Capturing Tacit Knowledge

Quick Notes
In the context of tacit knowledge capture, the term 'expert' includes those who are experienced, knowledgeable and skilled in a particular process or subject as well as those who are professionally qualified.

Knowledge Capture is...
A process by which an ‘expert’s’ thoughts and experiences (tacit knowledge) are captured
A knowledge developer collaborates with an ‘expert’ to convert tacit knowledge into accessible, re-usable information.

In simple terms, we want to “know” how experts know what they know

The steps
Use an appropriate tool or technique to elicit information from the ‘expert’
Interpret the information and infer the ‘expert’s’ knowledge and reasoning process
Use the interpretation to build rules that represent ‘expert’s’ solutions

The interview as a tool
Commonly used in the early stages of tacit knowledge capture
The voluntary nature of the interview is important
Interviewing requires training and preparation
Convenient tool for evaluating the validity of information acquired

Types of interview
Structured: questions and responses are definitive. Used when specific information is sought
Semi-structured: predefined questions are asked but allow expert some freedom in expressing the answers
Unstructured: neither the questions nor their responses specified in advance. Used when exploring an issue

Structured Questions
Multiple-choice questions offer specific choices, faster tabulation, and less bias by the way answers are ordered
Dichotomous (yes/no) questions are a special type of multiple-choice question
Ranking scale questions ask expert to arrange items in a list in order of their important or preference

Interview preparation
Learn the project terminology
Review existing materials
Learn the expert’s language

Decide where to hold the sessions
Beneficial to record the expert’s knowledge in the environment where s/he works
Ensure the meeting place is quiet and free from interruptions

The session itself
Set the stage and establish rapport
Properly phrase the questions - question construction is important
Listen closely and avoid arguments
Focus on how experts approach a problem
Look beyond the facts
Re-evaluate how well the problem domain is understood
How accurate the problem is modelled
Evaluate session outcomes
During the interview, avoid
Taping a session without advance permission from the expert
Converting the interview into an interrogation
Interrupting the expert
Asking questions that put the expert on the defensive
Losing control of the session
Pretending to understand an explanation when you actually don’t
Promising something that cannot be delivered
Bring items not on the agenda

Using a Single Expert
A problem in a restricted domain
Easier to coordinate meetings
Conflicts are easier to resolve
Shares more confidentiality than does multiple experts
Sometimes expert’s knowledge is not easy to capture
Single expert provides only a single line of reasoning
Expert knowledge is sometimes dispersed
Single expert more likely to change scheduled meetings than experts in a team

Using multiple experts
Complex problem domains benefit from expertise of more than one expert
Working with multiple experts stimulates interaction
Allow alternative ways of representing knowledge
Formal meetings often a better environment for generating thoughtful contributions
Scheduling difficulties
Disagreements often occur among experts
Confidentiality issues
Requires more than one knowledge developer
Overlapping mental processes can lead to “process loss”

Developing relationships with experts
Create the right impression
Understanding the expert’s style
Prepare well for the session
Decide where to hold the session

Approaching multiple experts
Individual - an extension of single expert approach
Primary and secondary - start with the senior expert first, on down to others in the hierarchy
Small groups - each expert tested against expertise of others in the group

Uncertainties in information
Experts use analogies to explain events
Expert’s knowledge is the ability to take uncertain information and use a plausible line of reasoning to clarify the fuzzy details
Reliable knowledge capture requires understanding and interpreting expert’s verbal description of information, heuristics, etc.
For example, words like possible, likely, and definite show relationships between words and belief

Problems encountered during interviews
Response bias
Inconsistency
Communication difficulties
Hostile attitude
Standardized questions
Lengthy questions
Long interview

Expert’s expression style
Procedure type - methodical approach to the solution
Storyteller - focuses on the content of the domain at the expense of the solution
Godfather - compulsion to take over the session
Salesperson - spends most of the time explaining his or her solution is the best