



# The Rational Unified Process®: For Dummies

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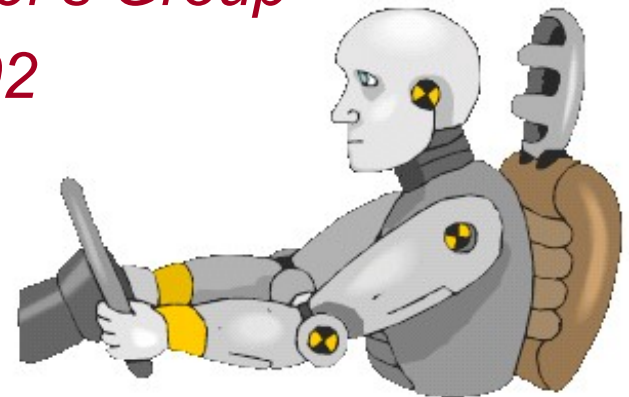
Original created by:

*Praveen Jaskal, Noble(Star Systems Corp.*

for:

*Northern Virginia Rational User's Group*

*Reston, VA, Fall 2002*



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# What You Should Walk Away With...

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Understand some of the high level fundamentals of RUP

Know of Rational's 6 best practices for software development

- Develop s/w iteratively
- Manage requirements
- Use component-based architectures
- Visually model software
- Continuously verify software quality
- Control changes to s/w

Be familiar with RUP's phases & disciplines

Understand value on running projects based upon risk-driven, iterative approach to software development

Know that RUP is set of **guidelines** not **rules**



# What You Should Walk Away With...

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See first that the design is wise and just;  
That ascertained, pursue it resolutely

-- William Shakespeare



# What if...

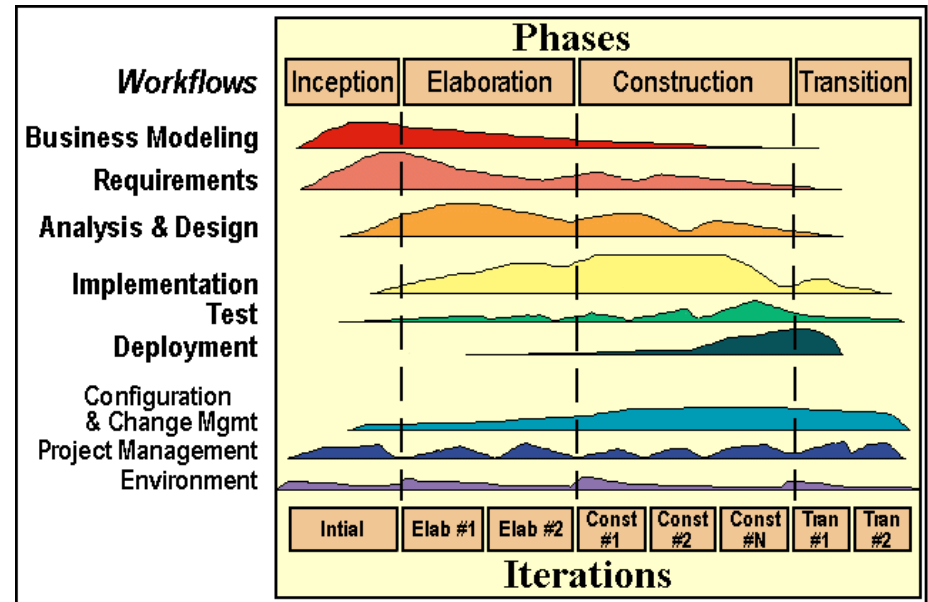
You were asked to deliver your current project 20% sooner than you planned?

Will you be able to say yes?

If you were able to do it?

What would that mean to:

- Your organization?
- Your team?
- You personally?



