Developing a Knowledge Web for Process Redesign

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Overview

• Background motivation
• Problems
• Solution
• Approach
• Conclusions
Background Motivation

- How to develop an evolving practice for developing and using the Web to support:
  - Knowledge Management
  - Business Process (Re)Design
  - Software System Prototyping
  - Staff Training and Empowerment
- Low-cost, short cycle time, quality results

Problems

- How to acquire global knowledge for how to redesign complex business/SE processes
- How to develop knowledge acquisition, representation and operationalization methods that utilize Web technologies
- How to facilitate the continuing evolution and improvement of this knowledge web
Solution

- Use search engines and index servers to find *experiential, lessons learned* and *best practice* "cases" on Web
- Use *process meta-model* to code cases
- Build multiple overlapping *classification taxonomies* that interlink Web cases
- *Formalize* cases, classification taxonomies, process redesign heuristics and links

Approach

- Search/Index found over 200 cases on Web
- Six classification taxonomies identified
- 60-120 cases classified and linked per taxonomy by team of 30 grad. students
- Used *LOOM* knowledge representation system and *Ontosaurus* knowledge web interface from USC-ISI for knowledge formalization tasks
Results

- Multiple paths to navigate knowledge web
- LOOM analyzes new formalized cases as process models
- Analysis reveals gaps in new cases
- New patterns in cases are automatically classified via LOOM’s reasoning and subsumption mechanisms
- Examples follow
Problems found with current project model:

- Process DEFINE CONFIRM UPDATE REPORT cannot work.
- Process INFORMATION REQUEST not in model.
- Process INQUIRY CONFIRM REPORT is not started by any agent.
- Process INFORMATION REQUEST is not started by any agent.
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Conclusions

- Demonstrated and prototyped approach to integrate knowledge management and process reengineering with global resources
- Team learned Web-based KM and BPR
- LOOM supported knowledge web evolution
- Problems, Solution and Approach reusable