
CIS 422/522
Selecting or Designing a Process

Issues
Approaches

Process Issues

- Visibility: judging status against goals
 - Especially schedule visibility, but also other qualities such as dependability, performance, etc.
 - Challenges are *early* and *frequent* visibility
- Feedback: adjusting the process and/or product
 - Within a single project (iteration)
 - Across projects (process improvement)

Visibility Examples

- Process (schedule) visibility:
 - Frequent milestones with concrete criteria for fulfillment
- Quality visibility:
 - Reviews and inspections, test plans and early test
- Usability:
 - Usability testing before detailed design

Iteration

- Iteration address
 - Visibility: By chopping long activities into a cycle of shorter activities
 - Feedback within projects: By providing “end” products for evaluation earlier
- A tactic for risk control
 - When other methods of providing early visibility and feedback are inadequate or inapplicable.

Process Qualities

- Suitability for project risks and characteristics
 - Technical risk / novelty
 - More novelty => more iteration
 - Scale: Project duration and team size
 - Bigger/longer => more structure, more paper
 - Stability of requirements
 - Less stable => more prototyping
 - Schedule pressure vs. other qualities and costs
- Exercise: Categorize Waterfall, RAD, and Spiral with respect to the above characteristics

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Selection Factors

	Waterfall	RAD	Spiral
Risk factors			
Technology Risk	Low	Low	Moderate to High
Deadline Pressure	Moderate	High	Moderate
Unstable Requirements	Low	High	Moderate
Unfamiliar Domain	Low	Low	Moderate-High
Other characteristics			
Schedule	Months-Years	Weeks-Months	Months
Team size	Moderate-Large	Small	—

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