Lightweight Processes
with Focus on Extreme Programming

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Outline

- XP Intro
- Comparison of development processes
- Design issues
- People issues
- Should one go lightweight?
- Conclusion
- Q&A

First Process

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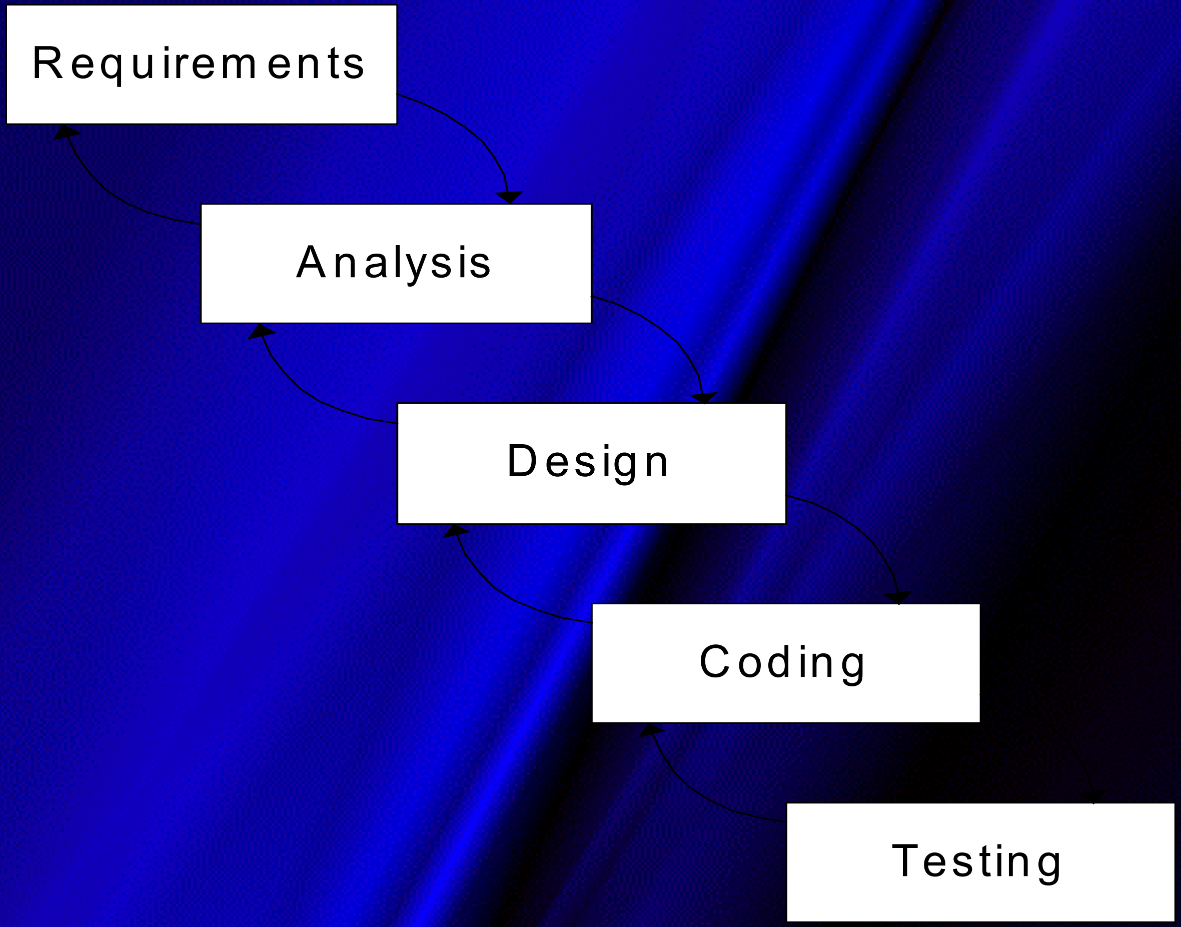
Waterfall Model



