S.Exp. No. 1 STUDY OF UML

UML NOTATION

- Unified Modeling Language.
- Set of notations and conventions used to describe and model an application.
- Universal language for modeling systems.
- Standard notation for OO modeling systems.
- Does not specify methodology to develop an application.

UML DIAGRAMS

- Class Diagram
- Use Case Diagram
- Behavioral Diagram
- Interaction Diagram
  - Sequence Diagram
  - Collaboration Diagram
- State Chart Diagram
- Activity Diagram
- Implementation Diagram
  - Component Diagram
  - Deployment Diagram

CLASS DIAGRAM

- Shows the static structure of the model.
- Collection of static modeling elements such as classes and their relationships connected as a graph.
- Provides visual representation of objects, relationships and their structures.

Class:-

• A class is a set of objects that share a common structure and common behavior.

• It is represented as:

<Class Name>
<Attributes>
<operations>

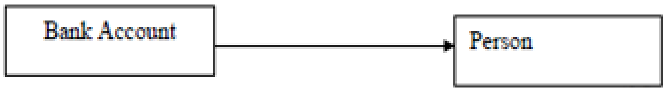
Interface:-

• Specifies the externally-visible operations of a class and/or component.

Association:-

- Model properties of associations.
- The properties are stored in a class and linked to the association relationship.

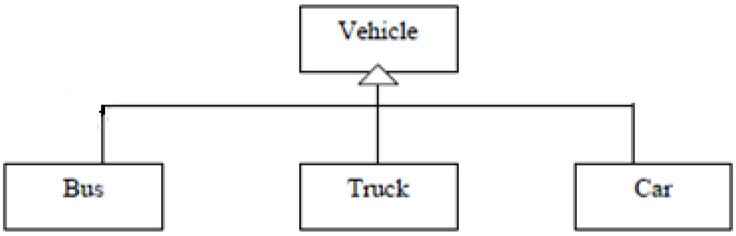
Example,



Generalization:-

- A generalize relationship is a relationship between a more general class or use case and a more specific class or use case.

- Example,

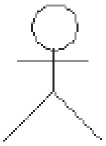


USE CASE DIAGRAM

- Set of use cases enclosed by system boundary, communication association between actors and use cases, and generalization among use cases.

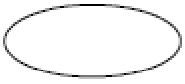
Actors:-

- External factors that interacts with the system from the user's perspective.



Use Cases:-

- Set of scenarios that describe how actor uses the system.
- Represented as,



Relationship:-

- Communication – communications with the use case normally.
- Uses – Shown by generalization arrow from the use cases.
- Extends – Used when one case does more than another that is similar to it.

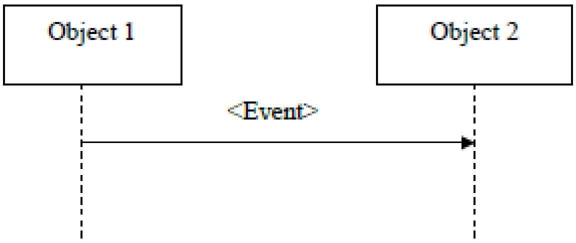
BEHAVIOUR DIAGRAM

INTERACTION DIAGRAM

- Diagrams that describes how group of objects are collaborated.

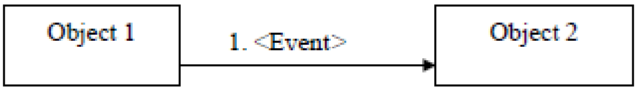
SEQUENCE DIAGRAM:

- Describes the behavior of the system through interaction between the system and the environment in time sequence.
- Two dimensions:
  - ❖ Vertical dimension – represents time.
  - ❖ Horizontal dimension – represents objects. • Life line – Object's existence during the interaction.



COLLABORATION DIAGRAM

- ❖ An interaction diagram that shows the order of messages that implement an operation or a transaction.
- ❖ Collaboration diagrams show objects, their links, and their messages.



Object:-

- An object has state, behavior, and identity.
- Objects interact through their links to other objects.

Link:-

- A link is an instance of an association, analogous to an object.

Message:-

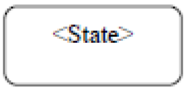
- A message is the communication carried between two objects that trigger an event.

STATECHART DIAGRAM

- Models the dynamic behavior of individual classes or any other kind of object.
- Shows the sequences of states, events, and actions

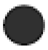
State:-

- Represents a condition or situation during the life of an object during which it satisfies some condition or waits for some event.



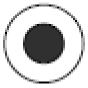
Start State:-

- Shows the beginning of workflow.



End state::-

- Represents the final or terminal state.



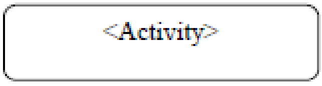
ACTIVITY DIAGRAM

Used for modeling the sequence of activities in a process

- Special case of a state machine in which most of the states are activities and most of the transitions are implicitly triggered by completion of the actions in the source activities.

Activity:-

- Represents the performance of task or duty in a workflow.



Swim lanes:-

- Represents organizational units or roles within a business model.

IMPLEMENTATION DIAGRAM

- Shows the implementation phase of system development.
- Two types of implementation diagrams:

1.Component diagram

2. Deployment diagram

COMPONENT DIAGRAM

- Models the physical components in the design.
- A graph of the design’s components connected by dependency relationships.
- Includes concept of packages.
- Package is used to show how classes are grouped together.

DEPLOYMENT DIAGRAM

- Shows the configuration of runtime processing elements and software components.
- It is a graph of nodes connected by communication association.
- Nodes are the components that are connected to other components through dependencies.
- Used in conjunction with component diagrams to show the distribution of physical modules.

STEPS FOR THE GENERATION OF CODE

1. Set the language to ANSI C++
    1. Go to Tools --> Options.
    2. Select the Notation Tab.
    3. Select ANSI C++ from the list.
2. Create a class in the Logical View
    1. Right click on the Logical View.
    2. Select New --> class.
3. Create a component and assign the class to the component
    1. Right click on the Component View.
    2. Select New --> Component.
4. Generate the ANSI C++ Code
    1. Right click on the Component and select ANSI C++ --> Generate Code.
    2. In the Root Directory Undefined dialog click the … and select a location for the code to be generated in.

3. Click OK on the Root Directory Undefined dialog.
4. On the Generate ANSI C++ dialog make sure there is a check next to ADD:
   ClassName and click OK.
5. On the Rose ANSI C++ Addin dialog it should say Code Generation Complete,
   click OK.

5. Now the code for the ANSI C++ class has been generated.

PROJECT NO: 1 PASSPORT AUTOMATION SYSTEM

AIM

To develop the project of Passport Automation System using ArgoUML software.

PROBLEM ANALYSIS AND PROJECT PLAN

To simplify the process of applying passport, software has been created by designing through ArgoUML tool, using visual basic as a front end and Microsoft access as a back end.The applicant apply passport in the online, after submitting his details then verification process started. During verification process the status of the verification process is displayed. The applicant can view their passport status. After the verification process completed successfully the passport is issued to applicant.

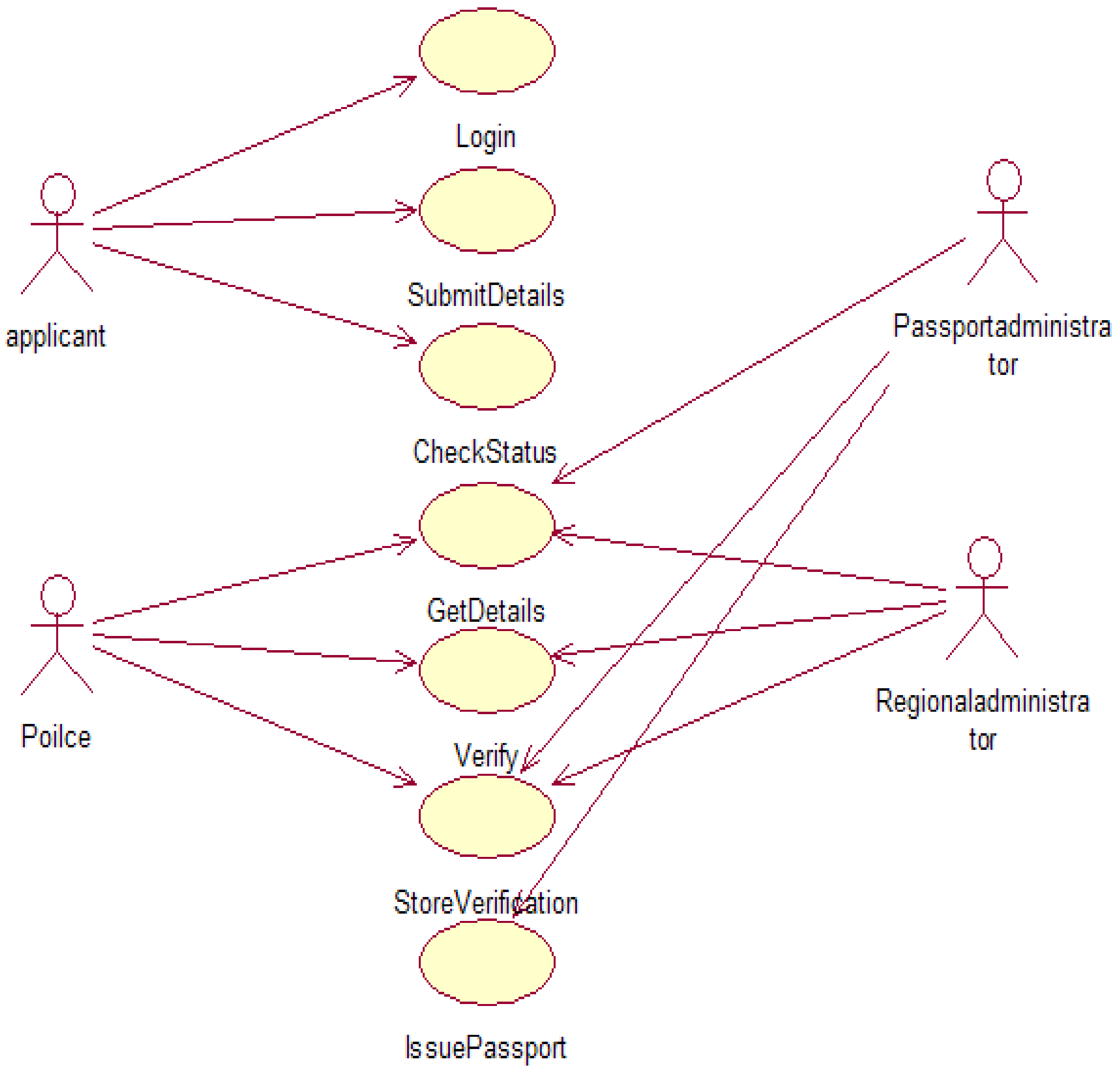
PROBLEM STATEMENT

- Passport Automation System is used in the effective dispatch of passport to all of the applicants. This system adopts a comprehensive approach to minimize the manual work and schedule resources, time in a cogent manner.
- The core of the system is to get the online registration form (with details such as name, address etc.,) filled by the applicant whose testament is verified for its genuineness by the Passport Automation System with respect to the already existing information in the database.
- This forms the first and foremost step in the processing of passport application. After the first round of verification done by the system, the information is in turn forwarded to the regional administrator's (Ministry of External Affairs) office.
- The application is then processed manually based on the report given by the system, and any forfeiting identified can make the applicant liable to penalty as per the law.
- The system forwards the necessary details to the police for its separate verification whose report is then presented to the administrator. After all the necessary criteria

have been met, the original information is added to the database and the passport is sent to the applicant.

USE CASE DIAGRAM

Use case is shown as an ellipse containing the name of use case .An actor is shown as a stick figure with the name below it. Use case diagram is a graph of actors.



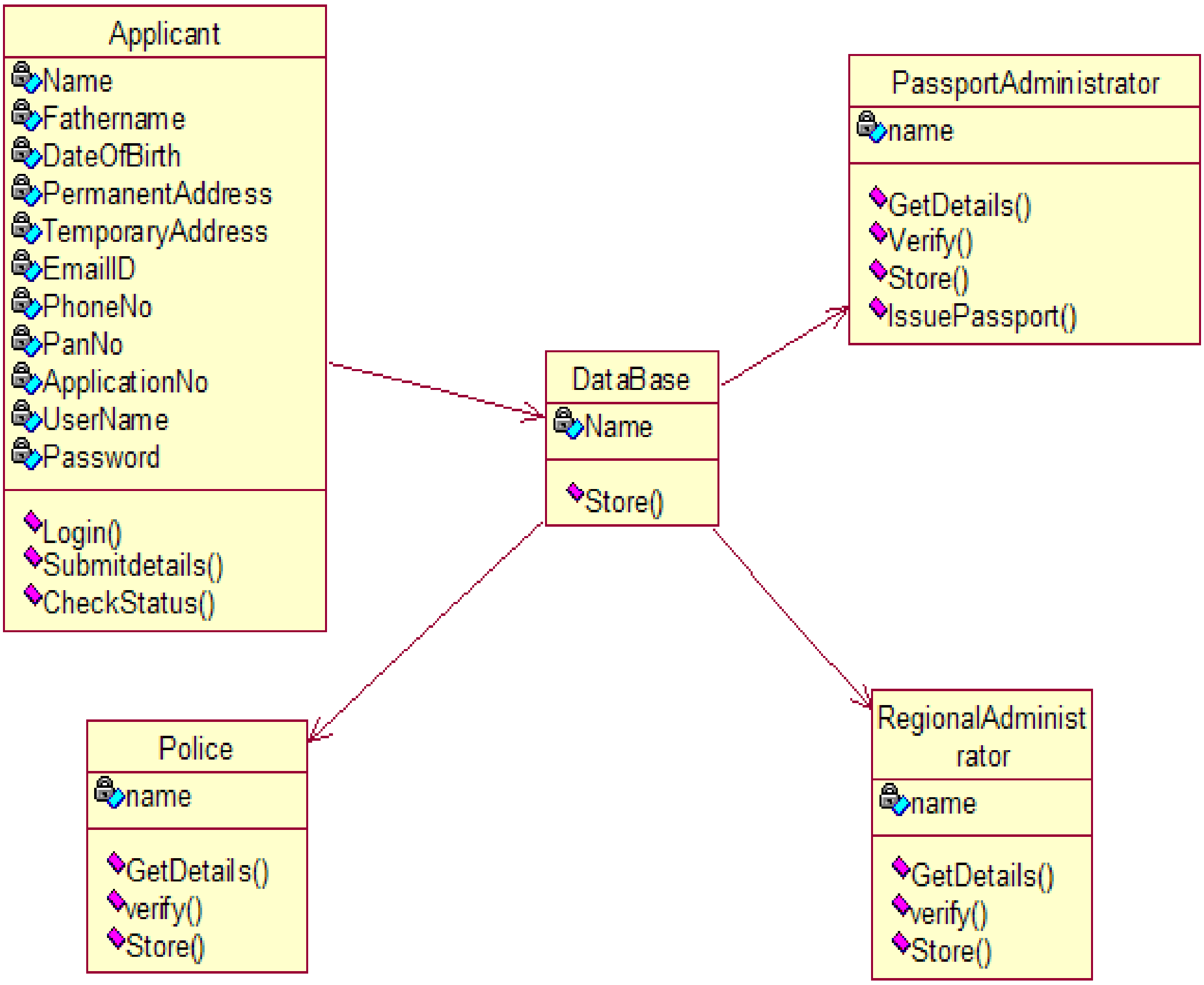
DOCUMENTATION OF USECASE DIAGRAM

• The actors in use case diagram are Applicant, regional administrator, database, passport Administrator, Police.

- The use cases are Login, givedetails, logout, collectdetails, verification, issue.
- The actors uses the use case are denoted by the arrow

CLASS DIAGRAM

A class is drawn as rectangle box with three compartments or components separated by horizontal lines. The top compartment holds the class name and middle compartment holds the attribute and bottom compartment holds list of operations.



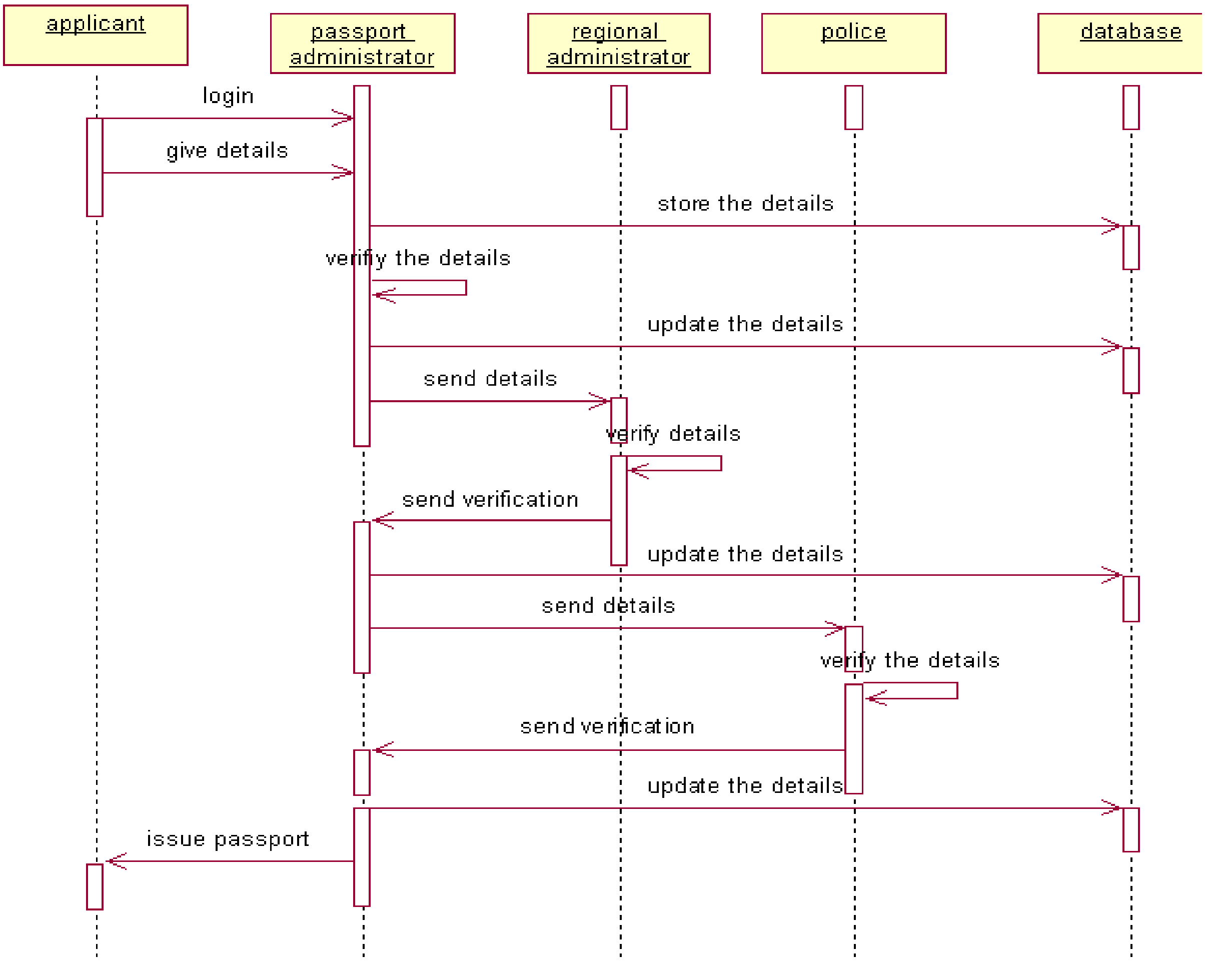
DOCUMENTATION OF CLASS DIAGRAM

- The classes are Applicant, database, regional administrator, passport administrator, and police.
- The applicant has attribute such as name and password and operations are login, givedetails and logout.

- The database has attribute such as name and operation is store.
- The regional administrator has attribute such as name and operation are get details, verify details and send.
- The passport administrator has attribute such as name and operation are get details, verify details and issue.
- The police has attribute such as name and operation are get details, verify details and send.

SEQUENCE DIAGRAM

A sequence diagram shows an interaction arranged in time sequence, It shows object participating in interaction by their lifeline by the message they exchange arranged in time sequence. Vertical dimension represent time and horizontal dimension represent object



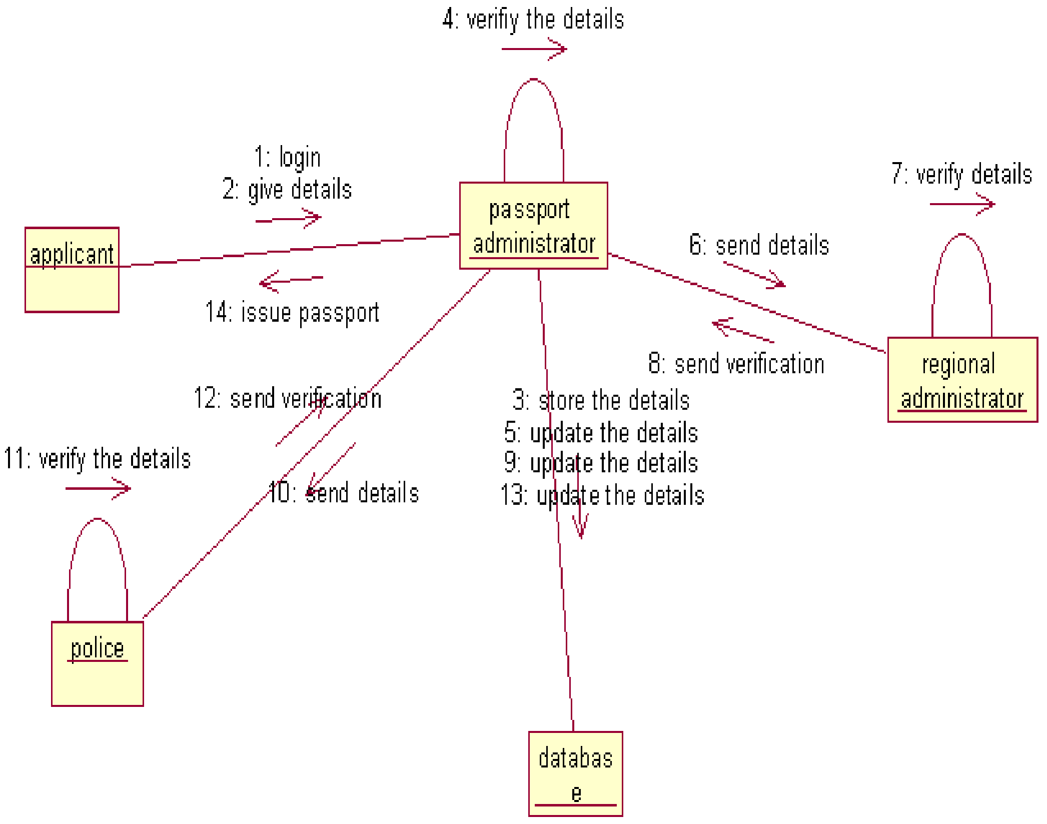
DOCUMENTATION OF SEQUENCE DIAGRAM.

- The applicant login the database and give his details and database store the details.
- The passport administrator get the details from the database and do verification and the forward to regional administrator.
- The regional administrator get details form passport administrator and perform verification and send report to passport administrator.
- The police get the details form passport administrator and perform verification and send report to passport administrator

COLLABORATION DIAGRAM

A collaboration diagram is similar to sequence diagram but the message in number format.

In a collaboration diagram sequence diagram is indicated by the numbering the message



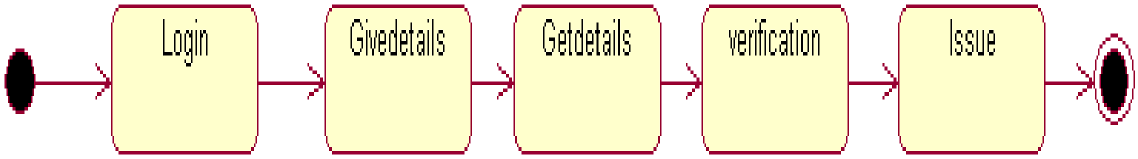
DOCUMENTATION OF COLLABORATION DIAGRAM

• The applicant, passport administrator, regional administrator, police and database functions are show in sequence number

• The applicant first login the passport automation system and submit his details the passport administrator, regional administrator and police verification are denoted

STATE CHART DIAGRAM

The state chart diagram contains the states in the rectangle boxes and starts in indicated by the dot and finish is indicated by dot encircled. The purpose of state chart diagram is to understand the algorithm in the performing method.



DOCUMENTATION OF STATE CHART DIAGRAM

• The states of the passport automation system are denoted in the state chart diagram

• Login state represent authentication for login the passport automation system.

In this state, it checks whether the applicant has provided all the details that is required.

• Police, regional administrator and passport administrator get necessary details and verification of

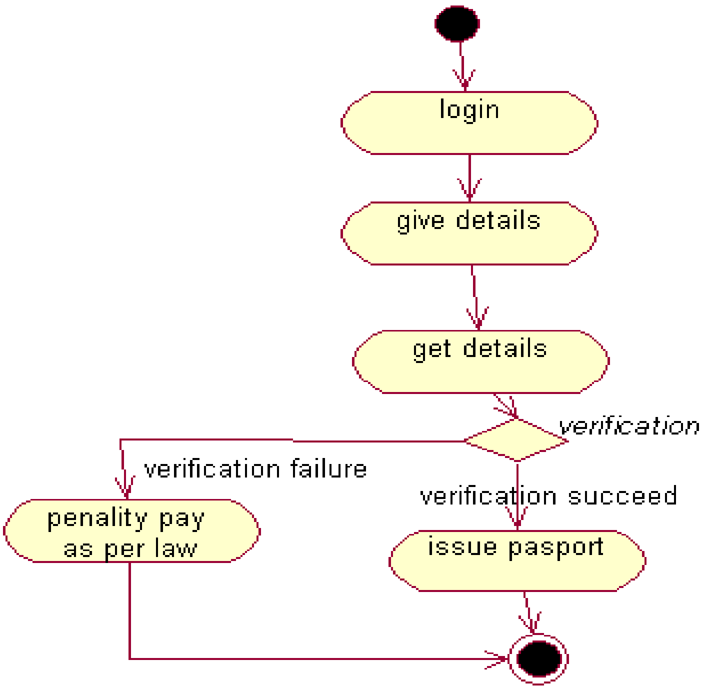
the applicant are denoted from the Getdetail state and verification state

• In this state, it checks whether the applicant has provided all the details that is required.

• Police, regional administrator and passport administrator get necessary details and verification of the applicant are denoted from the Getdetail state and verification state

ACTIVITY DIAGRAM

An activity diagram is a variation or special case of a state machine in which the states or activity representing the performance of operation and transitions are triggered by the completion of operation. The purpose is to provide view of close and what is going on inside a use case or among several classes. An activity is shown as rounded box containing the name of operation.



DOCUMENTATION OF ACTIVITY DIAGRAM

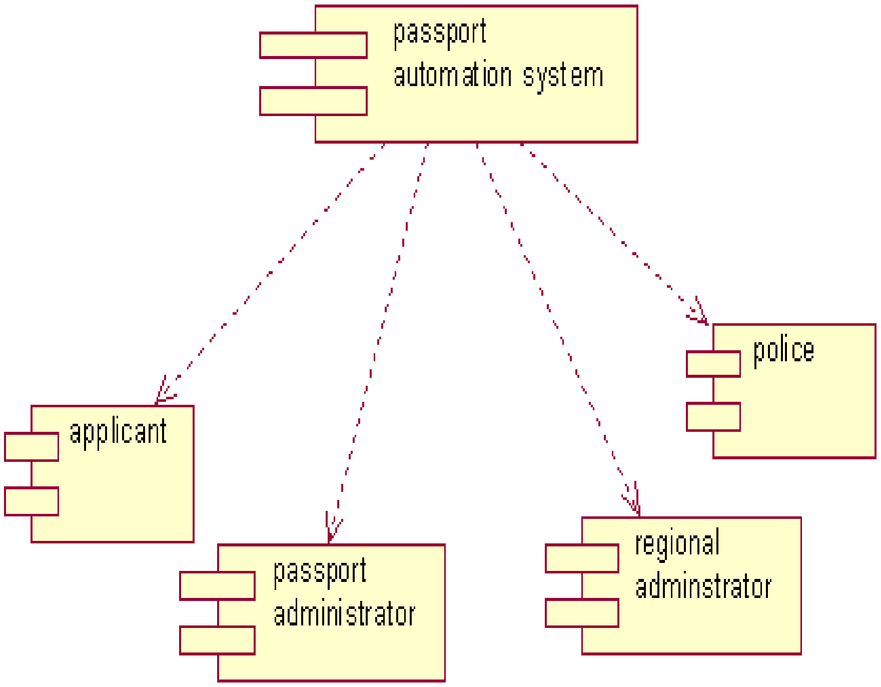
• In this diagram, the activities taken place are login, give details, get details, verification and issuing of passport.

• Initially, the user has to login into the website through their id and password
After, signing in successfully the user have to give the necessary details

• The given details are then verified, if the verification is successful then passport is issued else penalty as per law.

COMPONENT DIAGRAM

The component diagram is represented by figure dependency and it is a graph of design of figure dependency.



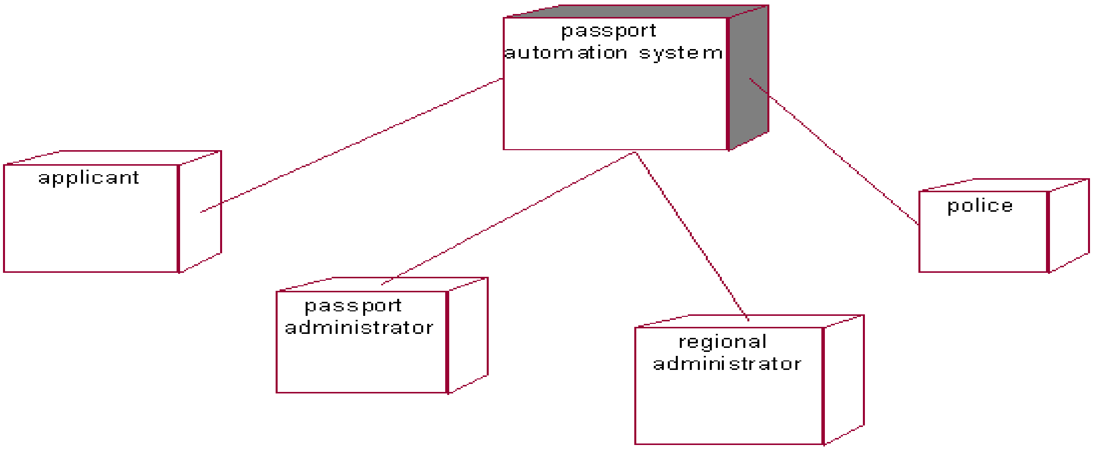
DOCUMENTATION OF COMPONENT DIAGRAM

- The modules in the component diagram are applicant, passport administrator, regional administrator, police and passport automation system.

- The applicant passport administrator regional administrator and police are dependent on the passport automation system are shown by the dotted arrow

DEPLOYMENT DIAGRAM

It is a graph of nodes connected by communication association. It is represented by a three dimensional box



DOCUMENTATION OF DEPLOYMENT DIAGRAM

• The modules in the deployment diagram are applicant, passport administrator, regional administrator, police and passport automation system.

• The applicant passport administrator regional administrator and police are dependent on the passport automation system are shown by the arrow

RESULT:

Thus the Passport Automation System is successfully done and the UML diagram are implemented by using the ArgoUML.

PROJECT NO: 2 BOOK BANK MANAGEMENT SYSTEM

AIM

To develop a project of Book bank management system using ArgoUML software.

PROBLEM ANALYSIS AND PROJECT PLANNING

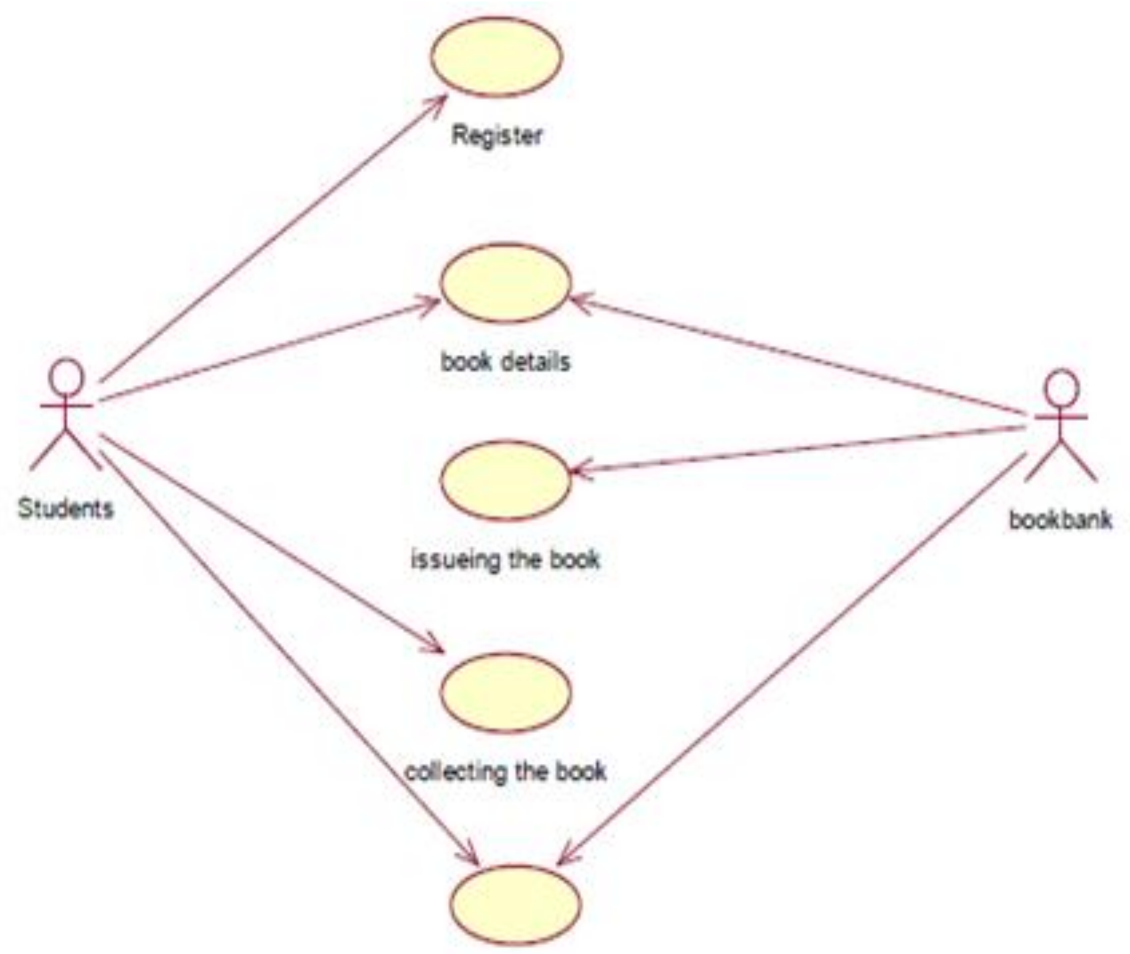
The requirements book from the student is got and the requirements about the Book Bank are refined. The requirements are analyzed and verified. So that it enable the student to efficiently get the book from Book Bank. The project scope is identified and problem statement is prepared.

PROBLEM STATEMENT

1. Student visit and enquire the Book Bank.
2. Student selects the required scheme.
3. The form was filled by the student for join the Book Bank.
4. The membership card is issued.
5. The Book Banker checks the availability from the database.
6. If the book is available, the banker issues the book else collect books in a particular date.

USE CASE DIAGRAM

Use case is a sequence of transfer in a system whose task is to yield results of measurable value to individual action of the system.Use case is a set of sceneries of lied together by a common user goal. A sceneries is a sequence of step describing an interaction between a user and a system



DOCUMENTATION OF USE CASE DIAGRAM

The use case diagram in the Book Bank illustrates the following sequence of steps. It is all for followed by the student and banker who are in charge of Book Bank.

Enquiry

The student wants to join the Book Bank for study about his subject. So he must enquire about the Book Bank rules and information about the Book Bank.

Fill the form for join

The Student fills the form and gets the Membership card

Book details

Then the student enquire about the Book details and fill the form for the require Book.

Issuing the Book

The Banker issue the Book which is mention in the form by the student.

