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Department of Computer Engineering

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Problem Statement-1

TOPIC-ONLINE MOBILE RECHARGE

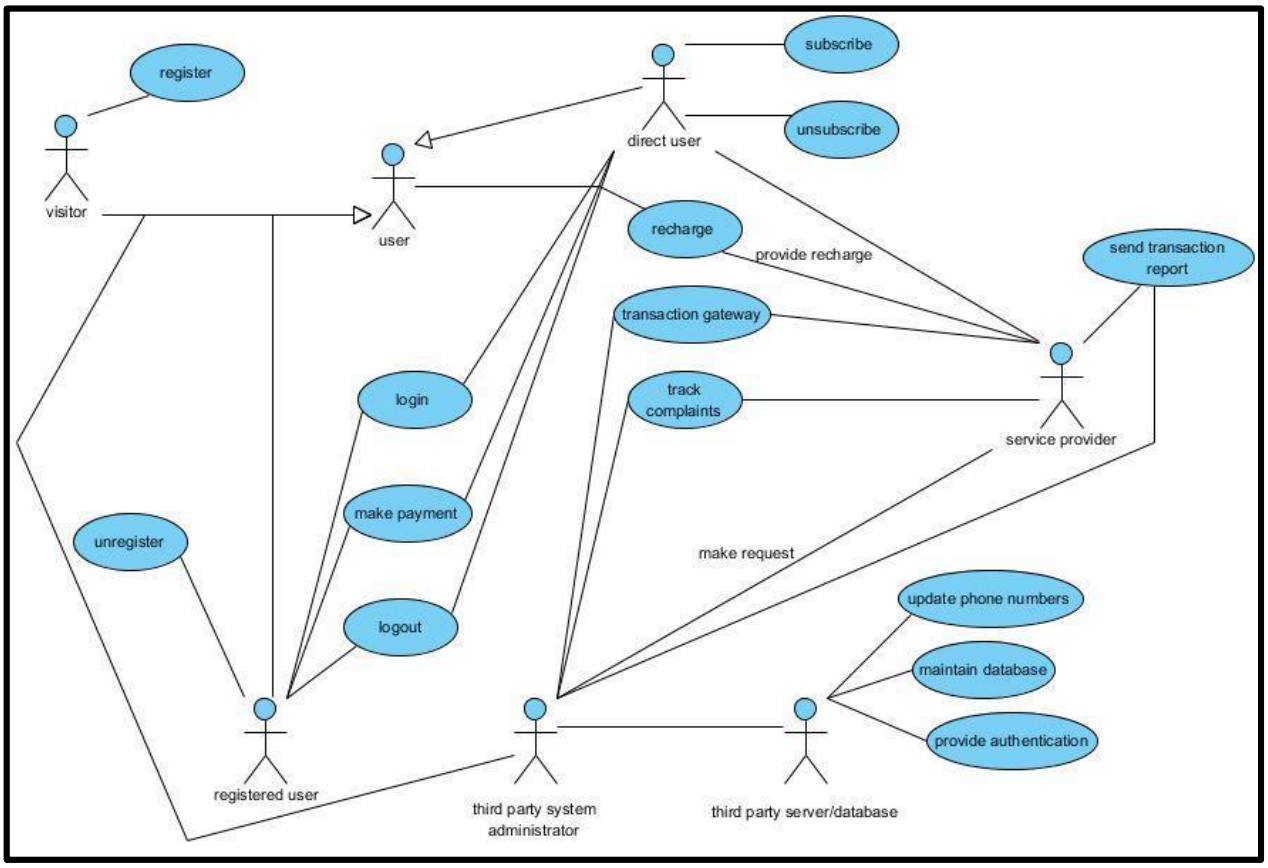
Q. Draw the following UML diagrams
1. Use Case
2. Class
3. Object
4. Sequence
5. Collaboration
6. Component
7. Deployment
8. Package
9.Activity
10.State Machine

Solution:

Abstract

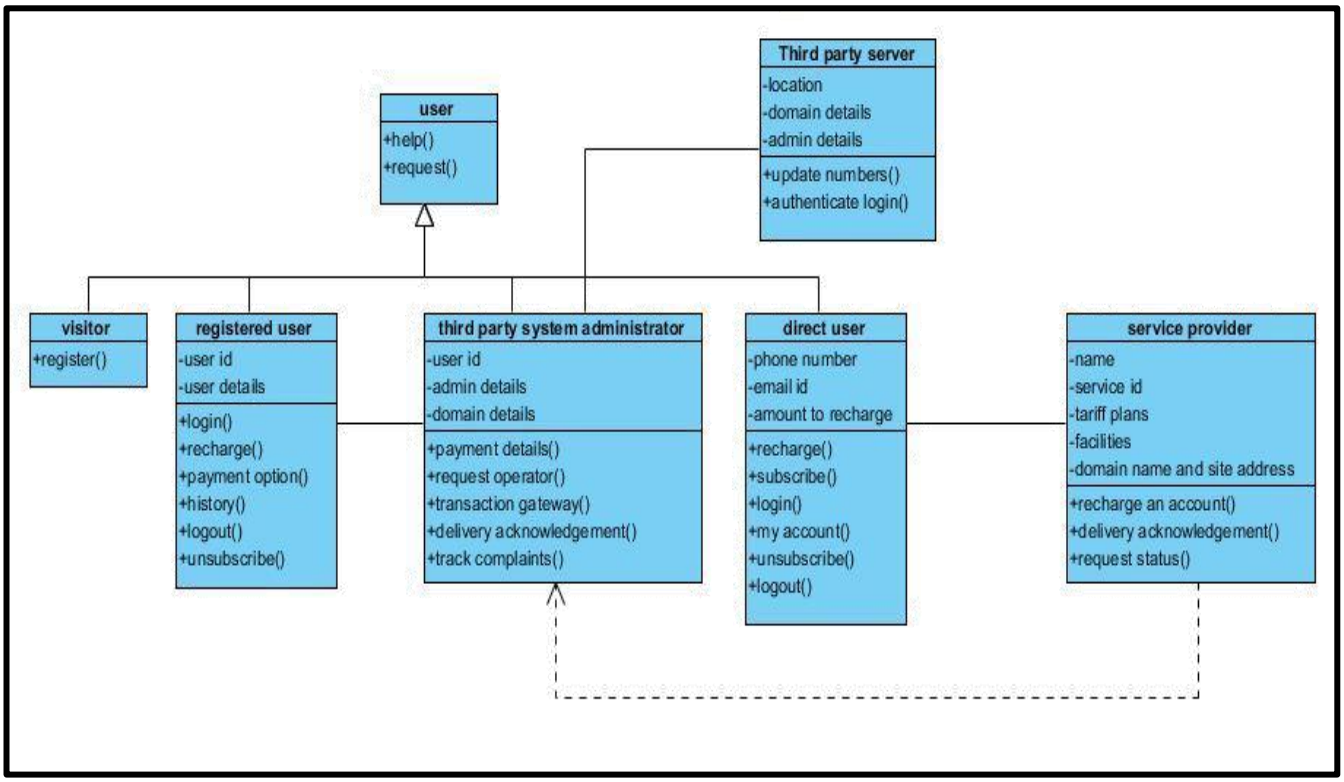
Online Mobile Recharge System is a web based application which provides easy recharge process. Online Mobile Recharge Management system is an online system which allows users to apply for Recharging of Mobile and reimbursements through following modules:
Recharge Plans Reimbursement Many useful reports are generated by the system for administration purposes & employee purpose and customer purpose.

1.Use Case Diagram - A use-case diagram is a graph of actors, a set of use cases enclosed by a system boundary, communication (participation) associations between the actors and the use cases, and generalization among the cases.



