**CHAPTER 1**

**Q1. Explain why professional software is not just the program that are developed for the customer?**

Ans. A professionally developed software system is often more than a single program. A system may consist of several separate programs and configuration files that are used to set up these programs. It may include system documentation, which describes the structure of the system, user documentation, which explains how to use the system, and websites for users to download recent product information. At the end, software is not just the programs themselves but also all associated documentation, libraries, support websites, and configuration data that are needed to make these programs useful.

**Q2. What is the most important difference between generic software product development and custom software development? What might this mean in practice for users of generic software product?**

Ans. *Generic Product:* These are stand-alone system that produced by a development organization and sold on the open market to any customer who is able to buy them. Examples of this type of product include apps for mobile devices, software for PCs such as Databases, word processor, drawing packages, and project management tool. This kind of software also includes “vertical” applications designed for a specific market such as library information systems, accounting systems, or systems for maintaining dental records.

*Customized Software:* These are systems that are commissioned by and developed for a particular customer. A software contractor design and implements the software especially for that customer. Example of this type of software include control system for electronic devices, system written to support a particular business process, and air traffic control systems.

The critical distinction between these types of software is that, in generic products, the organization that develops the software controls the software specification. This means that if they run into development problems, they can rethink what is to be developed. For custom products, the specification is developed and controlled by the organization that is buying the software. The software developers must work to that specification.

**Q3. What are the four important attributes that all professional software should have? Suggest four other attributes that may sometimes be significant?**

Ans. The four important attributes, that all professional software should have, are the following:

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| **Attributes** | **Description** |
| Acceptability | Software must be acceptable to the type of users for which it is designed. This means it must be understandable, useable, and compatible with other system that they use. |
| Dependability and Security | Software dependability includes a range of characteristics including reliability, security, and safety. Dependable software should not cause physical or economic damage in the event of system failure. Software has to be secure so that malicious users cannot access or damage the system. |
| Efficiency | Software should not make wasteful use of system resources such as memory and processor cycles. Efficiency therefore includes responsiveness, processing time, resource utilization, etc. |
| Maintainability | Software should be written in such a way that it can evolve to meet the changing needs of customers. This is a critical attribute because software change is inevitable requirement of a changing business environment |

I suggest following four attributes that may sometimes be significant:

* + Software behavior must be good while it is executing.
  + Good structure and organization of the sytem programs
  + Good Documentation
  + The specific set of attributes that you might expect from a software system obviously depends on its application. Therefore, an aircraft control system must be safe, an interactive game must be responsive, a telephone switching system must be reliable and so on.