Collecting the Book

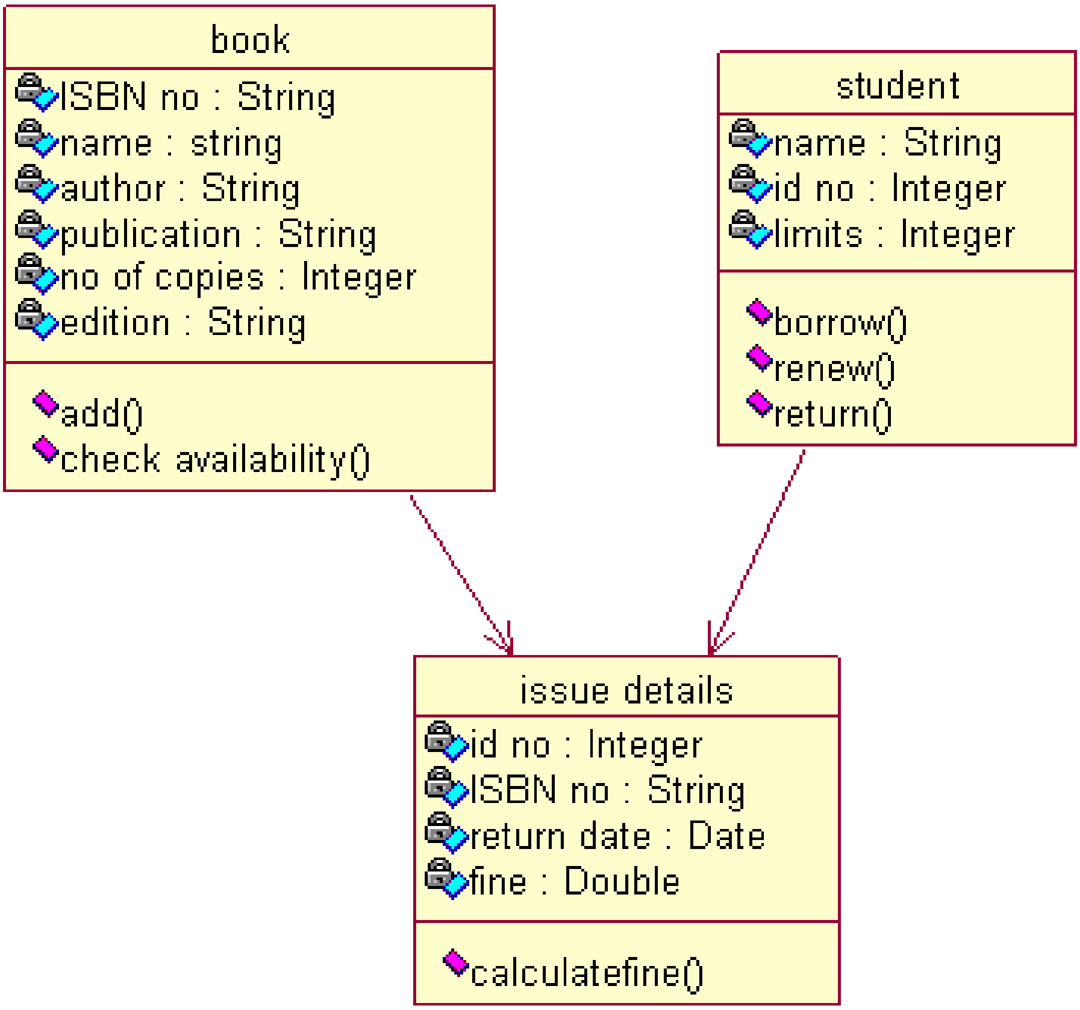
The student gets the Book and student about his subject by using this Book and returns it on the particular date.

Database

The Book Bank database was updated for each book issuing.

CLASS DIAGRAM

The class diagram describes the types of objects in the system and various kinds if static relationship that exist among them.



DOCUMENTATION OF CLASS DIAGRAM

The various classes involved in the system are registered

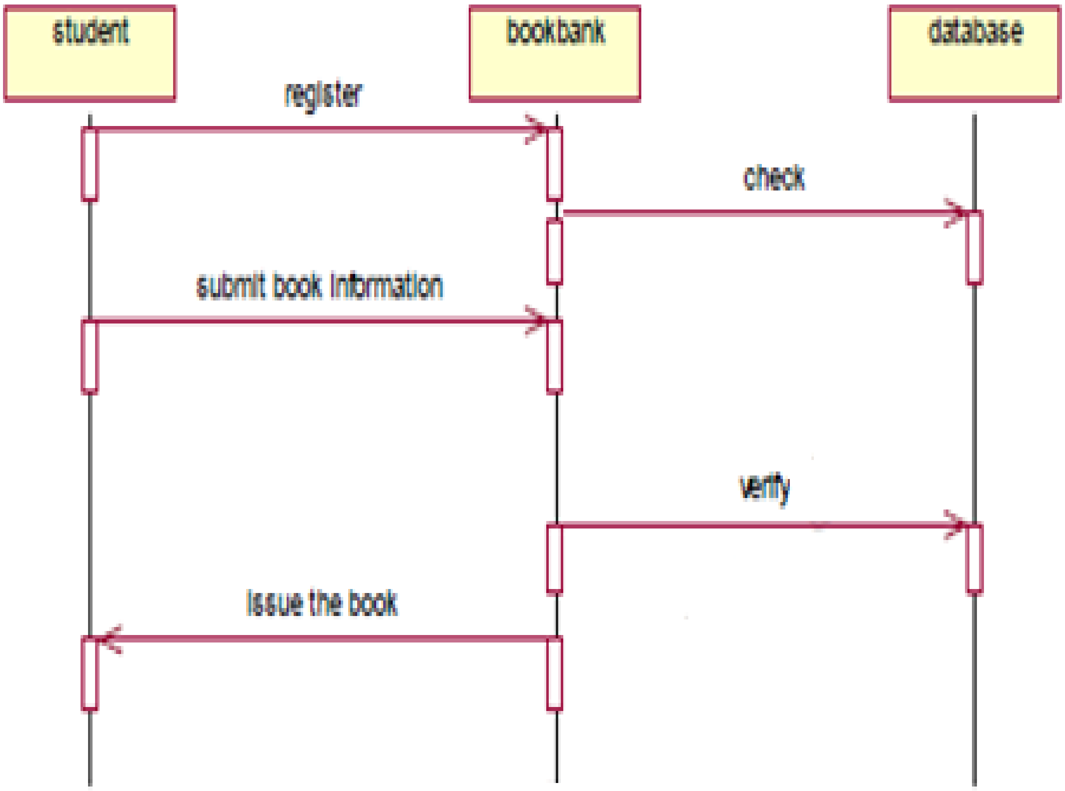
- The student enquire and join the Book bank
- Then student did he action of enquire , join , and collect

- The Book Bank did the action of checking , issuing , storing
- The student fill the form by fill his name, college name, course
- The bank issue the membership card to him, and he use this as a identity card
- The book bank have the attributes of its name and address

It issue the book to student and get it back in the particular

SEQUENCE DIAGRAM

A sequence diagram is one that includes the object of the project and tells the left line and also various act performed behavior object.



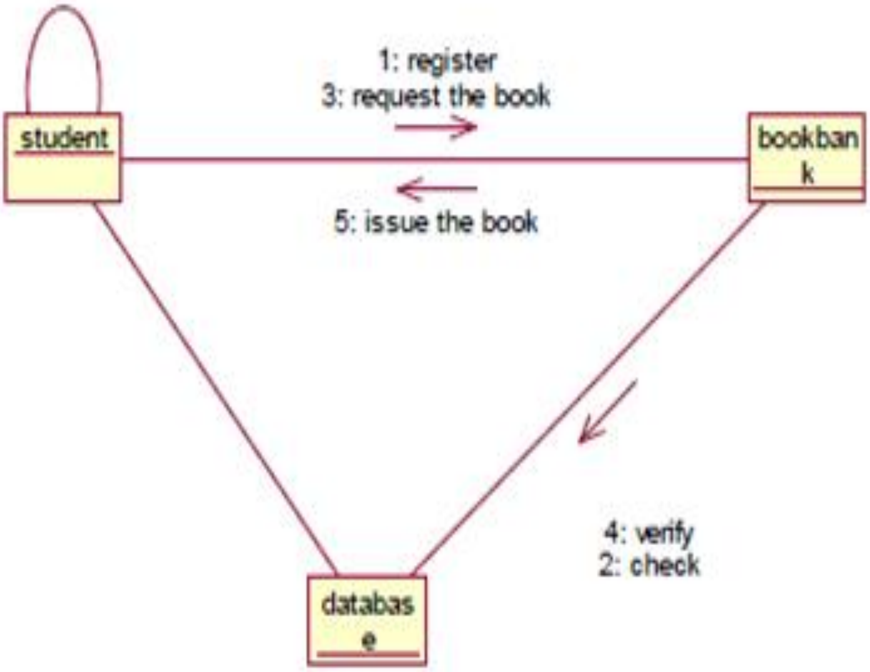
DOCUMENTATION OF SEQUENCE DIAGRAM

The single use case in the Book Bank process is taken and various operations followed in use case.

- In this sequence, the student enquire the Book Bank detail from the Banker and known about the Bank
- Then the student fill the form for join the book bank and require the book from the Book Bank
- The Banker check the book which is request the student is available or not
- If the book is available, the Banker issue the Book to the student
- Then the Book bank database is update when the book is returned

COLLABORATION DIAGRAM

It is same as the sequence diagram that involve the project with only difference, that we give sequence number to each process



DOCUMENTATION OF COLLABORATION DIAGRAM

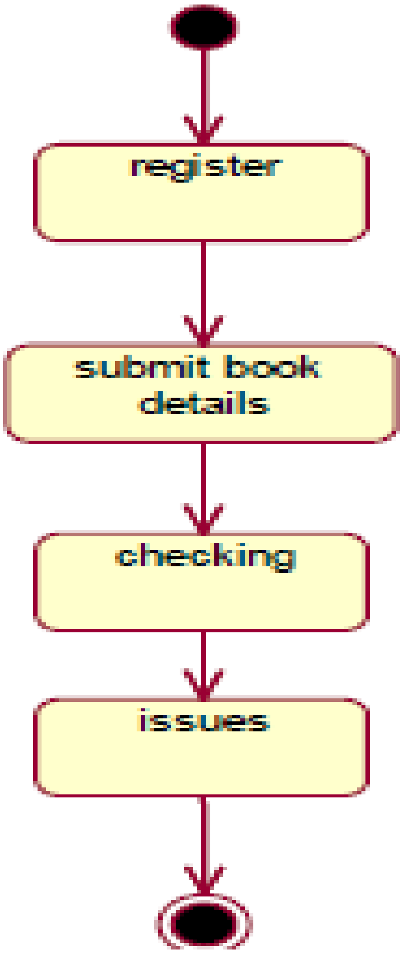
The sequence steps is

1. Enquire the information about the book bank and join the bank
2. Request the book from the banker
3. The banker check the availability

4. Then issue the available book to the student
5. The database was updated

STATECHART DIAGRAM

It is a technology to describe the behavior of the system. It describes all of the possible state that a particular object object gets into the object oriented technique. State diagram are drawn for a single class to show the left time behavior of a single object.



DOCUMENTATION OF STATECHART DIAGRAM

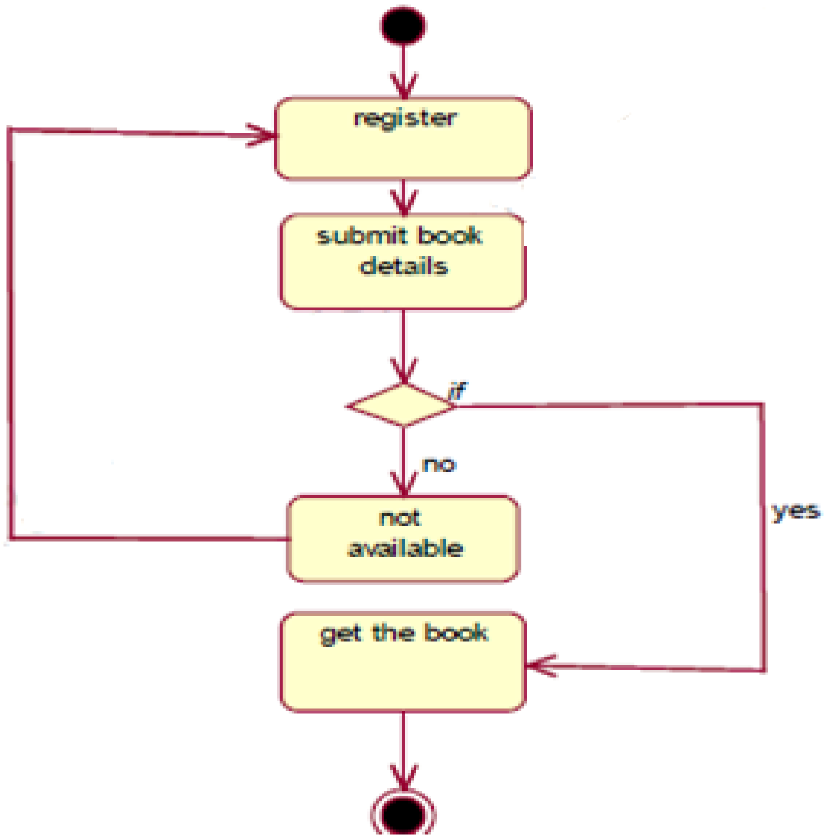
The state diagram describes the behavior of the system.

- The main purpose is to get the book from the book bank
- After getting the book the student study that and return it to the bank
- In between the student enquire and join the book bank and get the membership card

- Then he use this card and get the book from the book bank

ACTIVITY DIAGRAM

It involves all the activities of particular project and the various step using join and far be.The activity diagram describes the operations that are carried out by analysis system. It involves the activities and there are various steps using joins and forks.

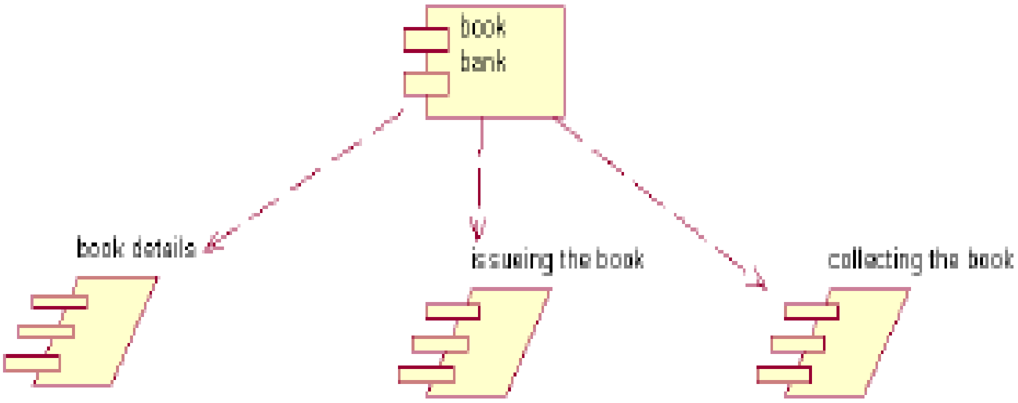


DOCUMENTATION OF ACTIVITY DIAGRAM

The student enquires about the book bank. Then he fills the form for join. Then he gets the book from the book bank. Safely return it in the particular date

COMPONENT DIAGRAM

The component diagram is represented by figure dependency and it is a graph of design of figure dependency.

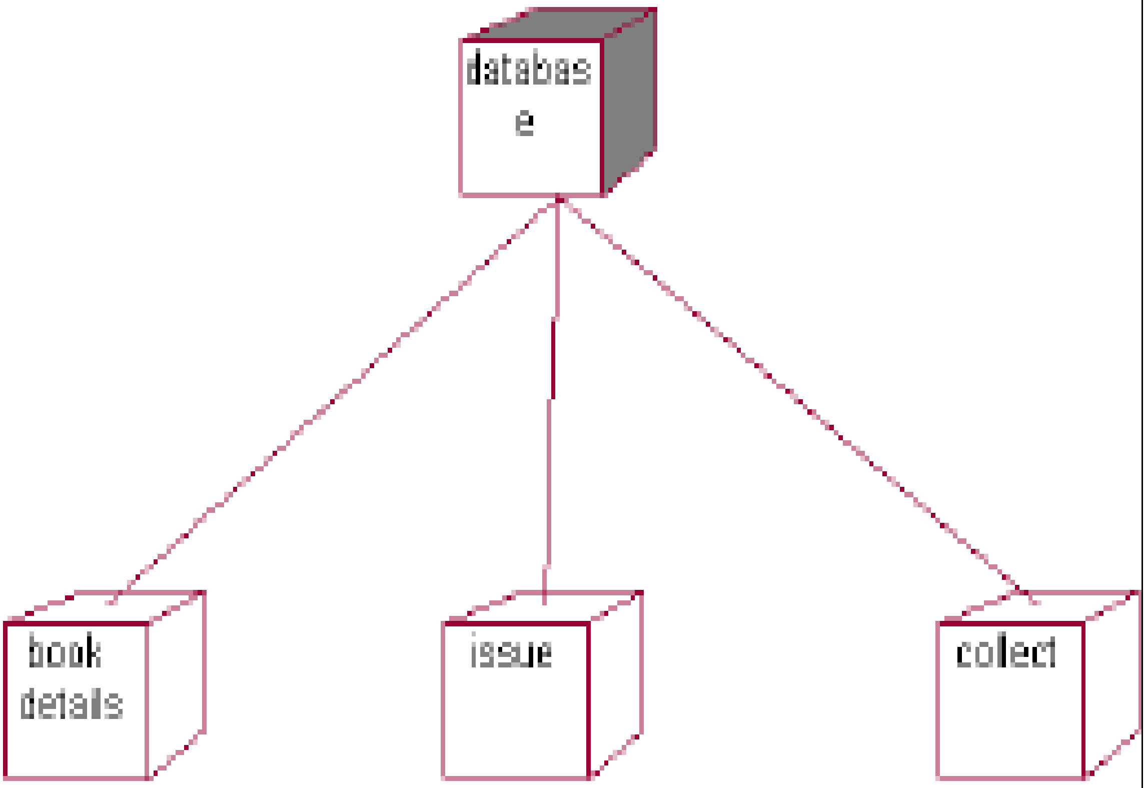


DOCUMENTATION OF COMPONENT DIAGRAM

This is component diagram represents the dependences that are present in the Book Bank system.

DEPLOYMENT DIAGRAM:

It is a graph of nodes connected by communication association. It is represented by a three dimensional box



DOCUMENTATION OF DEPLOYMENT DIAGRAM

This diagram represent deployment diagram of the Book Bank system. In this the process of register, enquiry, issueing the book, collect the book, database update are done

RESULT

Thus the Book bank management system is successfully done and the UML diagram are implemented by using the ArgoUML.

PROJECT NO. 3 EXAM REGISTRATION SYSTEM

AIM

To develop a project of Exam Registration system using ArgoUML software.

PROBLEM ANALYSIS AND PROJECT PLANNING

The Exam Registration is an application in which applicant can register themselves for the exam. The details of the students who have registered for the examination will be stored in a database and will be maintained. The registered details can then be verified for any fraudulent or duplication and can be removed if found so. The database which is verified can be used to issue hall tickets and other necessary materials to the eligible students.

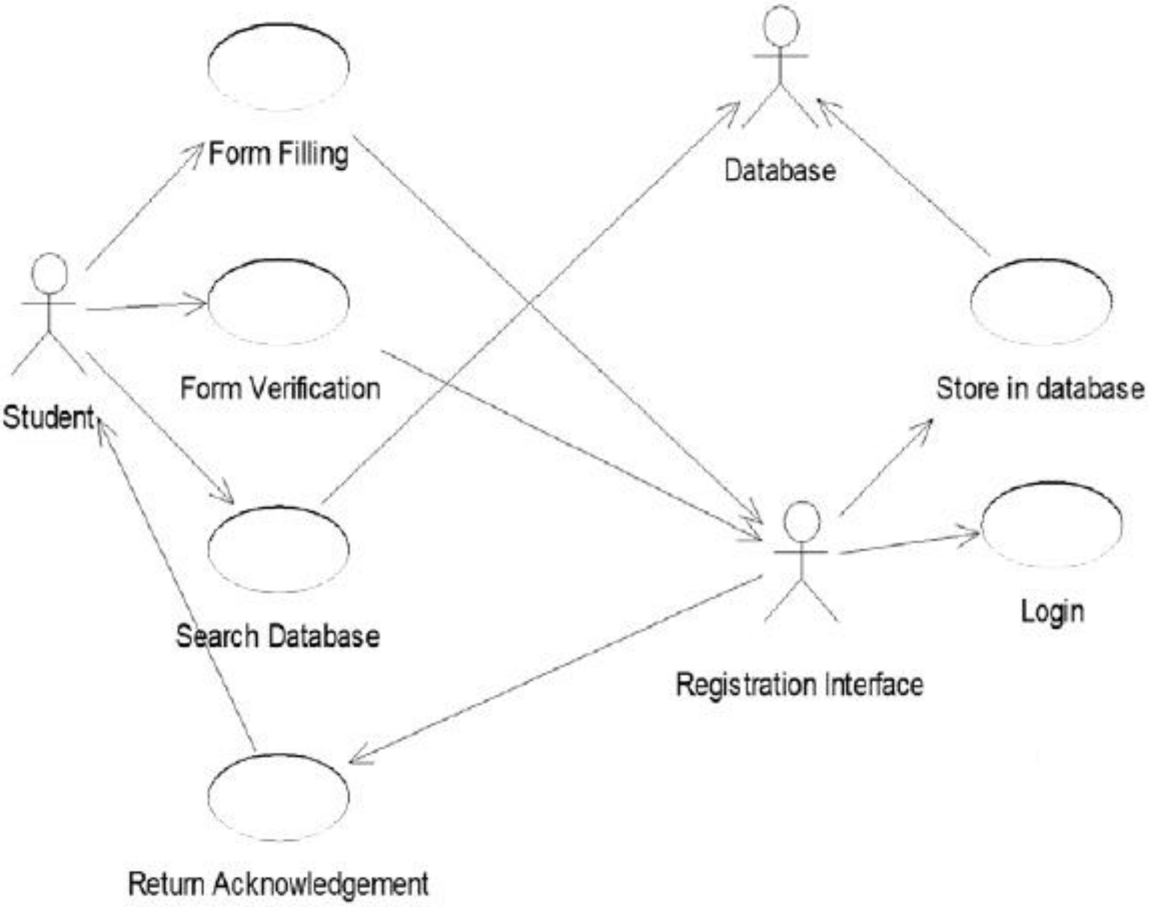
PROBLEM STATEMENT

The process of students accessing the registration application and applying for the examination by filling out the form with proper details and then the authorities verify those details given for truth and correctness are sequenced through steps

- The students access exam registration application.
- They fill out the form with correct and eligible details.
- They complete the payment process.
- The authorities verify or check the details.
- After all verification the exam registration database is finalized.

USE CASE DIAGRAM

A use case is a methodology used in system analysis to identify, clarify, and organize system requirements. The use case is made up of a set of possible sequences of interactions between systems and users in a particular environment and related to a particular goal. It is represented using ellipse. Actor is any external entity that makes use of the system being modelled. It is represented using stick figure.



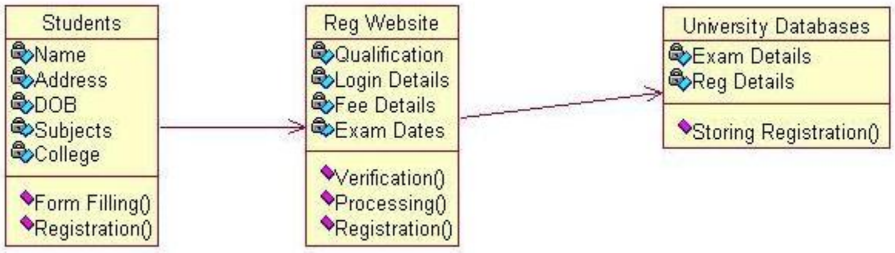
DOCUMENTATION OF USE CASE DIAGRAM

The actors in this use case diagram are Student, Interface and Database. The usecases are the activities performed by actors.

- Student Fills out the form in the form filling process.
- The interface checks and validates registered details.
- Then the database is searched for details and verified.
- Database stores the details and returns acknowledgement.

CLASS DIAGRAM

A class diagram in the unified modeling language (UML) is a type of static structure diagram that describes the structure of a system by showing the system's classes, their attributes, and the relationships between the classes. It is represented using a rectangle with three compartments. Top compartment have the class name, middle compartment the attributes and the bottom compartment with operations.



DOCUMENTATION OF CLASS DIAGRAM

This class diagram has three classes applicant, recruiter and database.

• **Students** – is the class name. Its attributes are name, Address, DOB, Gender, College, Subjects, Semester, Year, Degree, Branch and Payment. The operations performed in the students class are form filling, search database and receiving acknowledgement.

• **Registrations Interface** – is the class name. Its attributes are Login, Password and database. The operations performed are form verification, store in database and send acknowledgement.

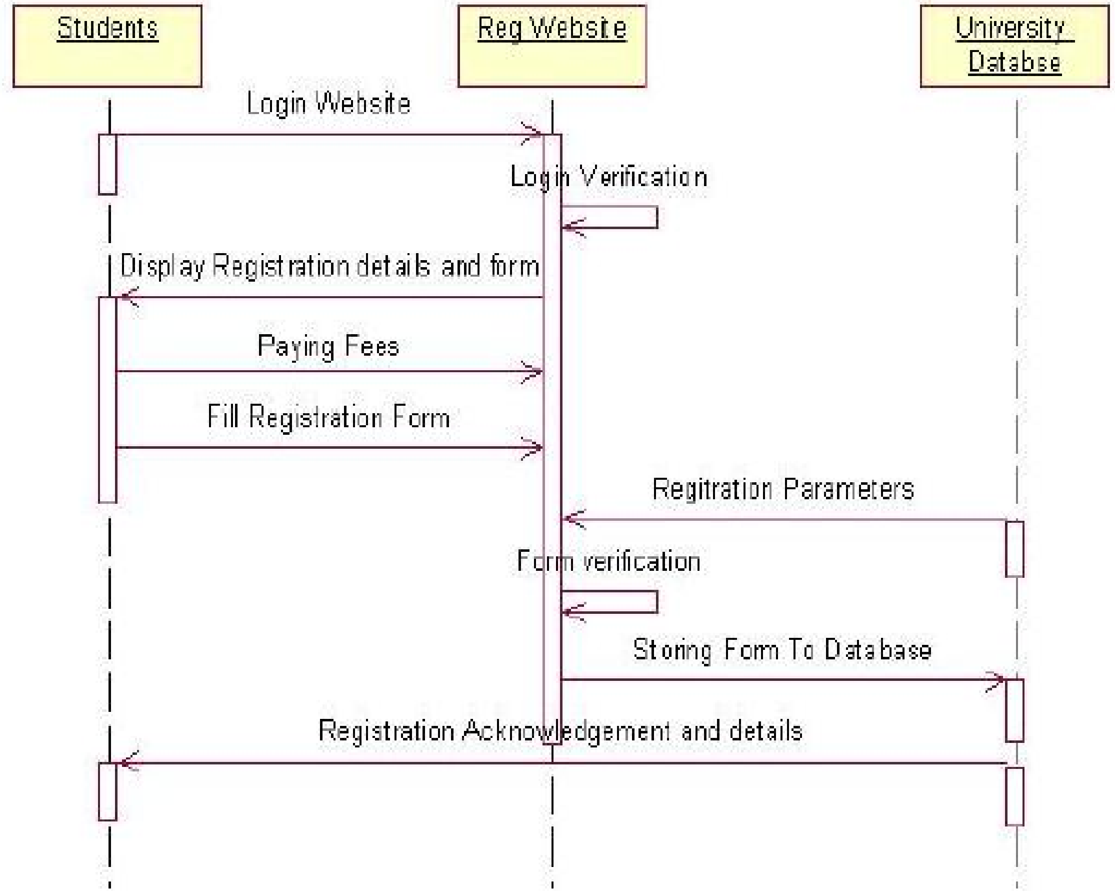
• **Database** – is the class name. The operations performed are storing Search and storing the values.

SEQUENCE DIAGRAM

A sequence diagram in Unified Modeling Language (UML) is a kind of interaction diagram that shows how processes operate with one another and in what order. It is a construct of a Message Sequence Chart. There are two dimensions.

1.Veritcal dimension-represent time.

2.Horizontal dimension-represent different objects.



DOCUMENTATION OF SEQUENCE DIAGRAM

The sequence diagram describes the sequence of steps to show

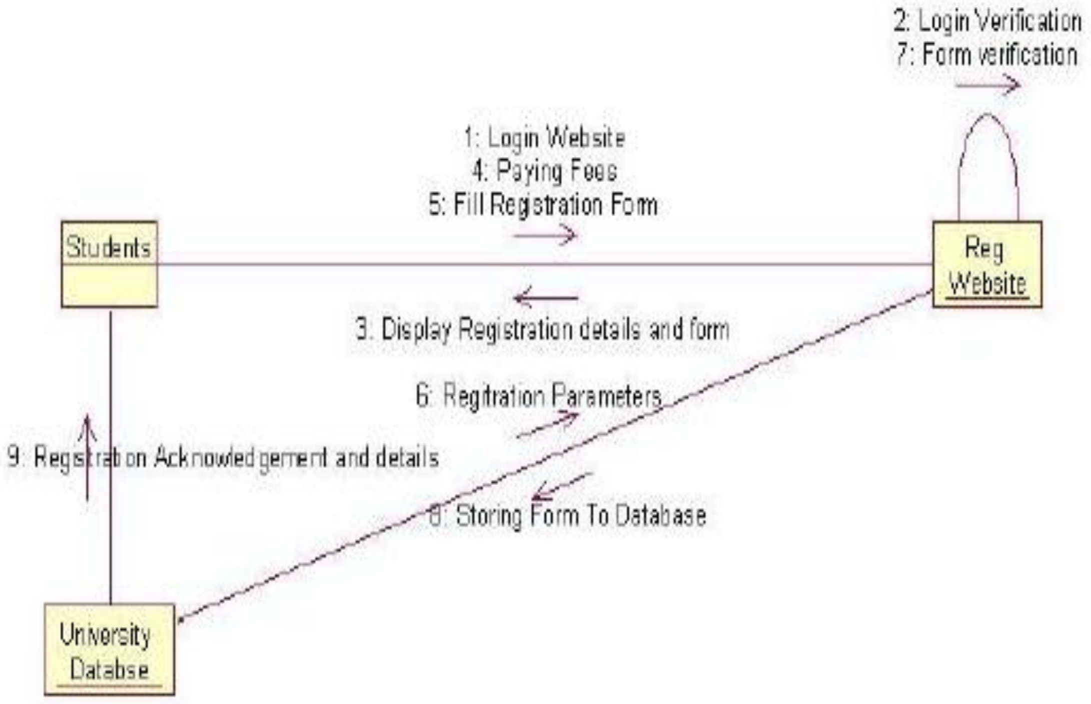
• The applicant filling form and registering for exam.

• The verification done by the interface and sending acknowledgement for registration.

• Searching the database with login and displaying it for maintenance.

COLLABRATION DIAGRAM

A collaboration diagram, also called a communication diagram or interaction diagram,. A sophisticated modeling tool can easily convert a collaboration diagram into a sequence diagram and the vice versa. A collaboration diagram resembles a flowchart that portrays the roles, functionality and behavior of individual objects as well as the overall operation of the system in real time

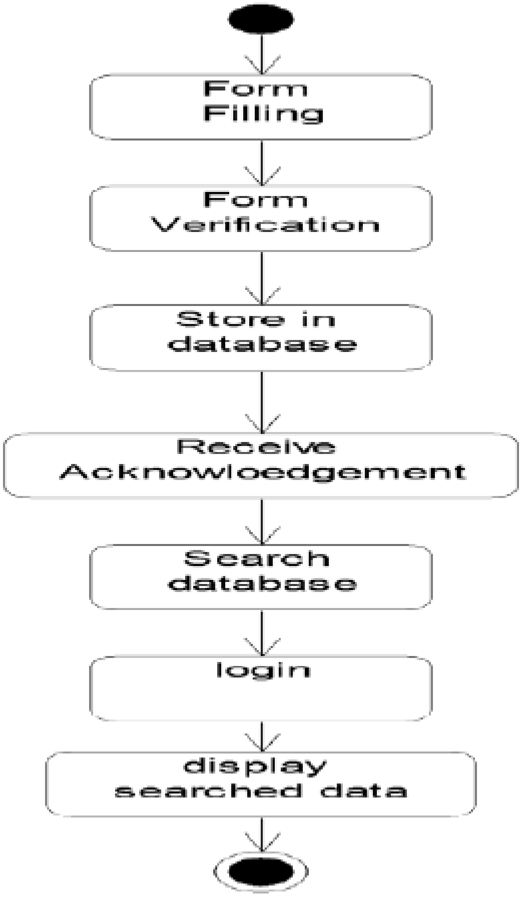

2: Login Verification
7: Form verification
1: Login Website
4: Paying Fees
5: Fill Registration Form
Students
Reg Website
3: Display Registration details and form
6: Regitration Parameters
9: Registration Acknowledgement and details
8: Storing Form To Database
University Databse

DOCUMENTATION OF COLLABRATION DIAGRAM

The collaboration diagram is to show how the Student registers and the authorities maintains the details of the registered students in the registration system. Here the sequence is numbered according to the flow of execution.

STATE CHART DIAGRAM

The purpose of state chart diagram is to understand the algorithm involved in performing a method. It is also called as state diagram. A state is represented as a round box, which may contain one or more compartments. An initial state is represented as small dot. A final state is represented as circle surrounding a small dot.



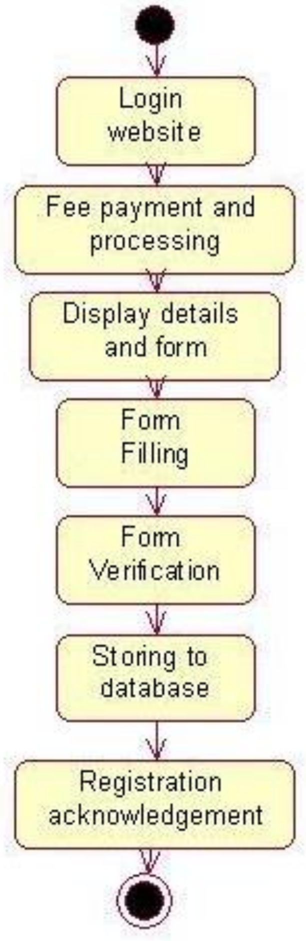
DOCUMENTATION OF STATE CHART DIAGRAM

This state diagram describes the behaviour of the system.

- First state is form filling where the student fill the form to registration system.
- The next state is form verification by the interface.
- Then store the details in the database.
- The student receives acknowledgement for registering.
- Search database with login information.
- Display the searched data in the interface.

ACTIVITY DIAGRAM

Activity diagrams are graphical representations of workflows of stepwise activities and actions with support for choice, iteration and concurrency. In the Unified Modeling Language, activity diagrams can be used to describe the business and operational step-by-step workflows of components in a system. An activity diagram shows the overall flow of control. An activity is shown as an rounded box containing the name of the operation.



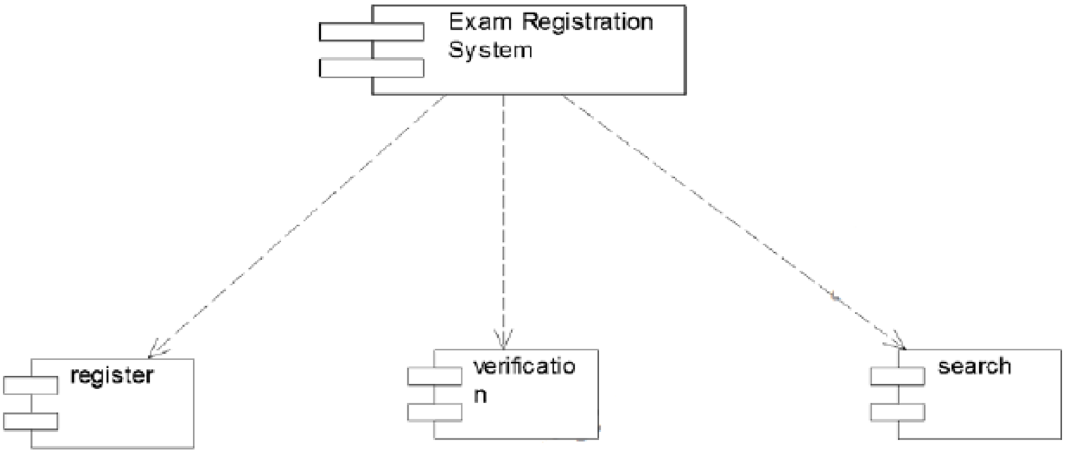
DOCUMENTATION OF ACTIVITY DIAGRAM

This activity diagram flow of stepwise activities performed in recruitmnet system.

- First the student fills the form.
- The student details are verified and stored in database.
- Acknowledgement sent is received by student.
- Search database with login and if data present in the database.
- The searched data is displayed if available.

COMPONENT DIAGRAM

The component diagram's main purpose is to show the structural relationships between the components of a system. It is represented by boxed figure. Dependencies are represented by communication association

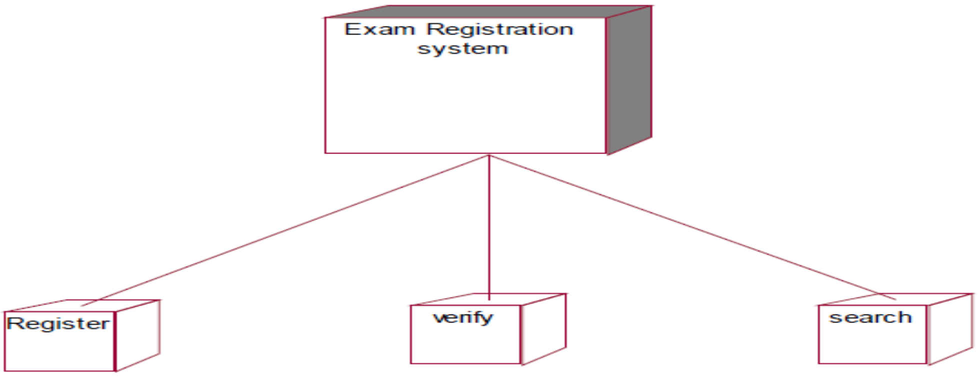


DOCUMENTATION OF COMPONENT DIAGRAM

The main component in this component diagram is Exam Registration system. And register, verification and search details are the components comes under the main component.