# Agenda Overview...

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## Best Practices Agenda

- Develop Iteratively
- Manage Requirements
- Use Component
- Architecture
- Model Visually (UML)
- Continuously Verify Quality
- Manage Change

## Phases Agenda

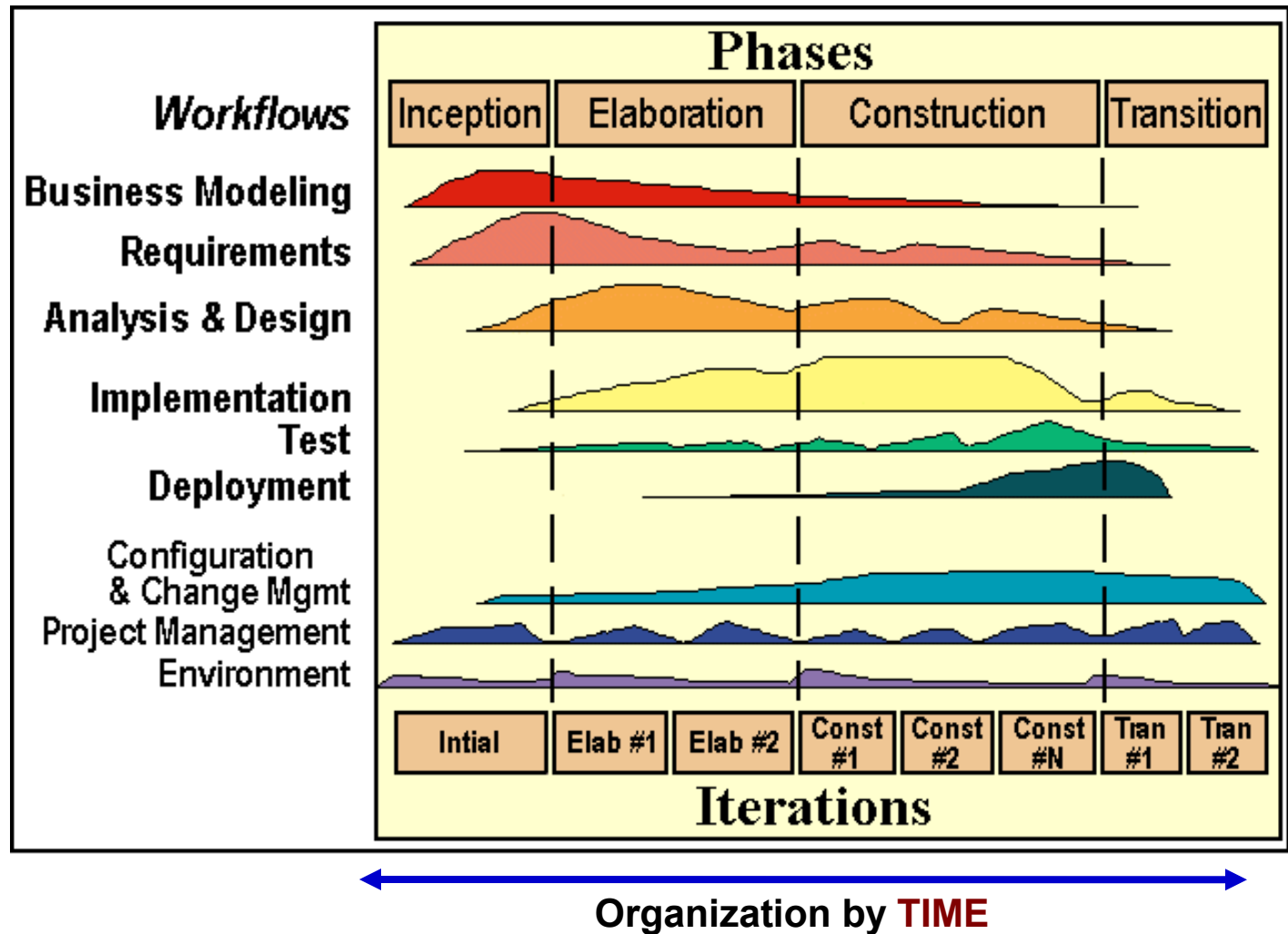
- Inception
- Elaboration
- Construction
- Transition