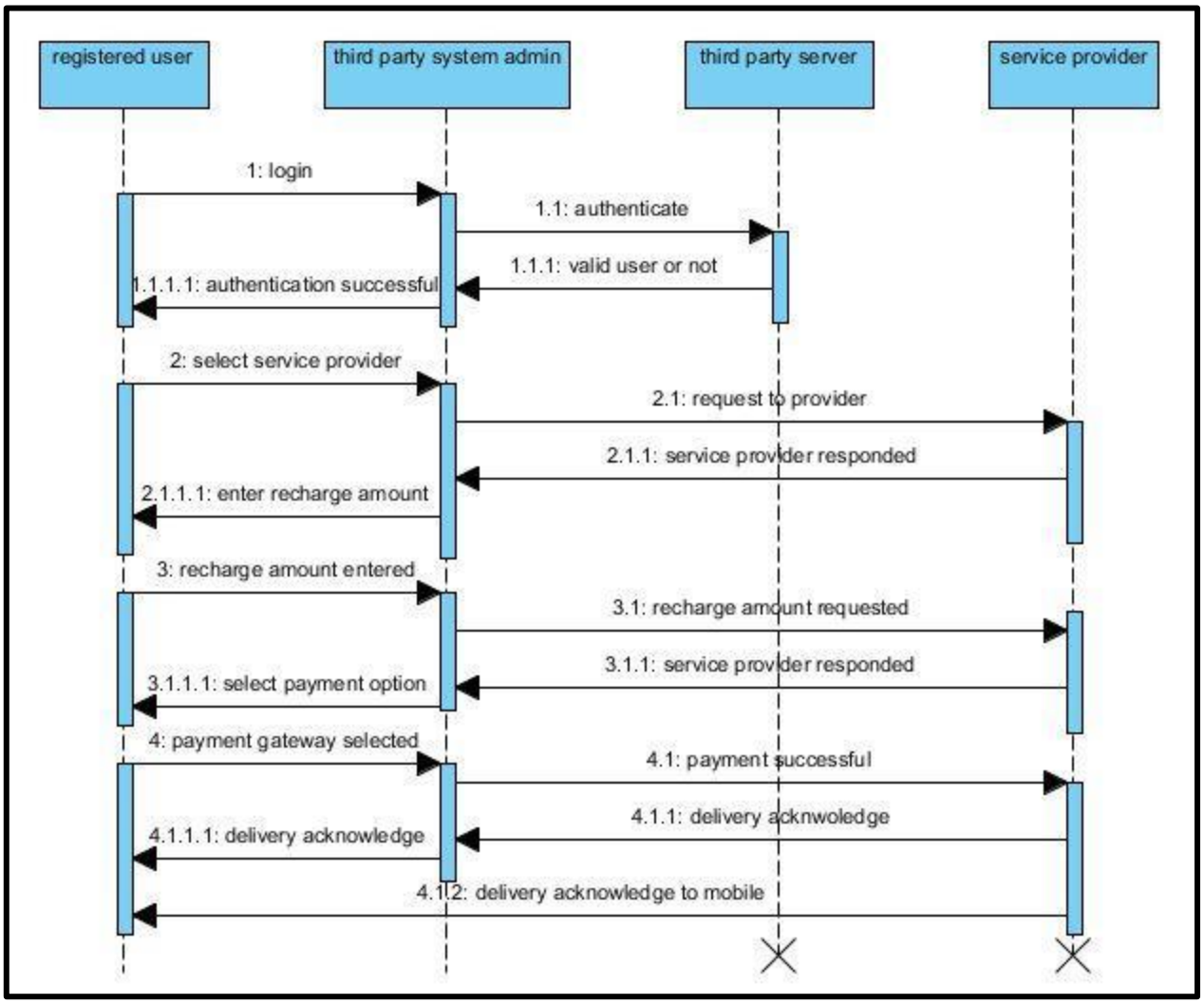
Dig.1 Use-Case diagram for Online Mobile Recharge System

2.Class and Object Diagram - The class diagram describes the attributes and operations of a class and also the constraints imposed on the system. The class diagrams are widely used in the modelling of object oriented systems because they are the only UML diagrams which can be mapped directly with object oriented languages.



