

Dear Colleagues,

The main topic of the SE course planned for the 1st of April is to continue the System Design topic – which is the System Design at the highest level of abstraction and to start the discussion about Object Design which is the System Design at the lowest abstraction level. The topic of this course is treated in the 7th chapter in Bruegge's book, the first part, and in the first part of the 8th chapter, the Object Design topic.

The issues addressed in the first part are: Hardware/software mapping, Data management, Access control, Control flow, Boundary conditions.

As concerning the second part, the first target is to understand the role of object design: finding custom objects needed to fill the gap between Application Objects and Off-the-shelf Components. Between application objects, identified in the Analysis life cycle, inheritance relationships are discovered by means of specialization or generalization relationships. The inheritance relationships between Solution Objects are specification inheritance and implementation inheritance.

So, the inheritance relationships specified in the System Code are specification inheritance or/and implementation inheritance. By means of an example we are invited to notice why specification inheritance is the "good" inheritance and the implementation inheritance is the "bad" one.

In this context, the Liskov Substitution Principle is mentioned.

In order to avoid the drawbacks of implementation inheritance a solution is to use the delegation relationship. From the point of the system flexibility, using specification inheritance is better than delegation.

Among all components of Design Patterns (Interfaces or/and Classes), the relationships are inheritance and delegation. That's why, correctly understanding and identifying the above mentioned relationships inside Design Patterns is very important.

As concerning the seminar, like in the previous week, this is the 3rd seminar. The topic 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. Please send me the solutions of exercises 2-6 – 2-17 only if we consider that yours solutions are better than solutions proposed in documentation (bad solutions, incomplete solutions or better solutions).

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

Best regards and all my best wishes!

Dan Chiorean