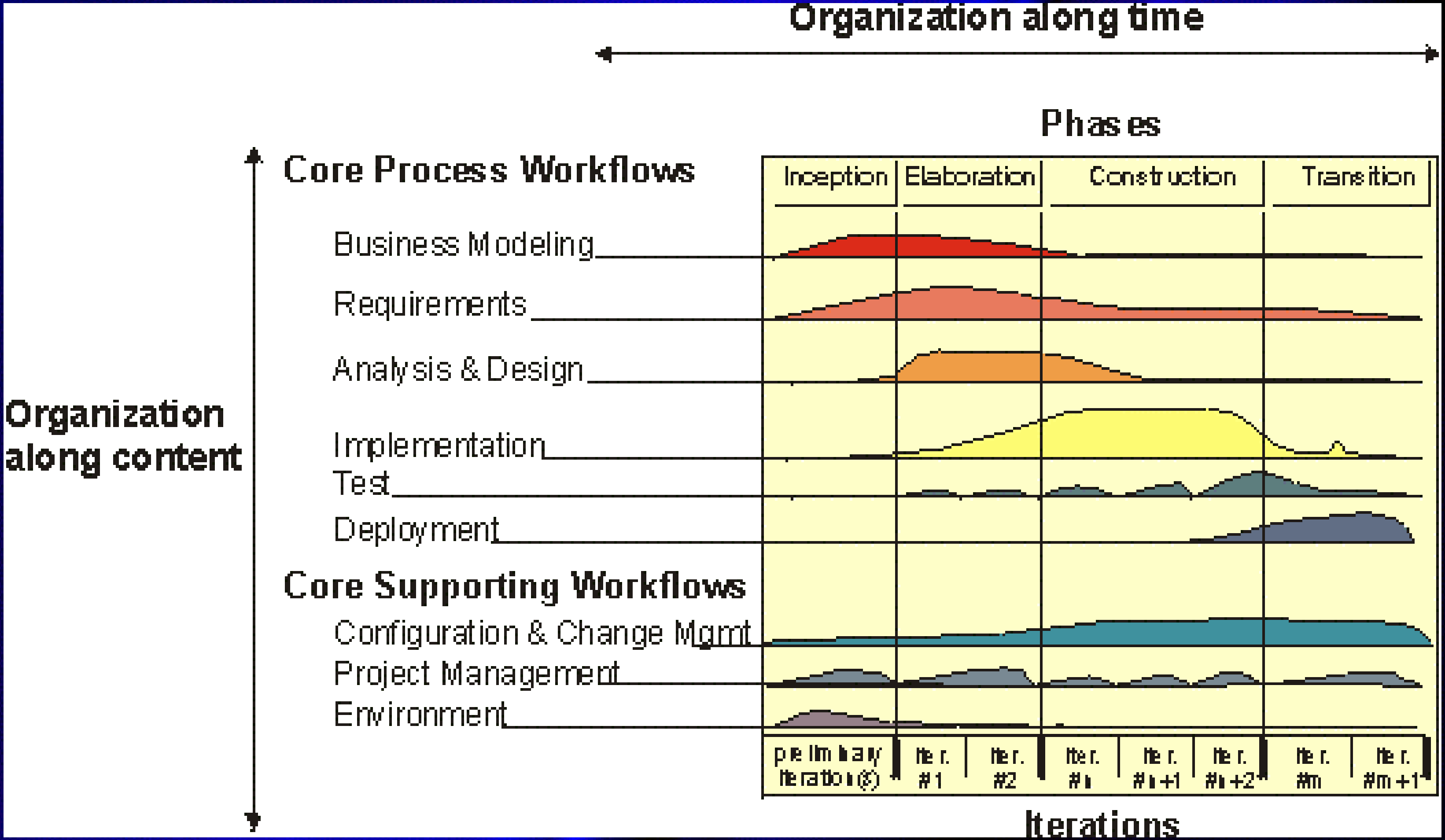
Waterfall Model - Problems

- Early freezing of the requirements
- Late integration and deployment
- Late risk resolution
- Documentation overhead

Rational Unified Process

- Iterative and incremental
- Architecture-centric
- Object-oriented and component development based
- Managed and controlled
- Highly automated

Rational Unified Process



Manifesto for Agile Software Development [5]

- Individuals and interactions *over* processes and tools
- Working software *over* comprehensive documentation
- Customer collaboration *over* contract negotiation
- Responding to change *over* following a plan

Principles behind the Agile Manifesto [5]

Our highest priority is to satisfy the customer through early and continuous delivery of valuable software.

Welcome changing requirements, even late in development. Agile processes harness change for the customer's competitive advantage.

Deliver working software frequently, from a couple of weeks to a couple of months, with a preference to the shorter timescale.

Business people and developers must work together daily throughout the project.

Principles behind the Agile Manifesto [5] cont.

Build projects around motivated individuals. Give them the environment and support they need, and trust them to get the job done.

The most efficient and effective method of conveying information to and within a development team is face-to-face conversation.

Working software is the primary measure of progress.

Agile processes promote sustainable development. The sponsors, developers, and users should be able to maintain a constant pace indefinitely.

Principles behind the Agile Manifesto [5] cont.

Continuous attention to technical excellence and good design enhances agility.

Simplicity--the art of maximizing the amount of work not done--is essential.

The best architectures, requirements, and designs emerge from self-organizing teams.

At regular intervals, the team reflects on how to become more effective, then tunes and adjusts its behavior accordingly.

XP Principles

- Communication
- Feedback
- Simplicity
- Courage
- Quality Work

XP Practices

- The planning game
- Small releases
- Metaphor
- Simple design
- Refactoring
- Testing

XP Practices (cont.)

- Pair programming
- Collective ownership
- Continuous integration
- 40-hour week
- On-site customer
- Coding standards

References

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- Software Project Management – A Unified Framework, Walker Royce
- Rational Unified Process: Best Practices for Software Development Teams, http://www.rational.com/
- http://agilemanifesto.org/