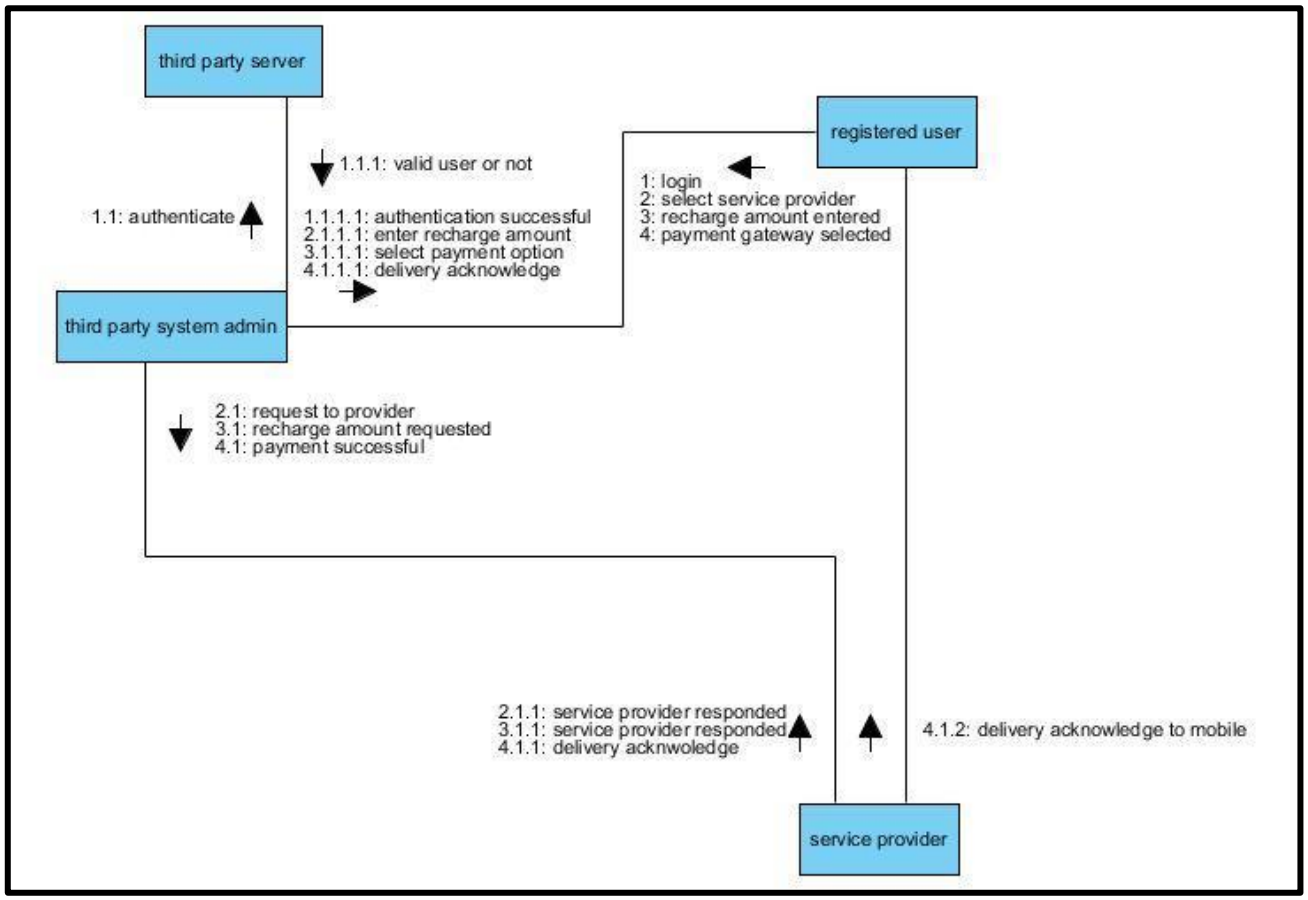
Dig.2 Class diagram for Online Mobile Recharge System

3.Sequence Diagram- A sequence diagram is an interaction diagram that details how operations are carried out what messages are sent and when. Sequence diagrams are organized according to time. The time progresses as you go down the page. The objects involved in the operation are listed from left to right according to when they take part in the message sequence.



