



Software Performance Systems, Inc.

CAPABILITY

Rational Unified Process (RUP)

Overview

IT systems are pervasive in modern society. They can, and have, put our personal safety and privacy at risk. The software is invisible to all but a select few.

Software developers have long understood the extraordinary importance of engineering discipline, effective tools, and repeatable processes to the creation of information systems. However, agreement on specific so-called “development life cycles” has been difficult to achieve. In fact, there are many such life cycles, many of which perpetuate obsolete or inferior methods.

Early life cycles defined discrete phases – each to be completed and verified before initiating the next. The user community role was to approve the products of each phase. An underlying premise was that each completed phase could be “frozen” while work proceeded on the next phase. System functionality was not visible until all phases were done. Needless to say, costs to revise systems were very high. To better involve the user community and reduce risk, evolutionary and iterative life cycles were developed that featured incremental delivery of functionality in relatively short time periods. Preeminent among latest life cycles is the Rational Unified Process (RUP), which SPS adopted in 2000 as our corporate methodology.

Making IT Work. Together.

With RUP, SPS develops better customer-centric solutions. We document requirements in use case models and associated artifacts, ensuring an active customer role in defining business objectives in familiar terms. We further validate and refine requirements in user “scrub sessions” to gain multiple user perspectives. A SPS-developed iteration plan sequences use case development to provide functionality, and opportunity for correction, as early as possible.

User involvement continues through system development as we prepare unified modeling language diagrams. Throughout, SPS employs a controlled, documented process featuring customer control of decisions to modify, prioritize, or dispose of requirements.

Customers contribute to formal and informal system testing, helping to ensure understanding and acceptance of the production system.

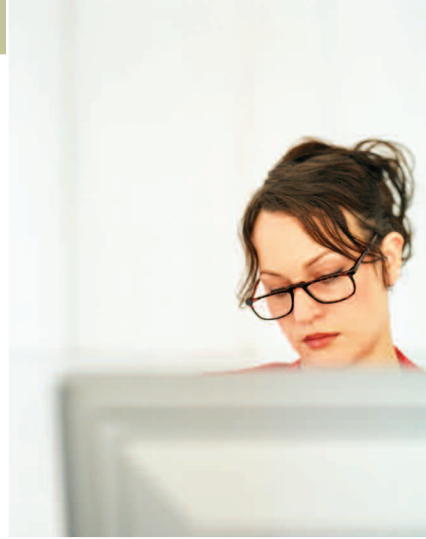
Featured Solutions

Bureau of Industry and Security

For the Bureau of Industry and Security (BIS), SPS introduced the iterative life cycle and artifacts in both a Commercial Off The Shelf implementation and custom development. At an organizational level, BIS had no institutionalized development life cycle. In close collaboration with BIS, SPS implemented the software engineering best practices of developing iteratively, managing requirements, using a component architecture, visually modeling software, continuously monitoring software quality, and managing change – supported by the Rational Tool Set. SPS provided customer insight beyond that of the Rational Unified

CLIENT BENEFITS:

- Delivers functionality to users relatively quickly and expands capabilities in a systematic, priority-based manner.
- Improves communication between developers and customers during requirements elicitation.
- Enables architecture decisions early enough in the process to allow meaningful modifications.
- Improves design efficiency and effectiveness by providing easily understood design artifacts.



Process by adding milestone driven Technical Review Boards into the quality assurance plan.

Department of Justice

The Department of Justice (DOJ) required use of a tailored version of a waterfall life cycle for the Electronic Case Management System, developed for the Executive Office of U.S. Attorneys. SPS applied iterative development principles within each phase to facilitate early requirements and design feedback to the SPS design team. Use cases were assigned to



iterations based on their impact on the overall design to ensure that reviews occurred when design decisions could still be affected. SPS developed navigational prototypes for use during use case review so the DOJ could review use cases in an operational context.

Summary

The Rational Unified Process is a disciplined approach to assigning and managing software development tasks. It employs many of the best practices in modern software development; augmented with tools, tailoring aids, and detailed practical online guidance. SPS recruits, trains, and manages around RUP principals; resulting in improved quality, shortened timelines, and reduced risk. Because customers are continually involved, they truly become partners in the development process. Imagine what we could do working together! Let us put our expertise and experience to work for you.

“How do you eat an elephant? One bite at a time! If the sequential, or waterfall, approach is reasonable and even successful for short projects or those with a small amount of novelty or risk, why not break down the lifecycle for a large project into a succession of small water fall projects?...This is the iterative approach.”

—Philippe Kruchten, The Rational Unified Process – An Introduction. Second Edition. 2000.

ABOUT SPS

Software Performance Systems, Inc. (SPS), a small business based in Northern Virginia, is a privately held information technology services provider. Established in 1995, SPS specializes in the design and integration of large web-based solutions for Federal, State, and Local Governments and commercial clients worldwide. SPS has been honored with many national awards, including: #10 ranking in the Computerworld Top 100 Best Places to Work in IT, Deloitte's Virginia Technology Fast 50 and North America Technology Fast 500, and as a SBA Exporter of the Year. More importantly, SPS solutions helped our clients win prestigious awards, including the Grace Hopper Federal Government Technology Leadership Award, the E-Gov Pioneer Award, the Excellence.gov Grand Prize Award, and the Government IT Agency Award for Excellence in Government. **SPS...proven over time.**

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