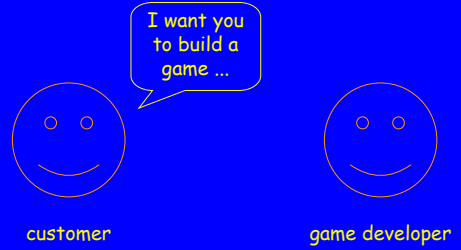


Feasibility → Requirements

Contract Negotiations



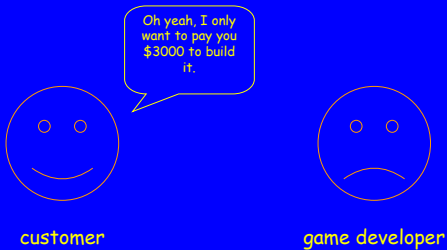
Contract Negotiations



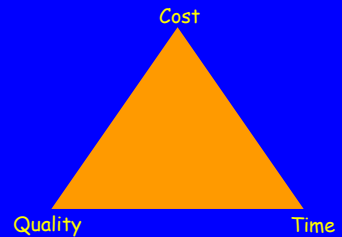
Contract Negotiations



Contract Negotiations



Constraint Triangle



Contract Negotiations



Contract Negotiations



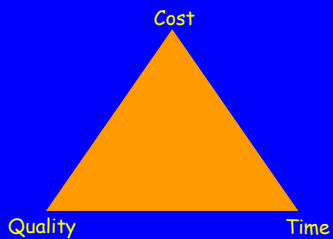
Contract Negotiations



Contract Negotiations



Feasibility: Can we meet the constraints?



Just about everything we said about the difficulty of software development in general is magnified for feasibility testing.

The greatest aid is experience!

Feasibility

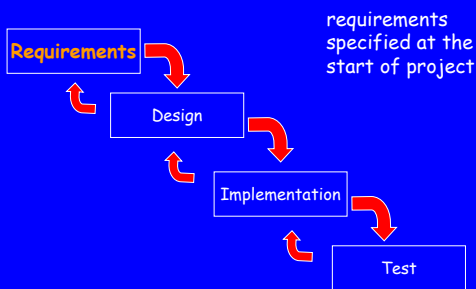
- Understand the capabilities of your team and tools
- Understand the proposed system
Requirements Analysis
- Explore gaps

Review

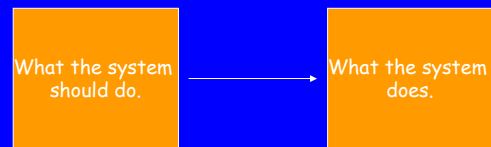
Life Cycle Model

- feasibility
- requirements
- design
- implementation
- testing
- maintenance

Waterfall Model



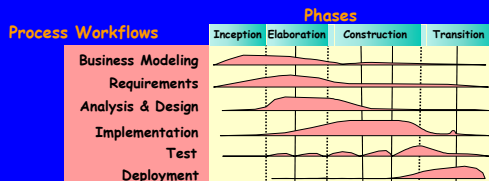
Requirements in Iterative Development



Requirements evolve over the course of the project.

Rational Unified Process

(a form of controlled iteration)



requirements specified throughout project

XP



↑
requirements for release v.i+1

↑
requirements for iteration

requirements specified throughout project

Types of Requirements: FURPS+

Functional: features, capabilities

Usability: human factors, help, documentation

Reliability: frequency of failure, recoverability, predictability

Performance: response times, throughput, accuracy, availability, resource usage

Supportability: adaptability, maintainability, configurability

Functional Requirements

- Use cases - RUP
- User stories - XP

Definition of "Use Case"

"The specification of sequences of actions that a system, subsystem, or class can perform by interacting with outside actors"

(*UML Reference Manual*, Rumbaugh, Jacobson, and Booch).

RUP

- Casual to "fully dressed" use cases
- Use case diagrams
- Use case model
- Books have been written ...

XP

Each user story should be briefly recorded on a 3x5 card.

RUP Casual Use-Case = XP User story

Pink Monster

Play Game: Player starts game. Quad scene appears with pink monster at bottom of screen and various targets moving across screen. Player moves pink monster and launches fruit. Hitting target increases score. Hitting CS cart causes player to lose.

demo

RUP Casual Use-Case = XP User story

Pink Monster

Play Game: Player starts game. Quad scene appears with pink monster at bottom of screen and various **targets moving** across screen. Player **moves pink monster** and launches fruit. Hitting target increases score. Hitting CS cart causes player to lose.

Move Pink Monster: Player moves pink monster along bottom of screen with left and right arrows. Pink monster stops at screen boundaries.

RUP Casual Use-Case = XP User story

Pink Monster

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Pink Monster

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Move Pink Monster: Player moves pink monster along bottom of screen with left and right arrows. Pink monster stops at screen boundaries.

Change fruit: Space bar changes fruit. Fruits include bananas, watermelon, oranges, apples, and pears.

Feasibility

use cases
realizations



Understand the capabilities of your team and tools



use cases

Understand the proposed system

Use Case Realization

Feasibility: The technology to realize this use case exists. Give supporting evidence.

Use Case Realization

Use Case

Move Pink Monster: Player moves pink monster along bottom of screen with left and right arrows. Pink monster stops at screen boundaries.

Realization Analysis

The same control is used in space invaders.

Feasibility

use cases
realizations



Understand the capabilities of your team and tools



use cases

Understand the proposed system



Gaps

Explore Gaps: Risk Analysis

- What are the greatest risks to the project?
- What can we do to resolve or reduce these risks in the time allotted?
- Who is going to do it? How will they demonstrate they've done it?
- What are our backup plans?

Assignment

Concept Assessment:

Is it a good concept?

Criteria and evaluation

Is it feasible?

Use Cases

Use Case Realization

Risk analysis

Evaluation