Dear Colleagues,

The main topic of the SE course planned for the 25th of March is System Design – Decomposing the System. The topic of the previous course, Analysis is treated in the 5th chapter in Bruegge's book, and the current topic, in the 6th chapter.

The first targets of System Design are to define the design goals of the project and to "decompose the system into smaller subsystems that can be realized by individual teams".

The result of system design activities is to propose a model describing the system decomposition into subsystems and a clear description of strategies conceived to build the system.

System Design is not an algorithmic activity. Developers must make trade-offs among many design goals that often conflict with each other. Also, they cannot anticipate all design issues that they will face because they do not yet have a clear picture of the solution domain. Activities executed in System Design can be grouped in:

- *Identify design goals*
- *Design the initial subsystem decomposition*.
- *Refine the subsystem decomposition to address the design goals*.

Please, be careful, the Figure 6-2, page 227 is a modified "activity diagram" because apart of activities and transitions, both the artifacts produced in the Analysis phase: document containing Nonfunctional Requirements, the Analysis Dynamic Model and the Analysis Object Model, and those produced in the System Design phase: Design Goals, Subsystem Decomposition and Object Design Model were included in this diagram.

Very important for understanding and managing are both the coupling relationships between different subsystems and the cohesion relationships between the components of a/each subsystem.

The concepts of layer and partition are also equally important because these are used in defining and identifying the architecture of a system. In this context, it is important to understand and identify different architectural styles described in the chapter 6.

As concerning the 3rd seminar, the topic this is the Analysis Model. Please try to understand and solve the exercises 2-6 – 2-17 and specify the Analysis Model of the laboratory problem. On the 4th of April, at the latest, I'll ask the team-leaders to send me the artifacts of the Analysis model you produced.

As I mentioned in my previous “letters” to you, I am waiting for your questions.

Best regards and all my best wishes!

Dan Chiorean