Readings and References References » Anchoring the Software Process, Barry Boehm, USC, 1995 • http://citeseer.nj.nec.com/boehm95anchoring.html Architecture Milestone » Software Architecture, David Garlan, CMU, 2001 • http://www-2.cs.cmu.edu/~able/publications/encycSE2001/ » A Practical Method for Documenting Software CSE 403, Spring 2004 Architectures, Clements, et al, CMU, 2002 Software Engineering • http://www-2.cs.cmu.edu/~able/publications/icse03-dsa/ » I Have Abandoned My Search for Truth, and Am Now Looking for a Good Fantasy, Ashleigh Brilliant http://www.cs.washington.edu/education/courses/403/04sp/ 23-Apr-2004 23-Apr-2004 2 cse403-09-LCA © 2004 University of Washington cse403-09-LCA © 2004 University of Washington Sound Familiar? Elements of Lifecycle Architecture (LCA) • Operational Concepts What is it? • These are the same elements as for the Life Cycle Objectives milestone What does it do for us? • System Requirements • Now we are making the system real » No longer just a public interface • System and software architecture How? » At least a public abstract class • Definition of system and software architecture • Lifecycle plan Who wants it? Who'll support it? Is this really true? • Feasibility Rationale 3 23-Apr-2004 cse403-09-LCA © 2004 University of Washington 23-Apr-2004 cse403-09-LCA © 2004 University of Washington 4

Relaboration of Operational Concept 🛼

- Detailed system objectives and scope
 - » User community?



- business, personal, demographic
- » Environment this program works in?
 - device availability, networking fabric, ...
- » Major benefits?
 - Given the above, is the user still interested?
- » Establish what the system does and does not do
 - Now is the time for all the stakeholders to recognize what they are and are not getting highlight changes



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Elaboration of System Architecture

- Specific choices
 - » make some decisions you are headed for action
 - » document why you dropped previous options
- Identify specific existing packages that will be used in your product
 - » Commercial-off-the-shelf, in-house, open source, ...
- Identify evolutionary paths
 - » Which packages can be replaced or upgraded?
 - » Where do you anticipate change? Can you support it?

well defined now or can be defined later with low risk capabilities, interfaces, appearance

» include all out-of-band functions - support, admin, update

Elaboration of System Requirements

• Features include

• All features of the system

- » performance and reliability of particular functions
- » specifics of security requirements
- Prototypes are an appropriate tool for providing an interpretation of the requirements
 - » be careful that customer/marketing don't get confused about which is prototype and which is the real product

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Hand-Wave Reduction Act

• LCA review

- » incorporates detailed requirements specification
 - shows that you really know what is being built
- » incorporates detailed design
 - shows that you know how to build it
- Details

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- » "are the mark of a great con" Jonas Nightingale
- » but also important to help you work through how this thing is actually going to work

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Details

- System and Software Components » hardware, programs, data blocks
- Connectors
 - » mediate interactions among components
- Configurations
 - » combinations of components and connectors
- Constraints
 - » resource limitations, operating environment

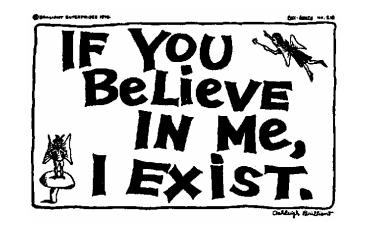
Elaboration of the Life-Cycle plan

- "The WWWWWHH principle"
 - » Why is the system being developed? Objectives
 » What will be done When? Schedules
 » Who will do it? Where are they? Responsibilities
 » How will the job be done? Approach
 - » How much of each resource?
- This is now the detailed project development plan

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Feasibility Rationale

- Establish the consistency and conceptual integrity of the other elements
 - » ie, Will it work?
- Get the stakeholders' concurrence that the LCA elements are compatible with their objectives for the system
 - » ie, Do the customers and deployers want it?



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Resources