

## **Developing Use Cases**

The Use-case model is defined as a model which is used to show how users interact with the system in order to solve a problem. As such, the use case model defines the user's objective, the interactions between the system and the user, and the system's behaviour required to meet these objectives.

We use a use-case diagram to graphically portray a subset of the model in order to make the communication simpler. There will regularly be a numerous use-case diagram which is related to the given model, each demonstrating a subset of the model components related to a specific purpose. A similar model component might be appearing on a few use-case diagrams; however, each use-case should be consistent. If, in order to handle the use-case model, tools are used then this consistency restriction is automated so that any variations to the component of the model (changing the name, for instance) will be reflected automatically on each use-case diagram, which shows that component.

## **Components of Basic Model**

There are various components of the basic model:

- Actor
- Use Case
- Associations

### **Actor**

Usually, actors are people involved with the system defined on the basis of their roles. An actor can be anything such as human or another external system.

### **Use Case**

The use case defines how actors use a system to accomplish a specific objective. The use cases are generally introduced by the user to meet the objectives of the activities and variants involved in the achievement of the goal.

## **When to Use a Use-Case Diagram?**

The use-case diagram is an extraordinary system's functionality that is accomplished by a client. The objective of use-case diagram is to capture the system's key functionalities and visualize the interactions of different thinking's known as actors with the use case. It is the basic use of use-case diagram.

With the help of the use-case diagram, we can characterize the system's main part and flow of work among them. In the use-case, the implementation of details is hidden from external use, and only the flow of the event is represented.

Using use-case diagrams, we can detect the pre-and post-conditions after communication with the actor. We can determine these conditions using several test cases.

Generally, the use-cases diagram is used for:

- Examining the system's requirements.
- Capturing the system's Functionalities.
- We use use-case diagram in order to modelling the general idea behind the system.
- System's Forward and reverse engineering using several test cases.
- Complex visual designing of software.

### Basic Use-Case Diagram Symbols and Notations

There are following use-case diagram symbols and notations:

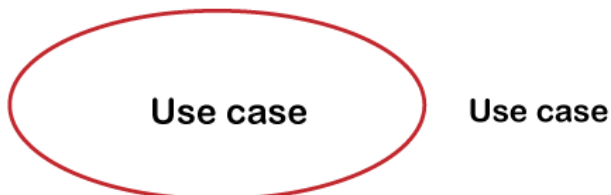
#### System

With the help of the rectangle, we can draw the boundaries of the system, which includes use-cases. We need to put the actors outside the system's boundaries.



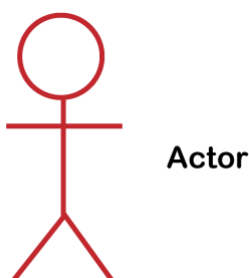
#### Use-Case

With the help of the Ovals, we can draw the use-cases. With the verb we have to label the ovals in order to represent the functions of the system.



#### Actors

Actors mean the system's users. If one system is the actor of the other system, then with the actor stereotype, we have to tag the actor system.



#### Relationships

With the simple line we can represent relationships between an actor and use cases. For relationships between use-case, we use arrows which are labeled either "extends" or "uses". The "extends" relationship shows the alternative options under the specific use case. The "uses" relationship shows that single use-case is required to accomplish a job.