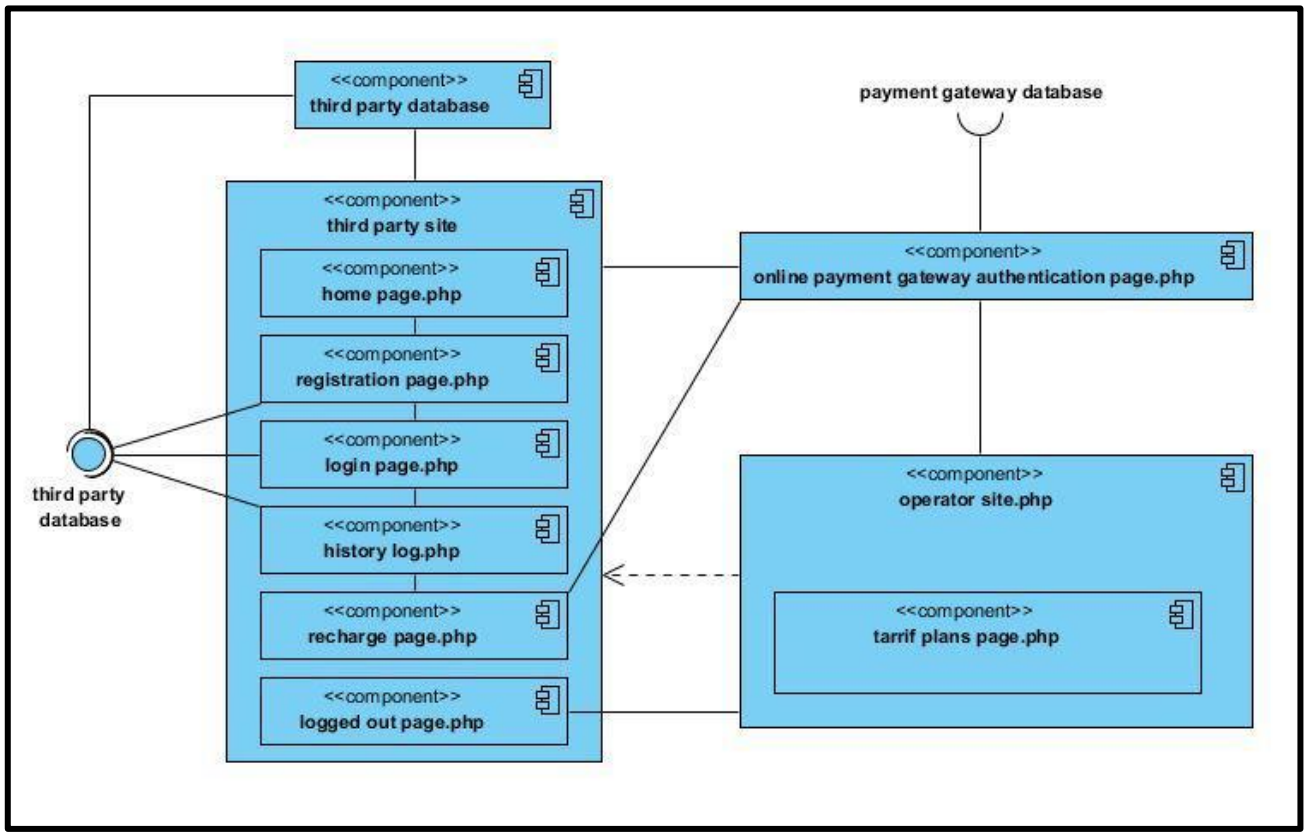
Dig.3 Sequence diagram for Online Mobile Recharge System

4.Collaboration Diagram- Collaboration diagrams are also interaction diagrams. They convey the same information as sequence diagrams, but they focus on object roles instead of the times that messages are sent. In a sequence diagram, object roles are the vertices and messages are the connecting links.