DEPLOYMENT DIAGRAM

A deployment diagram in the unified modeling language serves to model the physical deployment of artifacts on deployment targets. Deployment diagrams show "the allocation of artifacts to nodes according to the Deployments defined between them. It is represented by 3- dimentional box. Dependencies are represented by communication assosiation.



DOCUMENTATION OF DEPLOYMENT DIAGRAM

The processor in this deployment diagram is the Exam Registration system which is the main part and the devices are the register, verify and search which are the some of the main activities performed in the system

RESULT :

Thus the project to develop Exam Registration system using ArgoUML Software is done successfully.

PROJECT NO. 4 STOCK MAINTENANCE SYSTEM

AIM

To develop a project stock maintenance system using ArgoUML software.

PROBLEM ANALYSIS AND PROJECT PLANNING

The Stock Maintenance System, initial requirement to develop the project about the mechanism of the Stock Maintenance System is caught from the customer. The requirement are analyzed and refined which enables the end users to efficiently use Stock Maintenance System. The complete project is developed after the whole project analysis explaining about the scope and the project statement is prepared.

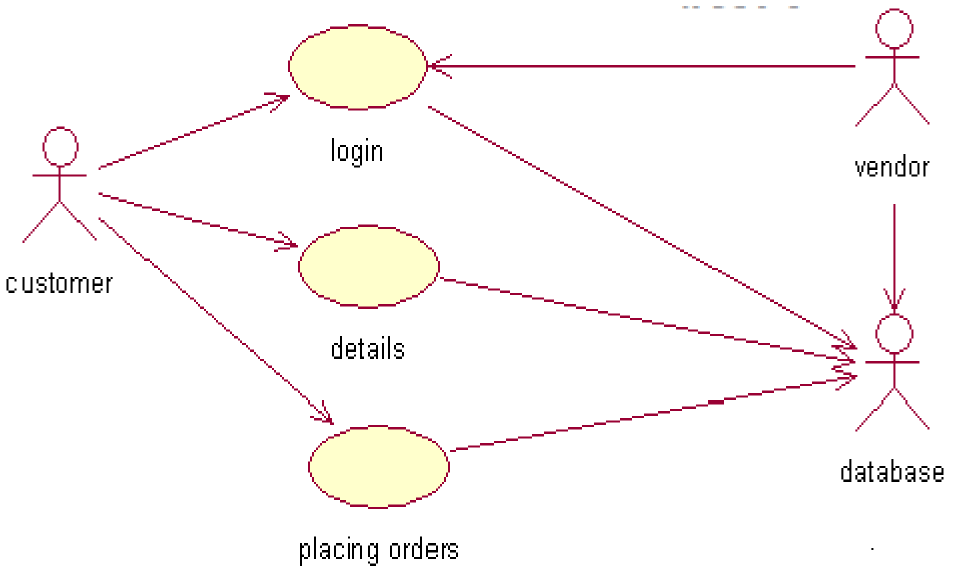
PROBLEM STATEMENT

The process of stock maintenance system is that the customer login to the particular site to place the order for the customer product. The stock maintenance system are described sequentially through steps

- The customer login to the particular site.
- They fill the customer details.
- They place the orders for their product.
- The vendor login and views the customer details and orders.

USE CASE DIAGRAM

A use case is a methodology used in system analysis to identify, clarify, and organize system requirements. The use case is made up of a set of possible sequences of interactions between systems and users in a particular environment and related to a particular goal. It is represented using ellipse. Actor is any external entity that makes use of the system being modeled. It is represented using stick figure.



DOCUMENTATION OF USE CASE DIAGRAM

The actors in this use case diagram are customer, vendor and database. The use cases are the activities performed by actors.

CUSTOMER:

- Customer logins to the particular system and fills the customer details and places the orders.

DATABASE:

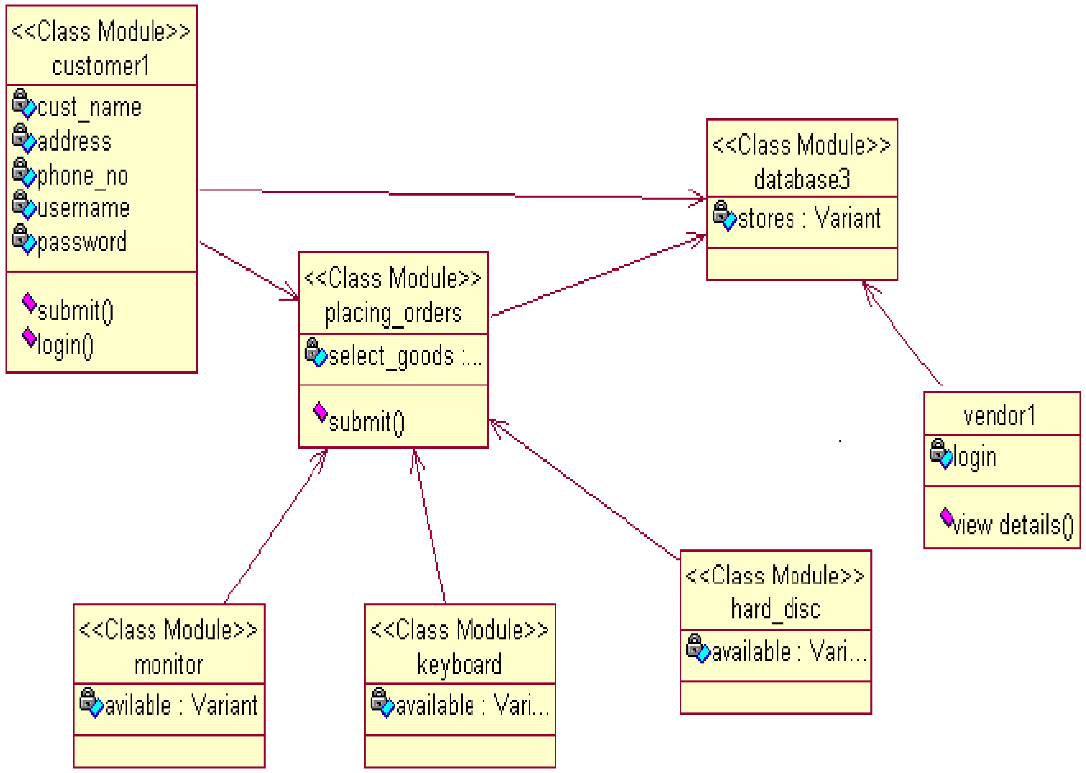
- All the details and orders given by customer are updated in the database.

VENDOR:

- Vendor logins and verify the customer orders and the stock details.

CLASS DIAGRAM

A class diagram in the unified modeling language (UML) is a type of static structure diagram that describes the structure of a system by showing the system's classes, their attributes, and the relationships between the classes. It is represented using a rectangle with three compartments. Top compartment have the class name, middle compartment the attributes and the bottom compartment with operations.



DOCUMENTATION OF CLASS DIAGRAM

This class diagram has three classes' customer, vendor and database.

- **Customer** – is the class name. Its attributes are username, password, name, phone no and address. The operations performed in the customer class are login and places the orders.

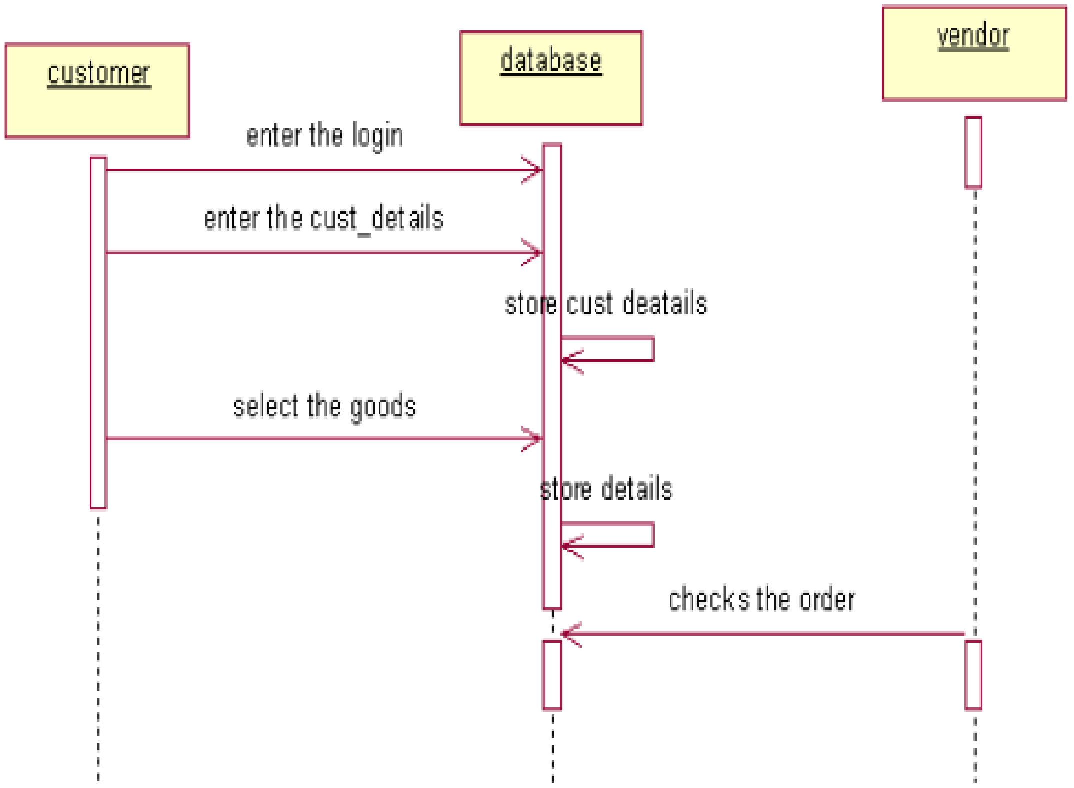
- **Vendor** – is the class name. Its attributes are views the database.

- **Database** – is the class name. The operations performed are storing customer details, and their orders.

SEQUENCE DIAGRAM

A sequence diagram in Unified Modeling Language (UML) is a kind of interaction diagram that shows how processes operate with one another and in what order. It is a construct of a Message Sequence Chart. There are two dimensions.

1. Veritcal dimension-represent time.
2. Horizontal dimension-represent different objects.



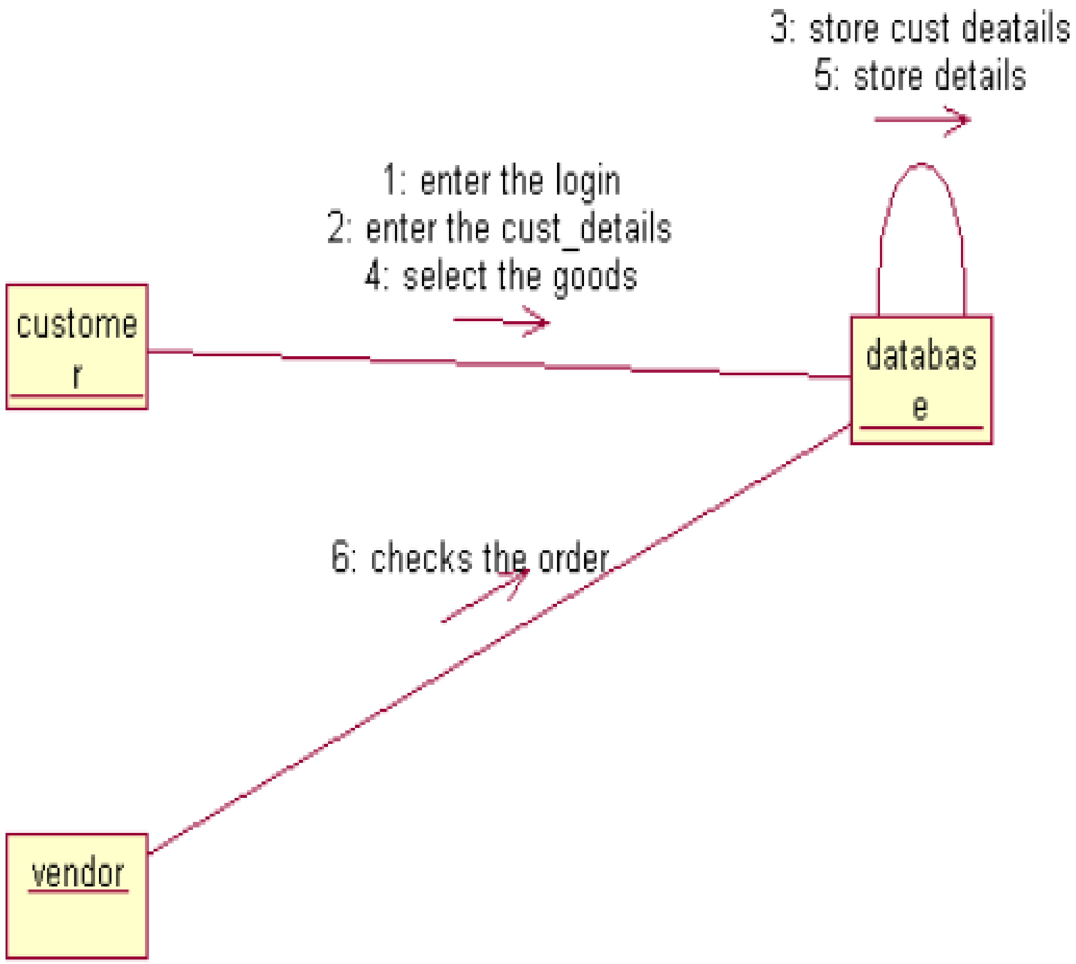
DOCUMENTATION OF SEQUENCE DIAGRAM

The sequence diagram describes the sequence of steps to show

- The customer login in to the system and fills the customer details.
- Then the customer places the order. It updated to the database.
- The vendor login to the system and views the customer orders and the stock details.

COLLABORATION DIAGRAM

A collaboration diagram, also called a communication diagram or interaction diagram,. A sophisticated modeling tool can easily convert a collaboration diagram into a sequence diagram and the vice versa. A collaboration diagram resembles a flowchart that portrays the roles, functionality and behavior of individual objects as well as the overall operation of the system in real time

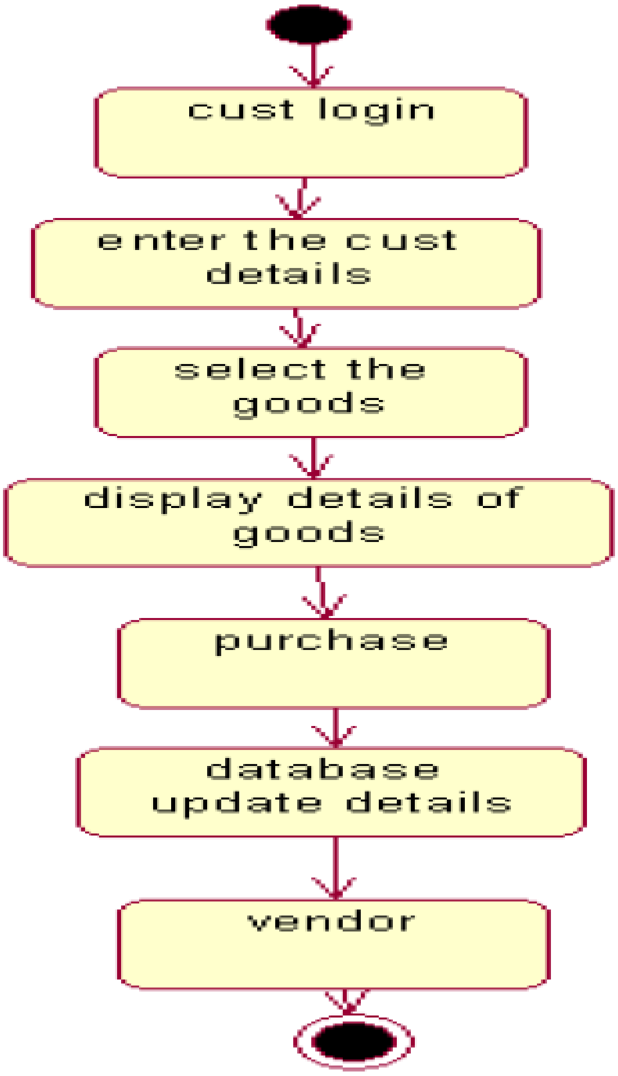


DOCUMENTATION OF COLLABORATION DIAGRAM

The collaboration diagram is to show how the customer login and places the orders in the system. Here the sequence is numbered according to the flow of execution.

STATE CHART DIAGRAM

The purpose of state chart diagram is to understand the algorithm involved in performing a method. It is also called as state diagram. A state is represented as a round box, which may contain one or more compartments. An initial state is represented as small dot. An final state is represented as circle surrounding a small dot.



DOCUMENTATION OF STATE CHART DIAGRAM

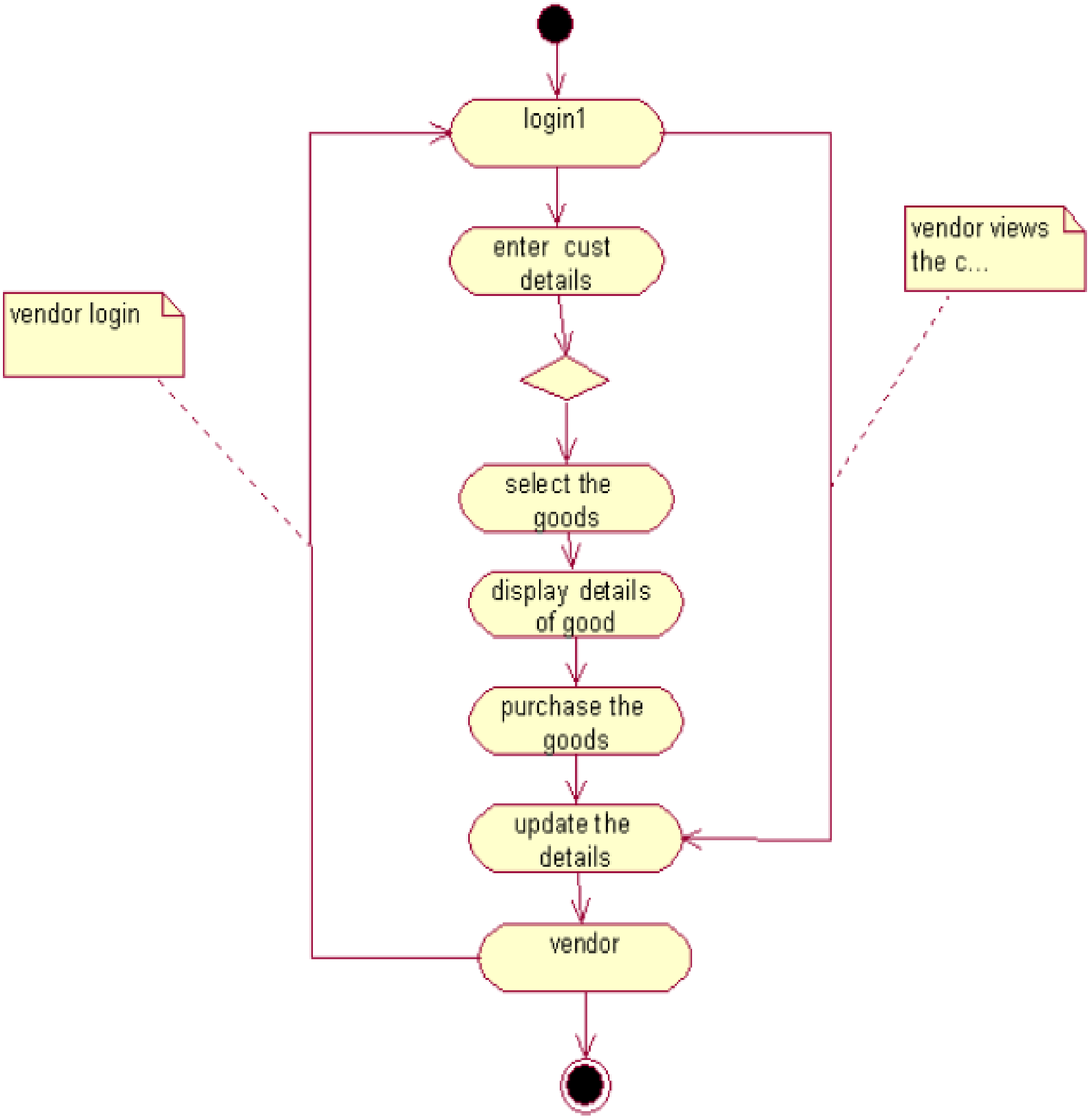
This state diagram describes the behavior of the system.

- First state is login where the customer login to the system.
- The next state is to fill the customer details.
- And the next state is to place the orders.

Update database with the orders and details of customer

ACTIVITY DIAGRAM

Activity diagrams are graphical representations of workflows of stepwise activities and actions with support for choice, iteration and concurrency. In the Unified Modeling Language, activity diagrams can be used to describe the business and operational step-by-step workflows of components in a system. An activity diagram shows the overall flow of control. An activity is shown as an rounded box containing the name of the operation.



DOCUMENTATION OF ACTIVITY DIAGRAM

This activity diagram flow of stepwise activities performed in stock maintenance system.

First the customer login then fills the details.

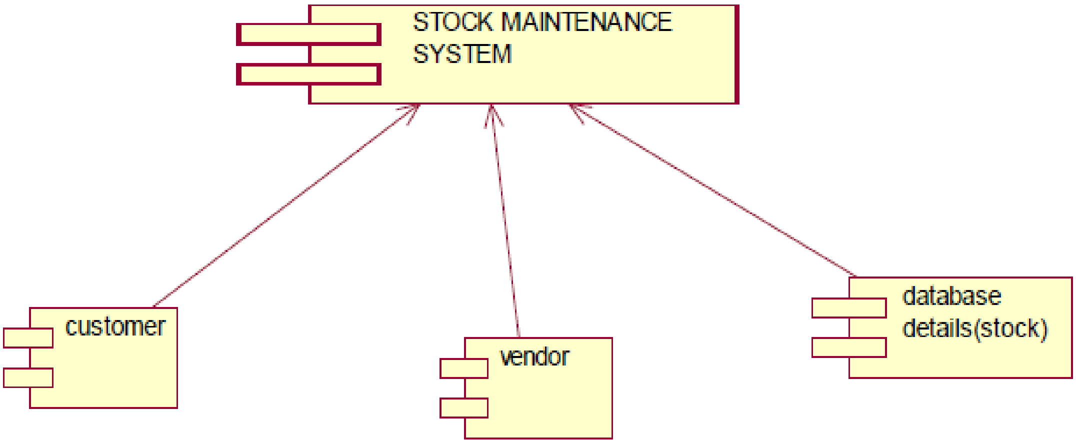
- The customer places the order according to their needs.

- After placing the order the database is updated.

- Vendor login to the system and verifies the customer orders and stock details.

COMPONENT DIAGRAM

The component diagram's main purpose is to show the structural relationships between the components of a systems. It is represented by boxed figure. Dependencies are represented by communication assosiation.

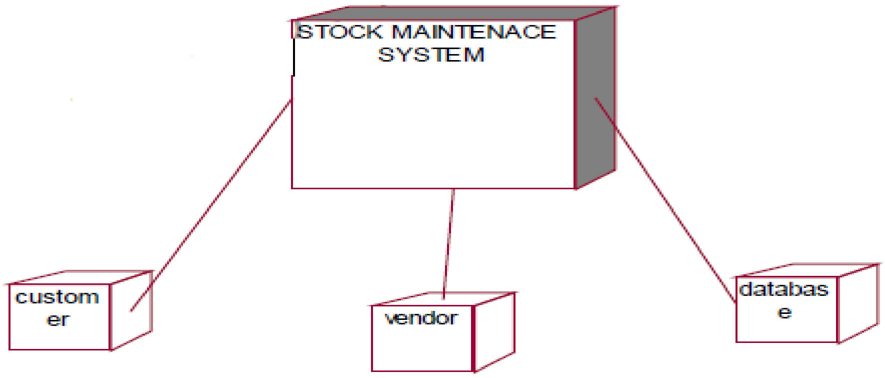


DOCUMENTATION OF COMPONENT DIAGRAM

The main component in this component diagram is stock maintenance systems. And customer database details and update database then vendor views the database are the components comes under the main component.

DEPLOYMENT DIAGRAM

A deployment diagram in the unified modeling language serves to model the physical deployment of artifacts on deployment targets. Deployment diagrams show "the allocation of artifacts to nodes according to the Deployments defined between them. It is represented by 3- dimentional box. Dependencies are represented by communication assosiation.



DOCUMENTATION OF DEPLOYMENT DIAGRAM

The processor in this deployment diagram is the stock maintenance system which is the main part and the devices are the filling customer details and placing orders then vendor views which are the some of the main activities performed in the system.

RESULT

Thus the Stock maintenance system is successfully done and the UML diagrams are implemented by using the ArgoUML.

PROJECT NO. 5 ONLINE COURSE RESERVATION

AIM

To develop a project of Online Course Reservation system by using ArgoUML software.

PROBLEM ANALYSIS AND PROJECT PLANNING:

The requirement form the customer is got and the requirements about the course registration are defined. The requirements are analyzed and defined so that is enables the student to efficiency select a course through registration system. The project scope is identified and the problem statement is prepared.

PROBLEM STATEMENT

- Whenever the student comes to join the course he/she should be provided with the list of course available in the college.

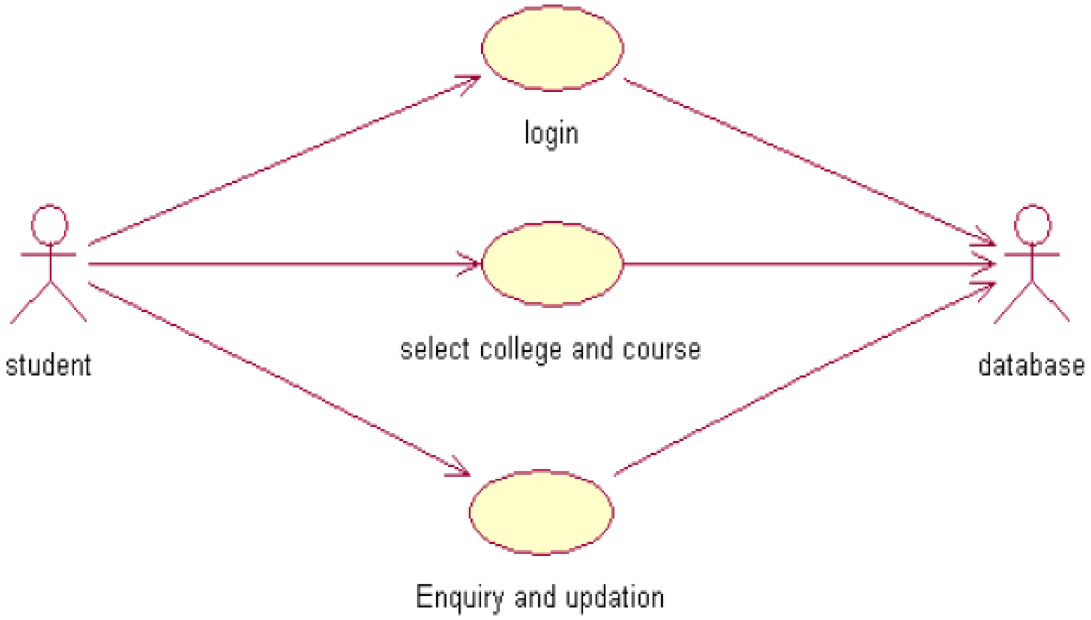
- The system should maintain a list of professor who is teaching the course. At the end of the course the student must be provided with the certificate for the completion of the course.

USE CASE DIAGRAM

- Use case is a sequence of transaction in a system whose task is to yield result of measurable value to individual author of the system

- Use case is a set of scenarios together by a common user goal

- A scenario is a sequence of step describing as interaction between a user and a system.



DOCUMENTATION FOR USE CASE DIAGRAM

The use case diagram in the course registration system illustrates the sequence of steps followed in the system related to the actions of the system

LOGIN

This usecase gives a entry to the student,professor and the register

SELECT COLLEGE AND COURSE

This use case list out the various courses offered by the institution

SUBMIT GRADES

This usecase given the marks scored by the system

MAINTAIN PROFESSOR INFORMATION

This usecase maintain the information about professor in the system

MAINTAIN STUDENT INFORMATION

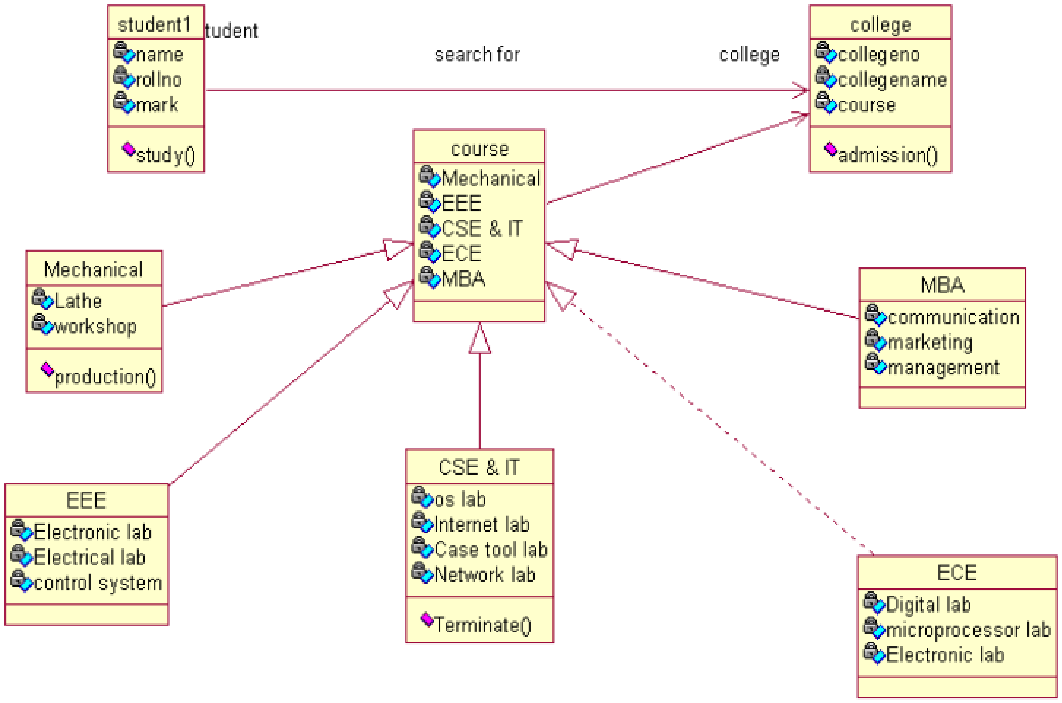
This usecase maintain the information about the professor in the system

CLOSE REGISTRATION

This usecase describes the certification of the student when he/she finishes the course

CLASS DIAGRAM:

A class diagram describes the type of objectrs in the system the various kinds of static relationship that exist among them.



DOCUMENTATION OF CLASS DIAGRAM

- The various classes involved in the system are registered student record, professor record all admistration grade and close registration

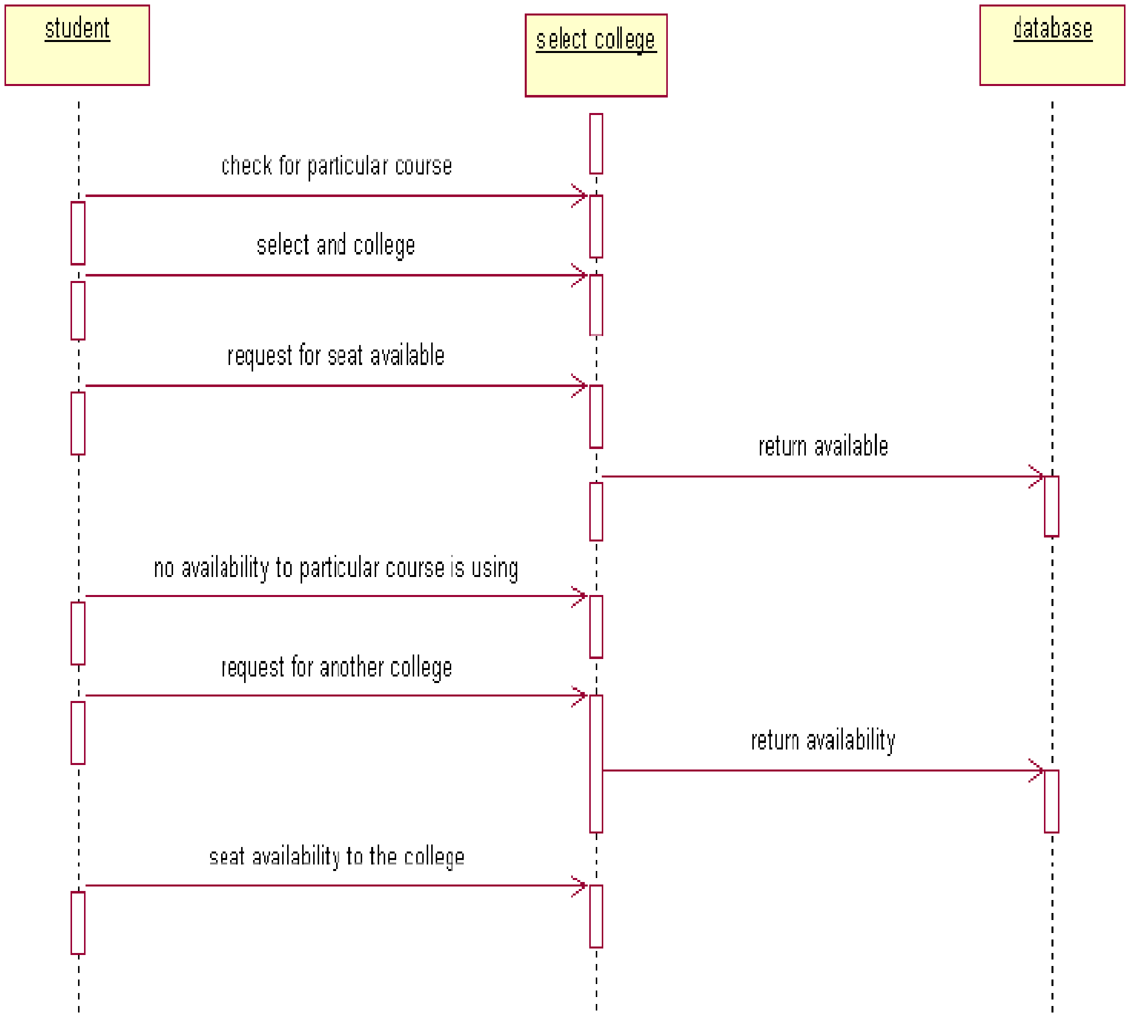
- The student register for the course

- After the course gets over each student will be asked to write a test

- Test mark are analyzed for the issue grade sheet after certification the registration of the student in closes.

