Handout #1

Welcome to “CSE 218: Advanced Topics in Software Engineering - Software Architectures for Distributed and Reactive Systems”. You are in the right place if you want to understand better what the challenges and driving forces in constructing large software systems are, and how to develop and document software architectures without “making a mess of it”.

In particular, we will take a closer look at description techniques, formal foundations and methodologies for analyzing and constructing software architectures. We will also consider current infrastructures and middleware technologies for implementing software architectures, such as .NET, JINI, and CORBA.

General Information
Section Id: 549513
Time: 2:00pm - 3:20pm
Date: Tuesday and Thursday
Location: CENTR 224A
Instructor: Ingolf Krueger, ikrueger “at” ucsd.edu
Office Hours: Tuesday 3:30pm-4:30pm (after class) in CSE 3120
Course Web Pages: http://www-cse.ucsd.edu/~ikrueger/Software_Architecture_CSE218_2006.htm

Grading
There will be no final exam. The grade will be determined based on individual achievements and teamwork. Individual achievements are participation in classroom discussion, research paper summaries, and homework assignments. Project teamwork consists of 3-4 students working together on the specification and design of a software architecture. This involves writing a project proposal, project progress report (max. 5 pages), and a final project report (max. 20 pages) as a team effort. Classroom participation will include making at least one 5-10 minute overview presentation of a topic relevant to class. The details regarding the project will be discussed during the first class meeting. Individual achievements and teamwork contribute as follows to the overall grade:

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<tr>
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<th>Percentage</th>
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<tr>
<td>Homework</td>
<td>35%</td>
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<td>Classroom participation</td>
<td>15%</td>
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<td>Project (50% of the evaluation stems from my assessment, 50% from your teammates)</td>
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Project
Work on the project is an important, integral part of this class; you will have an opportunity to identify, specify, design, document and implement important architectural aspects of a concrete software system.

You will select both your own team members (contact me if you need help) and your own example system/system class for which you are developing the architecture.

Your task is to identify the central product requirements (what should the system do), to develop and document an architecture for the system (what are the fundamental system components and their relationships), to investigate adequate implementation infrastructures on which the system could be built, and to build a prototype of the system. Our focus is on architecture; implementation, while required, is of secondary importance. The project report should, in particular, document the overall architecture and its underlying rationale. Project proposals, project progress reports and final project reports (including a final project presentation in form of PPT slides) are due on January 19, February 7, 2005, and during finals week (March 20-25, 2005), respectively.

Project teams are welcome to meet with me for discussion sessions.

Literature
The textbooks for this class are


- Eric Evans: Domain-Driven Design: Tackling Complexity in the Heart of Software, Addison-Wesley, 2004

I will indicate the relevant sections during class; please refer to the class web page for additional reading material.

If you have any questions, please ask during class, contact me via email, or come to office hours.

Good luck, and have fun with this class!