

# LAB # 6

## **Introduction**

Use case show use cases and actors and the associations among them. Use cases represent sequences of actions carried out by the system, and actors represent the people or other system that interact with the system being modeled. Use case diagrams are supported by behavior specifications, which define the interactions within a particular use case.

Use cases have come into UML from the work of Jacobson.

In UML the Use Cases package is sub package of Behavioral Elements package. This means that it is used to specify the behavior of some entity such as a system or subsystem. Use cases don't specify the detail of how that behavior is carried out. However the detail will be elaborated using other models as the process of designing the system develops. Typically, how a sue case will be realized in the eventual system is defined in one or more collaboration diagrams that show the interaction between co-operating objects.

## **PURPOSE OF THE TECHNIQUE**

Use cases are created during the early stages of Project. Producing use cse diagrams and the associated documents is an analysis technique rather than a design technique. Use cases can also be used later in the development process, for example, to specify test cases.

The main purposes of producing use cases are as follow,

- They are used to model sequences of actions that are carried out by the system and that provide an observable result to someone or something outside the system, known as actor.
- They provide a high level view of what the system does and who uses it
- They provide the basis for determining the human computer interfaces to the system
- They can be used to model alternative scenarios for specific use cases that may result in different sequences of actions.
- They use a simple diagrammatic notation that is comprehensible to end users and can be used to communicate with them about the high level view of the system.
- They can be used as the basis for drawing up test specifications.

# NOTATION

There are several notations. Some of them are described below

## Basis Notation – Use Cases, Actors and Relationships

Use cases are represented graphically in a use case diagram to allow the analyst to visualize each use case in the context of the other use cases in the system or subsystem and to show its relationships with actors and other use cases.

In a use case diagram use cases are drawn as an ellipse, The name of the use case is usually written inside the ellipse, but can be placed beneath it. Don't mix these two styles in the same model.

Use case names are the string that contain letters numbers and most punctuation marks except for the colon which is used to separate the case names from the names of packages and it is good idea to keep them short. Use case names are normally made up of an active verb and a noun or noun phrase that concisely describe the behavior of the system that you are modeling.

Actors are the people or the system that interact with use case. For the most part, you will find that they are users of the system that you are modeling.

Actors are connected to the use cases with which they interact by a line which represents a relationship between the actors and the use cases

A single actor may be associated with more than one use case, and a single use case may be associated with more than one actor.

## BEHAVIOUR SPECIFICATIONS

Each use case represents a sequence of activities that result in some observable outcome for the actor or actors who interact with it. This sequence of activities is documented in a behaviour specification. The link to the behaviour specification may be represented in a CASE tool by a link to a diagram which provide the specification

There are two approaches to writing use case Descriptions

- The first is simple to write one or few statements or paragraphs that describe the typical sequence of activities that the use case involves
- The second is to list in two columns the activities of the actor and the responses of the system



**Q 3.10: List the use cases involved in this case study?**

**A:**

