

Object-Oriented Life-Cycle Models

- Need for iteration within and between phases
 - Fountain model
 - Recursive/parallel life cycle
 - Round-trip gestalt
 - Unified software development process
- All incorporate some form of
 - Iteration
 - Parallelism
 - Incremental development
- Danger
 - CABTAB

Conclusions

- Different life-cycle models
- Each with own strengths
- Each with own weaknesses
- Criteria for deciding on a model include
 - The organization
 - Its management
 - Skills of the employees
 - The nature of the product
- Best suggestion
 - “Mix-and-match” life-cycle model

Quality Assurance?

- There is NO QA phase
- QA is an activity performed throughout software production
- Verification
 - Performed at the end of each phase
- Validation
 - Performed before delivering the product to the client

Documentation Phase?

- There is NO documentation phase
- Every phase must be fully documented before starting the next phase
 - Postponed documentation may never be completed
 - The responsible individual may leave
 - The product is constantly changing—we need the documentation to do this
 - The design (for example) will be modified during development, but the original designers may not be available to document it

Phase	Documents	QA
Requirement Definition	<ul style="list-style-type: none"> ● Rapid prototype, or ● Requirements document 	<ul style="list-style-type: none"> ● Rapid prototype ● Reviews
Functional Specification	<ul style="list-style-type: none"> ● Specification document (specifications) ● Software Product Management Plan 	<ul style="list-style-type: none"> ● Traceability ● FS Review ● Check the SPMP
Design	<ul style="list-style-type: none"> ● Architectural Design ● Detailed Design 	<ul style="list-style-type: none"> ● Traceability ● Review
Coding	<ul style="list-style-type: none"> ● Source code ● Test cases 	<ul style="list-style-type: none"> ● Traceability ● Review ● Testing
Integration	<ul style="list-style-type: none"> ● Source code ● Test cases 	<ul style="list-style-type: none"> ● Integration testing ● Acceptance testing
Maintenance	<ul style="list-style-type: none"> ● Change record ● Regression test cases 	<ul style="list-style-type: none"> ● Regression testing

Traceability matrix

Requirement ID	Use Case ID	UID	Class/function	Test Case ID