



CSE293

CSE293 CS & E Design Laboratory

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Course Goals

- CSE293: The “Second” Project Based Course
 - Follows CSE 261, 262, 263, 265, 268, 269
 - Similar Goals and Objectives But...
 - You Control Project - “Group Independent Study”
 - You Make Decisions, Resolve Problems, etc.
 - You “Apply” your Coursework/Experiences
- What is Instructor’s Role?
 - Provide a Set of Potential Project Topics
 - Serve as Manager - Organize Meetings, Available for Questions, etc.



Course Philosophy

○ CSE293:

- Demonstrate Ability to Work as a Group with Minimal or No Guidance
- Team Organizes, Plans, Designs, Prototypes, and Delivers!
- Periodic Updates and “Current” Web Repositories



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Course Process and Overview

- Identify Problem
 - Develop Detailed Specification
 - Interactions and Feedback
 - Explore Design Alternatives
 - Detailed Design and Testing
 - Implementation and Integration
 - Team Interactions and Dynamics
 - Setting and Meeting Milestones
 - Evaluating Success/Failure
- CSE26X
 - First Time Through
 - Lots of Guidance
 - Suggestions/Advice
 - Instructor as “Hands-On” Manager
 - CSE293
 - Second Time
 - Minimal Guidance
 - Instructor
 - Mentor and Troubleshooter
 - Coordinate Major Design Experience
 - Evaluate Results



Textbooks and Class Materials

- Recommended Texts:
 - *UML Explained*, K. Scott, Addison Wesley.
 - *Recommend "Java Text"*
- CSE293 Web Site at ...
 - www.engr.uconn.edu/~steve/Cse293/cse293.html
 - All Course Materials Available On-Line
- Other Important Class Materials
 - Software Download - Ghostview/Ghostscript
 - Together Control Center - UML Tool



Semester Milestones with Dates

Initial Schedule Subject to Change

- Project 1: Project Proposal – 3 days after 1st class
- Project 2: Initial Specification – 3rd Class
- Project 3: Part I - Revised Specification – 4th class
- Project 3: Part II – Initial Design – 5th class
- Project 3: Part III - Revised Design – 6th class
- Project 4: Prototyping/Mgmt. Plan – 6th class
- Project 4: PT Report 1/Presentation – 9th class
- Project 4: PT Report 2/Presentation – 11th class
- Project 4: PT 3/Presentation – 13th class
- Project 4: Final Report/User Manual – End of Semester
- Project 4: Final Student Assessment – End of Semester



Course Projects Using UML and Together CC

- CSE293 will be UML Based
- UML is a Language for **Specifying, Visualizing, Constructing, and Documenting Software Artifacts**
- What Does a Modeling Language Provide?
 - ***Model Elements***: Concepts and Semantics
 - ***Notation***: Visual Rendering of Model Elements
 - ***Guidelines***: Hints and Suggestions for Using Elements in Notation
- References and Resources
 - Web: www.rational.com/uml/documentation.html
 - “The Unified Modeling Language Reference Manual”, Addison-Wesley, 1999.



UML Modeling Constructs/Diagrams

Static vs. Dynamic Perspectives

- A Diagram is a View Into a Model
 - Presented From the Aspect of a Particular Stakeholder
 - Provides a Partial Representation of the System
 - Is Semantically Consistent With Other Views
- In the UML, There Are Nine Standard Diagrams
 - **Static Views:** Use Case, Class, Object, Component, Deployment
 - **Dynamic Views:** Sequence, Collaboration, Statechart, Activity