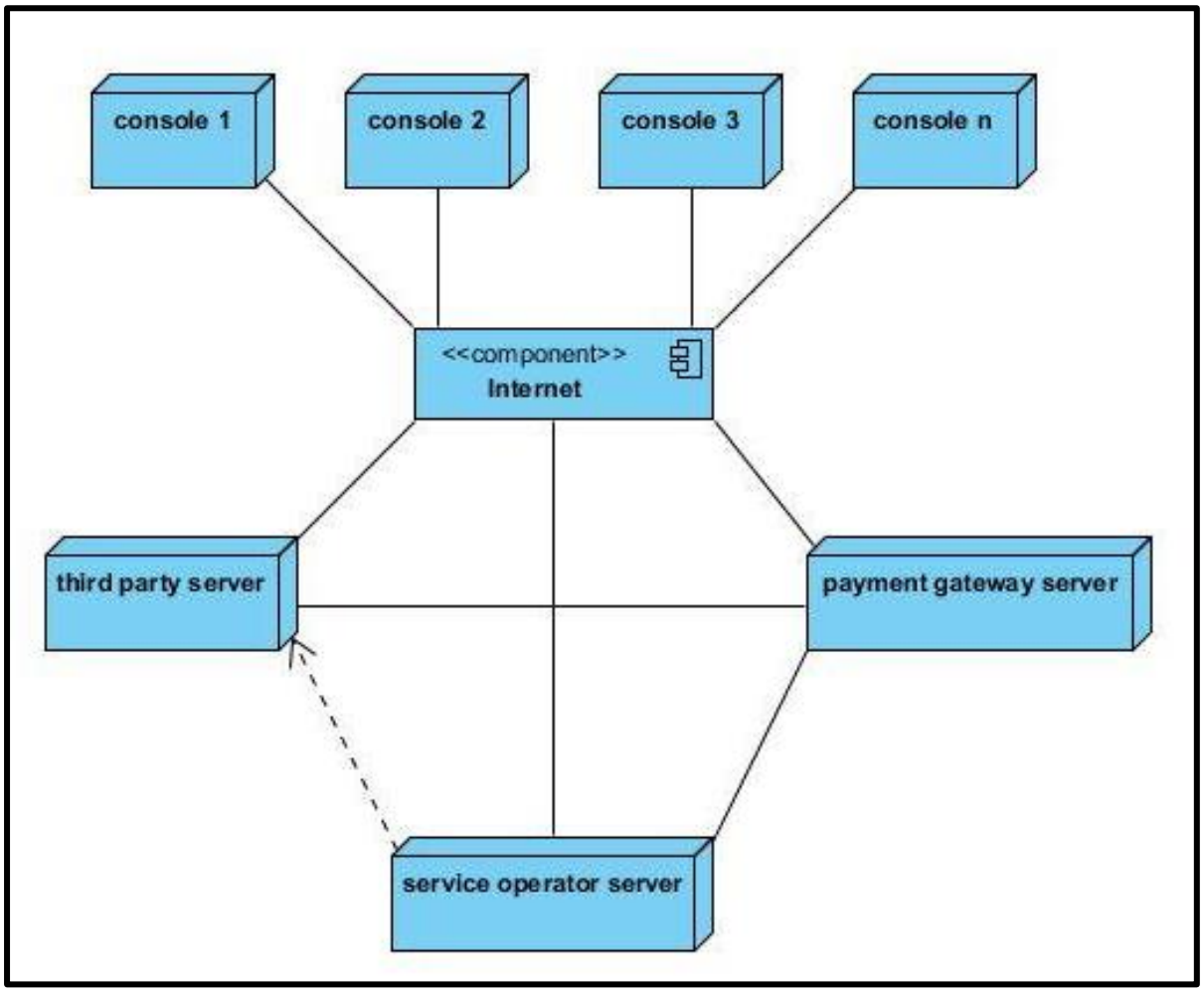
Dig.4 Collaboration diagram for Online Mobile Recharge System

5.Component Diagram- Component diagrams are different in terms of nature and behavior. Component diagrams are used to model physical aspects of a system. Physical aspects are the elements like executables, libraries, files, documents etc which resides in a node.
So component diagrams are used to visualize the organization and relationships among components in a system. These diagrams are also used to make executable systems.



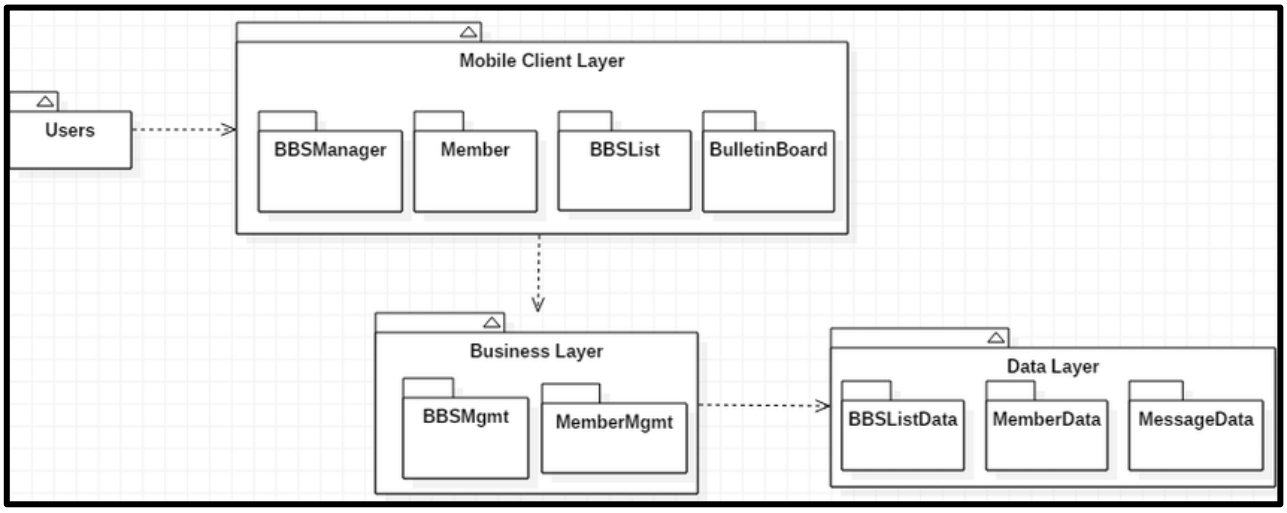
Dig.5 Component diagram for Online Mobile Recharge System