## Disciplines' Agenda

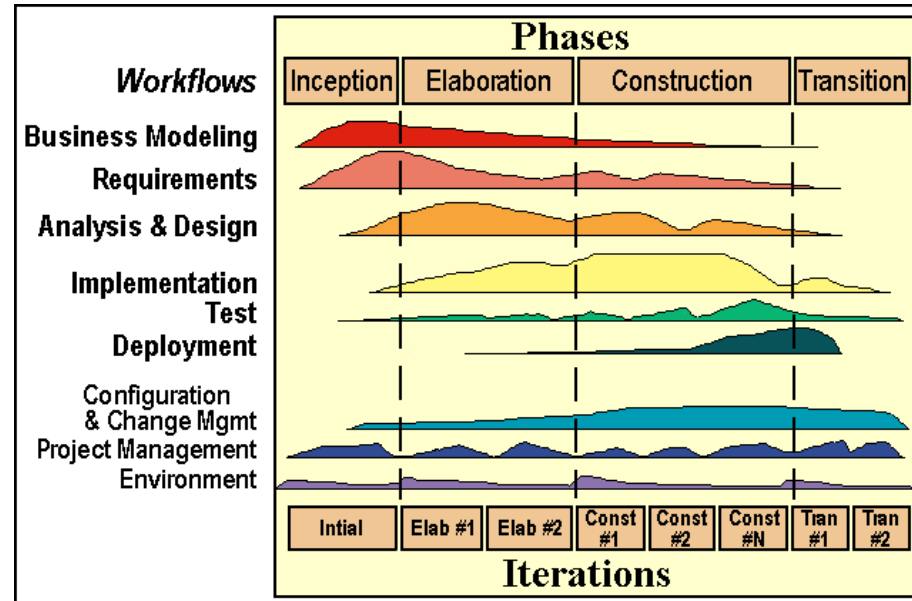
- Business Modeling
- Requirements
- Analysis & Design
- Implementation
- Test
- Deployment
- Configuration & Change Management
- Project Management
- Environment



# Disciplines / Phases / Iterations



# The Rational Unified Process



## RUP Process Made Practical

- Sustained development of quality software
- Delivered on-time and on-budget
- Requires more than “heroic” individuals
- Cohesive teamwork & common understanding of development tasks
- Ensures implementation is predictable and repeatable

# The Spirit of RUP

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Attack major risks early and continuously

- ... Or they attack you

Use working software as primary measure of progress

Completed plans, requirements, and design are good - working software is better

Produce only artifacts you need

- When in doubt, don't produce it

Accommodate changes in requirements and design

- Allow for changes, but manage them



# The Spirit of RUP

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Ensure that you deliver **value** to your customer

- Design, implementation, and testing address customer needs
- Documenting customer needs is good, implementing them is better