UML Modeling Constructs/Diagrams

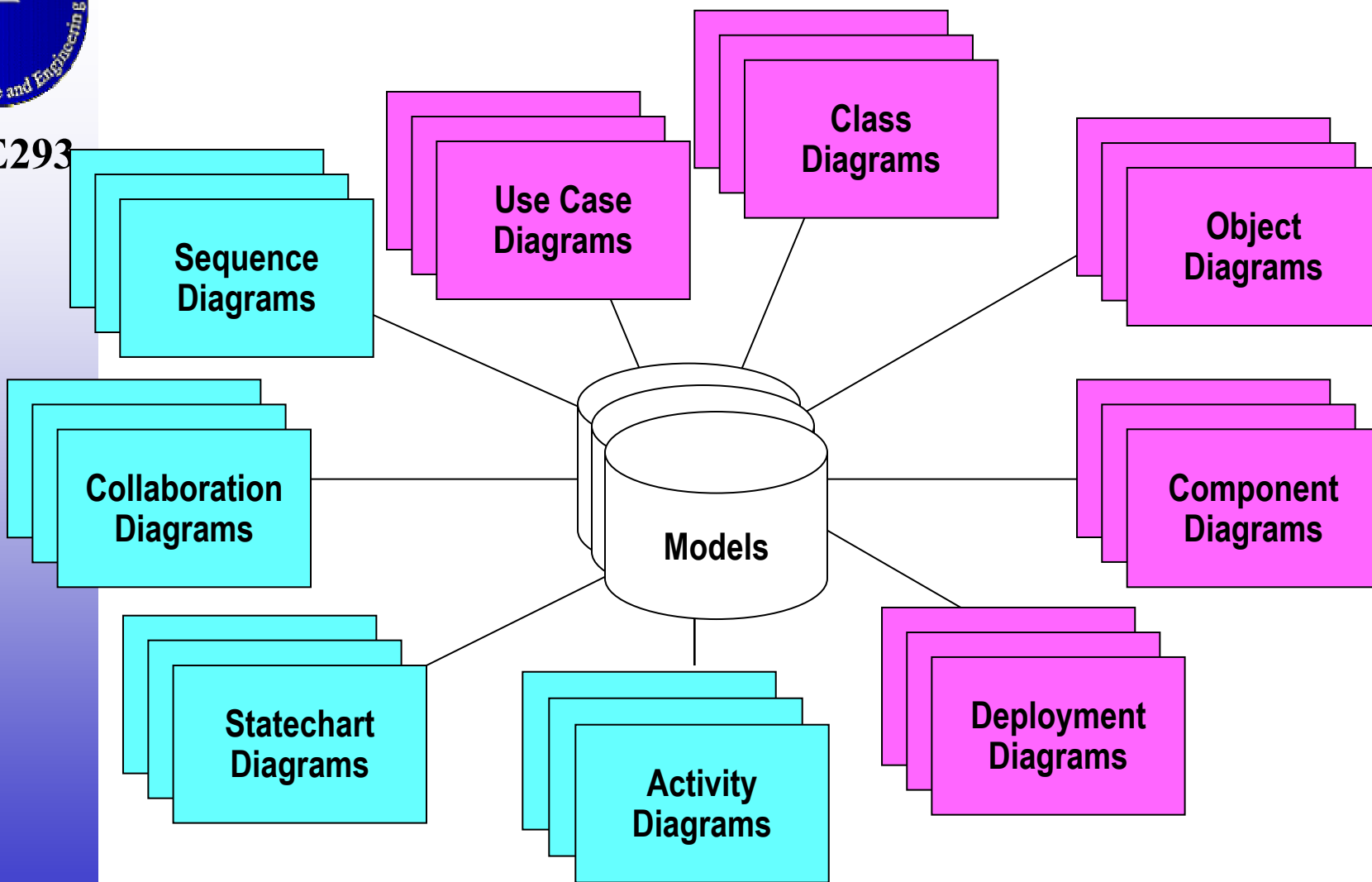
Classification by Capability/Timeline

- Use-Case Diagrams
- Class and Object Diagrams
- Behavior Diagrams
 - Statechart Diagrams
 - Activity Diagrams
- Interaction Diagrams
 - Sequence Diagram
 - Collaboration Diagram
- Implementation Diagrams
 - Component Diagram
 - Deployment Diagram



Relationship Between Models and Diagrams

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Semester Requirements

- See [cse293requirements.pdf](#) on web page
- Summary
 - Teams of 5 or 6 students
 - W course means 15 pages/team member
 - Revisions cycles count towards page total
 - Web-Page for each Team with all materials
 - BLOG for each team member
 - Use of IDE (e.g., Visual Studio, Eclipse, etc.)
 - Source Code Control (Subversion)

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Course Projects Using UML and Together Architect 1.0 or EclipseUML

- Information on Both Forthcoming -
 - www.togethersoft.com
 - www.eclipse.org



Documentation Packages/Requirements

- All Project Specifications (Written Documents) Must be Done using:
 - MS Word
- All Project Presentations Must be Done Using Powerpoint (PPT)
 - Utilize Samples on Web Page for UML and CT Insurance Dept. Link for Guide
- Submit Both Hard Copy and Electronic Versions
 - Hard Copy Produced on Laser Printer
 - Electronic as a Directory zipped
 - TeamNameProjX.zip



Potential Projects

- Marklin Digital Trains
- Atari 800 Renovation
- PDFA and/or Cell Phones
- Web-Based Journal Editor
- Auditory Perception of Alphabet Letters
- Heating System Design and Engineering

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Project/Team Web Page/Documentation

- Each Team **MUST** Develop a Web Page for their Project
 - See Links for Former Projects as Examples
 - Use To Post On-Going Documents
- Augment Web Page with Detailed Design Documents
 - Together CC Generates Documentation
 - Frame Based HTML Resembles Java Doc
 - Make Sure you Select “All” Diagrams
- Documentation of Java with Java Doc
 - Utilize Together Architect
 - Utilize IDE



Today's Tasks

- Choosing Teams - 3 Teams of 5-6 people
 - Self-Organized Teams
 - Instructor Sets Teams
- Meet & Brainstorming
 - Remainder of Class
 - Exchange Email and Phone Numbers
 - Discuss Project Ideas
 - Visit Prior Web Pages
- First Project Due – 3 days after first class at 9am -
Expect Feedback by End of Day
- First Project Presentation – 2nd class
 - 5 to 10 minutes per team
 - Copy of Slides/Create & Post on Web Page