SEQUENCE DIAGRAM

A sequence diagram is one that includes the object of the projects and tells the lifetimes and also various action performed between objects.


student
select college
database
check for particular course
select and college
request for seat available
return available
no availability to particular course is using
request for another college
return availability
seat availability to the college

DOCUMENTATION OF SEQUECE DIAGRAM

- The single use case in the course registration is taken and sequence of operation followed in the usecase

- In the registration for the course usecase diagram illustration on the process of registering and select a course

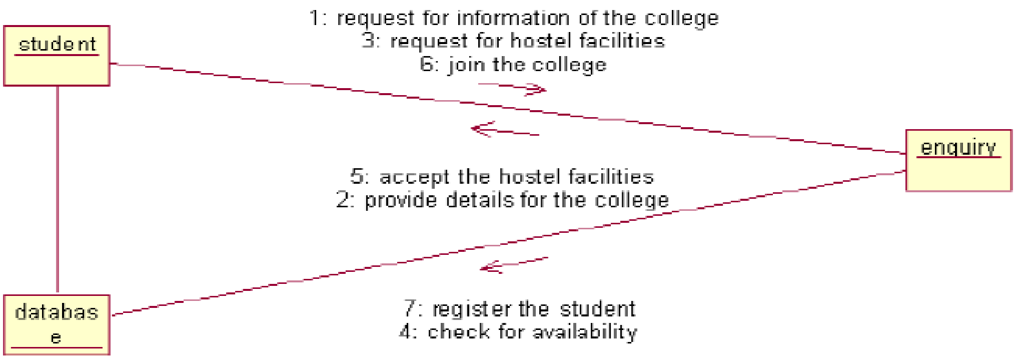
- The student enters the institution and gets a catalog about the list of course offered by the system

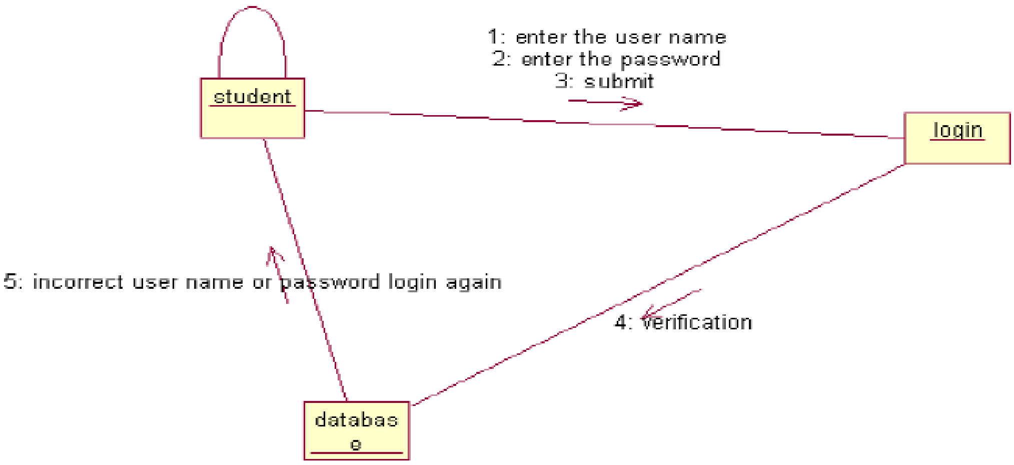
- The student can select a particular usecase and registration for the course

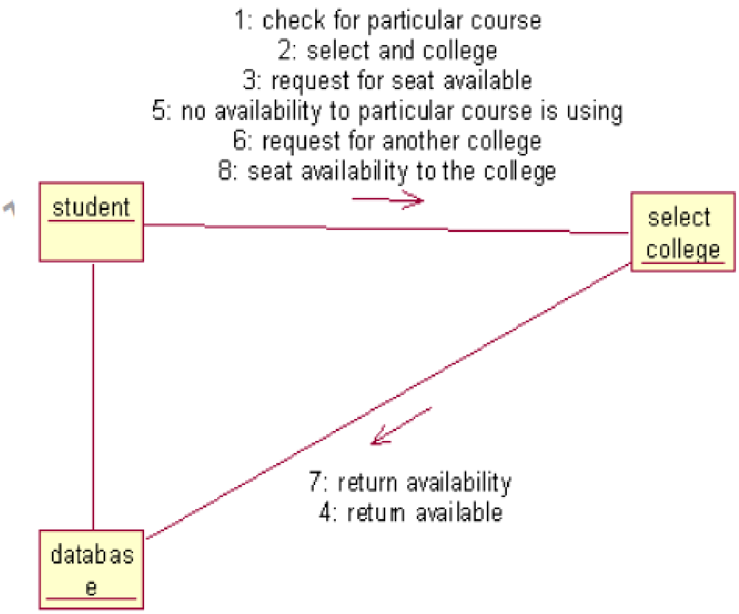
- In the record usecase submit grade at the end of each course each student will be asked to write a test.The result will evaluavate for the issue of grade sheet and the grade are submitted

COLLABORATION DIAGRAM

It is same as the sequence diagram that involved the project with the only difference that we give the project with the only difference that we give sequence number to each process.


student
1: request for information of the college
3: request for hostel facilities
6: join the college
enquiry
5: accept the hostel facilities
2: provide details for the college
database
7: register the student
4: check for availability


student
1: enter the user name
2: enter the password
3: submit
login
5: incorrect user name or password login again
4: verification
database


1: check for particular course
2: select and college
3: request for seat available
5: no availability to particular course is using
6: request for another college
8: seat availability to the college
student
select college
7: return availability
4: return available
database

DOCUMENTATION OF COLLABORATION DIAGRAM

• The diagram is also similar to sequence diagram but the difference is the various operations involves in the particular use case will be numbered. In this diagram the sequence of steps.Getting the catalog to now about the course .

• Selecting the course to study

• The final step is to register for the selected course

• In this submit garde usecase the sequence of step is:

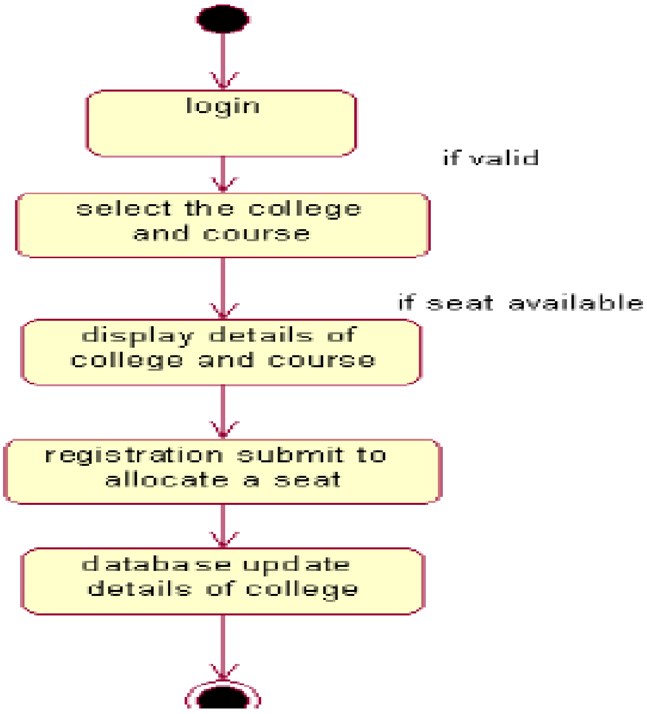
• At the end of the course the student will write a test

• The test marks is validated to issue grade sheet

• The certification is done to the student for the particular courses.

STATE CHART DIAGRAM

It is a technique to describe the behaviour of the system. It describes all the possible states that a particular object gets into the object oriented technique. State diagram are drawn for a single class to show to the lifetime behaviour of a single objects


login
if valid
select the college and course
if seat available
display details of college and course
registration submit to allocate a seat
database update details of college

DOCUMENTATION OF THE STATE CHART DIAGRAM

- The various states are login student, register for course, maintain student and professor record, submit grade and close registration

- The state diagram describes the behaviour of the system

- The main purpose of the system is to register the student for a course

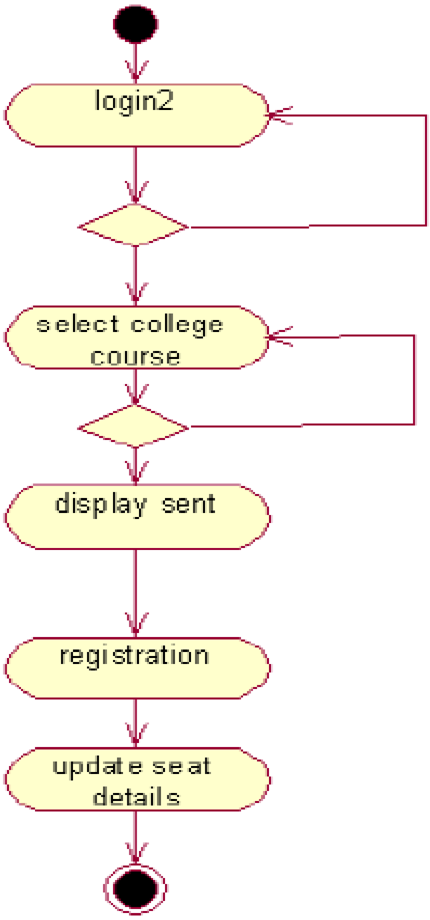
- After the student enrolls the course maintain the record for the student and professor

- After the test being conducted each student mark will be analysed for the grade sheet purpose

- After the certification the registration is closed

ACTIVITY DIAGRAM

It includes all the activities of particular project and various steps using join and forks



DOCUMENTATION OF ACTIVITY DIAGRAM

• The user login in to the course registration system

• He/she select a particular course form the list of available course

• After the student register into the course the institution start the bill operation and record is maintain

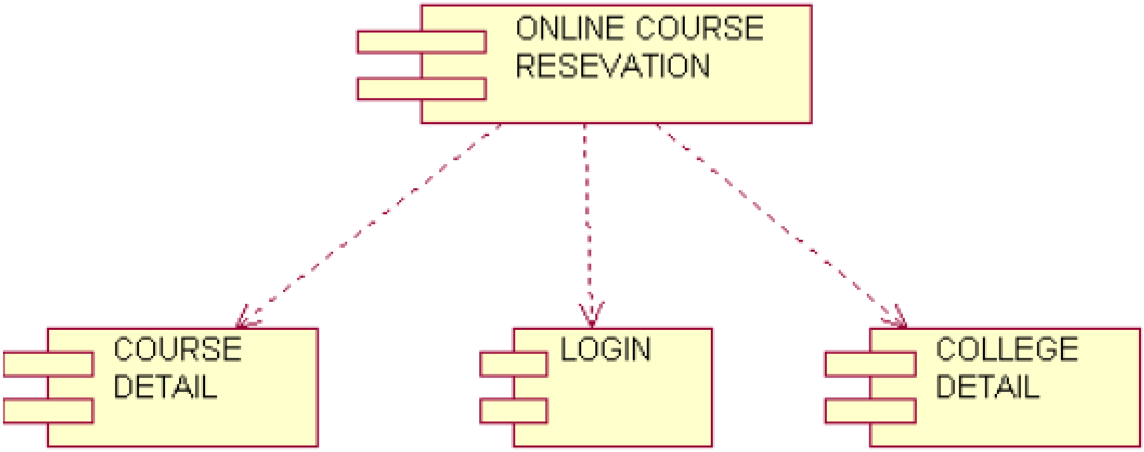
• The professor also start maintains the student record

• At the end of the course based on the result grade the grade sheet or certificate is issued to the student

• The registration is closed for the particular student

COMPONENT DIAGRAM

The component diagram is represented by figure dependency and it is a graph of design of figure dependency. The component diagram's main purpose is to show the structural relationships between the components of a systems. It is represented by boxed figure. Dependencies are represented by communication association



DOCUMENTATION OF COMPONENT DIAGRAM

• The components of the online course reservation are course details, login, and college details

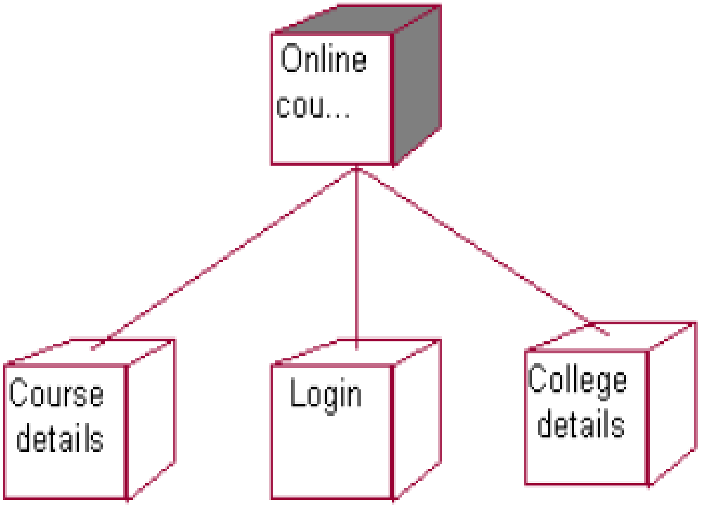
• The course details, login and college details are dependent on the online course reservation are show by the dotted arrows

DEPLOYMENT DIAGRAM

It is a graph of nodes connected by communication association. It is represented by a three dimensional box. A deployment diagram in the unified modeling language serves to model the physical deployment of artifacts on deployment targets. Deployment diagrams show "the allocation of artifacts to nodes according to the Deployments defined between them. It is represented by 3-dimentional box. Dependencies are represented by communication association. The basic element of a deployment diagram is a node of two types

DEVICE NODE – A physical computing resource with processing and memory service to execute software, such as a typical computer or a mobile phone.

EXECUTION ENVIRONMENT NODE-- This is a software computing resource that runs within an outer node and which itself provides a service to host an execute other executable software element.



DOCUMENTATION OF DEPLOYMENT DIAGRAM

The device node is online course reservation and execution nodes are course details, login and college details

RESULT

Thus the project to develop online course reservation system was developed using ArgoUML Software.

PROJECT NO. 6 AIRLINE/RAILWAY RESERVATION SYSTEM

AIM

To develop the E-Ticketing System by using ArgoUML software.

PROBLEM ANALYSIS AND PROJECT PLANNING

In the E-Ticketing system the main process is a applicant have to login the database then the database verifies that particular username and password then the user must fill the details about their personal details then selecting the flight and the database books the ticket then send it to the applicant then searching the flight or else cancelling the process.

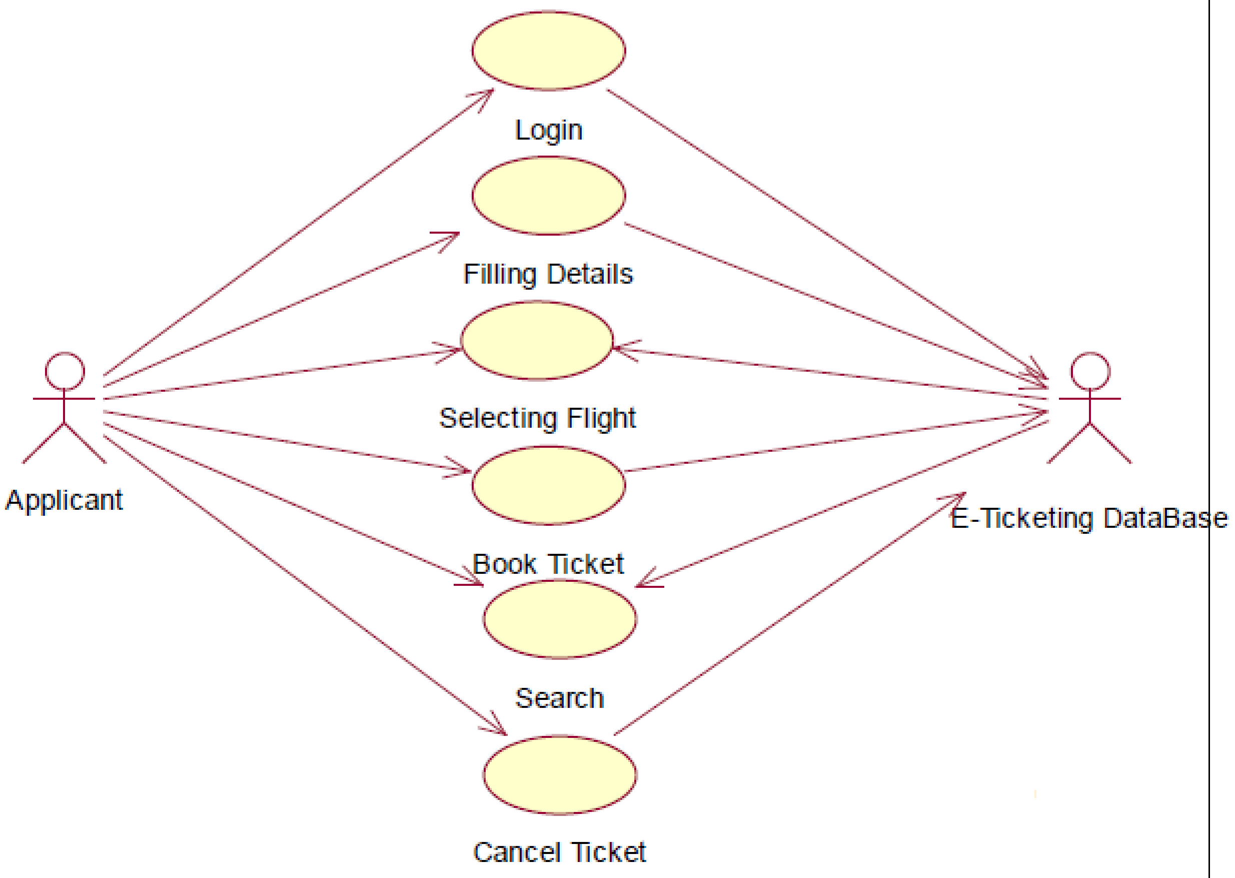
PROBLEM STATEMENT

The E-Ticketing system is the initial requirement to develop the project about the mechanism of the E-ticketing system what the process do at all.

- The requirement are analyzed and refined which enables the end users to efficiently use the E-ticketing system.
- The complete project is developed after the whole project analysis explaining about scope and project statement is prepared.
- The main scope for this project is the applicant should reserved for the flight ticket.
- First the applicant wants to login to the database after that the person wants to fill their details.
- Then the database will seach for ticket or else the person will cancelled the ticket if he/she no need.

USE CASE DIAGRAM

A use case is a methodology used in system analysis to identify, clarify, and organize system requirements. The use case is made up of a set of possible sequences of interactions between systems and users in a particular environment and related to a particular goal. It is represented using ellipse. Actor is any external entity that makes use of the system being modelled. It is represented using stick figure.



DOCUMENTATION OF USE CASE DIAGRAM

The actors in this use case diagram are applicant, and E-ticketing DataBase. The use cases are the activities performed by actors.

The actors in this use case diagram are

- **Applicant -** logins the E-Ticketing and filling the required data fields.
- **E-Ticketing DataBase-**verify the login and filling the details and selected applicant details are stored in it.

The use cases in this use case diagram are

Login - applicant enter their username and password to enter in to the E-Ticketing form.

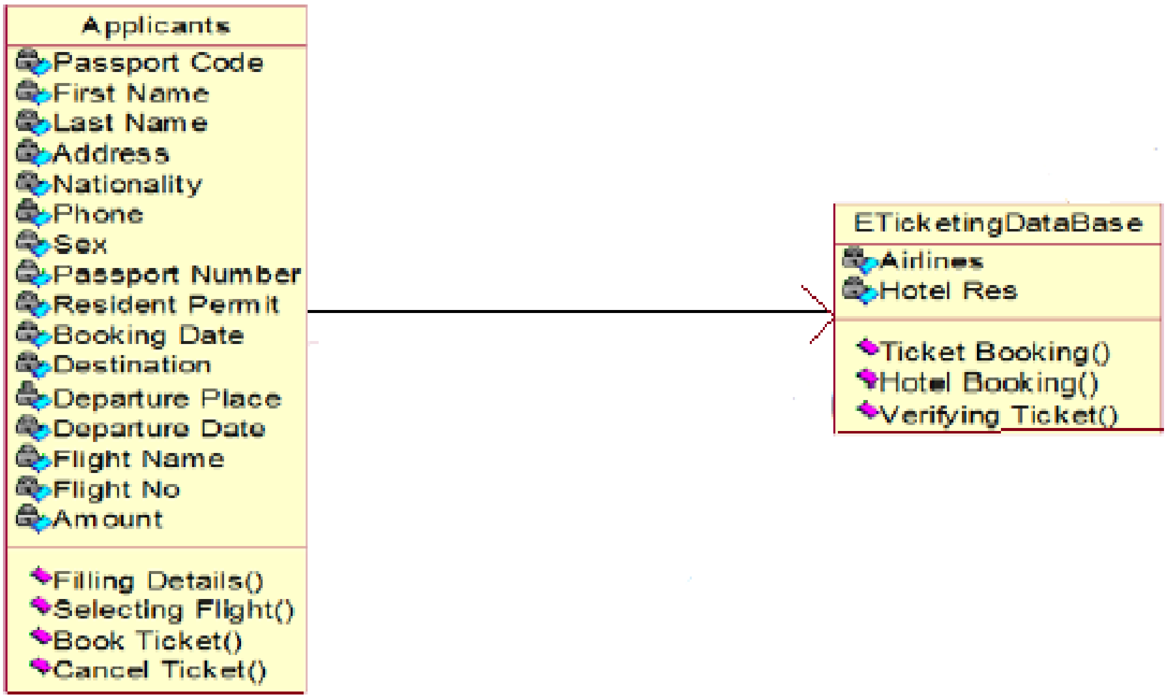
Filling Details –applicants are used to enter the details in the requiredForm.

Selecting Flight –it is used to selecting the flight for the applicants.

Book Ticket –it is used to book the ticket through the E-Ticketing database.

CLASS DIAGRAM

A class diagram in the unified modeling language (UML) is a type of static structure diagram that describes the structure of a system by showing the system's classes, their attributes, and the relationships between the classes. It is represented using a rectangle with three compartments. Top compartment have the classname, middle compartment the attributes and the bottom compartment with operations.



DOCUMENTATION OF CLASS DIAGRAM

This class diagram has two classes applicant, E-Ticketing DataBase.

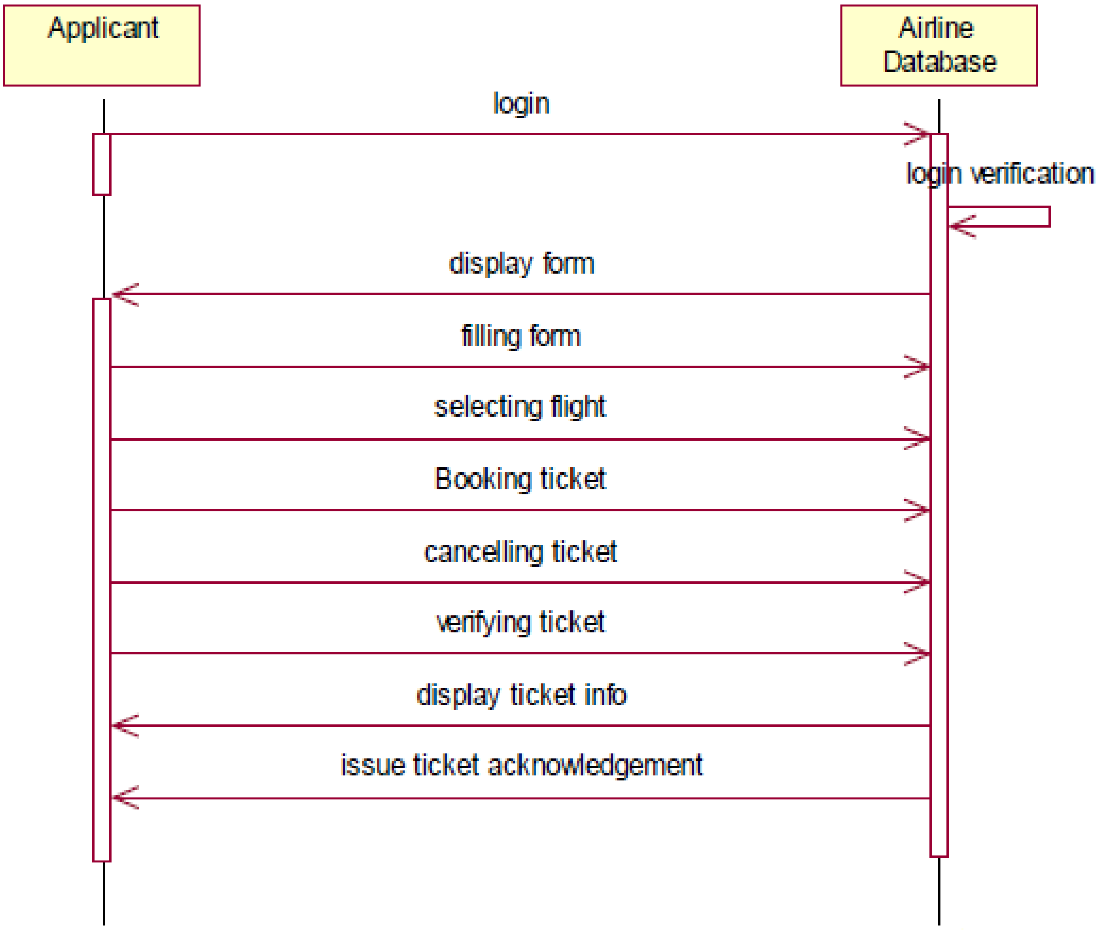
- **Applicant -** logins the E-Ticketing and filling the required data fields.
- **E-Ticketing DataBase**-verify the login and filling the details and selected applicant details are stored in it.

SEQUENCE DIAGRAM

A sequence diagram in Unified Modeling Language (UML) is a kind of interaction diagram that shows how processes operate with one another and in what order. It is a construct of a Message Sequence Chart. There are two dimensions.

1. Vertical dimension-represent time.

2. Horizontal dimension-represent different objects.



DOCUMENTATION OF SEQUENCE DIAGRAM

This sequence diagram describes the sequence of steps to show

• Applicants are used to login the form.And then its verify the username and password.

• If the password and username are correct then applicants are used to login the filling details.

• Applicants are used to selecting the flights and book the tickets.

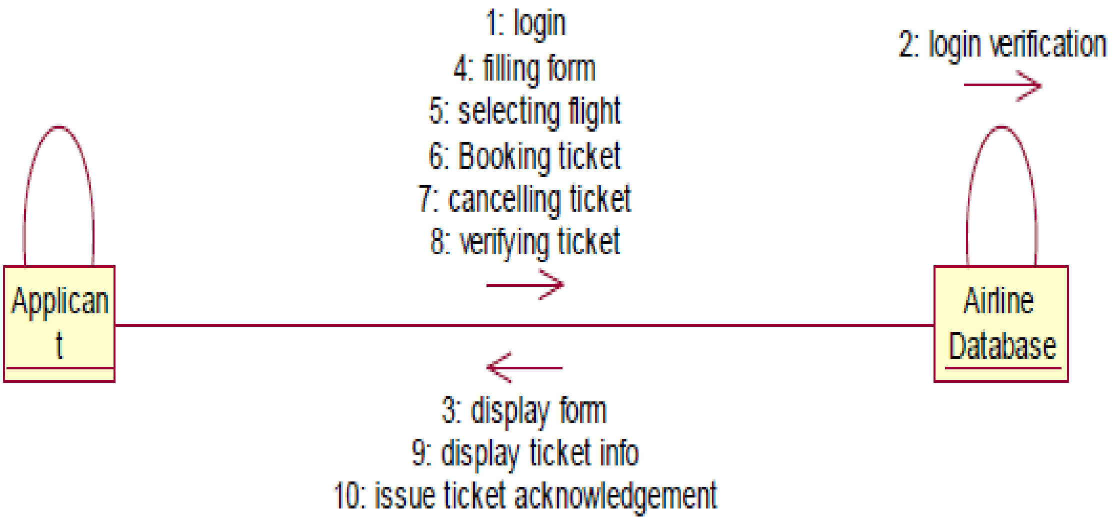
• Now the E-Ticketing DataBase verify the filling Details.

• And then the E-Ticketing DataBase display the ticket information.

• Incase of any sudden change of the plan,the applicant can cancel the ticket.

COLLABORATION DIAGRAM

A collaboration diagram, also called a communication diagram or interaction diagram,. A sophisticated modeling tool can easily convert a collaboration diagram into a sequence diagram and the vice versa. A collaboration diagram resembles a flowchart that portrays the roles, functionality and behavior of individual objects as well as the overall operation of the system in real time.



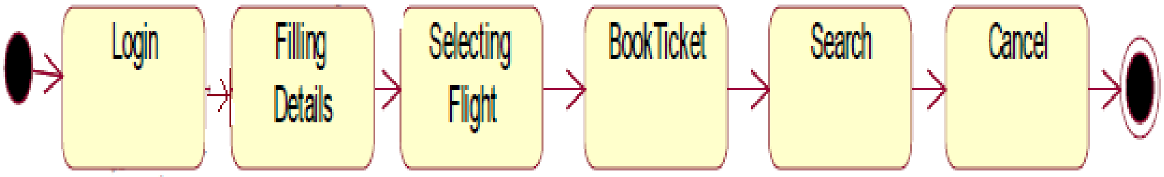
DOCUMENTATION OF COLLABORATION DIAGRAM

This collaboration diagram is to show how the applicant login and register in the E-Ticketing system. Here the sequence is numbered according to the flow of execution.

This collaboration diagram is to show the selection process of the applicant for the ticket booking. The flow of execution of this selection process is represented using the numbers.

STATE CHART DIAGRAM

The purpose of state chart diagram is to understand the algorithm involved in performing a method. It is also called as state diagram. A state is represented as a round box, which may contain one or more compartments. An initial state is represented as small dot. A final state is represented as circle surrounding a small dot.



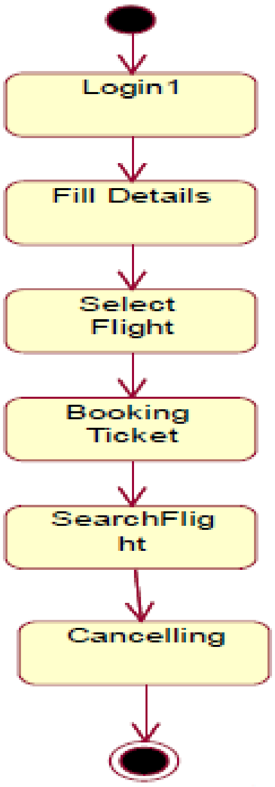
DOCUMENTATION OF STATE CHART DIAGRAM

This state diagram describes the behaviour of the system.

- First state is login where the applicant login to the E-Ticketing system.
- The next state is filling details the applicant are used to fill the form.
- Then applicant used to selecting the flight.
- The applicant appears for book ticket and search details from E-Ticketing DataBase.

ACTIVITY DIAGRAM

Activity diagrams are graphical representations of workflows of stepwise activities and actions with support for choice, iteration and concurrency. In the Unified Modeling Language, activity diagrams can be used to describe the business and operational step-by-step workflows of components in a system. An activity diagram shows the overall flow of control. An activity is shown as an rounded box containing the name of the operation.



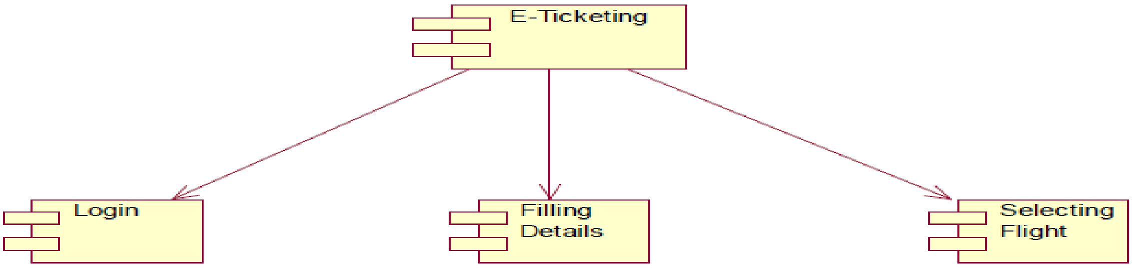
DOCUMENTATION OF ACTIVITY DIAGRAM

This activity diagram describes the behaviour of the system.

- First state is login where the applicant login to the E-Ticketing system.
- The next state is filling details the applicant are used to fill the form.
- Then applicant used to selecting the flight.
- The applicant appears for book ticket and search details from E-Ticketing DataBase.

COMPONENT DIAGRAM

The component diagram's main purpose is to show the structural relationships between the components of a system. It is represented by boxed figure. Dependencies are represented by communication association.

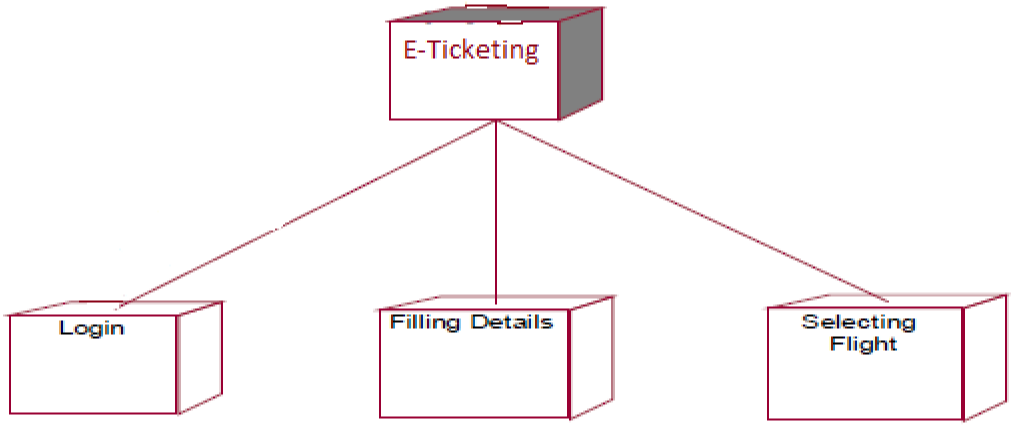


DOCUMENTATION OF COMPONENT DIAGRAM

The main component in this component diagram is E-Ticketing systems. And Login, Filling Details and selecting flights applicants are the components comes under the main component.

DEPLOYMENT DIAGRAM

A deployment diagram in the unified modeling language serves to model the physical deployment of artifacts on deployment targets. Deployment diagrams show "the allocation of artifacts to nodes according to the Deployments defined between them. It is represented by 3- dimentional box. Dependencies are represented by communication association.



DOCUMENTATION OF DEPLOYMENT DIAGRAM

The processor in this deployment diagram is the E-Ticketing system which is the main part and the devices are the login, appear for the filling details and selecting flights applicant which are the some of the main activities performed in the system

RESULT

Thus the E-Ticketing system is successfully done and the UML diagram are implemented by using the ArgoUML software.

PROJECT. NO. 7 CREDIT CARD SYSTEM

AIM

To develop a project credit card system using the ArgoUML Software from the UML diagram and to implement the software in Visual Basic

PROBLEM ANALYSIS AND PROJECT PLANNING

The Credit Card Processing System which is use to purchasing an item from any shop mall, and it is used to maintain the limitation of credit card balance and current transaction process could be update via credit card machine. This project mainly used for large amount of item can be easy to buy from anywhere and required transaction process should be maintained them.

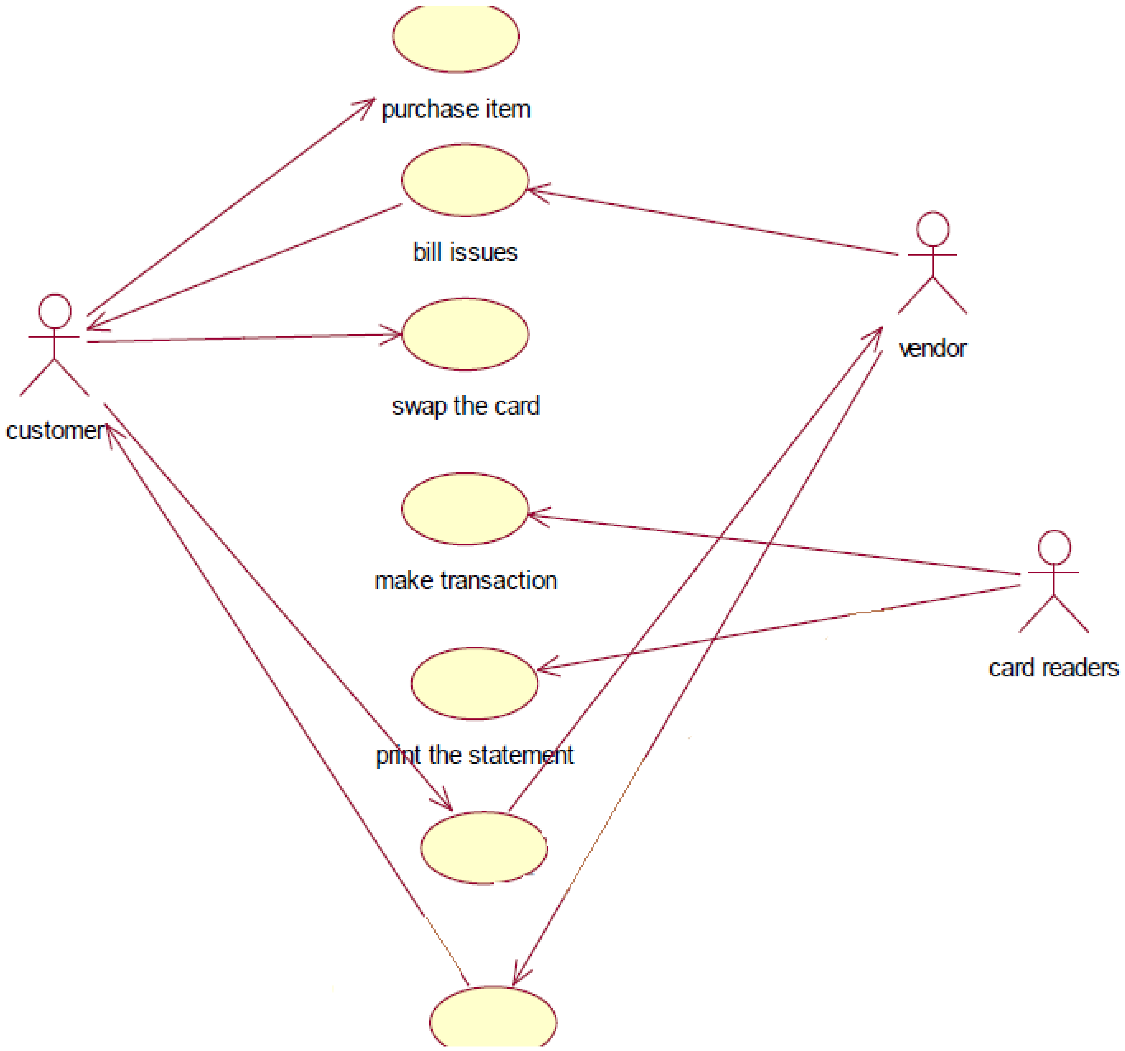
PROBLEM STATEMENT

The customer should select the item to be purchase from the shop by using credit card payment then the vendor should give a bill for the selected item .The customer should give his card to swap and request for the kind of amount transaction. After processing the transaction, the CREDIT CARD MACHINE should give the balance print statement or receipt.

- Customer should select the item from the shop.
- Vendor makes the bill for the selected item.
- Customer gives the credit card to the vendor to swap the card.
- They required amount transaction is done by the card reader.
- Vendor will issue the balance statement to the customer.
- Customers put the signature in the receipt and return to the vendor.

