**Assignment 1**

1. **Purpose of modeling:**There are various purposes of modeling some of them are as follows:
   1. **Better understanding:**The main purpose behind modeling is to understand the complex system in a very easier and efficient way. Complex systems like an artificial system that is related to the space shuttle, railway ticket reservation system can easily understand with the help of graphical representation.
   2. **Modification in the system:**If any modification is required in any system then it is becoming very easy and convenient to make any changes in the system.
   3. **Reduce risk:**Modelling reduces the risk of experimenting with models as compared with the real scenario. In other words, it can be said that it also reduces the cost of modification.
   4. **Decompose:**It decomposes the large complex system into a small subsystem. Each of these subsystems can be designed and implemented independently to each other. So in this way, all the subsystems are developed at the time in parallel, which speeds up the development process.
   5. **Less number of defects:**Modelling helps in the evaluation of the system before starting the actual implementation of the system. Hence the final code has very a smaller number of defects.
2. • **Customers:** these are the people who have a bank account and are intended to withdraw the money from the account or transfer the money in any other account.

• **Maintenance Personnel:** These are the bank people who are responsible for checking if ATM is working properly. These would find and fix faults and check if ATM is running out of cash.

• **Bank computer:** This is a system that interacts with the ATM for monitoring it. It checks details of the customer who is using the ATM like name, account number, balance, and other details.

1. **Under construction system as an Actor**

An actor is an entity, (a user or a system) that can interact with the system. It gives command to the system and takes the response that is useful to one. In most of the cases it is an autonomous entity.

A system under construction cannot be perceived as an external thing. It cannot act as an autonomous source till the time it is completed. Due to this reason it cannot be accepted as an actor.

However, s system can sometimes be an actor temporarily so that the use cases can be understood in a good manner. But even this is applicable in the case of a complete system.

For example, the system can sometime initiate the use cases, like Send Daily information in the form of newsletter. In this case system would help understand the system and can be considered as an actor to model the problem in an efficient manner.

It is also notable that use case model is used during requirement elicitation and analysis phase for representing functionality of the system.

1. **Difference between Scenario and Use cases**

Use cases and scenario are frequently used terms in the object orientation. There are significant differences between these two.

Use cases are the general models that show what possible things can happen whereas the scenario is an actual manifestation of a particular use case.

The differences between these two are tabulated as below:

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|  | **Use Case** | **Scenario** |
| 1. | Use case is a method of capturing the functional requirements of a specific system. | A scenario is an instance of a use case which describes the concretes set of actions. |
| 2. | An example is playing a dice game. When a player rolls the dice and picks it up. If he finds total value six as face value, he wins, otherwise he loses. | Scenario for the dice game would be user has rolled the dice. He got the number 5 on the face and he lost the game. |
| 3. | Use cases are the general sequence of instructions which describes the possible scenarios associated with a situation. | Scenario is definite and concrete case. It shows the actual happening. |
| 4. | Use cases can be called the set of various scenarios. | Scenario can be called a value from the set called the use case. |

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