# 3. Design Specification

Requirement specification is reviewed and the system design is created in this phase. Design is one of the stage in software development that defines architectures and interfaces of a system. It also include the detail properties of project that helps a developer to complete the project making this design a base. It help to define the overall design of system and guides the way in following the design pattern. It provide specification of the system explaining the requirements of the system. In addition, the effective implementation of this design leads in better project management.

Unified Modelling Language (UML) is a standard visual modelling language that help in constructing and documenting the modelling business of the system and it help in analysing, design and implementation of software-based systems. UML is just a standard modelling language, not a software development process. UML specifies how the software should be developed. It provides a guidance in a teamwork and it helps in measuring the progress of the system.

Visual Paradigm is the tool used to construct UML Diagrams. It provides essential tools/features required while drawing the UML diagrams. User can enhance the diagram easily and this tool is easier to use.

There are two types of UML Diagram i.e. Structural Diagram and Behaviour Diagram.

## 3.1 Structural Diagram

Structural Diagram represent static aspect of system. Static part include the main structure of the system, which tends it to make stable. It show the hierarchy of structurer of the different modules/components of the system showing the interconnection between each other.   
  
Class Diagram, one of the must use structural diagram is described below with the application level diagram.

### 3.1.1 Class Diagram

Class Diagram is the building block of object oriented programming. It specify the classes of the system, its attributes and operations, and the relationship between each classes. It helps to give the overview of the system.

## 3.2 Behaviour Diagram

Behaviour Diagram represent the dynamic aspect of the system. It includes the moving parts of the system. Here the logic is implemented directly. It is used to show the functionality of the system. It show what should happen in a system. It also describe how the object interact each other to make a working framework.

Mostly used behaviour diagram are described below.

### 3.2.1 Sequence Diagram

As the name sequence diagram, this diagram deals with the sequence of message flowing from one objet to another. It shows how the object interact with each other. It describes the interactions among classes regarding an exchange of message over time. This diagram shows the order in which methods are invoked in the system. It help us to predict how system will work and to distinguish the responsibilities that class must have while demonstrating new system.

### 3.2.2 Activity Diagram

Activity Diagram is one of the important behaviours diagram consisting the activities and linkage. In addition, it describe the flow control in a system representing the workflow in a graphical way. They can be utilized to describe business process or operational workflow of any component in a system. Activity diagram is the flow chart representing the flow from one activity to another. It describe the logic of operation shown in class diagram. They are used for outlining the high-level activity of the system and this diagram formally represent algorithm.

## 3.3 Conclusion

http://www.uml-diagrams.org/