USE CASE DIAGRAM

The use cases are a set of scenarios to guide together by a common user goal. A scenario is the sequence of steps describing an interaction between a user and their system.



DOCUMENTATION OF USE CASE DIAGRAM

The actors in this use case diagram are customer, vendor and card reader. The use cases are the activities performed by actors.

The actors in this use case diagram are

- **Customer** – used to purchase some item from the shop by using credit card payment.

- **Vendor** – used to issue a bill for selected item and verify the card holder signature and then delivery the item.

- **Card reader** – its make the amount transaction for required credit card and print the balance statement.

The use cases in this use case diagram are

 Purchase item – customer enter the shop to purchase some item by using credit card payment.

- **Bill issue** – vendor will make a bill for the selected item.
- **Swap the card** – vendor will swap the card.
- **Make transaction–** card reader will processes the amount transaction.
- **Print the statement** – after the transaction, balance amount should be printed.
- **Signature** – customer should put the signature and give it to vendor.
- **Deliver the item**–vendor issued to deliver a item.

ACTIVITY DIAGRAM

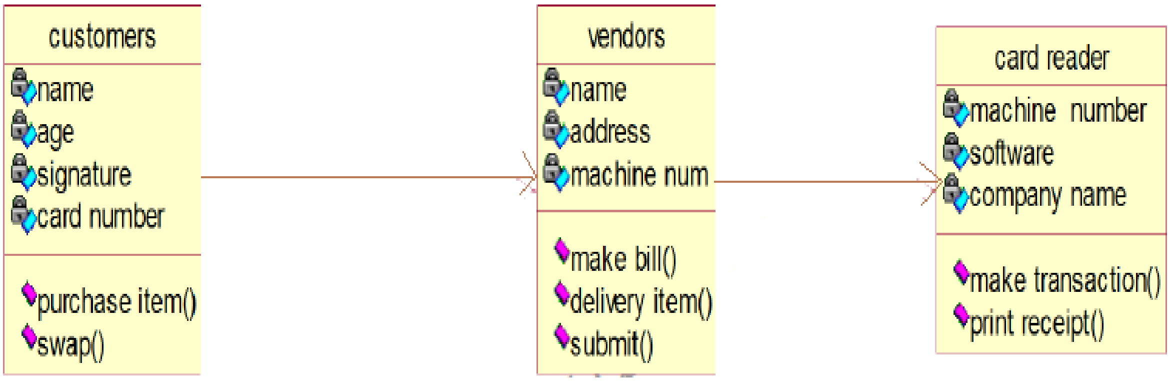
An activity diagram is a variation or special case of a state machine in which the states or activity representing the performance of operation and transitions are triggered by the completion of operation. The purpose is to provide view of close and what is going on inside a use case or among several classes. An activity is shown as rounded box containing the name of operation.

DOCUMENTATION OF ACTIVITY DIAGRAM

The customer's activity should contained an purchase item by using credit card and then his referred to check the current transaction processing its completed or not.The vendor should issue a bill copy to the customer and its swap the card to make amount transaction by using card reader. The vendor should give required statement to customer will deliver the item from the shop.

CLASS DIAGRAM

The Class diagram the types of object in the system an the various kinds of static relation ships that exists among them.



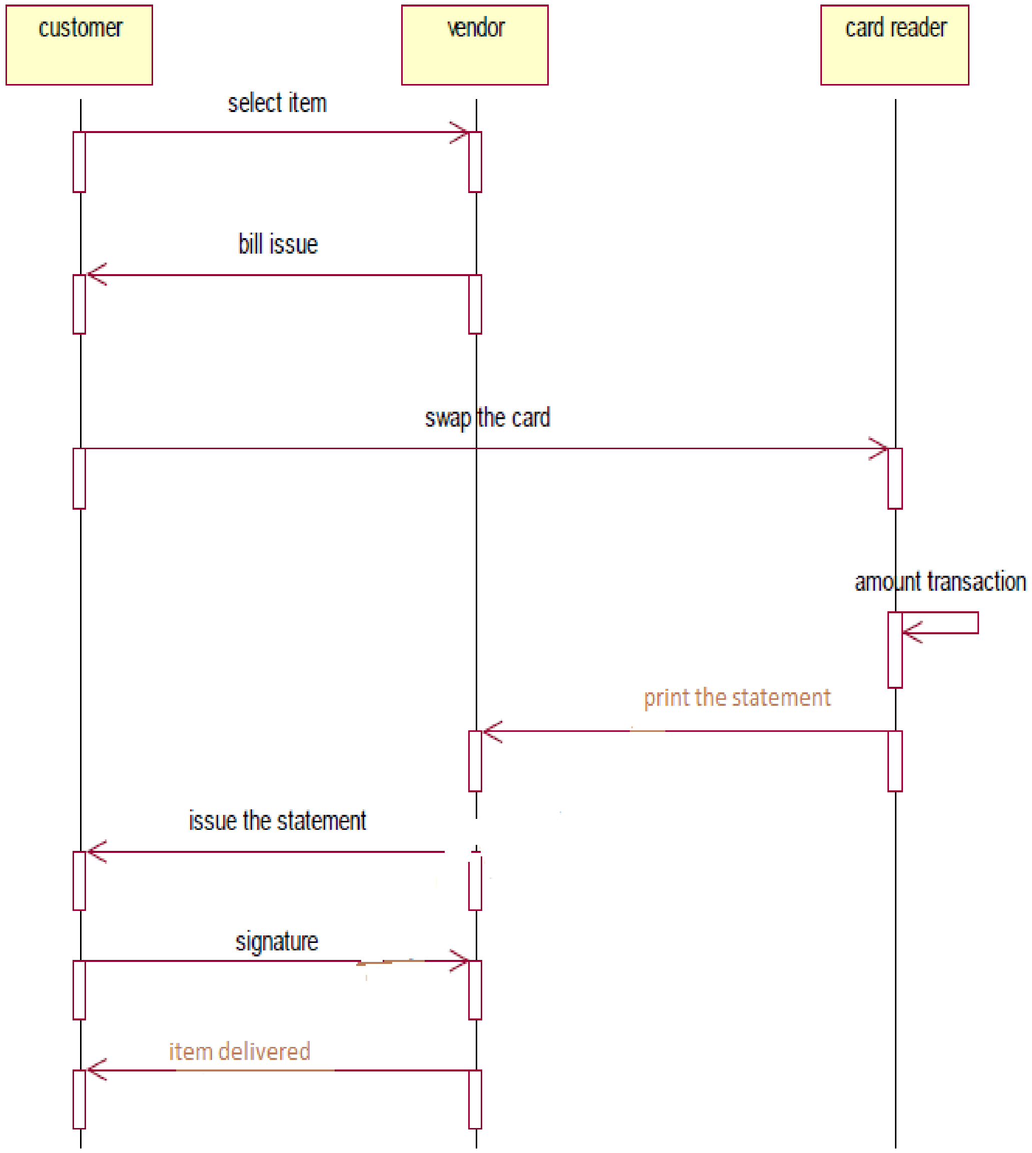
DOCUMENTATION OF CLASS DIAGRAM

The Classes used in this project are:

- **Customer** – is the class name. Its attributes are name, age, signature, and card number. The operations performed in the customer class are purchase item and swap the credit card.
- **Vendor** – is the class name. Its attributes are name, address, and phone number. The operations performed are make bill and then delivered item purchased by the customer.
- **Card Reader** – is the class name. Its attributes are machine number, software and company. The operations performed are make the transaction and print balance statement.

SEQUENCE DIAGRAM

It is a kind of interaction diagram in which an object is shown as a box at the top of the dash vertical line. This vertical line is called object life time. The life time represent the object's life during interaction object deletion is shown with a large x.

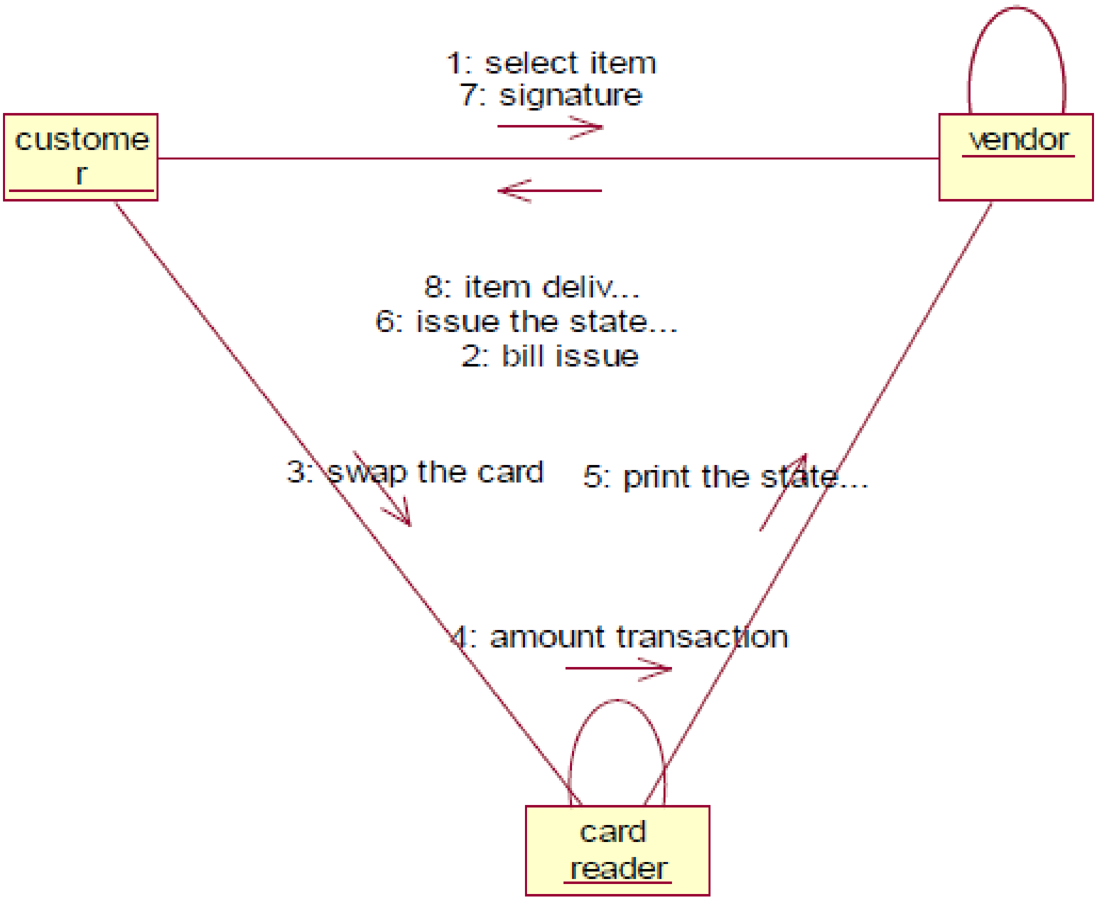


DOCUMENTATION OF SEQUENCE DIAGRAM

The customer wants to purchase some item from the shop; Vendor makes a bill for the selected item. The Customer gives the credit card to the vendor to the swap the card. The further transaction is proceeding for if the credit card is validated. Vendor will issue the required balance statement to the customer. Customer put the signature in the receipt and returns the one copy of statement to the vendor.

COLLABORATION DIAGRAM

In a collaboration diagram object are shown as icons as on. A collaboration diagram arrow indicates the message send within the given use case. The sequence is indicated by numbering the messages.

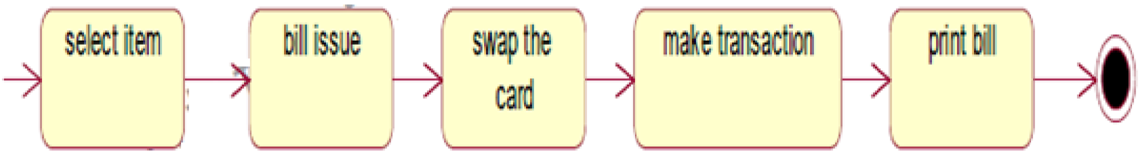


DOCUMENTAION OF COLLABORATION DIAGRAM

In this diagram there is sequence of ordered relationship should performing in the CCP, then Customer will performed a selecting item, putting signature, and deliver the item, Vendor should perform the swap the card, issue the statement and Card reader should perform amount transaction and print the balance statement.

STATECHART DIAGRAM

It is a familiar technique to describe the behavior of the system. Events involve in the state chart diagram a purchase, make transaction, delivery the item.

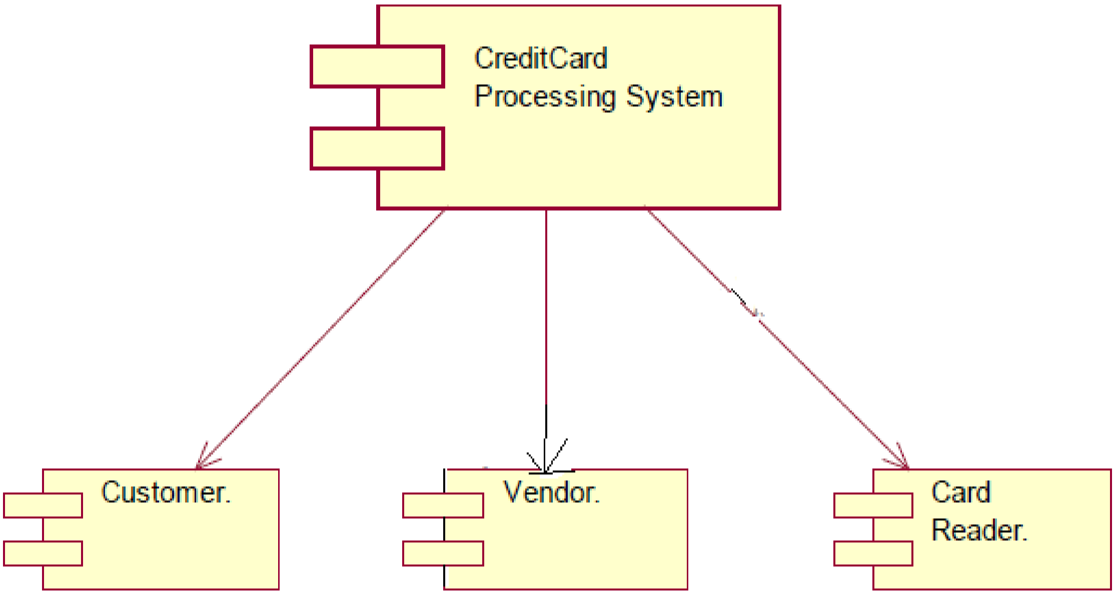


DOCUMENTAION OF STATECHART DIAGRAM

The Entire process of CCP could be shown in the start state to goal state behavior should be performed by the Customer, Vendor and Card reader in this credit card processing system.

COMPONENT DIAGRAM

The component diagram is represented by figure dependency and it is a graph of design of figure dependency.

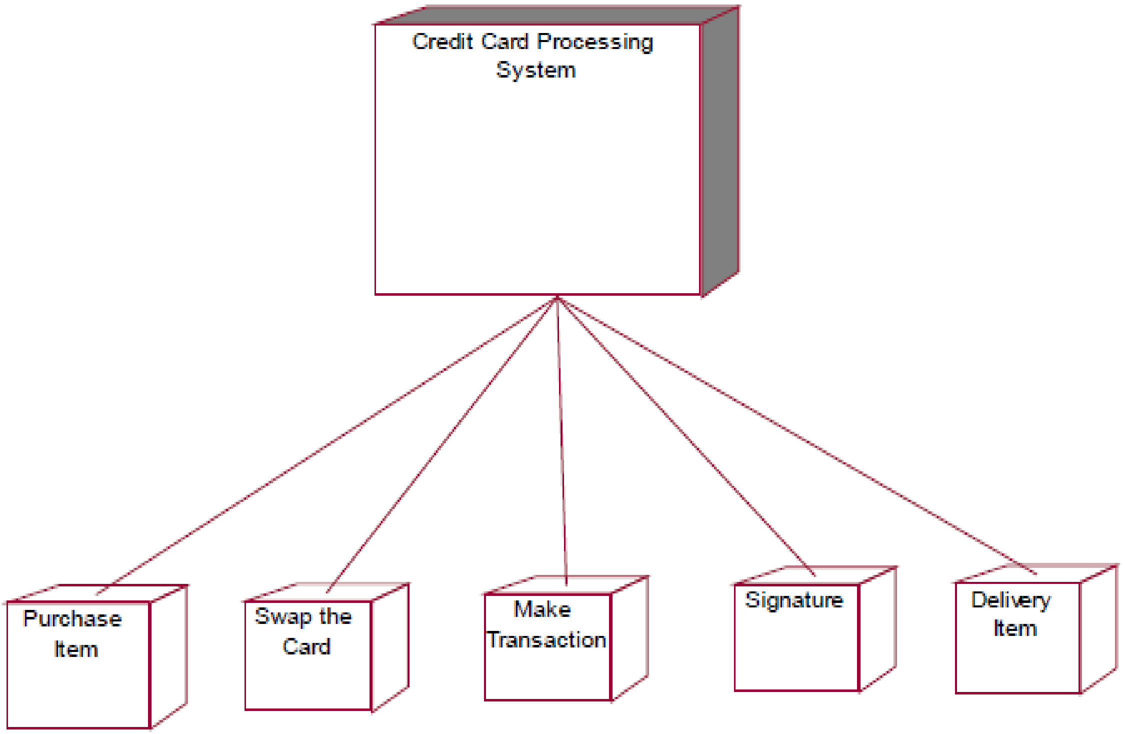


DOCUMENTATION OF COMPONENT DIAGRAM

In this diagram there link between the actor is present in the CCP, that could be shown in diagrammatically way in the component diagram. Each every actor is having a bidirectional link to process further details present in the system.

DEPLOYMENT DIAGRAM

A deployment diagram in the unified modeling language serves to model the physical deployment of artifacts on deployment targets. Deployment diagrams show "the allocation of artifacts to nodes according to the Deployments defined between them. It is represented by 3-dimentional box. Dependencies are represented by communication association.



DOCUMENTATION OF DEPLOYMENT DIAGRAM

The processor in this deployment diagram is the credit card processing system which is the main part and the devices are the purchase item, swap the card, make transaction, verify signature, delivery item which are the some of the main activities performed in the system.

RESULT

Thus the Credit card system is successfully done and the UML diagram are implemented by using the ArgoUML.

PROJECT NO.8 E-BOOK MANAGEMENT SYSTEM

AIM

To develop a project E-Book Management system using ArgoUML Software.

PROBLEM ANALYSIS AND PROJECT PLANNING

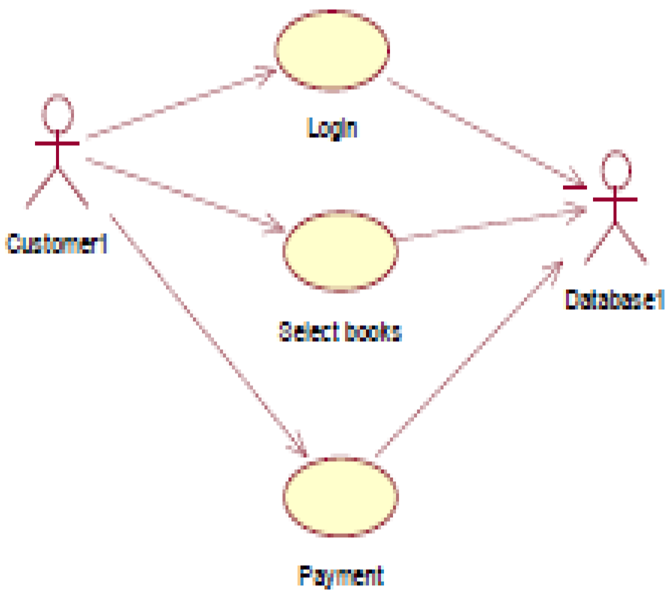
Ebook Management System gives an idea about how books are maintained in the particular websites. The books that are to be purchased, the books that are to be sold are maintained here. . Further some additional details of the current books that is available in the store are also given. Ebook Management System in this project is done in an authorized way. The password and user id has been set here.

PROBLEM STATEMENT

The website has to be maintained properly since the whole ebook purchase process can be improved. Ebook management in this project gives the idea about how ebooks are maintained in a particular concern. The book details which includes the number of books available ,no of pages and price. Ebook management system the Ebook management in this project is understood by going through the modules that is being involved

USE CASE DIAGRAM

A use case is a methodology used in system analysis to identify, clarify, and organize system requirements. The use case is made up of a set of possible sequences of interactions between systems and users in a particular environment and related to a particular goal. It is represented using ellipse. Actor is any external entity that makes use of the system being modelled. It is represented using stick figure.



DOCUMENTATION OF USE CASE DIAGRAM

The actors in this use case diagram are Supplier, Store Keeper and Database. The usecases are the activities performed by actors.

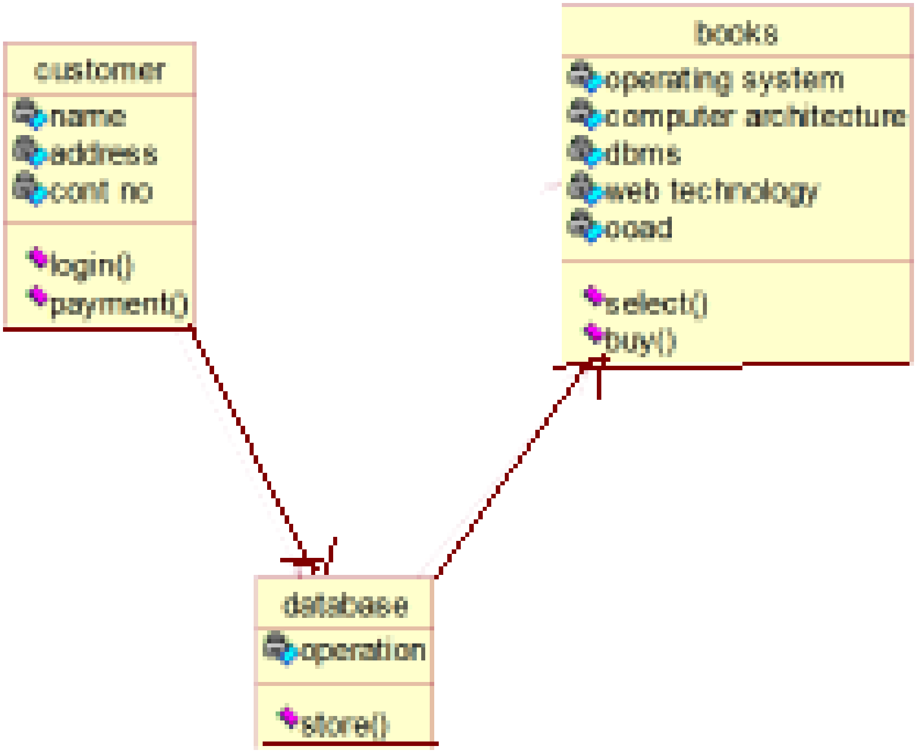
- The website will give the books available.
- Customer will login and check the list of ebooks in the database.
- The database will be updated according to the purchase done and it will be up to date.

The use cases in the use case diagram are Quotation & Purchase, login, stock, purchase.

- Select books will gives us the status of the purchasing order details
- Login will gives us the entry for the customer of this project.
- Database will gives us the details about the total ebook available.
- Purchase will gives us the details about the details and the history of ebooks purchased.

CLASS DIAGRAM

A class diagram in the unified modeling language (UML) is a type of static structure diagram that describes the structure of a system by showing the system's classes, their attributes, and the relationships between the classes. It is represented using a rectangle with three compartments. Top compartment have the class name, middle compartment the attributes and the bottom compartment with operations.



DOCUMENTATION OF CLASS DIAGRAM

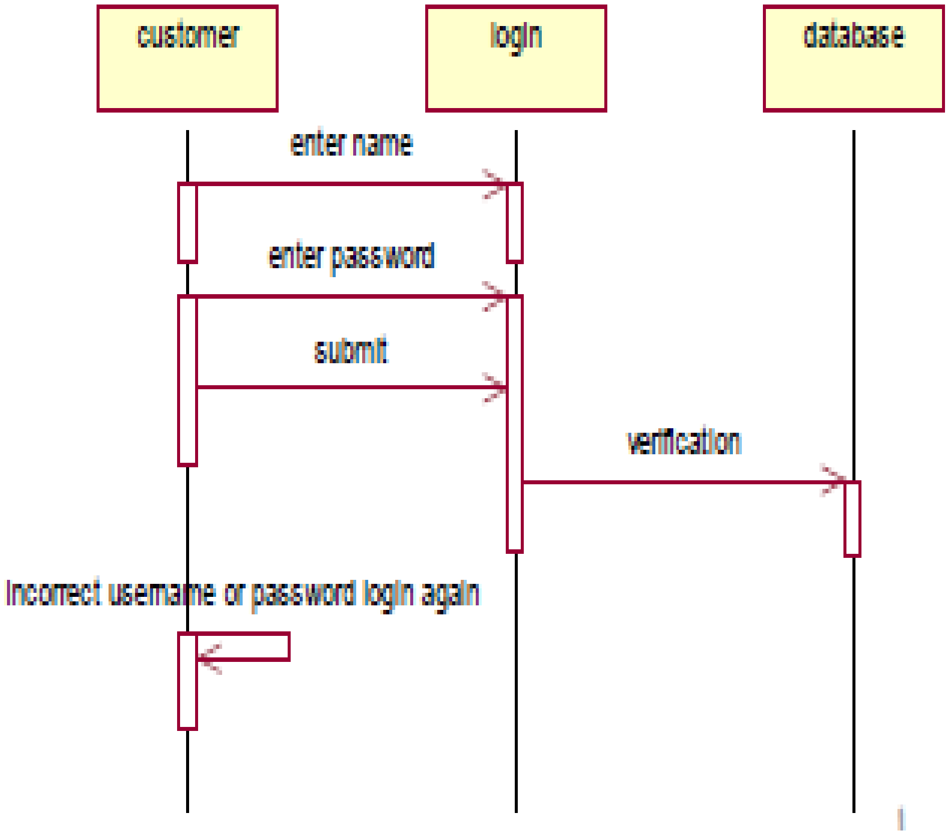
This class diagram has three classes applicant, recruiter and database.

- **Customer** – is the class name. Its attributes are name, address and cont no. The operations performed in the Supplier class are get order, supply goods and get money.
- **Books** – is the class name. Its attributes are operating system, computer architecture, dbms, web technology and ooad. The operations performed are select and buy.
- **Database** – is the class name. Its attribute is operation. The operations performed is store.

SEQUENCE DIAGRAM

A sequence diagram in Unified Modeling Language (UML) is a kind of interaction diagram that shows how processes operate with one another and in what order. It is a construct of a Message Sequence Chart. There are two dimensions.

1. Veritcal dimension-represent time.
2. Horizontal dimension-represent different objects.



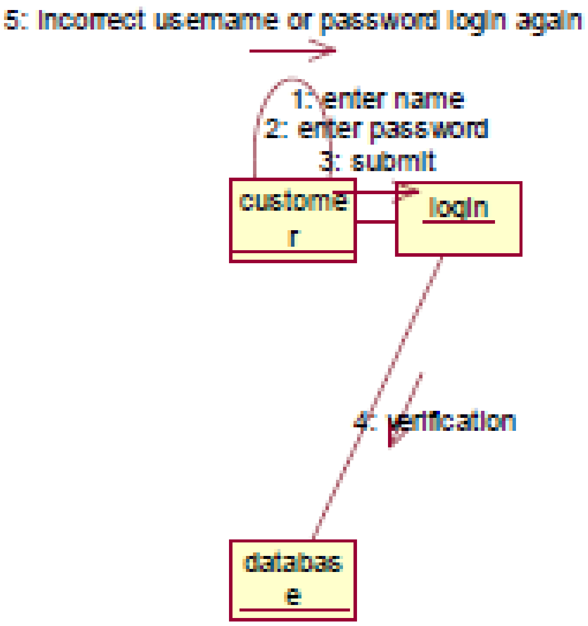
DOCUMENTATION OF SEQUENCE DIAGRAM

The sequence diagram describes the sequence of steps to show

- The Customer enters the Ebook website.
- The list of books available are listed.
- Customer checks the book list.
- Database provides user id and pass.
- Customer selects the book.
- Pay money to the Website.

COLLABORATION DIAGRAM

A collaboration diagram, also called a communication diagram or interaction diagram,. A sophisticated modeling tool can easily convert a collaboration diagram into a sequence diagram and the vice versa. A collaboration diagram resembles a flowchart that portrays the roles, functionality and behavior of individual objects as well as the overall operation of the system in real time

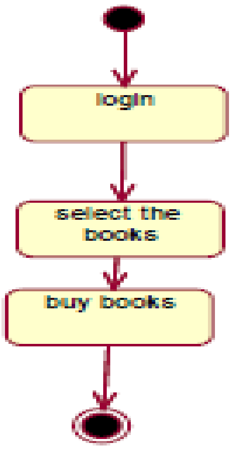


DOCUMENTATION OF COLLABORATION DIAGRAM

The first collaboration diagram is to show how the customer login and getting details of ebooks in the ebook management system. Here the sequence is numbered according to the flow of execution.

STATE CHART DIAGRAM

The purpose of state chart diagram is to understand the algorithm involved in performing a method. It is also called as state diagram. A state is represented as a round box, which may contain one or more compartments. An initial state is represented as small dot. A final state is represented as circle surrounding a small dot.



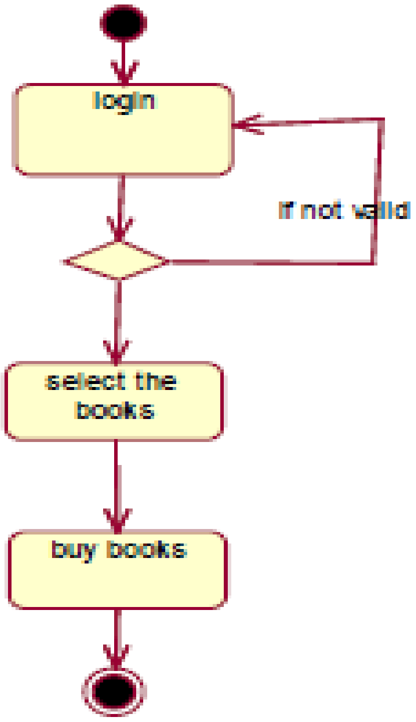
DOCUMENTATION OF STATE CHART DIAGRAM

This state diagram describes the behavior of the system.

- First state is login where the customer login to the ebook management system.
- The next state is check the list of books in order.
- Then select buy the book.
- Enter the account detail and purchase the book.

ACTIVITY DIAGRAM

Activity diagrams are graphical representations of workflows of stepwise activities and actions with support for choice, iteration and concurrency. In the Unified Modeling Language, activity diagrams can be used to describe the business and operational step-by-step workflows of components in a system. An activity diagram shows the overall flow of control. An activity is shown as an rounded box containing the name of the operation.



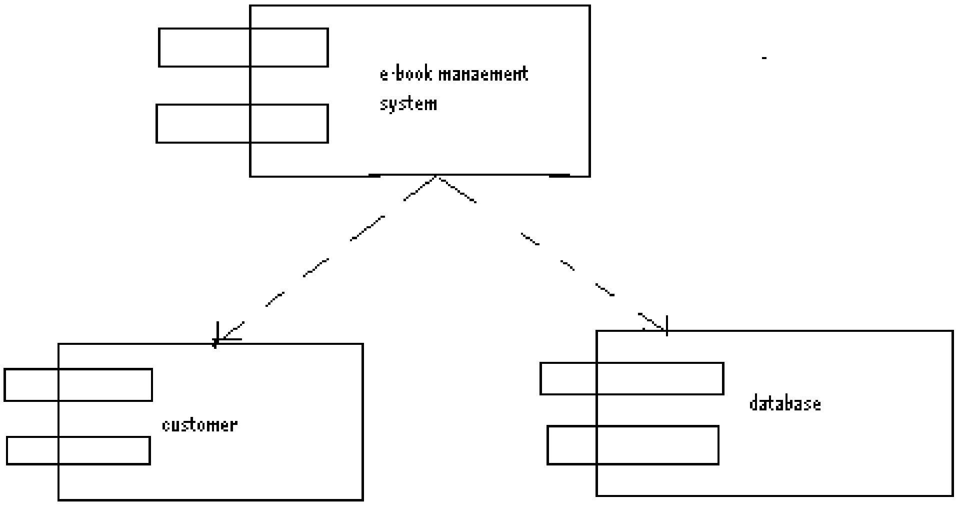
DOCUMENTATION OF ACTIVITY DIAGRAM

This activity diagram flow of stepwise activities performed in recruitment system.

- First Customer login then checks books available.
- The book list are verified and is given in a ordered format.
- The needed book is selected.
- Enter your account details and purchase the book .

COMPONENT DIAGRAM

The component diagram's main purpose is to show the structural relationships between the components of a systems. It is represented by boxed figure. Dependencies are represented by communication association.

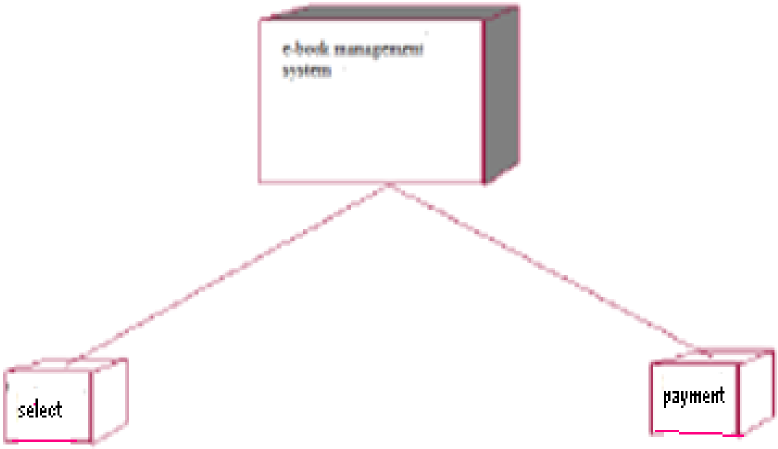


DOCUMENTATION OF COMPONENT DIAGRAM

The main component in this component diagram is online recruitment systems. And Supplier, storekeeper and database are the components come under the main component.

DEPLOYMENT DIAGRAM

A deployment diagram in the unified modeling language serves to model the physical deployment of artifacts on deployment targets. Deployment diagrams show "the allocation of artifacts to nodes according to the Deployments defined between them. It is represented by 3- dimensional box. Dependencies are represented by communication association



DOCUMENTATION OF DEPLOYMENT DIAGRAM

The processor in this deployment diagram is the online recruitment system which is the main part and the devices are the select and payment which are the some of the main activities performed in the system.

RESULT

Thus the project to develop E-book Management System using ArgoUML Software is done successfully.

PROJECT NO. 9 RECRUITMENT SYSTEM

AIM

To develop a project on online recruitment system using ArgoUML Software.

PROBLEM ANALYSIS AND PROJECT PLANNING

The Online Recruitment System is an online website in which applicant can register themselves and then attend the exam. Examination will be conducted at some venue. The details of the examination, venue & Date of the examination will be made available to them through the website. Based on the outcome of the exam the applicant will be short listed and the best applicant is selected for the job.

PROBLEM STATEMENT

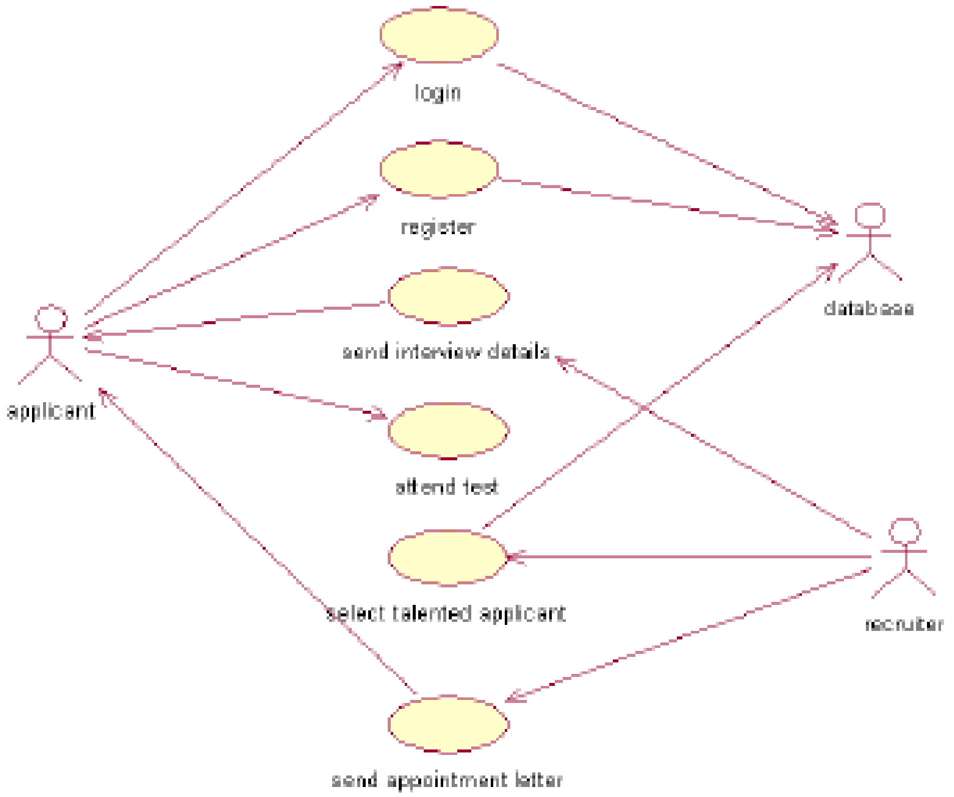
The process of applicants is login to the recruitment system and register for the job through online. The resume is processed by the company and the required applicant is called for the test. On the basis of the test marks, they are called for next level of interview. Finally the best applicant is selected for the job. This process of online recruitment system are described sequentially through following steps,

- The applicant login to the online recruitment system.
- They register to the company for the job.
- They appear for examination.
- Based on the outcome of the exam, the best applicant is selected.
- The recruiter informs the applicant about their selection.

