Knowledge Acquisition

Impressions of Knowledge Acquisition

- More an art than science
- Can be parsed into distinct phases
- "Naive behavioral approach"

What is Knowledge Acquisition?

- Translate knowledge encoded in human mind into machine readable language
- Sometimes called knowledge "extraction" or "mining"

Who's involved?

- Expert(s)
- Knowledge Engineer(s)
- Endusers
- Management
Knowledge Acquisition

Phases to Knowledge Acquisition

- Project Selection and Preparation
- Planning, Analysis and Design
- Prototype Development
- Full System Development

Project Selection and Preparation

- Identify task domain and expert(s)
- Knowledge engineers learn basic language of domain
- Build relationships with organizational stakeholders

Planning, Analysis and Design

- Build relationship with expert(s)
  - Evaluate experts?
- Scope outlines of project
- Set (or revise) goals

Prototype Development

- Create model (e.g., OAV map)
  - Interviews
  - Recording
  - Case review
  - Protocol analysis
  - Participant observation
- Create small k-base
- Test and revise k-base prototype
Knowledge Aquisition

**Full Scale Development**

- Create each prototype section
- Refine models of domain
- Test and evaluate
  - with users
  - with experts

**Management Issues**

- Will the expert cooperate?
- View of Human Resources?
  - Knowledge "extraction" or "mining"
  - Unhealthy view of human resources?
  - Should the expert cooperate?
- Compensation for experts?
  - Monetary
  - Non-monetary (satisfaction, task relief)

**Management Issues (cont)**

- Who owns the knowledge?
- Opportunities for organizational learning
  - Surfacing underlying assumptions
  - What do the experts really know?
  - Redesigning organizational structures and procedures

**end..**