


Section 01: Life Cycle Objectives Review

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Resources

- *"Anchoring the Software Process"*; Barry Boehm


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Outline

- Life Cycle Objectives Review milestone – group assignment #1
- The five constituent elements of a Life Cycle Objectives Review


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Life Cycle Objectives Review milestone

- Group assignment #1: Project Proposals
 - You need to work in pairs, so find a partner
 - Assignment is available on the course web
 - Due next Tuesday, June 28 @ 10pm
 - Project Proposal presentations in-class on Wednesday, June 29
 - 7-8 minutes per team, so that we can fit everyone
 - This lecture covers the necessary elements of a proposal (a.k.a. Life Cycle Objectives Review).


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Life Cycle Objectives Elements

- Operational Concepts
 - What is it?
- System Requirements
 - What does it do for us?
- System and Software Architecture
 - How?
- Lifecycle Plan
 - Who wants it? Who'll support it?
- Feasibility Rationale
 - Is this really true?


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1: Operational Concepts

- Top-level system objectives and scope
 - What problem are you trying to solve? Why? For whom?
 - User community, environment, major benefits, goals and non-goals
 - What you would be expected to say in a 1-minute "elevator pitch"


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2: System Requirements

- n Essential features of the system
 - n What does the customer want from this system (avoid details at the start)?
 - n Look from the user's perspective
 - n Discuss main capabilities, outcomes, reliability and performance levels, appearance
 - n Involving the customer at this stage is very beneficial, since they best know their interests and needs
 - n Even if they may not always express those very well


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2: System Requirements (cont.)

- n Essential features of the system
 - n This will be your initial written specification
 - n The customer can review it and sign off quickly or complain early.
 - n If you put it in writing, it's less ambiguous than if you just say it.
 - n Forces you to think of major functional areas, major architectural defects
 - n "Failing to write a spec is the *single biggest unnecessary risk* you take in a software project" -- Joel Spolsky
 - n Be concise yet complete
 - n People get attached to their work even if it is no longer of value.
 - n A picture/diagram is (often) worth 1000 words.
 - n Scenarios/stories help, but don't be verbose.


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3: System and Software Architecture

- n High-level description but with enough detail to allow feasibility analysis
 - n Can this really be built with the available resources?
 - n Try to come up with several (at least 3) alternative architectural designs.
 - n Architectural flaws will only deepen as you go forward, so look for alternatives while it's still early.
 - n This is necessarily a technical discussion (unlike the prior two elements).


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4: Life Cycle Plan

- n WWWWWHH:
 - Why/What/When/Who/Where/How/How
 - n Objectives - Why is the system being developed?
 - n Schedules - What will be done, When?
 - n Responsibilities - Who will do it? Where are they?
 - n Approach - How will the job be done?
 - n Resources - How much of each resource?

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5: Feasibility Rationale

- n Conceptual integrity and compatibility
 - n What assumptions are you making? Any unwarranted ones among them?
 - n "If you make one or two ridiculous assumptions, you'll find everything I say or do totally justified"
 - Ashleigh Brilliant, 1671

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