

# Software Quality

**CS577a 2000 10/27**  
**A Winsor Brown**

# Goals of Presentation

Discussion of

- CeBASE
- Research related to your MBASE projects
- Regularity in 577 archives
- Software Quality in an MBASE context
- LCO Package content

# CeBASE

**See separate presentation, Slides 1-5 & 13**

## **Bottom Line**

- USC participation in "Defect Reduction"
  - COQUALMO model
  - Quality data gathering in 577a
  - Fagan's Inspections
  - Requirements Reading Experiment
- USC participation in "COTS-based development"
  - COCOTS model and tool
  - CS577a MBASE projects as exemplars



# Outline

CeBASE

Research Related to Class MBASE projects

Software Quality in an MBASE Context

Regularity in 577 archives

LCO Package content and IR[2]



# Outline

CeBASE

Research Related to Class MBASE projects

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LCO Package content

# Software Quality in an MBASE Context

**What is Software Quality?**

**Why do we care?**

**What are Defects?**

**[Additional Slides to be generated from handwritten notes.]**

**Please read 5.5 COQUALMO of  
Software Cost Estimation with COCOMO II**



# Outline

CeBASE

Research Related to Class MBASE projects

Software Quality in an MBASE Context

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# LCO Package Content

**The LCO packages [140 points] are due 11/06.**

- This is the version that will be graded.
- The packages are to be provided in
  - PRINT and
  - ELECTRONICALLY via team website.

**Update LCO documents and LCO elements (see below)  
based upon**

- walkthroughs
- inspections,
- ARB review comments.

**The update needs to be compliant with**

- "MBASE\_Guidelines\_v2.0" and your
  - Team's tailored exit criteria,
- and represent the best package that can be produced by that time.**

## LCO Package Content (cont.)

**Use project and technical risk to drive your decisions,  
NOT grading risk.**

**In order to minimize grading risk,**

- if you **MUST** leave something for later,
- explain what and why [the reason and/or rationale]
  - in the document at the appropriate place  
in editorial comments (editorial comments are  
surrounded by [ and ]).

# **LCO Package – Printed Documents**

**Include all called for appendices!**

**OCD – Operational Concept Description**

**SSRD – System and Software Requirements Definition**

**SSAD – System and Software Architecture Description**

**FRD – Feasibility Rationale Document**

**LCP – Life Cycle Plan**

# Electronic Material

per the "Guidelines–Storing Project Deliverables"

**/LCO/ ..... Life-Cycle Objective**

**README**

**/InspectionReports/ .Inspection Reports for artifacts(LCO)**

- **/OCD/..... Inspection Reports for OCD**
- **/SSRD/..... Inspection Reports for SSRD**
- **/SSAD/..... Inspection Reports for SSAD**
- **/LCP/..... Inspection Reports for LCP**
- **/FRD/..... Inspection Reports for FRD**

**/OCD/ ..... Operational Concept Description**

**/SSRD/ ..... System and Software Requirements Definition**

**/SSAD/ ..... System and Software Architecture Description**

**/FRD/ ..... Feasibility Rationale Document**

**/LCP/ ..... Life Cycle Plan**

## Electronic Material (cont.)

/MDL/ ..... Models (e.g., Rational Rose Model Files)

- A SINGLE file, laid out as shown at the class website under "Project Guidelines and Examples"

...

[Life Cycle Objective \(LCO\)/Life Cycle Architecture \(LCA\) Case Study](#)

- LCO\_LCA\_2.0([mdl](#))"

[http://sunset.usc.edu/classes/cs577a\\_2000/papers/eww/LCO\\_LCA\\_2.0.mdl](http://sunset.usc.edu/classes/cs577a_2000/papers/eww/LCO_LCA_2.0.mdl)

NOTE: I recommend NO FILL COLOR and BLACK lines

- This file MUST have LCO right before the extension  
e.g. ...LCO.mdl

# Electronic Material (cont.)

**/PROTO/ ..... Prototypes**

**/ARB/ ..... Architecture Review Board Presentation**

**/EASYWINWIN/ ..... WINWIN Data: WinwinNegotiation(file)...  
The result of Easy Winwin negotiation**

**/COCOMO/..... COCOMO Data (e.g., EST, RPT files),  
& COCOTS, & COPSEMO & CORADMO**

# Electronic Material (cont.)

## Some additional guidance concerning the InspectionReports/ ..... Inspection Reports for artifacts(LCO)

- Review Form instead of Inspection Forms

If your risk driven inspection plan does NOT call for certain inspections, e.g. LCP or FRD, then submit the "Review\_Form\_v1b.xls", used in the "Internal Review" form, to record the defect information

# Inspection Report [2] (IR[2])

**"Inspection Report" should really be "Quality Report"**

**Please read Chapter 5, Section 5 of  
Software Cost Estimation with COCOMO II  
to get a better understanding of the quality model.**