Baseline an executable architecture early

- First build the skeleton structure, then fill in the holes

Work closely as one team

- Affects organization, tooling and team values

Quality is a way of life, not an afterthought

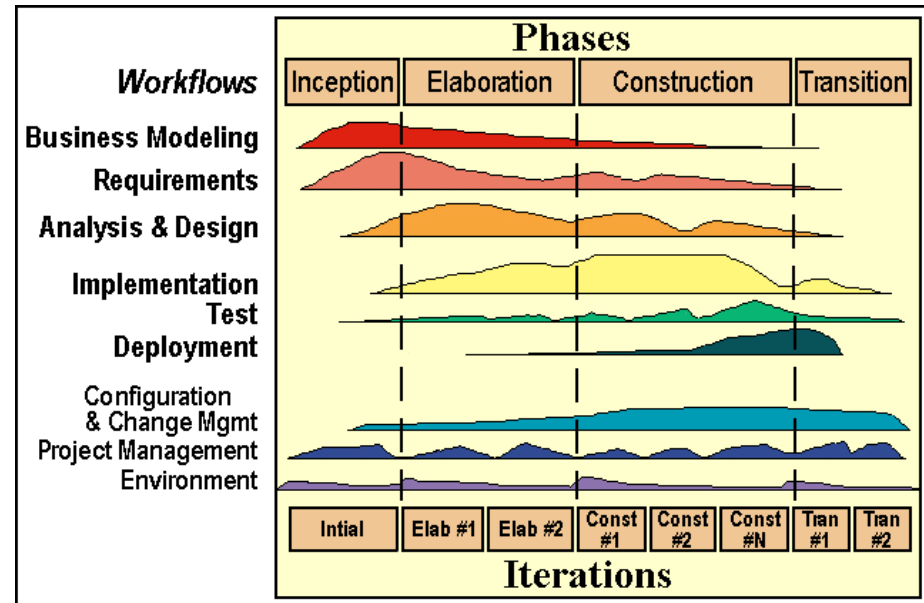
- Quality from the beginning, quality by design



# Agenda Phases...

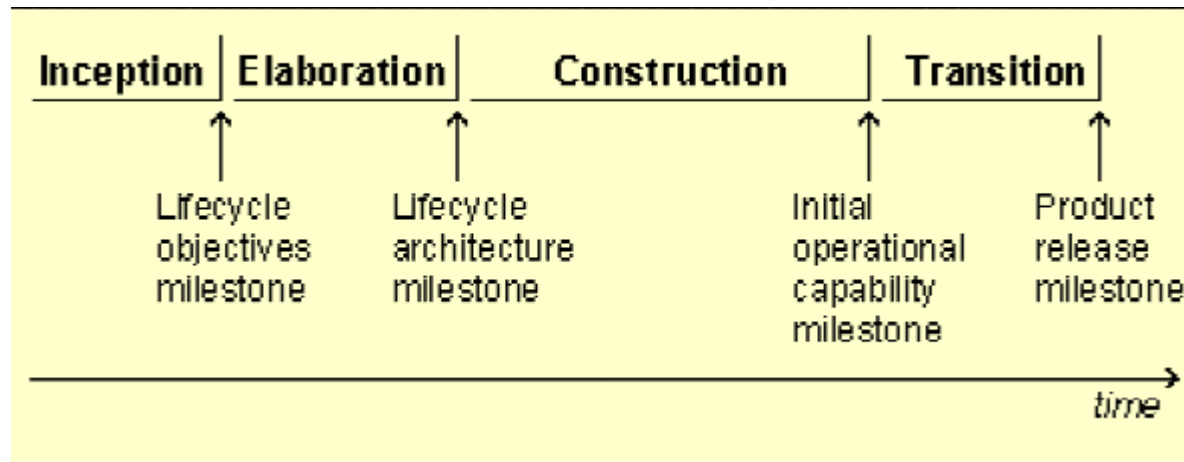
## Phases Agenda:

1. Inception
2. Elaboration
3. Construction
4. Transition



# Agenda Phases: Overview...

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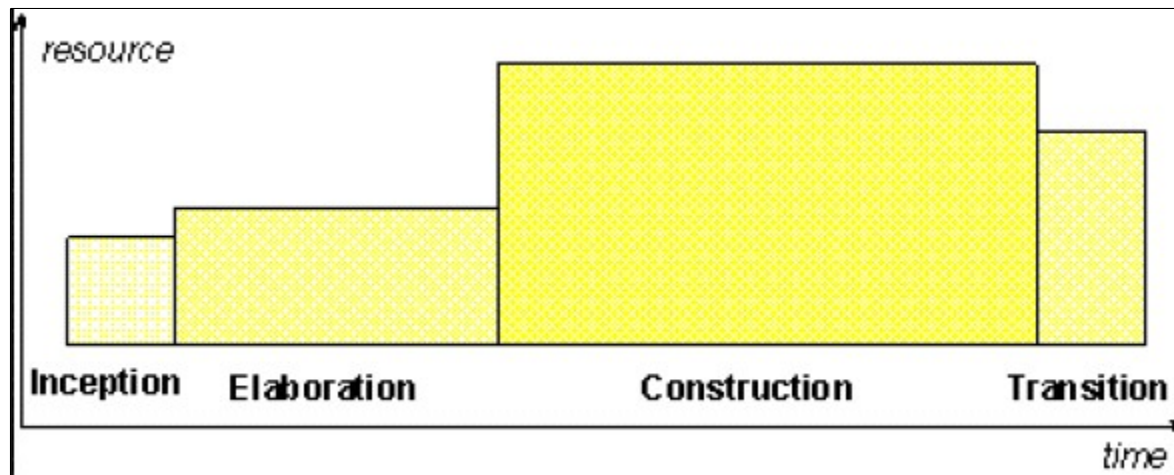


The software lifecycle of the Rational Unified Process (RUP) is

- Four sequential phases,
- Each concluded by a major milestone;
- At each phase-end an assessment is performed to
- determine whether the objectives of the phase have been met.
- A satisfactory assessment allows the project to move to the next phase.

# Agenda Phases: Overview...

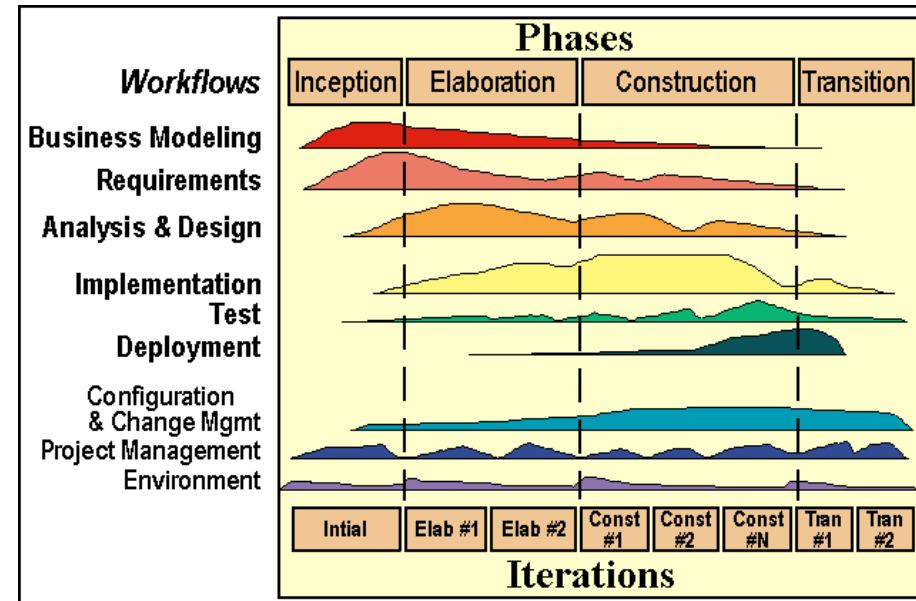
	<u>Inception</u>	<u>Elaboration</u>	<u>Construction</u>	<u>Transition</u>
Effort	~5%	20%	65%	10%
Schedule	10%	30%	50%	10%



# Agenda Disciplines...

## Disciplines' Agenda:

1. Business Modeling
2. Requirements
3. Analysis & Design
4. Implementation
5. Test
6. Deployment
7. Configuration & Change Management
8. Project Management



A **discipline** shows all activities you may go through to produce a particular set of artifacts:

- Roles,
- Activities, and
- Artifacts that are involved

# Discipline: Business Modeling

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## Purpose

- To understand the structure and the dynamics of the organization in the target organization
- To understand current problems in the target organization and identify improvement potentials
- To ensure that customers, end users, and developers have a common understanding of the target organization
- To derive the system requirements needed to support the target organization.