6.Deployment Diagram- Deployment diagrams are used to visualize the topology of the physical components of a system where the software components are deployed.
So deployment diagrams are used to describe the static deployment view of a system. Deployment diagrams consist of nodes and their relationships.



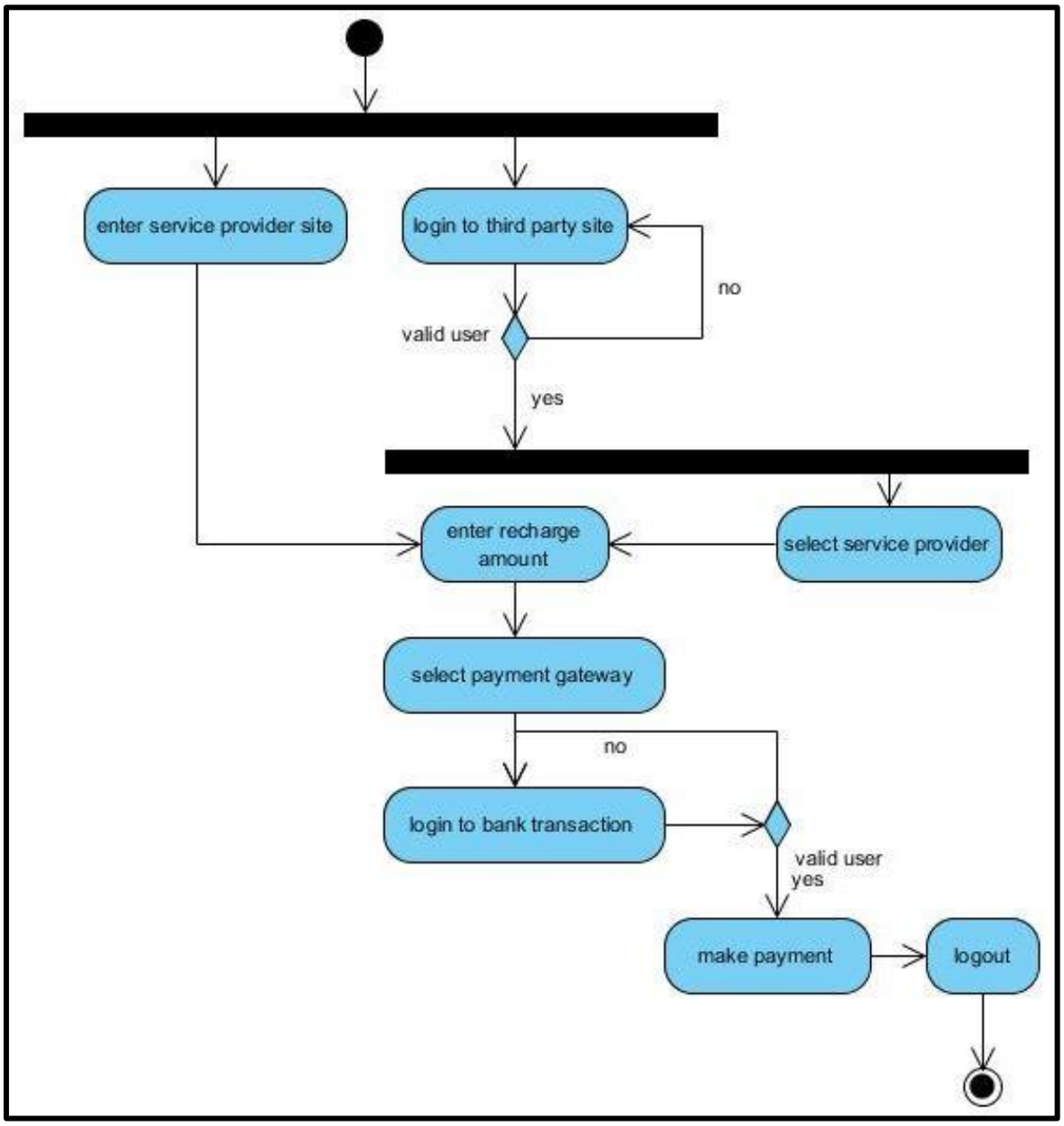
Dig.6 Deployment diagram for Online Mobile Recharge System