USE CASE DIAGRAM

A use case is a methodology used in system analysis to identify, clarify, and organize system requirements. The use case is made up of a set of possible sequences of interactions between systems and users in a particular environment and related to a particular goal. It is represented using ellipse.

Actor is any external entity that makes use of the system being modeled. It is represented using stick figure.



DOCUMENTATION OF USE CASE DIAGRAM

The actors in this use case diagram are applicant, recruiter and database. The use cases are the activities performed by actors.

The actors in this use case diagram are

• **Applicant -** logins the recruitment system and register for the job and attend the test conducted at some venue.

• **Recruiter -** send the interview details, select talented applicant and send appointment letter to them.

• **Databases -** verify the login and register details and selected applicant details are stored in it.

The use cases in this use case diagram are

• **Login -** applicant enter their username and password to enter in to the recruitment system

• **Register** – applicant register in to the recruitment system for job.

• **Send interview details** – recruiter send interview details to the applicant.

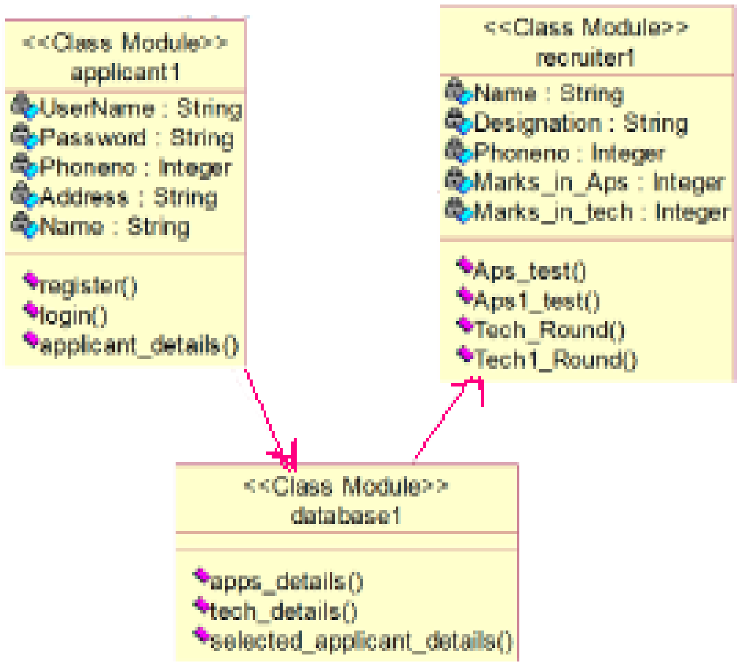
- **Attend test –** applicant appears for the test.

- **Select talented applicant** – based on the outcome of test talented applicant is selected.

- **Send appointment letter** – appointment letter is sent to the selected applicant by recruiter.

CLASS DIAGRAM

A class diagram in the unified modeling language (UML) is a type of static structure diagram that describes the structure of a system by showing the system's classes, their attributes, and the relationships between the classes. It is represented using a rectangle with three compartments. Top compartment have the classname, middle compartment the attributes and the bottom compartment with operations.



DOCUMENTATION OF CLASS DIAGRAM

This class diagram has three classes applicant, recruiter and database.

- **Applicant** – is the class name. Its attributes are username, password, name, phone no and address. The operations performed in the applicant class are login, register and giving applicant details.

• **Recruiter** – is the class name. Its attributes are name, designation, phone no, marks in apps and marks in technical. The operations performed are selecting applicants based on apps and technical.

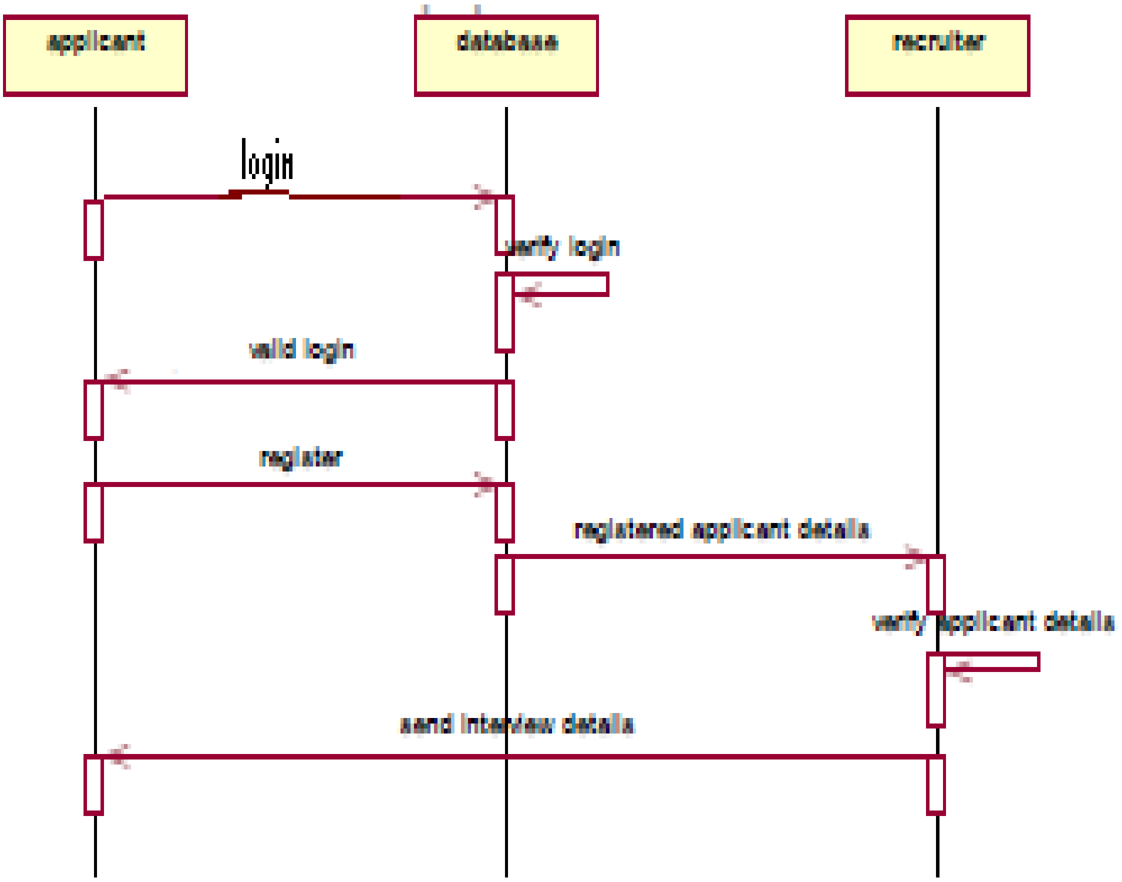
• **Database** – is the class name. The operations performed are storing applicant details, verifying login and storing selected applicant details.

SEQUENCE DIAGRAM

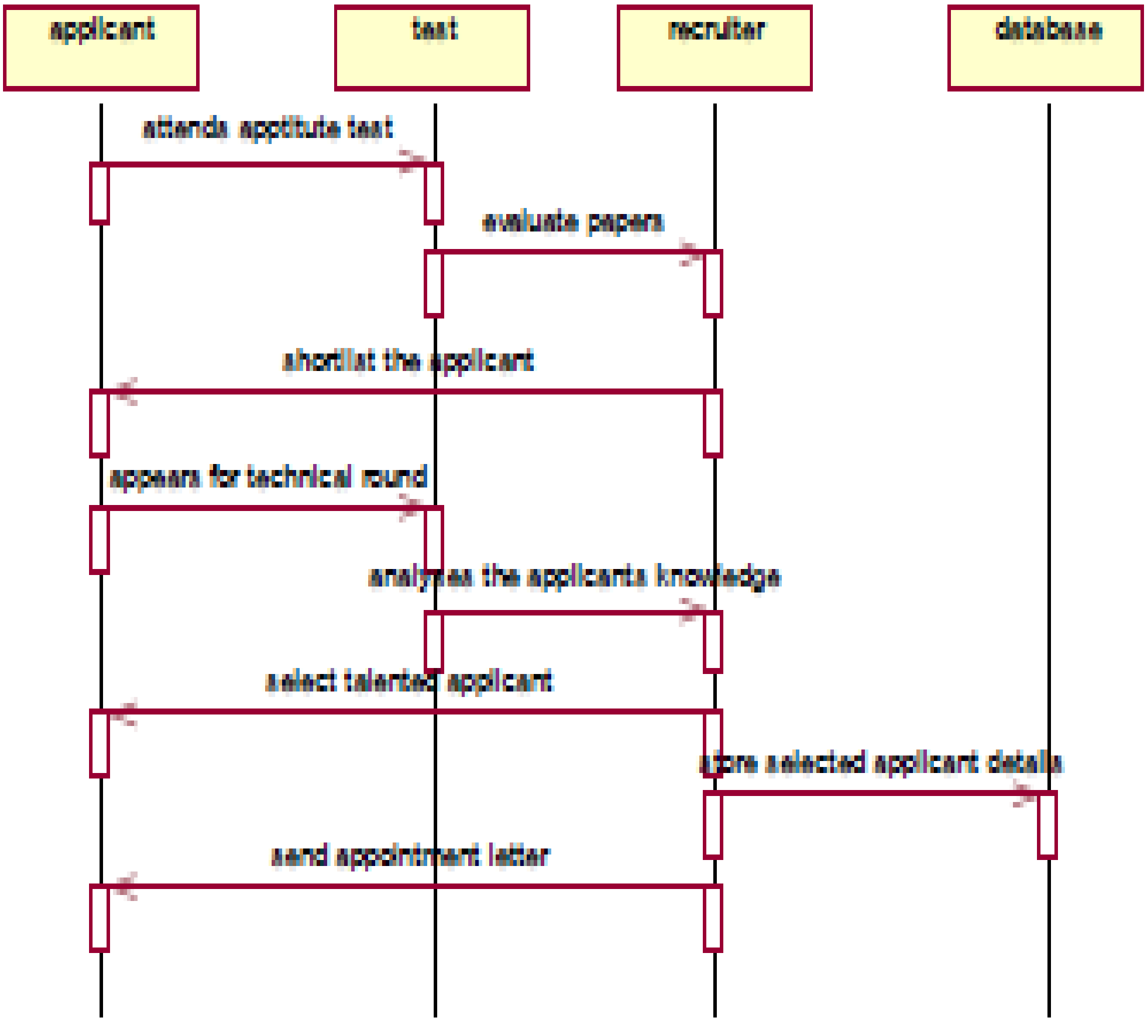
A sequence diagram in Unified Modeling Language (UML) is a kind of interaction diagram that shows how processes operate with one another and in what order. It is a construct of a Message Sequence Chart. There are two dimensions.

1. Vertical dimension-represent time.
2. Horizontal dimension-represent different objects.

FOR REGISTER



FOR SELECTING APPLICANT


applicant
test
recruiter
database
attends apptitute test
evaluate papers
shortlist the applicant
appears for technical round
analyses the applicants knowledge
select talented applicant
store selected applicant details
send appointment letter

DOCUMENTATION OF SEQUENCE DIAGRAM

REGISTER

This sequence diagram describes the sequence of steps to show

- The applicant login in to the recruitment system and register for job.
- The verification done in the database and recruiter
- The interview details are send to the applicant by recruiter.

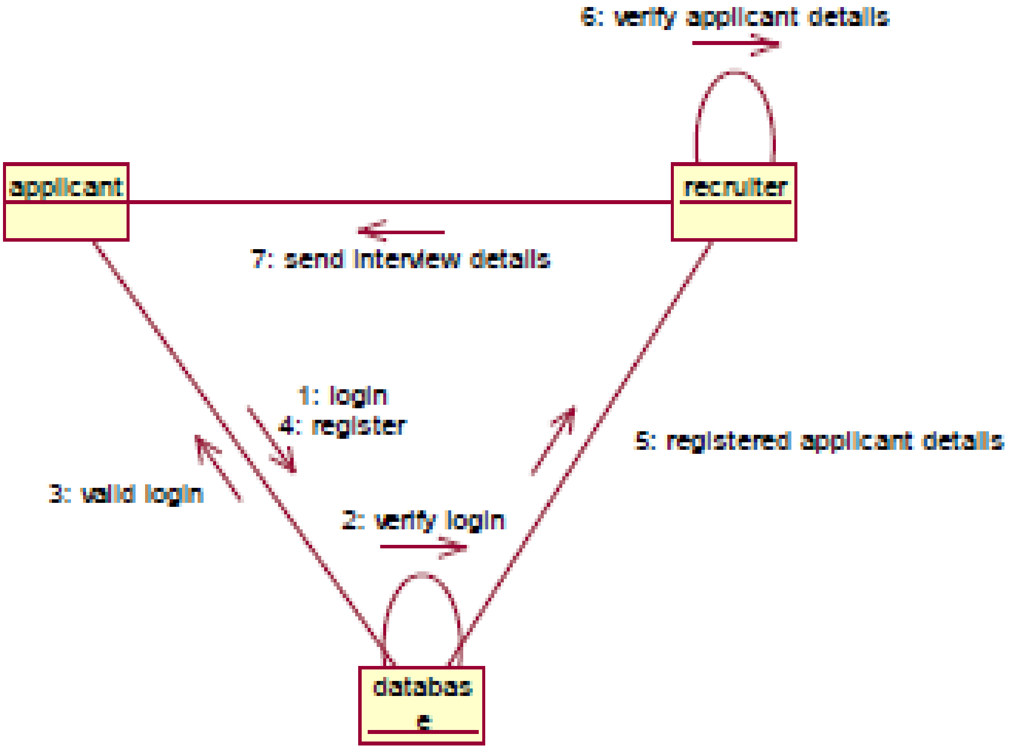
SELECTING APPLICANT

This sequence diagram shows steps to show

- The applicant attend aptitute test and they are short listed based on evaluation
- The applicant appear for technical round
- The talented applicant is selected.
- This detail is stored in the database.

COLLABORATION DIAGRAM

A collaboration diagram, also called a communication diagram or interaction diagram,. A sophisticated modeling tool can easily convert a collaboration diagram into a sequence diagram and the vice versa. A collaboration diagram resembles a flowchart that portrays the roles, functionality and behavior of individual objects as well as the overall operation of the system in real time


6: verify applicant details
applicant
recruiter
7: send interview details
1: login
4: register
3: valid login
5: registered applicant details
2: verify login
databas
e

DOCUMENTATION OF COLLABRATION DIAGRAM

REGISTER

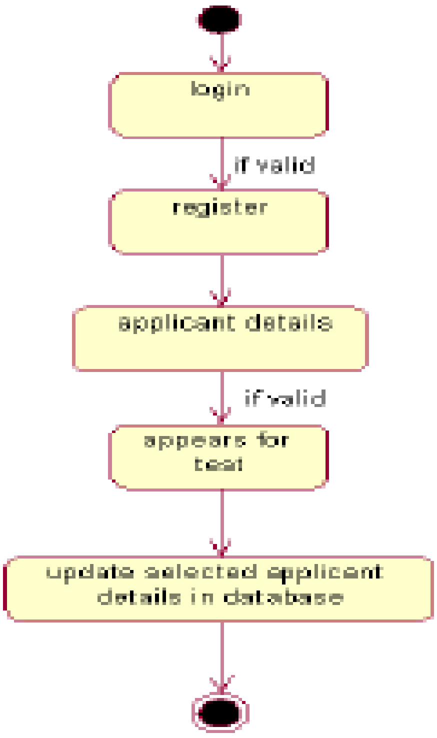
This collaboration diagram is to show how the applicant login and register in the recruitment system. Here the sequence is numbered according to the flow of execution.

SELECTING APPLICANT

This collaboration diagram is to show the selection process of the applicant for the job. The flow of execution of this selection process is represented using the numbers.

STATE CHART DIAGRAM

The purpose of state chart diagram is to understand the algorithm involved in performing a method. It is also called as state diagram. A state is represented as a round box, which may contain one or more compartments. An initial state is represented as small dot. A final state is represented as circle surrounding a small dot.



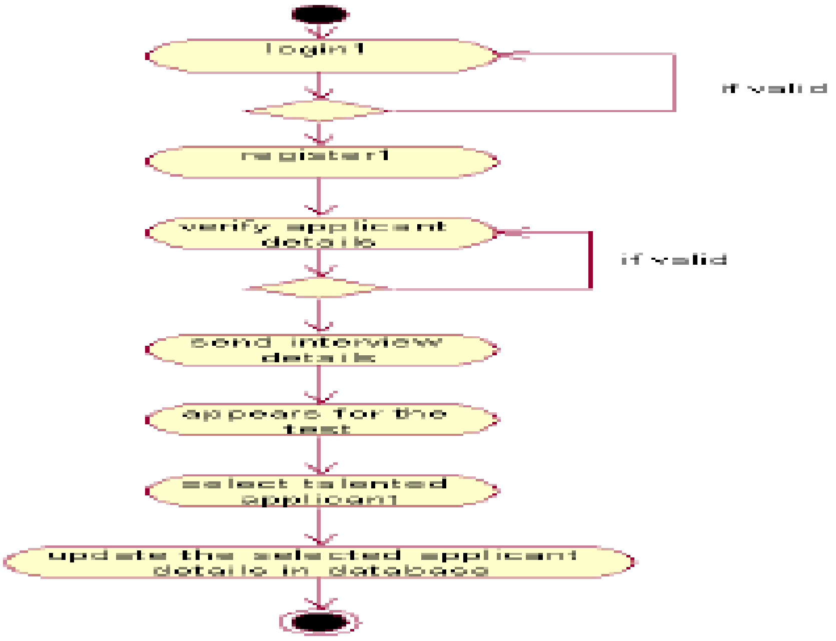
DOCUMENTATION OF STATE CHART DIAGRAM

This state diagram describes the behaviour of the system.

- First state is login where the applicant login to the recruitment system.
- The next state is register where the applicant register for job.
- Then verify the applicant details and sent interview details.
- The applicant appears for test.
- Update database with details of selected applicant.

ACTIVITY DIAGRAM

Activity diagrams are graphical representations of workflows of stepwise activities and actions with support for choice, iteration and concurrency. In the Unified Modeling Language, activity diagrams can be used to describe the business and operational step-by-step workflows of components in a system. An activity diagram shows the overall flow of control. An activity is shown as an rounded box containing the name of the operation.



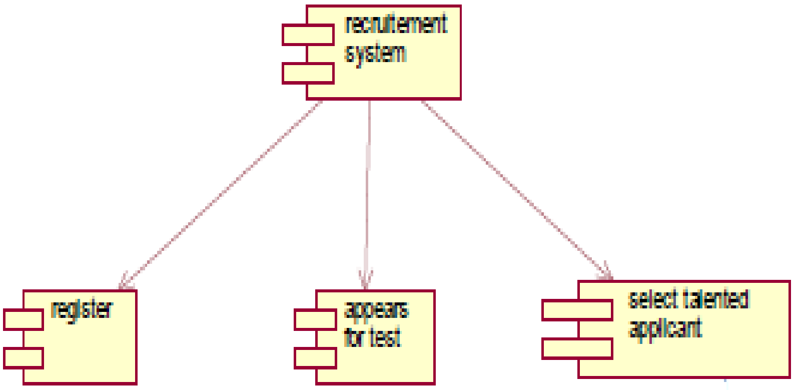
DOCUMENTATION OF ACTIVITY DIAGRAM

This activity diagram flow of stepwise activities performed in recruitment system.

- First the applicant login then registers.
- The applicant details are verified and interview details are send to applicant by recruiter.
- Applicants appear for test.
- Recruiter select talented applicant.
- Update the selected applicant details in the database.

COMPONENT DIAGRAM

The component diagram's main purpose is to show the structural relationships between the components of a system. It is represented by boxed figure. Dependencies are represented by communication association.

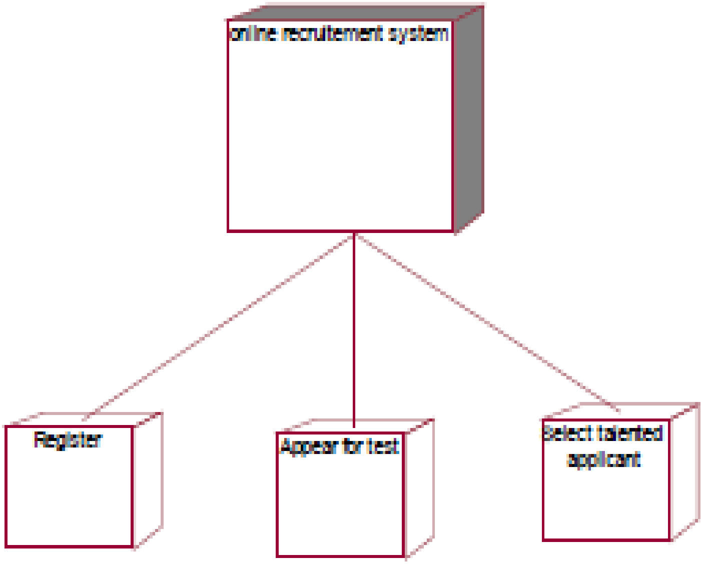


DOCUMENTATION OF COMPONENT DIAGRAM

The main component in this component diagram is online recruitment systems. And register, attend test and select talented applicants are the components comes under the main component.

DEPLOYMENT DIAGRAM

A deployment diagram in the unified modeling language serves to model the physical deployment of artifacts on deployment targets. Deployment diagrams show "the allocation of artifacts to nodes according to the Deployments defined between them. It is represented by 3- dimensional box. Dependencies are represented by communication association.



DOCUMENTATION OF DEPLOYMENT DIAGRAM

The processor in this deployment diagram is the online recruitment system which is the main part and the devices are the register, appear for test and select talented applicant which are the some of the main activities performed in the system.

RESULT

Thus the Recruitment system is successfully done and the UML diagram are implemented by using the ArgoUML

PROJECT NO.10 CONFERENCE MANAGEMENT SYSTEM

AIM

To develop a project on Conference management system using ArgoUML Software.

PROBLEM ANALYSIS AND PROJECT PLANNING

The Conference Management System is an online website in which candidate can submit the paper and register themselves and then attend the conference. The paper will be reviewed. The details of the conference, date and time will be made available to them through the website. After getting the confirmation details the candidate should submit the revised and camera ready paper. Then the registration process will be done.

PROBLEM STATEMENT

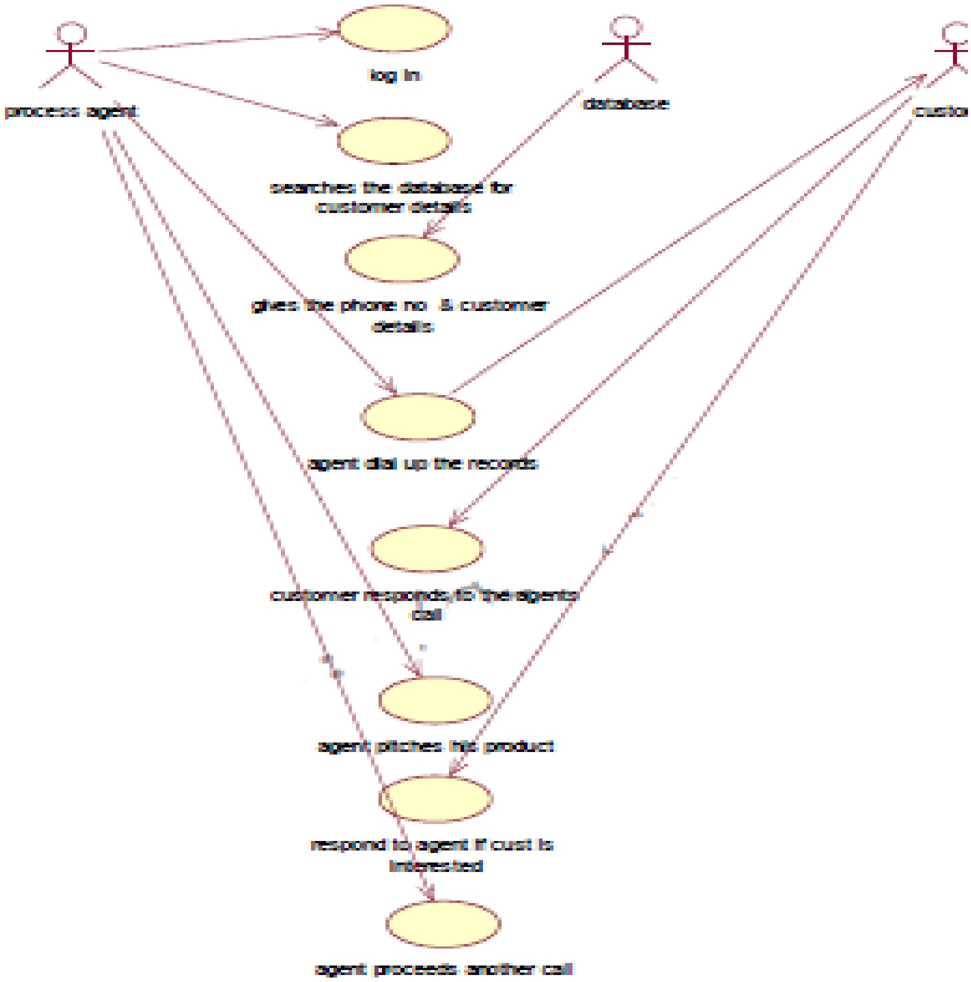
The process of the candidates is to login the conference system and submit the paper through online. Then the reviewer reviews the paper and sends the acknowledgement to the candidate either paper selected or rejected. This process of on conference management system are described sequentially through following steps,

- The candidate login to the conference management system.
- The paper title is submitted.
- The paper is been reviewed by the reviewer.
- The reviewer sends acknowledgement to the candidate.
- Based on the selection, the best candidate is selected.
- Finally the candidate registers all details.

USE CASE DIAGRAM

A use case is a methodology used in system analysis to identify, clarify, and organize system requirements. The use case is made up of a set of possible sequences of interactions between systems and users in a particular environment and related to a particular goal. It is represented using ellipse.

Actor is any external entity that makes use of the system being modeled. It is represented using stick figure.


process agent
log in
database
custo
searches the database for customer details
gives the phone no & customer details
agent dial up the records
customer responds to the agents call
agent pitches his product
respond to agent if cust is interested
agent proceeds another call

DOCUMENTATION OF USE CASE DIAGRAM

The actors in this use case diagram are candidate, reviewer and database. The use cases are the activities performed by actors.

The actors in this use case diagram are

• **Candidate -** Logins the conference system and submits the paper then do the registration process.

• **Reviewer** – Review the paper , select best candidate and send acknowledgement to them.

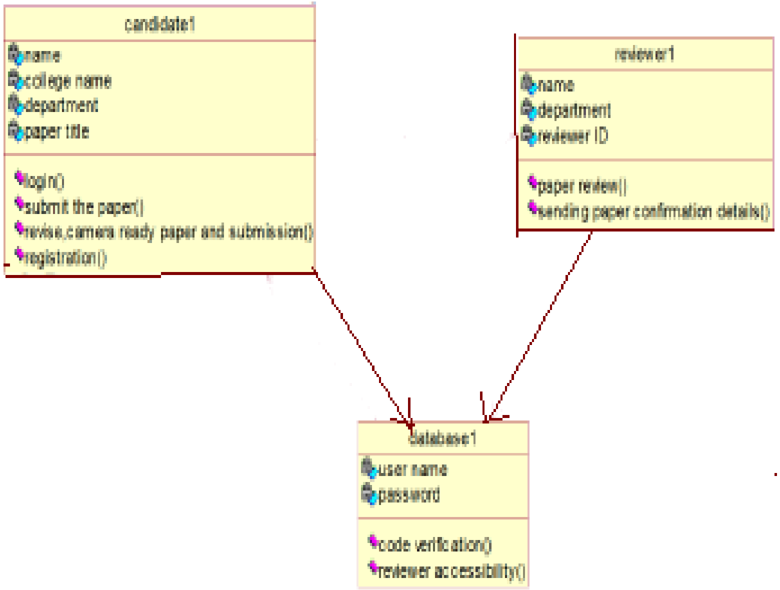
• **Databases -** verify the login and register details and selected candidate details are stored in it.

The use cases in this use case diagram are

- **Login -** Candidate enter their username and password to login to the conference system.
- **Paper sumbission** – Candidate submits the paper.
- **Review the paper**– The paper is been reviewed by the reviewer and the paper is selected.
- **Paper confirmation details –** The reviewer can send the confirmation details to the candidate.
- **Revised and camera ready paper** – After the paper is selected and the camera ready paper should be submitted to the reviewer by candidate.
- **Registration** – After submitting the revised paper the candidate wants to register.

CLASS DIAGRAM

A class diagram in the unified modeling language (UML) is a type of static structure diagram that describes the structure of a system by showing the system's classes, their attributes, and the relationships between the classes. It is represented using a rectangle with three compartments. Top compartment have the class name, middle compartment the attributes and the bottom compartment with operations



DOCUMENTATION OF CLASS DIAGRAM

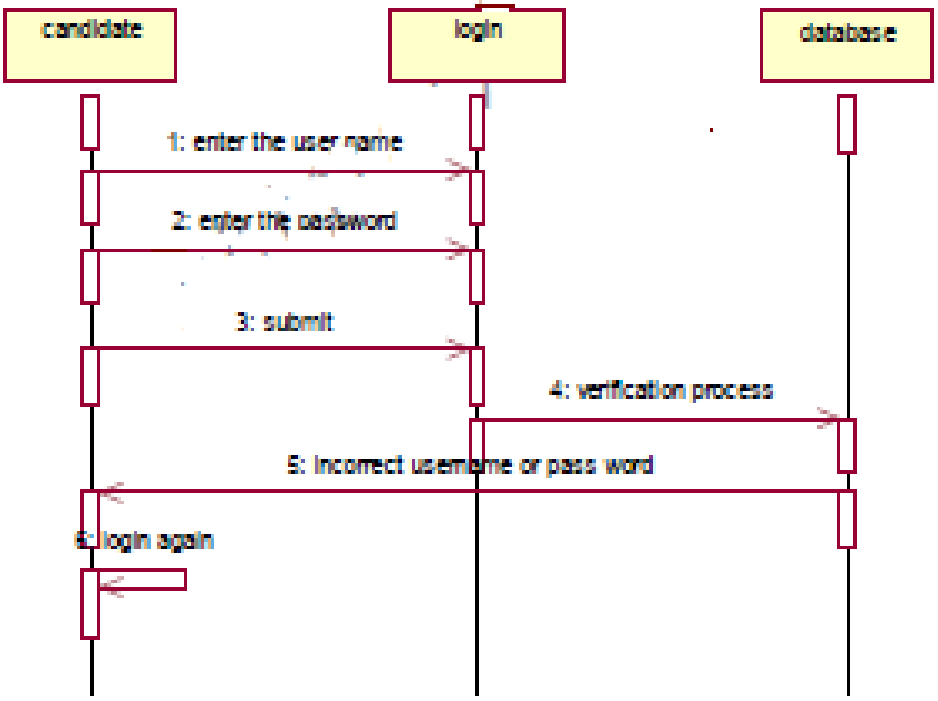
This class diagram has three classes candidate, reviewer and database.

- **Candidate** – Its attributes are name , collegename , department , paper title. The operations performed in the candidate class are login, submit the paper, submit revised and camera ready paper and registration.
- **Reviewer** – Its attributes are name, department, reviewer ID The operations performed are review the paper and send the paper confirmation details.
- **Database** –The operations performed are storing candidate details and verifying login .

SEQUENCE DIAGRAM

A sequence diagram in Unified Modeling Language (UML) is a kind of interaction diagram that shows how processes operate with one another and in what order. It is a construct of a Message Sequence Chart. There are two dimensions.

1. Vertical dimension-represent time.
2. Horizontal dimension-represent different objects.



DOCUMENTATION OF SEQUENCE DIAGRAM

LOGIN

This sequence diagram describes the sequence of steps to show

- The candidate login in to the conference system and register for job.
- The verification done in the database .

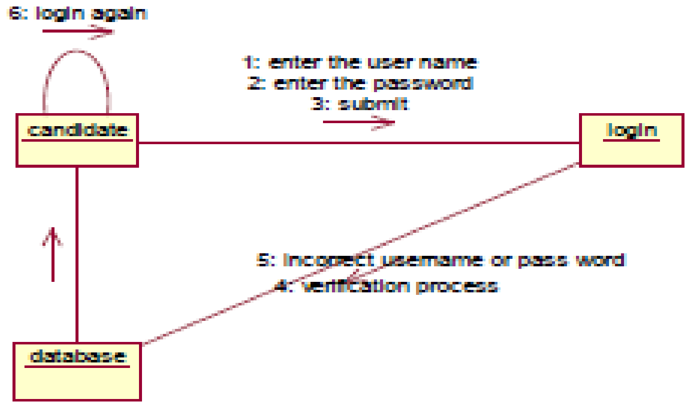
PAPER SUBMISSION

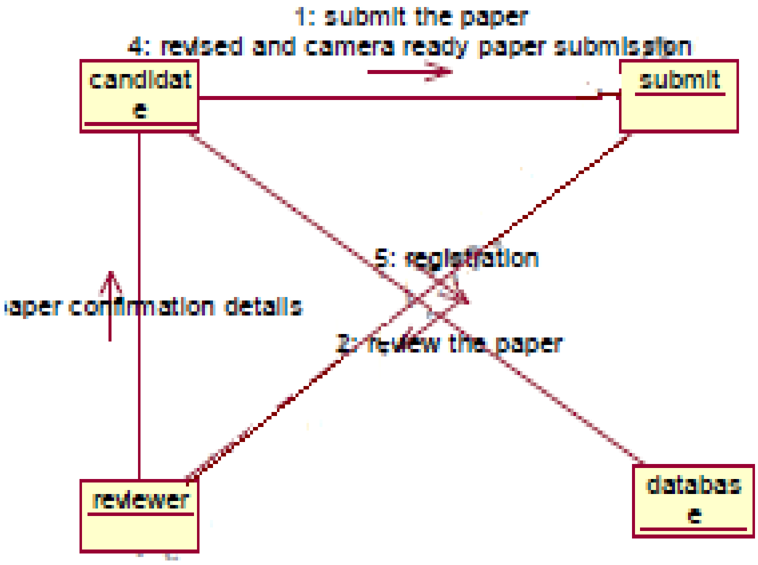
This sequence diagram shows steps to show

- The candidate sumbit the paper.
- The reviewer reviews the paper and sends acknowlegement to the candidate.
- The candidate submits revised and camera ready paper.
- This candidate will registers their detials.

COLLABORATION DIAGRAM

A collaboration diagram, also called a communication diagram or interaction diagram,. A sophisticated modeling tool can easily convert a collaboration diagram into a sequence diagram and the vice versa. A collaboration diagram resembles a flowchart that portrays the roles, functionality and behavior of individual objects as well as the overall operation of the system in real time





DOCUMENTATION OF COLLABRATION DIAGRAM

LOGIN

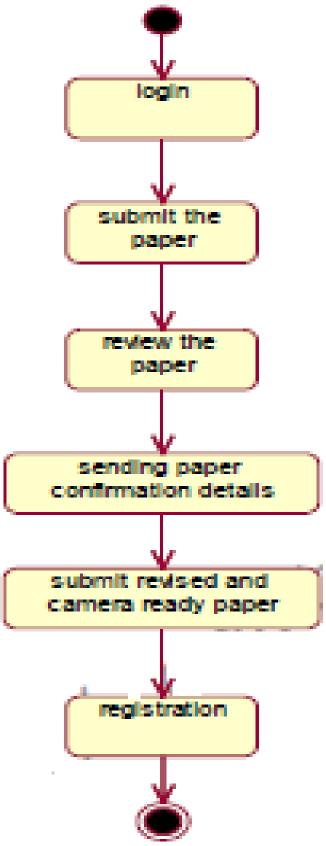
This collaboration diagram is to show how the applicant login in the conference system. Here the sequence is numbered according to the flow of execution.

PAPER SUBMISSION

This collaboration diagram is to show the submitting paper process of the candidate for the conference. The flow of execution of this selection process is represented using the numbers.

