# Analysis to Design

## Introduction: Focus Shift

The requirements study and object-oriented analysis focuses on learning to "**do the right thing**"; that is, understanding some of the outstanding goals for the problem domain, and related rules and constraints, By contrast, the design work stresses "**do the thing right**"; that is, skillfully designing a solution to satisfy the requirements.

In each iteration, the focus from a requirements analysis is shifted (through a transition) to a design and implementation. Moreover, it is more likely to discover some changes in requirements during the design and implementation work of the early iterations. These discoveries will both clarify the purpose of the design work of this iteration and refine the requirements understanding for future iterations. Over the course of these early elaboration iterations, the requirements discovery will stabilize, so that by the end of elaboration, perhaps 80% of the requirements are reliably defined in detail.

## During the Object Design

A logical solution based on the object-oriented paradigm is developed. The heart of this solution is the creation of interaction diagrams, which illustrate how objects collaborate to fulfill the requirements.

After drawing interaction diagrams, design class diagrams can be drawn. In practice, the creation of interaction and class diagrams happens in parallel and synergistically. These summarize the definition of the software classes and interfaces that are to be implemented in software. In Unified Process, these two artifacts represented by UML diagrams become a part of the Design Model.

Of the two artifacts, interactions diagrams are the most important - from the point of view of developing a good design - and require the greatest degree of creative effort. The creation of interaction diagrams requires the application of **principles for assigning responsibilities** and the use of **design principles and patterns**.