7.Package Diagram- Package Diagram are used to structure high level system elements. Packages are used for organizing large system which contains diagrams, documents and other key deliverables. Package Diagram can be used to simplify complex class diagrams, it can group classes into packages. A package is a collection of logically related UML elements. Packages are depicted as file folders and can be used on any of the UML diagrams.



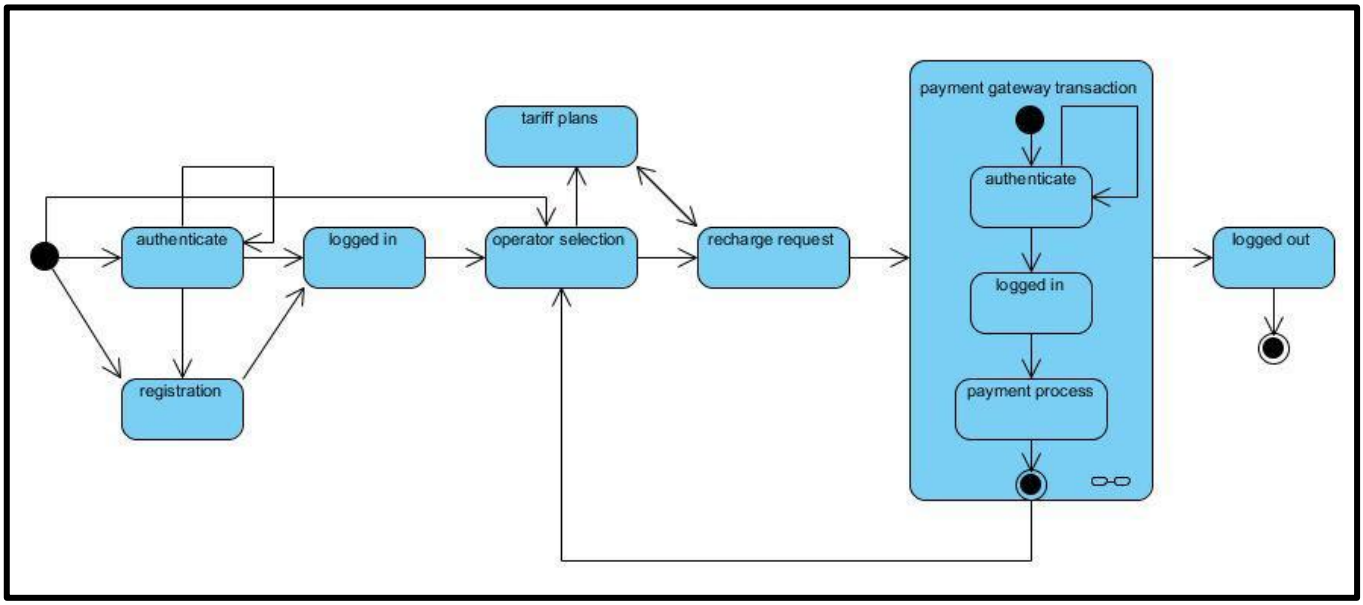
Dig.7 Package diagram for Online Mobile Recharge System

8. Activity Diagram- An Activity diagram is a visual representation of any system's activities and flows of data or decisions between activities. Activity diagrams provide a very broad view of a business process. They represent the dynamics of a system. They are flow charts that are used to show the work flow of a system. They show the flow of control from activity to activity in the system.



Dig.8 Activity diagram for Online Mobile Recharge System

9.State Machine Diagram- A State machine diagram describes a state machine. Now to clarify it state machine can be defined as a machine which defines different states of an object and these states are controlled by external or internal events.



Dig.9 State Machine diagram for Online Mobile Recharge System

Conclusion:

Here we can conclude that basic Online Mobile Recharge System is designed with the help of Unified Modeling Language Diagrams.