STATE CHART DIAGRAM

The purpose of state chart diagram is to understand the algorithm involved in performing a method. It is also called as state diagram. A state is represented as a round box, which may contain one or more compartments. An initial state is represented as small dot. A final state is represented as circle surrounding a small dot.


login
submit the paper
review the paper
sending paper confirmation details
submit revised and camera ready paper
registration

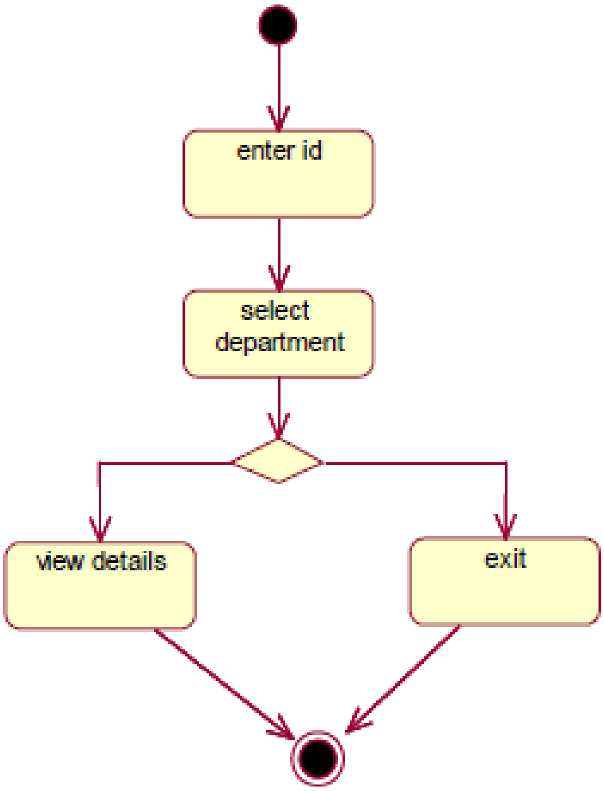
DOCUMENTATION OF STATE CHART DIAGRAM

This state diagram describes the behaviour of the system.

- First state is login where the candidate login to the conference system.
- The next state is submitting the paper .
- Then review the paper if it is selected the process will continue..
- The candidate should submit revised and camera ready paper.
- Then registration process will be carried out.

ACTIVITY DIAGRAM

Activity diagrams are graphical representations of workflows of stepwise activities and actions with support for choice, iteration and concurrency. In the Unified Modeling Language, activity diagrams can be used to describe the business and operational step-by-step workflows of components in a system. An activity diagram shows the overall flow of control. An activity is shown as an rounded box containing the name of the operation.



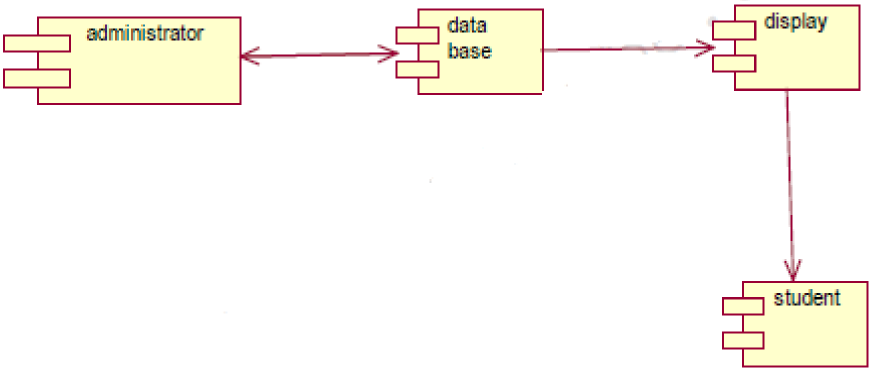
DOCUMENTATION OF ACTIVITY DIAGRAM

This activity diagram flow of stepwise activities performed in recruitment system.

- First the candidate login to the database by giving the id.
- Then the candidate should select the department if it is selected then he can view details otherwise exit and come out.

COMPONENT DIAGRAM

The component diagram's main purpose is to show the structural relationships between the components of a system. It is represented by boxed figure. Dependencies are represented by communication association.

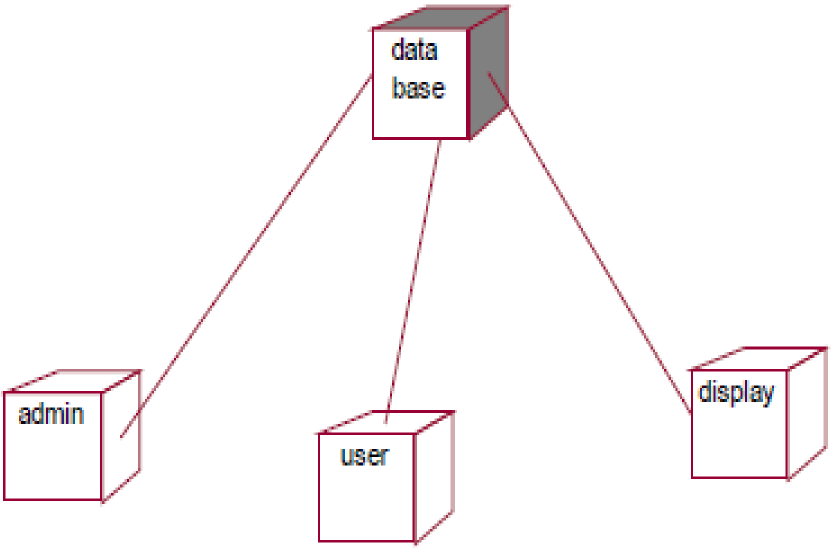


DOCUMENTATION OF COMPONENT DIAGRAM

The main component in this component diagram is the database which is the conference management system form which the details is accessed by the admin.

DEPLOYMENT DIAGRAM

A deployment diagram in the unified modeling language serves to model the physical deployment of artifacts on deployment targets. Deployment diagrams show "the allocation of artifacts to nodes according to the Deployments defined between them. It is represented by 3- dimensional box. Dependencies are represented by communication association.



DOCUMENTATION OF DEPLOYMENT DIAGRAM

The database in this deployment diagram is the conference management system which is the main part and the devices are the admin user and display , admin will reviews paper , database will store all details which are the some of the main activities performed in the system.

RESULT:

Thus the Conference management System is successfully done and the UML diagram are implemented by using the ArgoUML.

PROJECT NO. 11 FOREIGN TRADING SYSTEM

AIM

To design a project for Foreign Trading System using ArgoUML Software.

PROJECT ANALYSIS AND PROJECT PLANNING

The initial requirements to develop the project about the mechanism of the Foreign Trading System is bought from the trader. The requirements are analyzed and refined which enables the analyst (administrator) to efficiently use the Foreign Trading System.The complete project analysis is developed after the whole project analysis explaining about the scope and the project statement is prepared.

PROBLEM STATEMENT

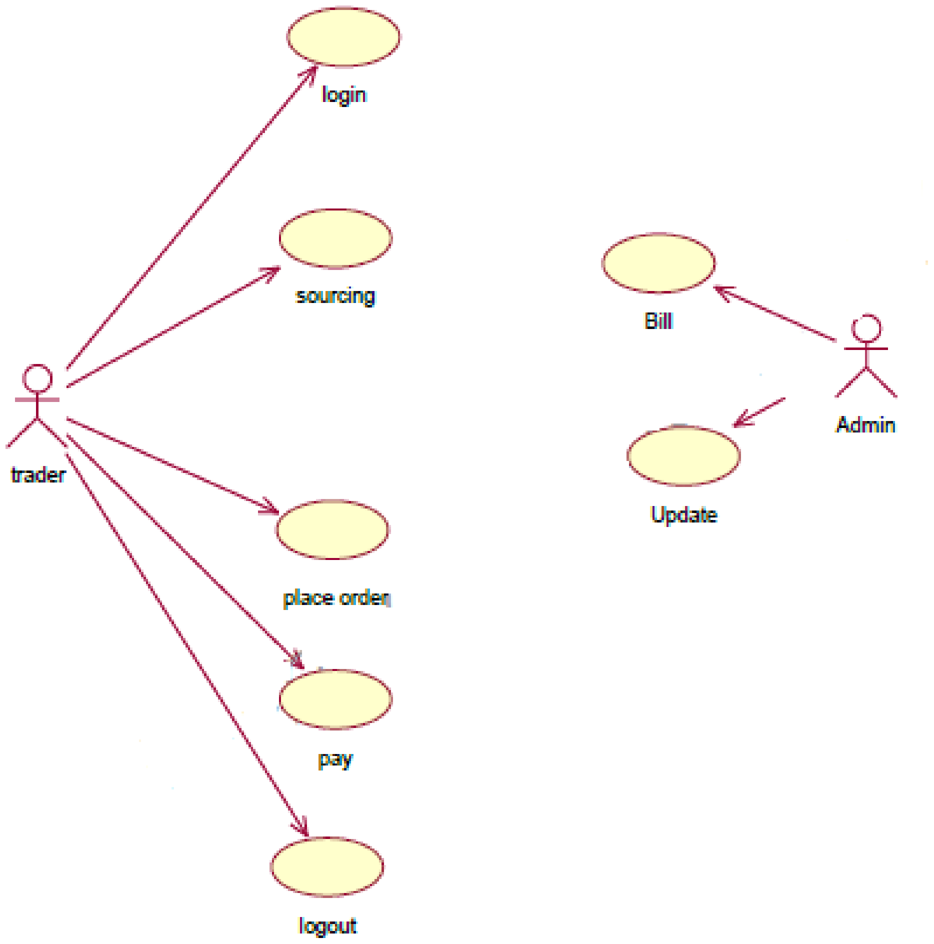
The steps involved in Foreign Trading System are:

- The forex system begins its process by getting the username and password from the trader.
- After the authorization permitted by the administrator, the trader is allowed to perform the sourcing to know about the commodity details.
- After the required commodities are chosen, the trader places the order.
- The administrator checks for the availability for the required commodities and updates it in the database.
- After the commodities are ready for the trade, the trader pays the amount to the administrator.
- The administrator in turn provides the bill by receiving the amount and updates it in the database.
- The trader logouts after the confirmation message has been received.

USE CASE DIAGRAM

A use case diagram purpose is to present a graphical overview of the functionality provided by the system in terms of actors, their goals, and any dependencies between those use cases.

A use case is an interaction between users and a system in a particular environment. It captures the goal of the users and the responsibility of the system to the user. It is represented using ellipse. Actor is a user playing a role with respect to the system. A single actor may perform many usecases. It is represented using a stick figure along with a label.



DOCUMENTATION OF USE CASE DIAGRAM

- The actors in this use case diagram are trader, administrator and database.The usecases are the activities that are represented in the ellipse.

- Trader logins the foreign trading system and perform the sourcing to select the required commodities and places the order.
- The administrator checks for ordered commodities , after the commodities are ready trader pays the amount.
- The administrator provides the items along with the bill.
- The database stores the all the details and updates it whenever there is a change in any part of the trading process

CLASS DIAGRAM

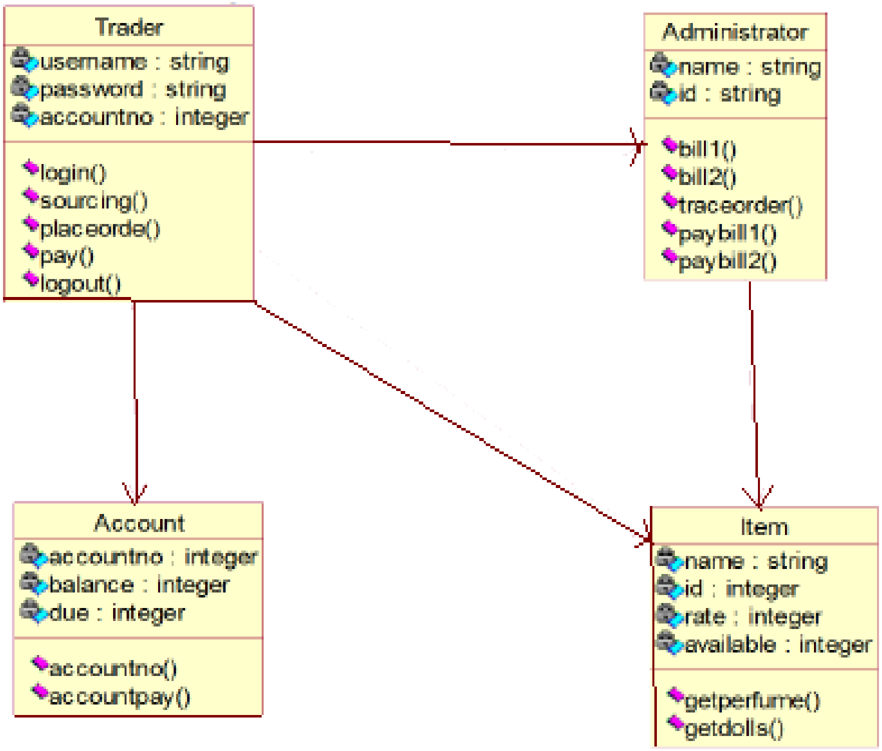
A class diagram is a type of static structure diagram that describes the structure of a system. The classes in the class diagram represent both the main objects and or interactions in the application.

The class diagram is represented using rectangular boxes each of which contains three parts:

• The upper part holds the name of the class.

• The middle part contains the attributes of the class.

• The bottom part gives the operations or methods the class undertakes



DOCUMENTATION OF CLASS DIAGRAM

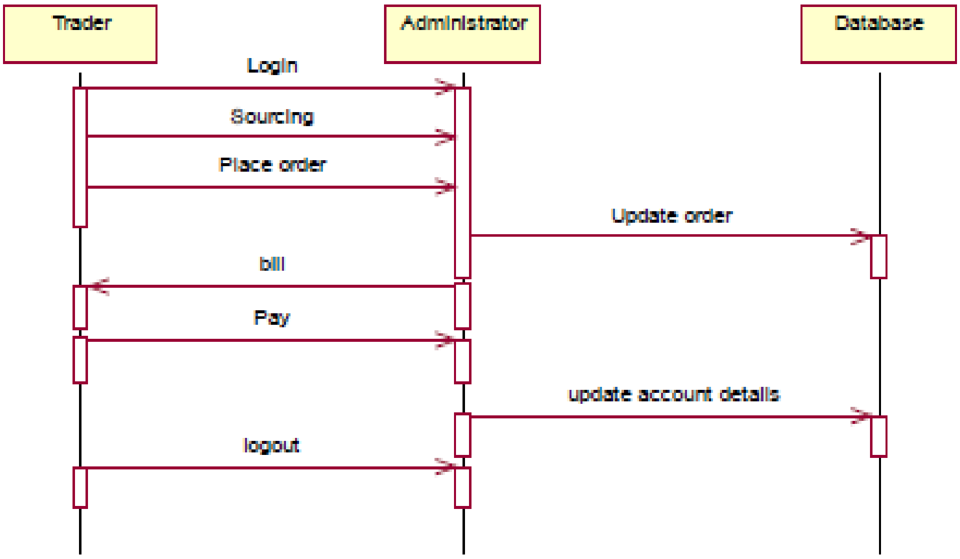
This class diagram consists of four class trader, administrator, account and item.

- **Trader**-is the class name. It consists of username, password, accountno as attributes. The operations performed are login, sourcing, placeorder, pay and logout.
- **Admin**-is the class name. It consists of name, id as attributes. The operations performed are bill and Trace order.
- **Item**-is the class name . It consists of name, id, availability and cost.
- **Account**-is the class name. It consists of accountno , balance and due as attributes.

SEQUENCE DIAGRAM

A sequence diagram in unified modeling language is a kind of interaction diagram that shows how processes operate with one another and in what order. It is a construct of a Message Sequence Chart. Sequence diagrams are sometimes called event diagrams, event scenarios, and timing diagrams. This diagram shows a parallel vertical lines called lifelines. There are two dimensions in this diagram

1. Vertical dimension-represents time.
2. Horizontal dimension-represent different object



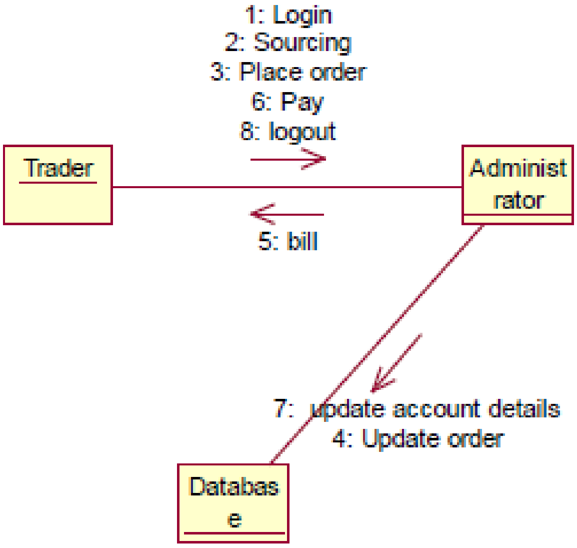
DOCUMENTATION OF SEQUENCE DIAGRAM

The sequence diagram represents:

- The trader logins and performs the sourcing (viewing the availability and amount) to select the required commodities.
- Trader places the order to the administrator then the admin tracks order and update the details in the database.
- The bill is provided to the trader as per the viewed amount and the trader pays for it.
- The trader after receiving the commodities successfully logout from the database.

COLLABORATION DIAGRAM

A collaboration diagram belongs to a group of UML diagrams called Interaction Diagrams. Collaboration diagrams, like sequence diagrams, show how the objects interact over the course of time. Collaboration diagrams show the sequence by numbering the messages on the diagram.

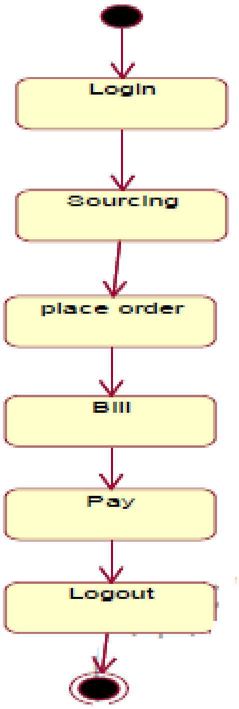


DOCUMENTATION OF COLLABORATION DIAGRAM

The collaboration diagram shows how the trader performs the sourcing and places order for which the administrator provides the bill and updates it in the database.

STATE CHART DIAGRAM

The state chart is used to model dynamic nature of a system. They define different states of an object during its lifetime. And these states are changed by events. So these diagrams are useful for reactive systems i.e.., a system that responds to external or internal events. It describes the flow of control from one state to other state. The initial state is represented using the small dot. The final state is represented using a circle surrounded by a small dot



DOCUMENTATION OF STATE CHART DIAGRAM

The state diagram represents the following states.

• The trader logins the register in the first state and performs sourcing in the second state.

• The trader places the order in the third state.

• The trader receives the bill in the fourth state and pay the required amount in fifth state.

• The trader logouts from the system in the sixth state

Login Sourcing place order Bill Pay Logout

ACTIVITY DIAGRAM

This diagram represents the graphical representation of workflows of stepwise activities and actions with support for choice, iteration and concurrency. It shows the overall flow of control.

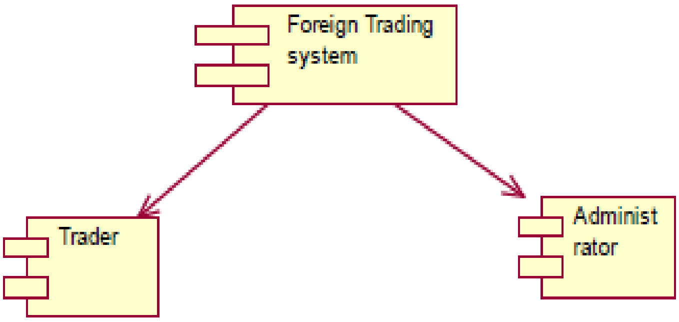
DOCUMENTATION OF ACTIVITY DIAGRAM

This activity diagram represents the flow of stepwise activities performed in foreign trading system.

- The first action represents the trader logins to the system.
- The second action is the place where the trader places the order.
- The decision state is the state where the trader decides to place the order.
- If the trader places the order, fill the form for the required commodities.
- The next activity is that the administrator provides the bill for those commodities.
- The trader pays for the bill and logout from the system.

COMPONENT DIAGRAM

A component diagram depicts how the components are wired together to form larger components and or software systems. Components are wired together by using an assembly connector to connect the required interface of one component with the provided interface of another component.

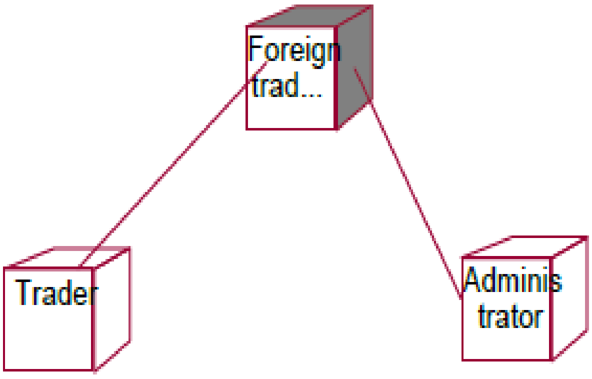


DOCUMENTATION OF COMPONENT DIAGRAM

The main component in the component diagram is foreign trading system. The trader who comes to do the trading process and administrator who manages all the other processes is the sub components.

DEPLOYMENT DIAGRAM

A deployment diagram models the physical deployment of artifacts on nodes. The nodes appear as boxes, and the artifacts allocated to each node appear as rectangles within the boxes. Nodes may have sub nodes, which appear as nested boxes.



DOCUMENTATION OF DEPLOYMENT DIAGRAM

The processor in this diagram is the foreign trading system. The devices are the trader and administrator who perform the main activities in the system.

RESULT

Thus the foreign trading system project had been developed successfully using ArgoUML.

PROJECT NO.12 SOFTWARE PERSONNEL MANAGEMENT SYSTEM

AIM:

To develop a project for software personnel management system using ArgoUML software.

PROBLEM ANALYSIS AND PROBLEM PLANNING

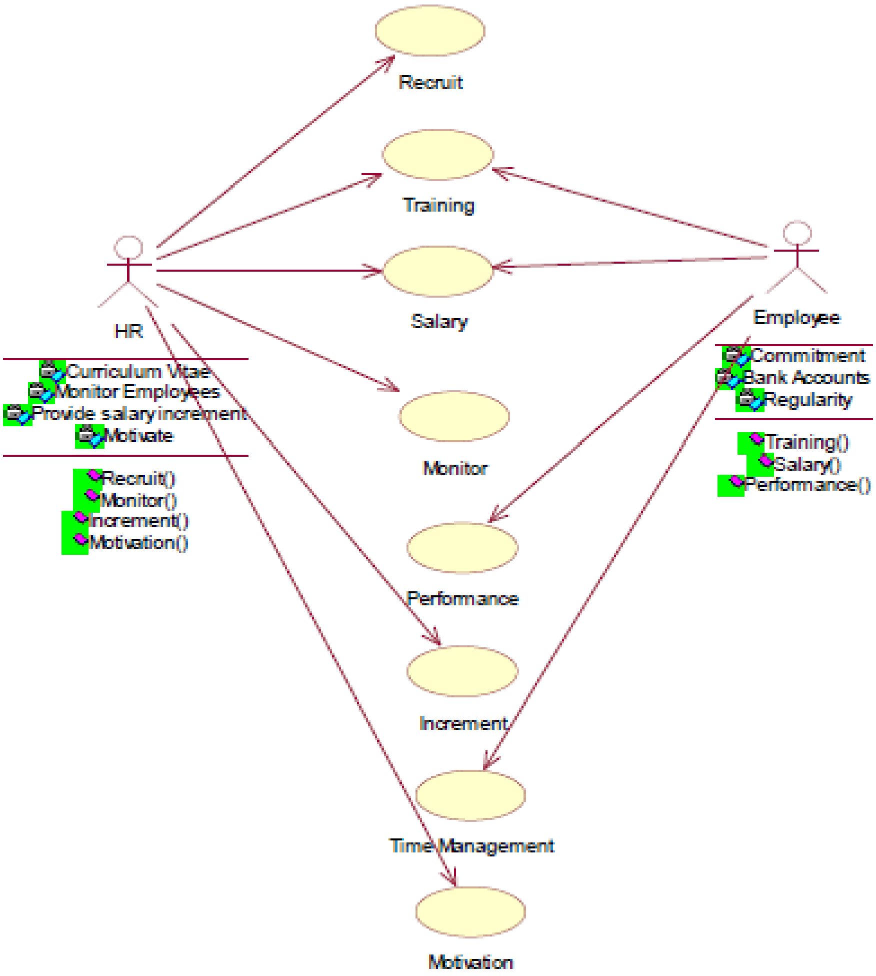
Software system that will allow the human resource department to manage its employee in a better way. When needed, it will take just a few second to find out the background of an employee and his/her contribution to the organization, it will also facilitate keeping all the records of employee, such as their data of leaving. So all the information about an employee will be available in a few seconds, it will also make it very easy to generate statistical data or custom data, line finding a certain set of employee, overall it will make human resource management an easier job that the human resource department.

PROBLEM STATEMENT:

Human Resource management system project involves new and/or system upgrades of software of send to capture information relating to the hiring termination payment and management of employee. He uses system to plan and analyze all components and performance of metrics driven human resource functions, including recruitment, attendance, compensation, benefits and education. Human resources management systems should align for maximum operating efficiency with financial accounting operations customer relationship management,security and business lines as organization. The entire process of personnel management is done in a manual manner Considering the fact that the number of employee is increasing every year, a maintenance system is essential to meet the demand. So this system uses several programming and database techniques to elucidate the work involved in this process.

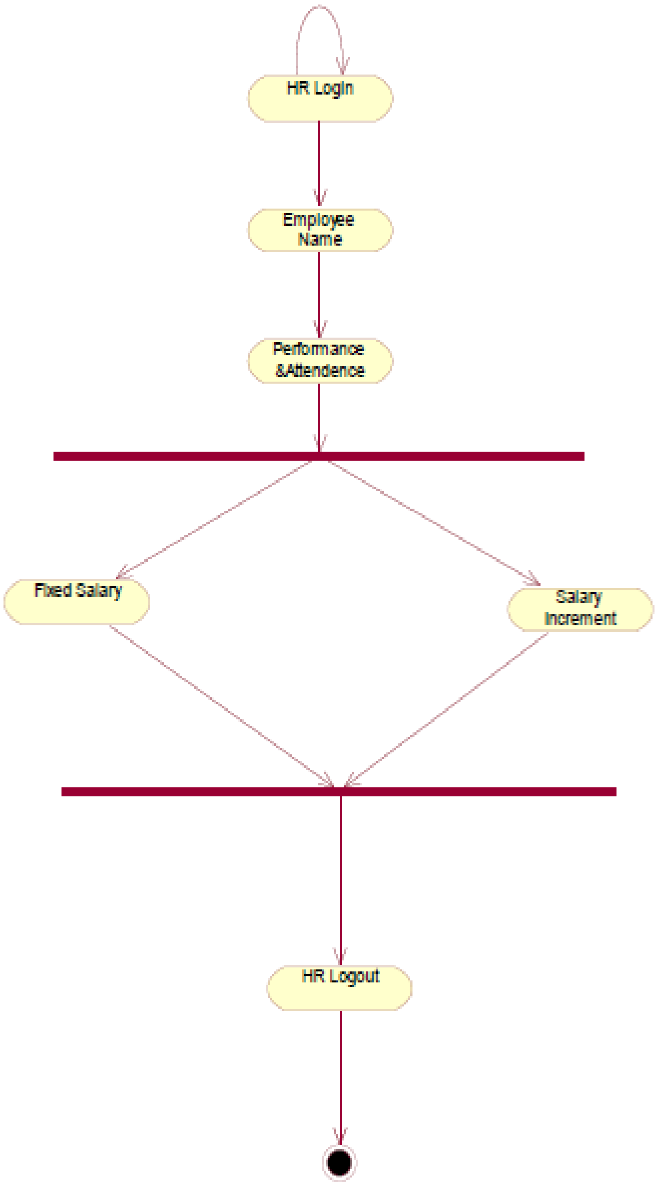
USECASE DIAGRAM:

The HR of an organization involves recruitment training, monitoring and motivation of an employee. The HR also involves gives salary as observed in the payroll sheet. The employee undergoes training, receives the salary , gives the expected performance and manages time in order to complete a given task within the required period.



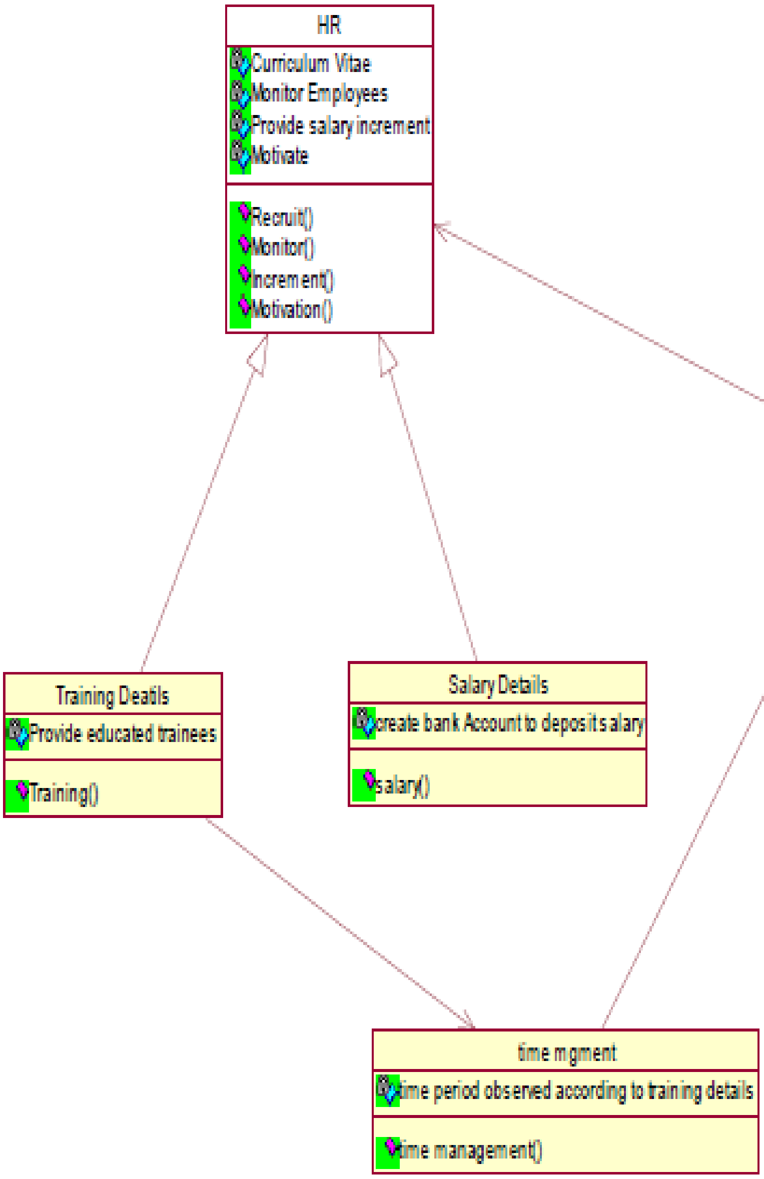
ACTIVITY DIAGRAM:

The activity diagram notation is an action, partition, fork join and object node. Most of the notation is self explanatory, two subtle points . Once an action finished, there is an automatic outgoing transaction. The diagram can show both control flow and data flow.



CLASS DIAGRAM:

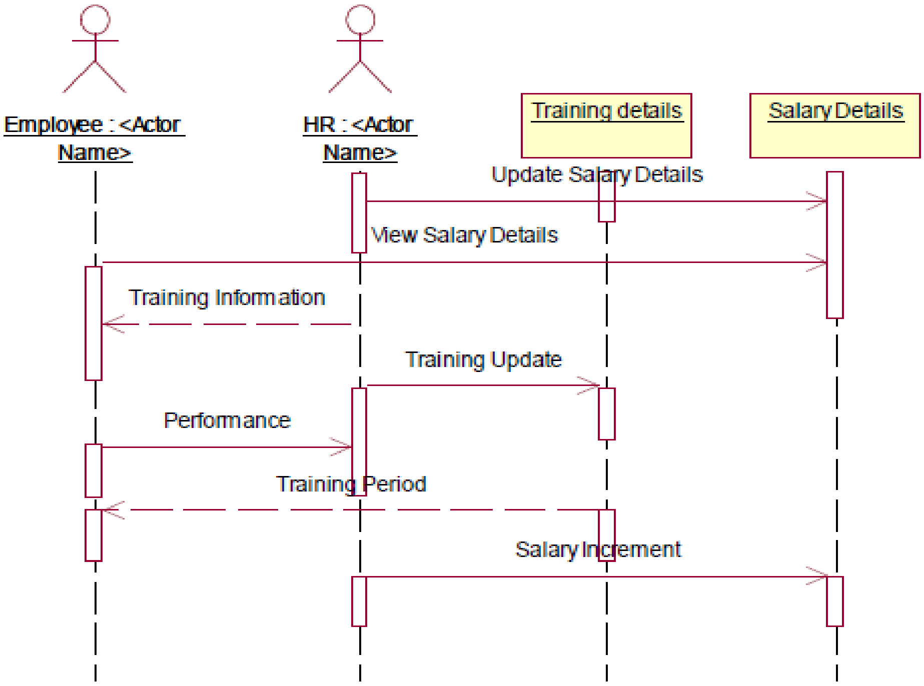
The class diagram, also referred to as object modeling is the main static analysis diagram. The main task of object modeling is to graphically show what each object will do in the problem domain. The problem domain describes the structure and the relationships among objects. The employee of an class consist of attributes such as training, salary, performance and time management of his regular activites.



SEQUENCE DIAGRAM

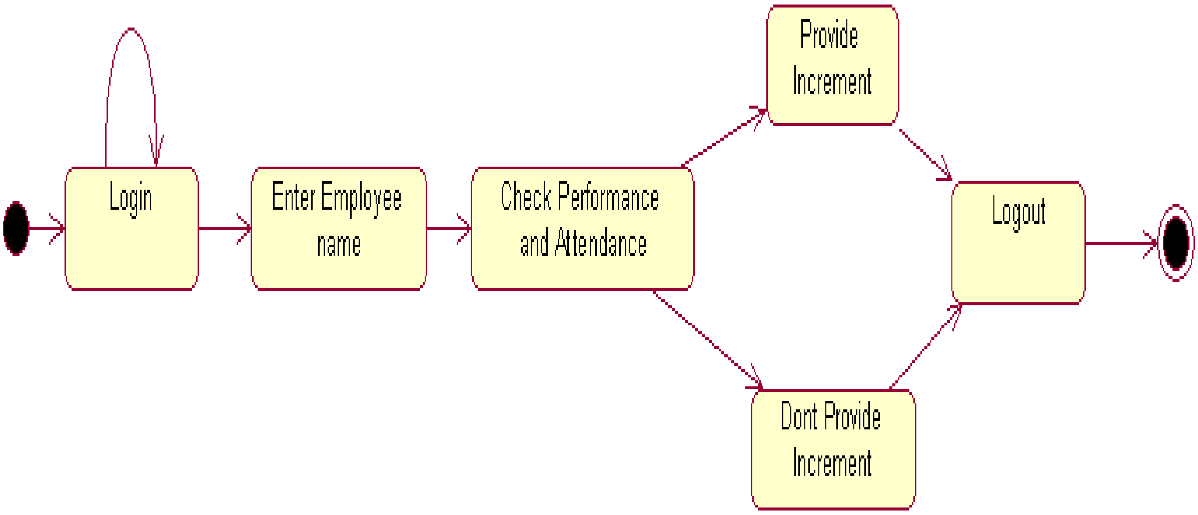
A sequence diagram represents the sequence and interactions of a given USE-CASE or scenario. Sequence diagrams can capture most of the information about the system. Most object to object interactions and operations are considered events and events include signals, inputs, decisions, interrupts, transitions and actions to or from users or external devices.

An event also is considered to be any action by an object that sends information. The event line represents a message sent from one object to another, in which the "form" object is requesting an operation be performed by the "to" object. The "to" object performs the operation using a method that the class contains.It is also represented by the order in which things occur and how the objects in the system send message to one another. The sequence diagram for each USE-CASE that exists when a user administrator, check status and new registration about passport automation system are given.



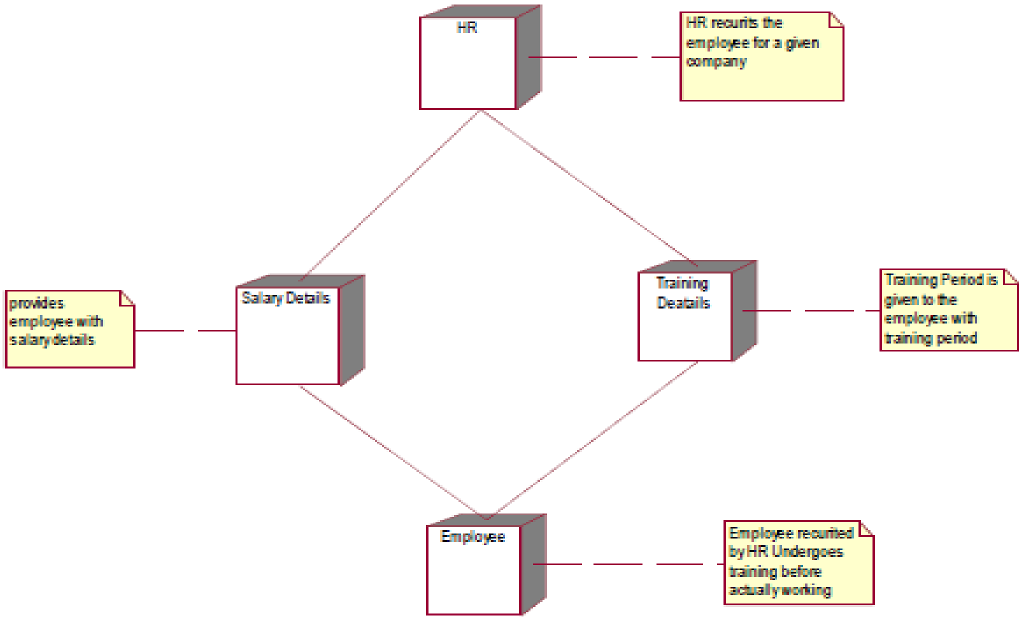
STATE CHART DIAGRAM

States of object are represented as rectangle with round corner, the transaction between the different states. A transition is a relationship between two state that indicates that when an event occur the object moves from the prior state to the subsequent.



