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Software Engineering

Unified Process

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Unified Software Development Process

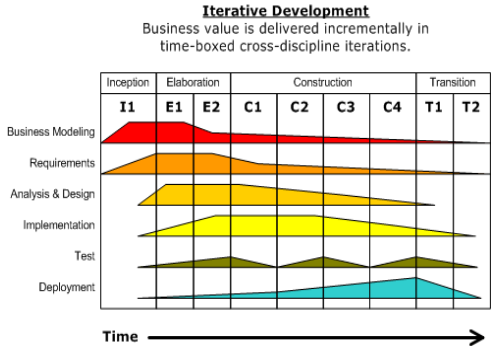
The Four Phases

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

Characteristics

What's a software phase?

- Series of cycles.
- Each cycle contains four phases.
- Span of time between two major milestones.



Inception

The first phase

Inception

Goal

Viability of the proposed system.

Tasks

- System's scope.
- Outlining a candidate architecture.
- Indentify risks.
- Start the business.

Inception

When can we move on?

Before moving on torwads the next step, the Major milestone must be achieved:

- Do the major stakeholders agree on the scope of the proposed system?
- Is a specific set of critical high-level requirements adressed by it's architeture?
- Is the business case enough for a green light?

Elaboration

The second phase

Elaboration

What do we want to achieve at this stage?

Build is the key word. As engineers, the ability to build the new system, given some constrains, such as the financial, schedule ones, must be established.

Elaboration

What exactly do we need to do?

- Understanding the majority of the remaining functional requirements.
- To expand the previous candidate architecture into a full architectural baseline. Make it an internal release of the sstem focused on describing the architecture.
- Adressing major risks on na ongoing basis.
- To finish the business case and prepare a project plan, detailed enough, to guide us through the next phase.

Elaboration

When can we move on?

The major milestone must be achieved.

- The user case model must capture most of the functional requirements.
- The architetural baseline must be a small system that will serve as a solid foundation.
- Business case has received a green light, there's a project plan for the next phase.

Conception

The third phase

Conception

What's the primary goal?

Create a system capable of operating in beta customer environments.

How?

Build the system iteratively and incrementally, making sure that the viability of the system is always evidente in executable form.

Conception

What must be achieved?

The initial operational Capability.

How do we know?

A set of beta customers has a more or less fully operational system in their hands.

Transition

The final phase

Transition

What's the purpose?

The roll out of the fully functional system to customers.

How do we do it?

Correct defects, modify the system to correct previously unidentified problems.

Transition

What comes next?

Product release!

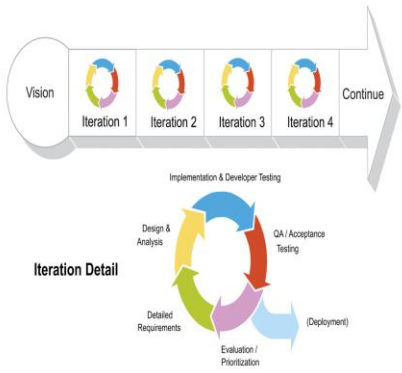
Characteristics

Iterative and Incremental

The last three phases that we've seen are divided into a series of timeboxed iterations.

Each iteration results in an increment.

It represents added or improved functionalities compared with the previous release.



Use-case Driven

- Used to capture functional requirements.
- Refine the content of the iterations.
- Set of use cases or requirements scenarios.

Architecture-centric

Since no single model is suficiente to cover all aspects of a system, the Unified Process supports multiple architectural models and views.

- Created during the Elaboration phase.
- Partial implementation of the system serves to validate the architecture and act as a Foundation for the rest of the development.

Risk-focused

- The project team must focus on adressing the most critical risks early in the project life cycle.
- Each iteration, especially in the elaboration phase, must be select to ensure the greatest risks are adressed first.