

Industry:
Interactive Architecture

Organization:
The E-Corporation

URL:
www.the-ecorp.com

Description:
The E-corporation is a European Interactive Architect which is guiding companies all over the world to the digital business frontier. The E-corporation combines strategic, artistic and software skills to conceive, create and implement Internet and e-business ventures. The E-corporation is based in Belgium, the heart of Europe, and has a network of offices in Paris, Madrid, Vienna, Zurich and Istanbul.

Business Problem:
The E-corporation needed a development life-cycle process model to streamline all activities from requirements analysis, site development, graphical design, and testing to deployment.

Rational Solution:
Implementation of the Rational Unified Process™ (RUP) in combination with Rational Rose and Rational ClearCase.

- Key Benefits:**
- Better communication between team members increased efficiency
 - Meeting customers' expectations more accurately
 - Provided a framework for meeting high-quality/high-speed demands
 - Reduced risk with iterative development and a proven process based on expert knowledge and industry acknowledged best practices

Interactive Architecture Following the Rational Unified Process

A lot has changed since a number of years ago when companies proudly presented their first website. Back then the Internet was used to disseminate information on a worldwide basis; it was a new medium to carry information about the company and products to anyone interested. These initial sites were not much more than a collection of inter-linked HTML documents. Brochures and folders were nicely converted to a format suitable for the Web, and a telephone number was included in case the viewer should want to request more information. Software developers had not much to do with this new medium; their skills were rather used on the traditional client/server applications.

Nowadays, with the awakening of the Internet-based economy, building an internet site has fundamentally changed. Web sites are now far more than pages with information; they have often become the front door of the organization. Sites interact with the customer; sometimes the only contact a company has with its clients is via the Internet.

A fully functional website comprises of a combination of many artifacts, technologies and software components. Various skills are required to bring together a site that is intuitive to its users, reliable and fulfilling the business need. Multifunctional teams of skilled people are needed to bring together a site that meets today's expectations. Creative art designers work closely together with developers, analysts and business consultants.

The E-Corporation in Belgium is an organization that has all these skills, in-house, to take on the development of large-scale business-to-consumer/ business-to-business Internet sites. The E-Corporation was created in August 1999 as a result of a merger between Alcatel E-com and Net It Be. This merger not only created a bigger organization, but it was also a perfect marriage between the Belgian leader in building successful Intranets (Alcatel E-Com) and the Belgian leader of sophisticated E-applications (Net It Be). The E-Corporation has a network of offices all over Europe, including Belgium, France, Switzerland and Spain, and has plans to expand

further in the near future. The company is presenting itself as an Interactive Architect with three main skills:

- Strategic advice
- A solution of the right technology and creativity
- Communication.

After the merger, the newly formed The E-Corporation was able to take on projects of much larger scale and complexity than before. In this age of e-development, organizations are required to unify creative skills, business communication and advanced software engineering practices for web development. Therefore, The E-Corporation has formed multifunctional teams of art designers, information analysts, business consultants and software engineers to work together on most of its projects.

The Need for More Structure

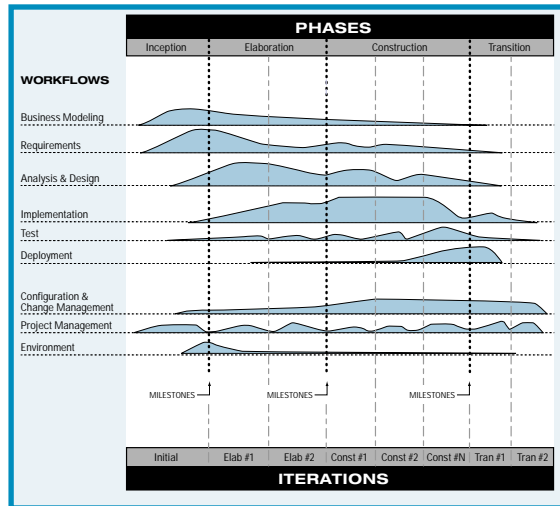
In order to successfully work together with all these different skills on complex and large projects, The E-Corporation needed a structure that could allow the organization to handle the growing scale of their business.

