



ForeTell: A Framework for Critical Knowledge Retention

Background

The post-World War II demographic bulge threatens to seriously disrupt government and business organizations, as aging “baby boomers” retire. These organizations risk losing critical knowledge accumulated by these workers regarding core operations, processes, and general contextual information.

Organizations seeking to capture and retain critical knowledge from retiring workers are looking to solutions derived from Artificial Intelligence (AI) research, such as domain knowledge repositories and expert systems. These techniques, while valuable, display major shortcomings, which DecisionPath attempts to address with our ForeTell platform.

Current Knowledge Retention Approaches

Domain repositories can capture and depict large amounts of tacit information about knowledge work – what must be done, how to do it, and why. However, such repositories are fundamentally *static*: they *describe* knowledge activities rather than automating or enabling those activities. Repository models also tend to be somewhat “shallow” or “brittle”, providing limited if any context for guiding appropriate use, avoidance, and adaptations of task recipes. Second, the world continues to evolve over time, which means that repositories must be updated as well.

Expert systems capture and help automate performance-based knowledge, such as equipment diagnosis/repair, or planning and scheduling. Unfortunately, these systems also suffer from brittleness problems that detract from their reliability. Second, if-then rules and other schemes used to capture expertise for automated reasoning are often not conducive for browsing and education. Most seriously, expert system economics are prohibitive – the time, effort, and money required to build, validate, *and* maintain systems for narrow areas of performance expertise precludes broad usage.

ForeTell’s Approach: Retaining Critical Decision-Making Knowledge

Our ForeTell software platform introduces a third, hybrid approach to retaining critical knowledge. ForeTell focuses on capturing critical knowledge about how to make decisions about key issues such as organizational structure, policies, and investments.

Similar to a domain repository, ForeTell captures knowledge about an organization, its environment, core roles and processes. However, ForeTell models *dynamic* as well as static information pertinent to organizations and their missions – namely about environmental forces, anticipated events, key stakeholders and their behavior patterns, and pending decisions.

Similar to an expert system, ForeTell applies its captured knowledge dynamically, making it *actionable*. Specifically, ForeTell supports decision-makers by using its



knowledge model to drive “what-if” simulations: it projects the likely consequences of candidate decisions across alternate scenarios of the future. ForeTell then provides analysis tools that enable users to interactively explore and compare the consequences of candidate decisions.

In essence, ForeTell attempts to capture holistically the “worldviews” that senior workers develop over time, and make them available to less experienced successor employees. Each worldview prescribes:

- What are the relevant factors to gather to make a considered decision
- What factors need not be considered (saving time, effort, and money by reducing what data need to be collected, validated, maintained, etc.)
- What are the key performance metrics to assess in evaluating the strengths and weaknesses of a prospective decision
- The crux of real-world decisions, which is anticipating how stakeholders will respond and adapt to your actions, changes in their environment and the actions of others.

ForeTell addresses the problem of knowledge system brittleness through interactivity. Repositories store recipes for knowledge worker tasks. Expert systems produce answers or recommendations. In contrast, ForeTell provides frameworks molded by expert worldviews that support less senior workers in modeling and assessing decisions.

ForeTell addresses the issue of knowledge system economics through our advanced software technology, which is more modular, automated, and agile than expert system tools. DecisionPath can develop (and validate) most decision models with a few weeks or months. Organizations and their environments change continually over time. ForeTell decision models can be extended to reflect these changes within one to several days.

Finally, as knowledge workers apply ForeTell to particular decisions, it produces audit trails. These trails provide a “due diligence” record for regulatory compliance. Second, they can be used to diagnose performance problems that can be targeted for continuing education. Third, they provide a basis for lessons learned and continuous improvement, both for individual knowledge workers and for the organization as a whole.

Bottom Line:

ForeTell is a true knowledge management platform for capturing, retaining, and distributing your organization’s best practice decision-making expertise. It reduces risk and increases confidence and consistency in your critical decisions.