11 System Analysis and Design Toolbox

Chapter Summary

The process of system analysis and design (SA&D) uses a number of graphical techniques. These diagrams are an essential part of the process of working out the requirements of the system, designing the system and, once the analysis and design process is complete, they become the working documentation for the development of the system. Many SA&D techniques have been developed over the years, but we will be looking at:

- Use case diagram: A technique for capturing user requirements;
- Data flow diagram (DFD): A technique for showing the flow of data through the system, including processing and data storage;
- Entity relationship diagram (ERD): A technique showing the data requirements of the system in terms of entities and relationships;
- Sequence diagram: A technique that shows the usage of classes (objects) by a use case;
- Class diagram: Object-oriented design showing classes (objects) and the methods that are required to implement those objects.

SA&D techniques are a vital part of the analysis and design process. It is important that IS students become literate in diagramming techniques. There are many cases in business when an issue is best framed as a diagram – possibly one of the above, or possibly a derivative improvised to meet a specific need.