Peter Vochten from The E-Corporation explains, "We are in the business of Interactive Architecture, which means that we need to have excellence in building software as well as being able to present creative business communication. Our competitive strength is based on our ability to build professional, large-scale e-commerce sites. Due to the scale and complexity of our projects, we needed a process to support all of our development activities."

The merger gave The E-Corporation an opportunity to rethink the organizational structure. Management set three main goals for the new organization:

- Create and maintain an exciting and motivating company culture
- Assure a scalable organization to grow from the current 140 employees to over 300 employees
- Find a development process to manage the complexity of projects





The Phases, Iterations and Workflows in the Rational Unified Process

The E-Corporation had already been working with Rational Rose® to do Use-Case analyses on the requirements and to build architectures of the projects. Rational ClearCase® supported the management of all changes of the projects. Peter Vochten says, "We were already accustomed to working with the Unified Modeling Language™ and Rational Rose, therefore it was only natural to us to turn to Rational for further process support. We had a good look at the Rational Unified Process and it did not take long for us to realize this was the way forward. The workflows within the Rational Unified Process cater to our needs by facilitating team communication, something very critical due to the various skills found in our project teams."

Best Practices for Optimization of Development

The move to implementing the Rational Unified Process was a very logical one for The E-Corporation. They needed to bring business logic and creative skills to their development cycles and the Rational Unified Process unites many best practices such as business modeling, requirements management, analysis and design, and testing and change control into one lifecycle process. Furthermore, the Rational Unified Process enabled The E-Corporation to improve team productivity by providing every team member with easy access to a knowledge base with guidelines, templates and tool mentors for all critical development activities.

Having all team members accessing the same knowledge base, regardless of whether they work with requirements, design, test, project management, or configuration management, ensures that they share a common language, process and view of how to develop the site.

To suit the organizational structure best, The E-Corporation made customizations to the Rational Unified Process. Because the process itself is built with the Unified Modeling Language (UML™), customizing the workflows, roles and iterations is a relatively simple matter. The E-Corporation chose to add a multimedia workflow because it is such a fundamental flow within their activities. Customizing the Rational Unified Process can even be implemented to the level of activities and artifact management when used in combination with the Unified Change Management (UCM) framework that comes with Rational ClearCase and Rational ClearQuest®.

Everyone within the Development Division of The E-Corporation was assigned a role within the team. The organization defined the following roles:

- Analysts: responsible for the management of the requirements and the creation of the Use Cases
- Architects: define the architecture and what technology will be used
- Software Engineers: divided in a Java technology centric group and a Microsoft technology centric group
- Studio: artists that are responsible for the creative part of the e-applications
- Multimedia: A group of developers specialized in all multimedia aspects applicable in e-applications

"It was only natural to us to turn to Rational for process support."

Each group was assigned a competence manager, who is responsible for the application of the Rational Unified Process in his/her group. Next to this Competence Manager, there's an overall company Quality Manager whose role is to monitor the process in all the divisions: Sales & Product Management, Strategic Services (the consulting division), and Operations (Project Managers).

A Successful Project Completed with the Rational Unified Process

The E-Corporation really put the Rational Unified Process to the test when they were awarded a project to build a new version of the website for "Gemeentekrediet", a Belgian Bank that is part of the Dexia Group. Gemeentekrediet needed a website to communicate with its customers, but also to allow these clients to do on-line banking.

