management of knowledge.

Further work:

- The ultimate goal of F-Life is to permit assembly of distributed software components over the Semantic Web, to perform complex transformations on large repositories of knowledge.
- The aim of KRAFT-IX is to provide a distributed virtual knowledge-based (and agent-based) workflow system.
- The overall aim of AKT is to provide seamless, intelligent, personalised access to and reasoning across the Web and other knowledge sources.

Results:

- IF-Map: uses Information Flow theory to merge two ontologies, based on a reference ontology.
- F-Life life-cycle editor, life-cycle interpreter and property checker: uses a formal life cycle calculus to describe property alterations during transformations.
- ExtrAKT Ontology Constraint Extraction Tool: finds ontology constraints in existing declarative knowledge bases & extracts them.
- KRAFT-IX Collaborative Support tool: integrates open-architecture workflow system with remote constraint solving system.

Universities of Aberdeen, Edinburgh, Sheffield, Southampton & OU

Funded by EPSRC as an Interdisciplinary Research Collaboration

http://www.aiai.ed.ac.uk/project/akt/