## **4.1 INTRODUCTION**

In the previous chapter we have identified the functional and non-functional requirements  
of the system and produced the analysis model. In this document the design goals, the proposed system Design and the object design (system architecture, system decomposition, deployment and database design) are included.

### **4.1.1 Purpose of the system design**

Our system provide services like grading, registration and other services to academic institute using web-based system this allow institute to improve their daily activity process and organization.

### **4.1.2 Design Goals**

From the nonfunctional requirements and from the application domain study of SMS we identify the following as design goals.

**Performance**

* The part of the system to be used for the registration should have a fast response time (real time) with maximum throughput.
* In the case of the timetabling payment subsystem, the system should be more reliable in order to satisfy the constraints than fast response time.
* Furthermore, the system should not be taking up too much space in memory.

Dependability

* The school needs the system to be highly dependable as it is expected to be used by non-IT professionals.
* The system should be robust and fault tolerant.
* As the system is handling sensitive data of the school, high emphasis should be given with regards to security.

Maintenance

* Hence the proposed system did not have all features that the school wants. So, if the need is arise to add new functionality at a later stage the system should allow that. That means the system should be easily extensible to the new functionality and should also be easily modifiable to make changes to the features and functionality.

End User CriteriaUsability:-From the end users’ perspective the system should be designed in such a way that it is easy to learn and use it. There should be user manual that show how to use the software.

**Prioritization**

**Security versus response time**: Checking User-Id and Password before a member can enter to the SMS software creates response time problem/overhead.

**Response time versus quality**: There is some amount of time taken by the system to generate the timetable. So the user has to wait a little after telling the system to generate the timetable and getting the result to get a quality timetable.

### **4.1.3 Definitions, acronyms, and abbreviations**

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| **abbreviations** | **Definitions** |
| IIS | Internet Information Services |
| HTTP | Hypertext Transfer Protocol |
| LAN | local area network |
| RDBMS | Relational database management system |

TABLE 4. 1 Definitions, acronyms, and abbreviations

### **4.1.4 References**

Object-Oriented Software Engineering using UML, Patterns, and Java (3rd Ed.) [Bruegge & Dutoit 2009-08-08]