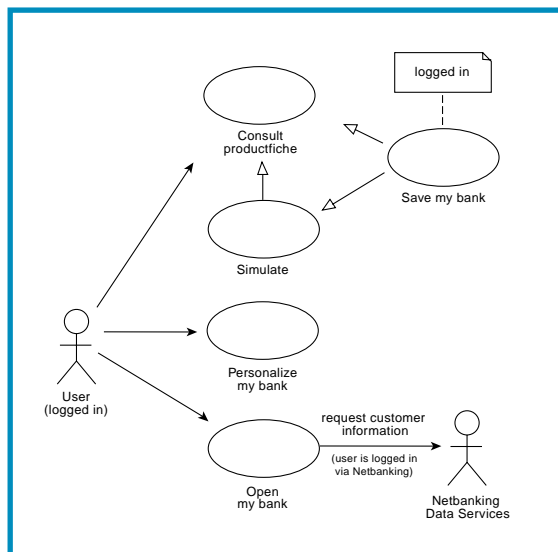
The Gemeentekrediet website was completely built with Enterprise Java Beans on a Gemstone database. Rational ClearCase was used as a Configuration Management solution to assure parallel development and version control on all artifacts. The Web pages were constructed with HTML and application artifacts in Java. A content management system based on a XML repository was chosen to ensure a logical presentation of the data regardless of the layout.

Following the Rational Unified Process, The E-Corporation split the development cycle into four separate phases. Each of these phases was further split into iterations, each of which ended with the production of a "test ready" deliverable.

In the Inception phases, The E-Corporation and Gemeentekrediet worked out all the requirements of the e-commerce site. These requirements were depicted as Use Cases to provide a way to express, in common terms, a shared understanding of the expected behavior of the website. "Because a use-case model consists of actors, use cases, and relations among them, we could communicate the system in a clear and consistent manner to all stakeholders of the project," explains Peter Vochten. Visually modeling your software is always a good idea, as pictures are the simplest, cleanest way to describe your system.

After everybody had agreed on the requirements of the system, The E-Corporation was ready to move to the Elaboration phase. In this part of the project, The E-Corporation developed several executable prototypes of the architecture. These executables were shown to Gemeentekrediet, to keep them up-to-date on the progress of the project and to constantly ensure that what was built met customer expectations.

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Use Case Model: The Personalization of the Site

About Rational Software Corporation:

Rational Software Corporation (NASDAQ: RATL), the e-development company, helps organizations develop and deploy software for e-business, e-infrastructure, and e-devices through a combination of tools, services, and software engineering best practices. Rational's e-development solution helps organizations overcome the e-software paradox by accelerating time to market while improving quality. Rational's integrated solution simplifies the process of acquiring, deploying, and supporting a comprehensive e-software development platform, reducing total cost of ownership. Founded in 1981, Rational, one of the world's largest Internet software companies, had revenues of \$572 million for its fiscal year that ended in March 2000, and employs more than 2,600 people around the world.

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Working this way, The E-Corporation stayed clear and consistent with its client on the progress of the project. Each of the stakeholders was up-to-date on what expectations he/she could have of the final deliverable. It was also clear what impact certain changes to the set of requirements has to overall project planning.

During the Construction phase, The E-Corporation again produced several iterations of the application, each of which was testable, although these were not feature-complete until the end of construction. Mr. Saelens, developer at The E-Corporation explains: "We build the site step by step. First we build a piece, then we check it, and then we ok it. It's like a loop. This construction principle has a major advantage. We keep improving what we have. It gets better and better." The highest risk features are implemented first, so these are tested as early as possible. This way, any areas of poor performance or reliability can be found and fixed early in the development process, when it costs the least. As a result, the development process is finished with a project that is bug-free, on time, and on budget.

When the site was completed, The E-Corporation also took care of good market deployment. In this Transition phase, Gemeentekrediet was assisted in maintaining the database and fine-tuning it when necessary.

Working with the Rational Unified Process also greatly assists in maintaining a running application. Because the architecture and all the builds are so well documented, it is a lot simpler to find where possible problems originate.

The Next Iteration for The E-Corporation.

The greatest advantage The E-Corporation has experienced from working with one common process on all projects is effective re-use of components, experience and activities. The Rational Unified Process can constantly be fine-tuned when the organization gains experience in various projects. Because all activities are documented following a constant structure and language much experience can be taken from previous projects to new ones.

The E-Corporation is planning to roll out the Rational Unified Process to all its projects on all sites to further leverage the unification of its teams. The Rational Unified Process gives their development teams the power to apply proven principles to optimize all efforts, simplify efforts, simplify communication and assure quality solutions that meet all requirements.