## Relation to Other Disciplines

- Requirements
- Analysis & Design
- Environment



# Discipline: Requirements

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## Purpose

- To establish agreement with the customers and other stakeholders on what the system should do
- To provide system developers with a better understanding of the system requirements
- To define the boundaries of the system
- To provide a basis for estimating cost and time to develop the system
- To define a user-interface for the system, focusing on the needs and goals of the users

## Relation to Other Disciplines

- Business Modeling
- Configuration & Change Mgt
- Analysis & Design
- Project Management
- Test
- Environment



# Discipline: Analysis & Design

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## Purpose

- To turn the requirements into a design of the system-to-be
- To develop a comprehensive architecture for the system
- To adapt the design for performance

## Relation to Other Disciplines

- Business Modeling
- Requirements
- Test
- Project Management
- Environment





# Discipline: Implementation

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## Purpose

- To define the organization of the code, in terms of subsystems organized in layers
- To implement classes and objects in terms of components (source files, executables, and others),
- To test the developed components as units
- To integrate the results produced by individual developers (or teams), into an executable system

## Relation to Other Disciplines

- Requirements
- Environment
- Analysis & Design
- Deployment
- Test
- Project Management



# Discipline: Deployment

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## Purpose

- The custom install
- The "shrink wrap" product offering
- Access to software over the Internet

## Relation to Other Disciplines

- Requirements
- Test
- Configuration & Change Management
- Environment
- Project Management



# Discipline: Config. & Chg Management

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## Purpose

- Identifying configuration items
- Restricting changes to those items
- Auditing changes made to those items
- Defining and managing configurations of those items
- Ensure completeness and correctness of the configured product
- Provide an audit trail on why, when and by whom any artifact was changed

## Relation to Other Disciplines

- Business Modeling
- Requirements
- Analysis & Design
- Environment
- Deployment
- Project Management
- Test



# Discipline: Project Management

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## Purpose

- To provide a framework for managing software-intensive projects.
- To provide practical guidelines for planning, staffing, executing, and monitoring projects.
- To provide a framework for managing risk
- Risk management
- Planning an iterative project, through the lifecycle and for a particular iteration
- Monitoring progress of an iterative project, metrics

## Relation to Other Disciplines

- Business Modeling
- Requirements
- Analysis & Design
- Deployment
- Implementation
- Test



# Discipline: Environment

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## Purpose

- To configure the process for a project
- To provide the software development organization with the software development processes and tools

## Relation to Other Disciplines

- Business Modeling
- Requirements
- Analysis & Design
- Test
- Deployment
- Change and Configuration Management
- Implementation
- Project Management



# Summary: *Overall Benefits*

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## With the rational unified process solution you will:

Optimize the collaboration of your complete team

- RUP helps you unify your team

Deliver the right product on time and on budget

- RUP helps you focus on delivering working software

Effectively be able to adopt new techniques and tools on your projects

- RUP helps you leverage new tools and technologies



# Summary...

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## Best Practices Agenda

- Develop Iteratively
- Manage Requirements
- Use Component
- Architecture
- Model Visually (UML)
- Continuously Verify Quality
- Manage Change

## Phases Agenda

- Inception
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- Transition

## Disciplines' Agenda

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## Reference Articles:

- [Accessing the RUP against ISO/IEC15504.5: Information Technology – Software Process Assessment Part 5: An Assessment Model And Indicator Guidance](#)
- [Using the RUP for Small Projects: Expanding Upon eXtreme Programming](#) by Gary Pollice, Rational Software
- [The Rational Unified Process An Introduction \(2nd Edition\)](#)
- [www.rational.com](http://www.rational.com) - White Papers







# Contact Info

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