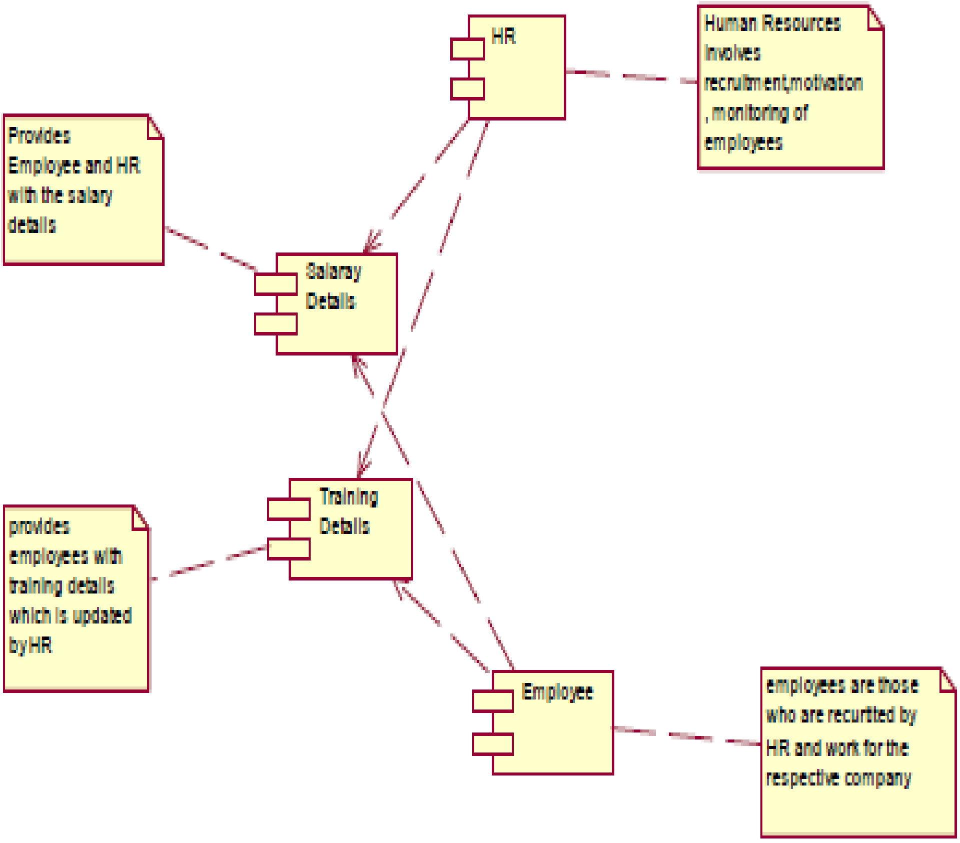
DEPLOYMENT DIAGRAM

HR recruits employee for a company employee recruited by HR goes under training before actually working. Training period is given to the employee with the training details. The salary details for the employee are provided.


HR
HR recurits the employee for a given company
provides employee with salary details
Salary Details
Training Deatails
Training Period is given to the employee with training period
Employee
Employee recurited by HR Undergoes training before actually working

COMPONENT DIAGRAM

The HR recruits, motivate and monitor the employee, HR also update the salary details and training details for reference. The employee are those who are recruited by HR and work for the company. The training details provide employees with training details which is updated by HR


HR
Human Resources involves recruitment,motivation , monitoring of employees
Provides Employee and HR with the salary details
Salaray Details
Training Details
provides employees with training details which is updated byHR
Employee
employees are those who are recurtted by HR and work for the respective company

RESULT

Thus the software personnel development project had been done successfully using ArgoUML software.

PROJECT NO.13 LIBRARY MANAGEMENT SYSTEM

AIM:

To develop a project for Library Management system using software.

PROJECT SCOPE:

The main scope of the project is to provide books which would be beneficial for the students and staff.

OBJECTIVE:

The Ultimate aim of this Library Management System is to provide with a system which proves to be manually beneficial i.e., benefits the students and staff who are all handling the classes. This system depicts each and every activity involved in Education relevant process.

PROBLEM STATEMENT:

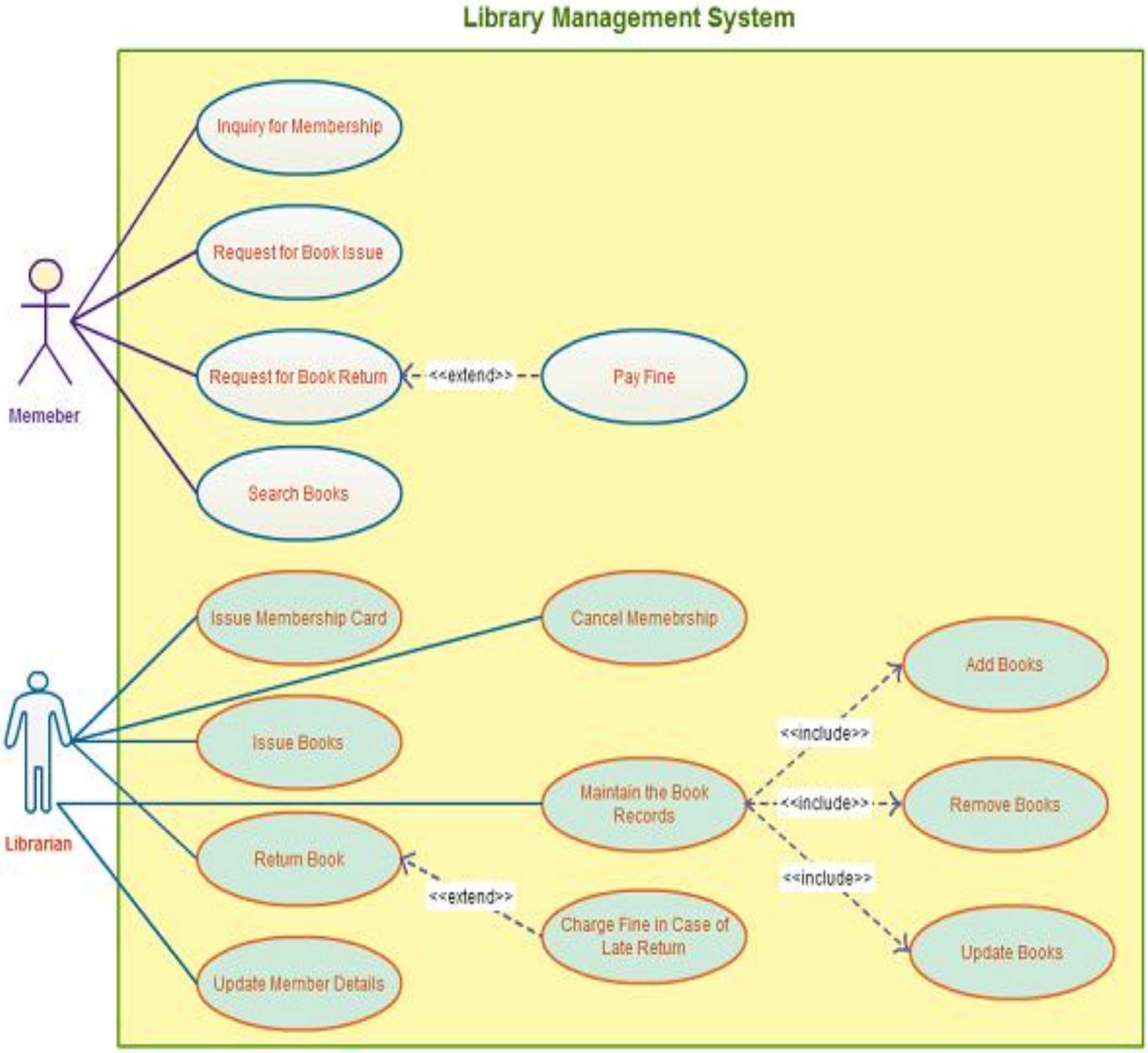
In this Library Management System, we assume our self as student or staff(Applicant) and proceed with the process steps as follows.

1) The Library Management System implements databases to make the existing system more efficient.
2) It is difficult to catch defaulters in a usual library system, but LMSsolves this problem by providing messages to the administrator about the fine to be paid and books to be returned.
3) When a book is to be borrowed, its bar code is read and is fed to LMS.
4) When the administrator tries to issue a book to a member, LMSchecks whether the member is allowed to borrow books respective to his limit.
5) LMS also checks whether the book to be issued is a reference book or not. If the book is a reference book, it cannot be issued.
6) If the book has no restrictions it is issued to the member, and also the
7) member‟s details is updated with
8) The books that he has just borrowed.

9) Any member can search a book with its title name, or author's name.

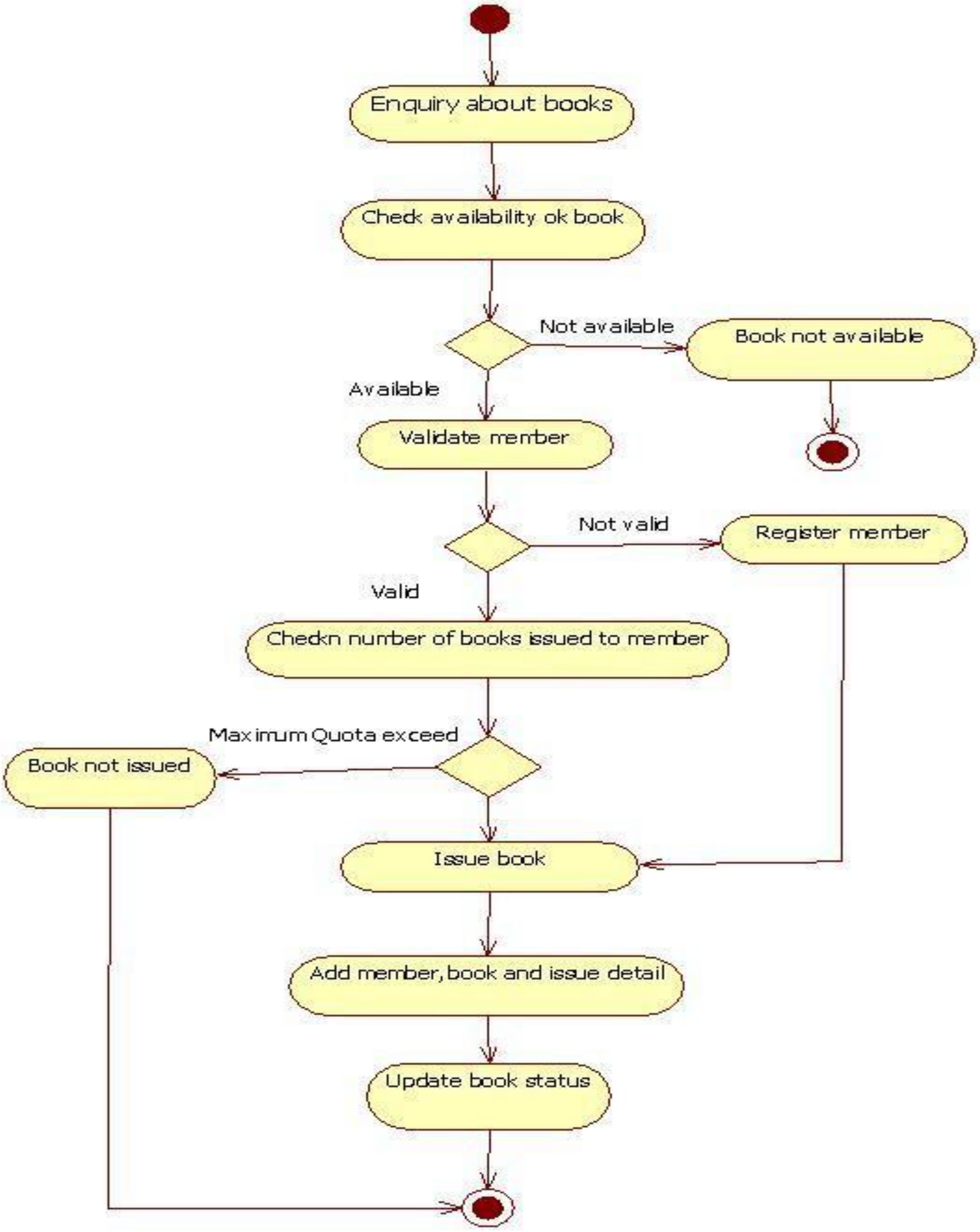
USECASE DIAGRAM:

Even in this age of high-powered computers, an old-fashioned library has its place. To find information, a patron and librarian must work together to narrow search parameters and identity relevant resources. In UML, the process of checking out a book can be represented as a use case, with symbols that represent actors and other essential entities. To create a use case diagram of your own, just open up a document and start dragging shapes onto the page. If you're not sure where to start, the examples below can help.



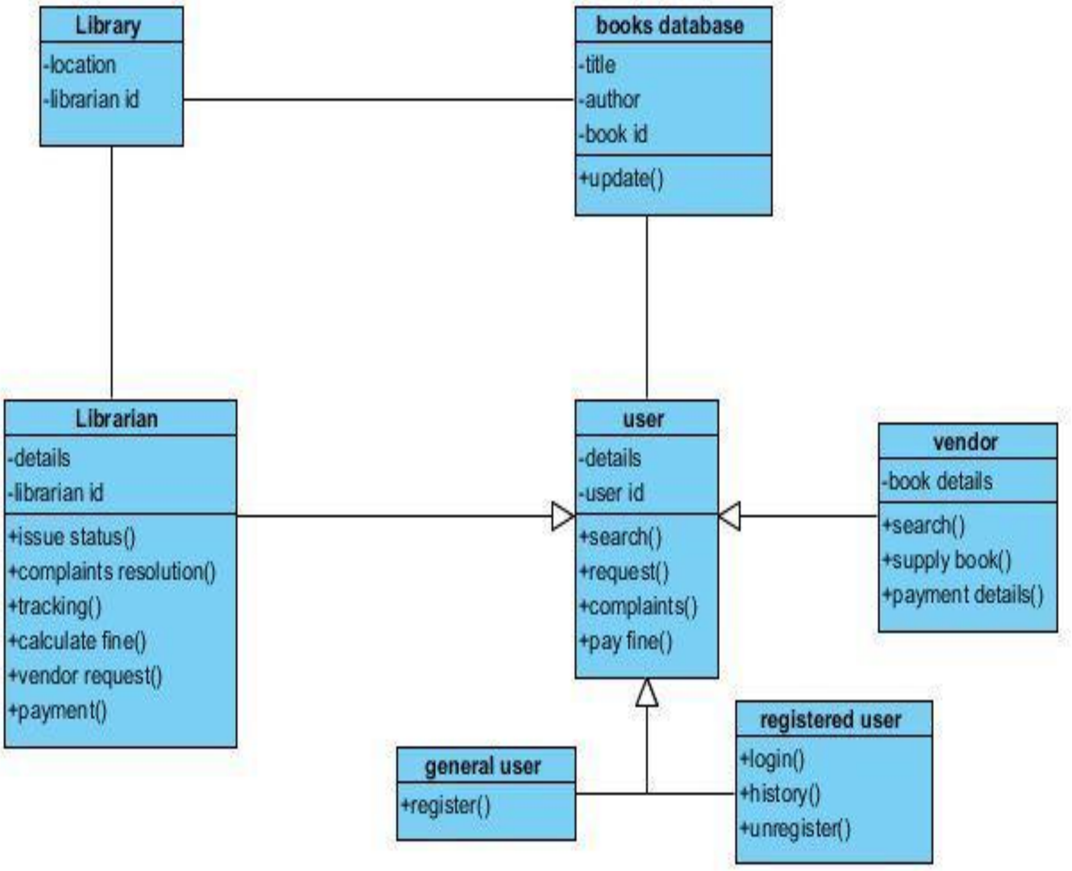
ACTIVITY DIAGRAM:

This chart shows the flow of checking out a book from your local library. From inquiring about a book’s availability to taking it home, there are several steps along the way. Lucidchart differs from other diagramming tools in offering specific UML templates, including activity diagrams. Different container types—swimlanes, activities, and end states let you seamlessly use the conventions of UML activity diagrams. Real-time collaboration and publishing to the Web help you work with others to refine your projects.



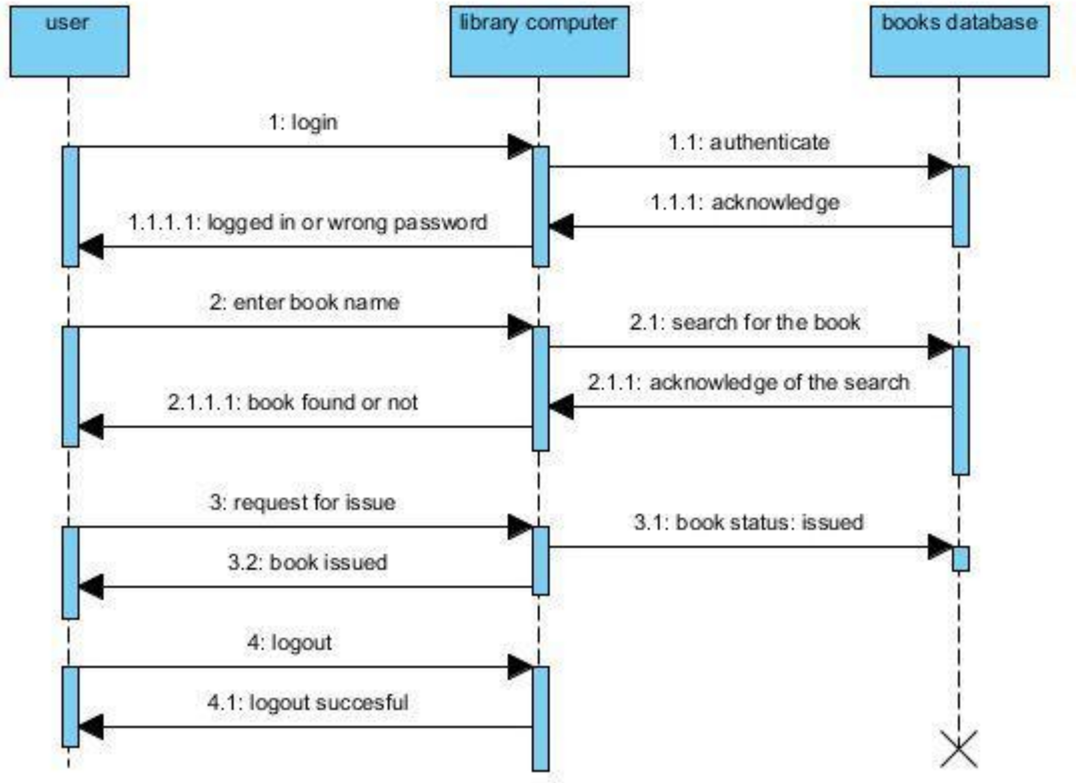
CLASS DIAGRAM:

Libraries have always been at the vanguard of developments in information science. Whether you've built library software, checked out a book from a library, or worked as a volunteer at one, you're probably familiar with some aspects of library management. Although a lot has changed from the days of the Dewey Decimal System and card catalog cabinets, it's still important to understand the flow of holdings and acquisitions. This UML class diagram illustrates various stakeholders in that process.



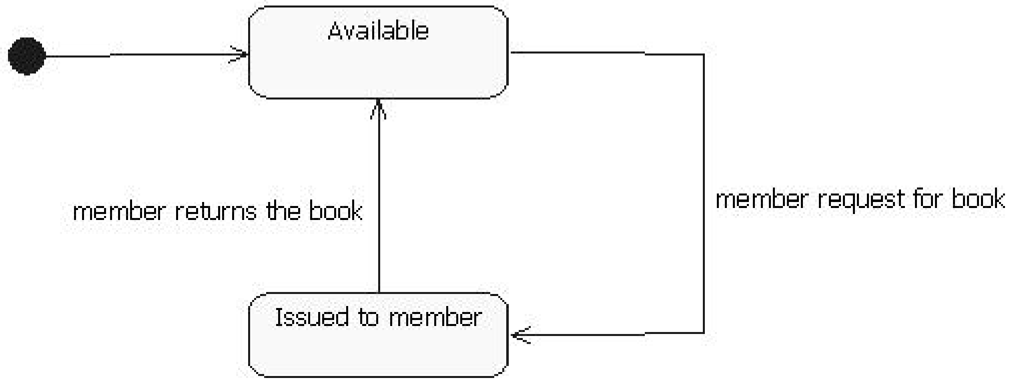
SEQUENCE DIAGRAM

Librarians have organized their vast collections in many different ways over the years, from ledgers to card catalogs. Since the modern age revolutionized library systems, libraries have been almost universally managed by computers, including tools like single-party software services, integrated library systems, or cloud-based subscriptions. If you're working on a library system, be sure to have a UML diagram on hand. The chart below shows sequential actions and actors that make up a library management system.



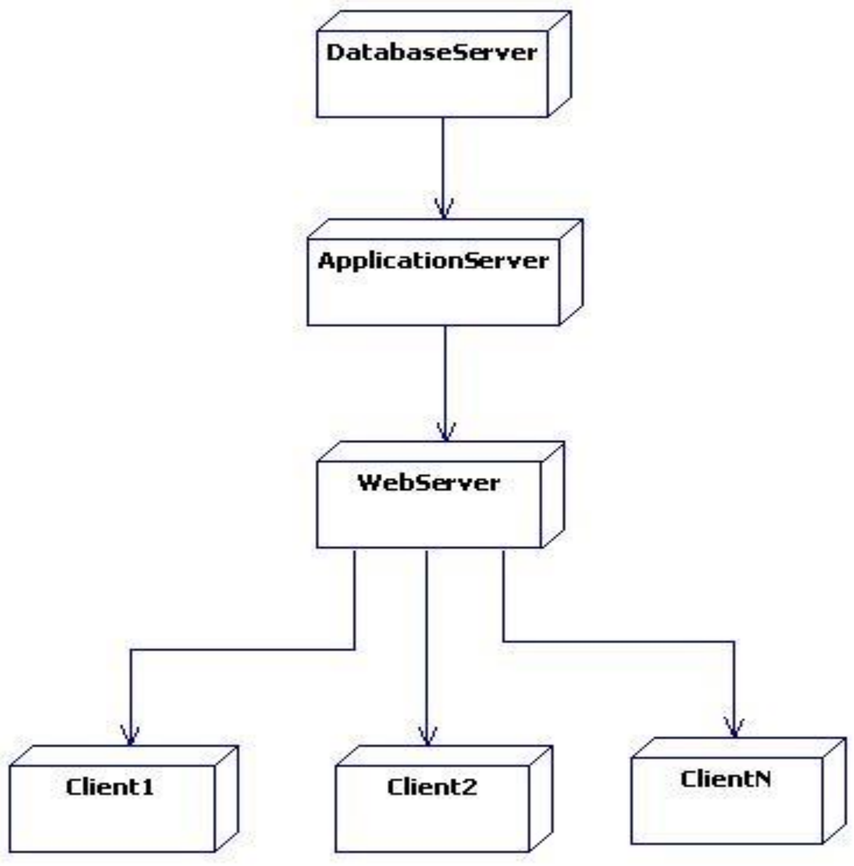
STATE CHART DIAGRAM

State chart diagram are used to help the developers better understand any complex functionalities or business flow of specialized area of system. In short state chart diagram depict the dynamic behavior of the entire system. A state chart diagram shows a state machine. State chart diagram can be used to graphically represent finite state machine.



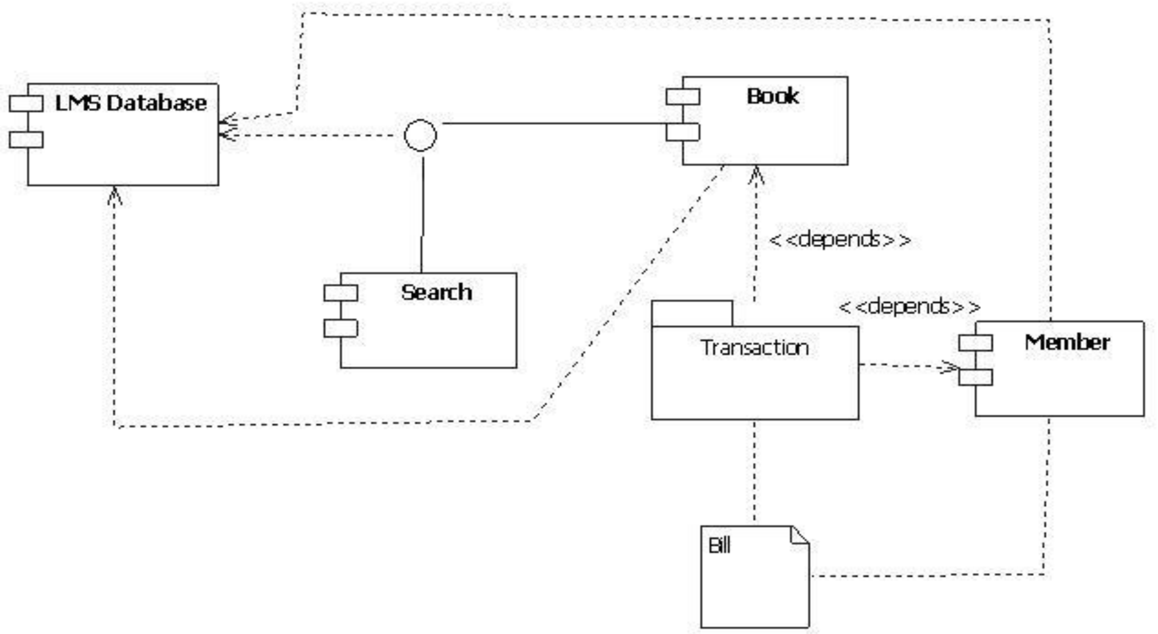
DEPLOYMENT DIAGRAM

Local Consoles / Computers for login and search purposes by users, librarian and vendors. Library LAN Server interconnecting all the systems to the Database. Internet to provide access to Venodors to supply the requested books by the Librarian. Vendor Server to maintain the records of the requests made by the librarian and books provided to the library.



COMPONENT DIAGRAM

Library systems were some of the first systems in the world to become widely run by computer. Today, many of them are managed in the cloud by third-party services, rather than internally. Though the words “library system” typically call to mind a way to monitor printed books, library systems today organize all kinds of data that is checked in and checked out by users. These transactions create a network of relationships between the components of the library system. Understanding how these relationships work is essential to understanding the overall system. Examine the UML diagram below for a quick, readable summary of various relations between components in the library system. This diagram can also be used as a personalized template for yourself or your team.



RESULT

Thus the Library Management System project had been done successfully using ArgoUML software.

PROJECT NO.14 STUDENT INFORMATION SYSTEM

AIM:

To develop a project for Student Information system using software.

PROJECT SCOPE:

This project simplifies the process of managing the student records at college/university and also overcomes the limitations/drawbacks of managing the same manually.

OBJECTIVE:

Enable self-service for students to perform basic administrative functions and tasks in a “one-stop” service and access environment. Integrate data sources and process them through a single function that supports one-time entry of student data. Support the retention and recruitment of students and encourage a strong and positive relationship with the university, alumni, donors, and other constituencies. Integrate and support new learning and teaching opportunities and technologies for students and faculty. Support open interfaces and integration with other campus applications and database systems. Ensure data integrity, privacy, and security in an open-access environment.

PROBLEM STATEMENT:

In this Student Information System, we assume our self as student or Applicant and proceed with the process steps as follows.

1) The Student Information System improves students operational systems

2) Maintain stuents' database.

3) Maintain Students' standard.

4) Reduce manpower

5) Maintain Accuracy.

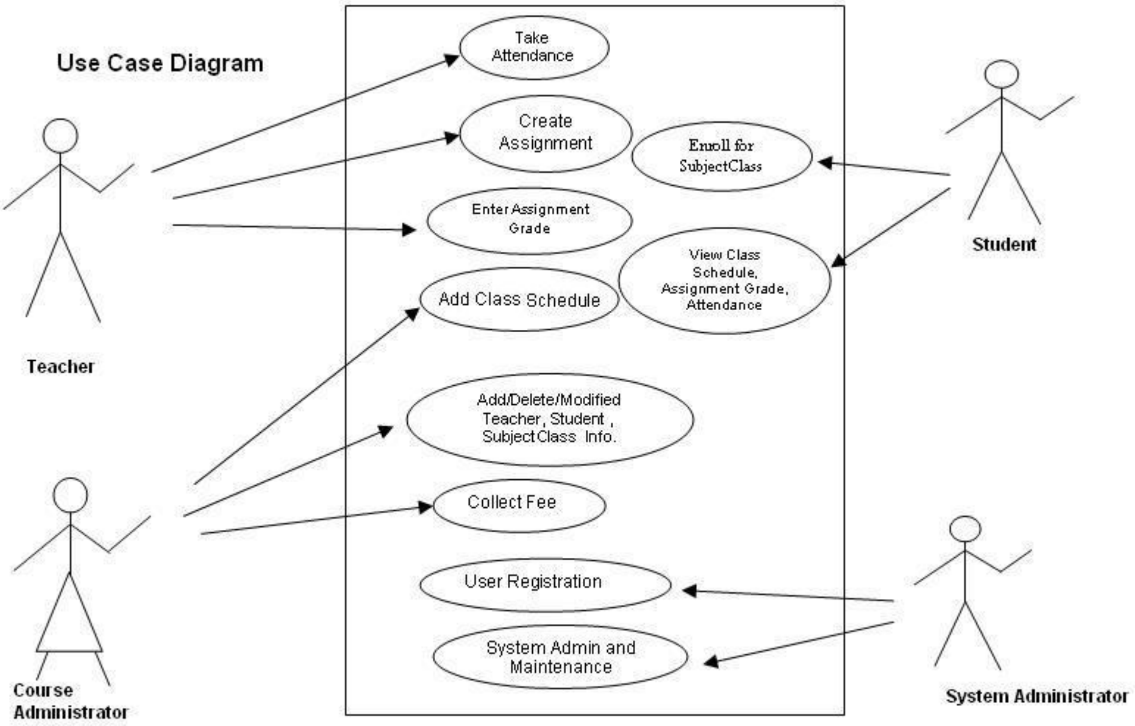
6) Better service.

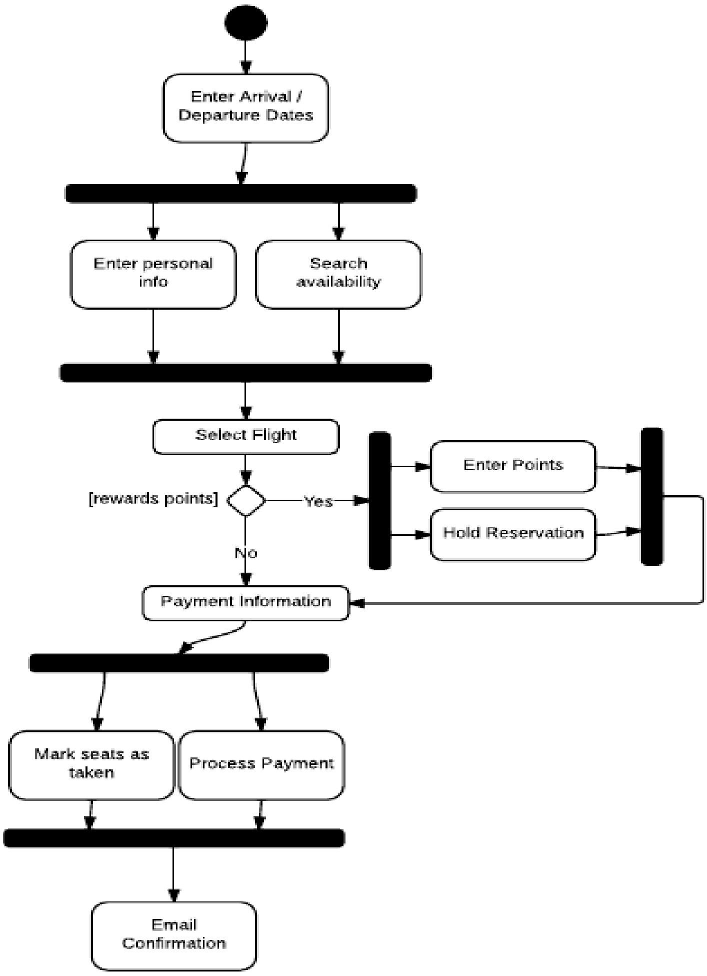
7) Improved management and control system.

8) Neat formatted report.

USECASE DIAGRAM:

A use case specifies the behavior of a system or a part of a system, and is a description of a set of sequences of actions, including variants, that a system performs to yield an observable result of value to an actor. An actor is an idealization of an external person, process, or thing interacting with a system, subsystem, or class. An actor characterizes the interactions that outside users may have with the system. Here it describes about the students information system.



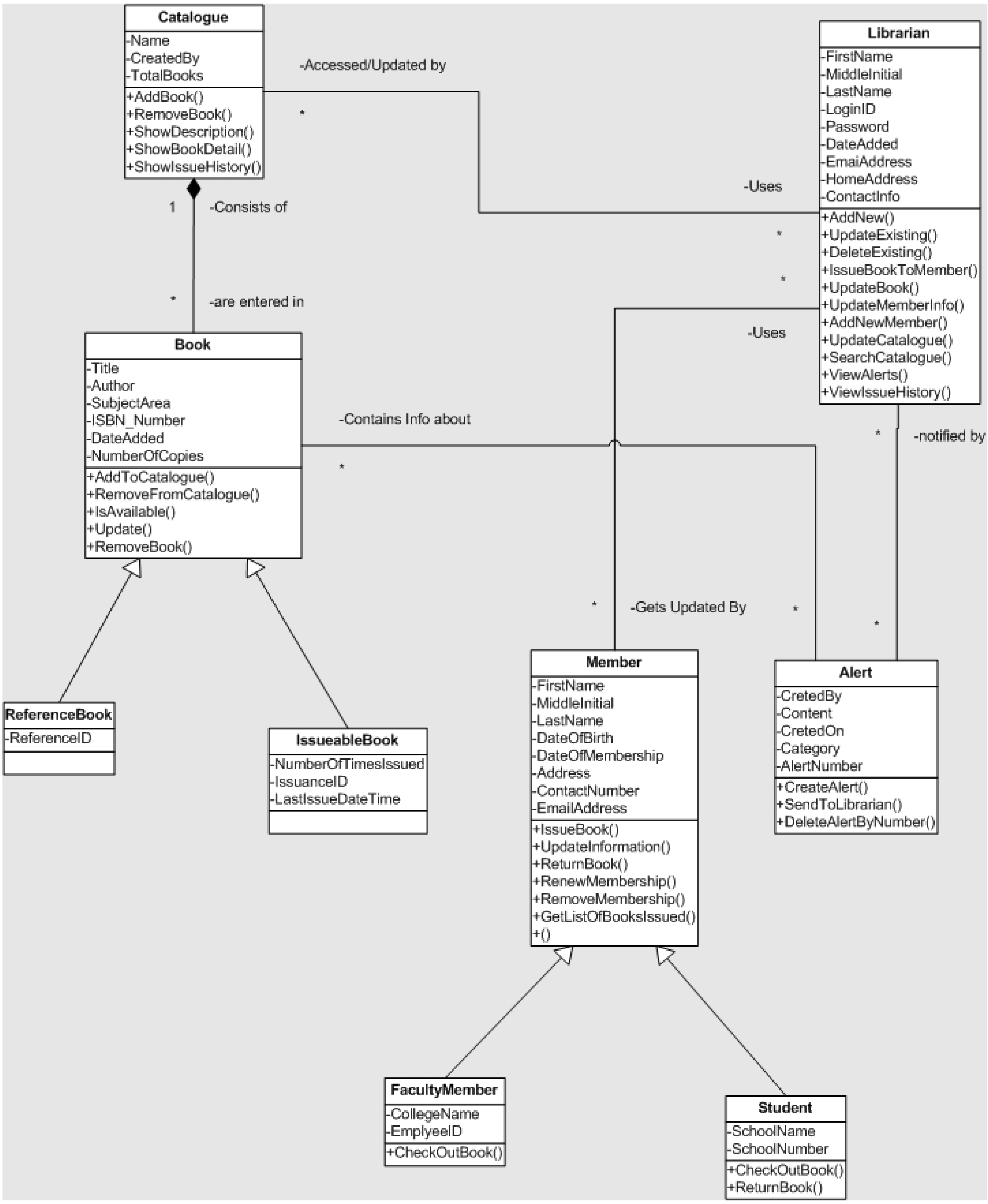


ACTIVITY DIAGRAM:

Use activity diagrams to specify, construct, and document the dynamics of a society of objects, or to model the flow of control of an operation. Whereas interaction diagrams emphasize the flow of control from object to object, activity diagrams emphasize the flow of control from activity to activity. An activity is an ongoing non-atomic execution within a state machine. Here it descripes about the students information system.

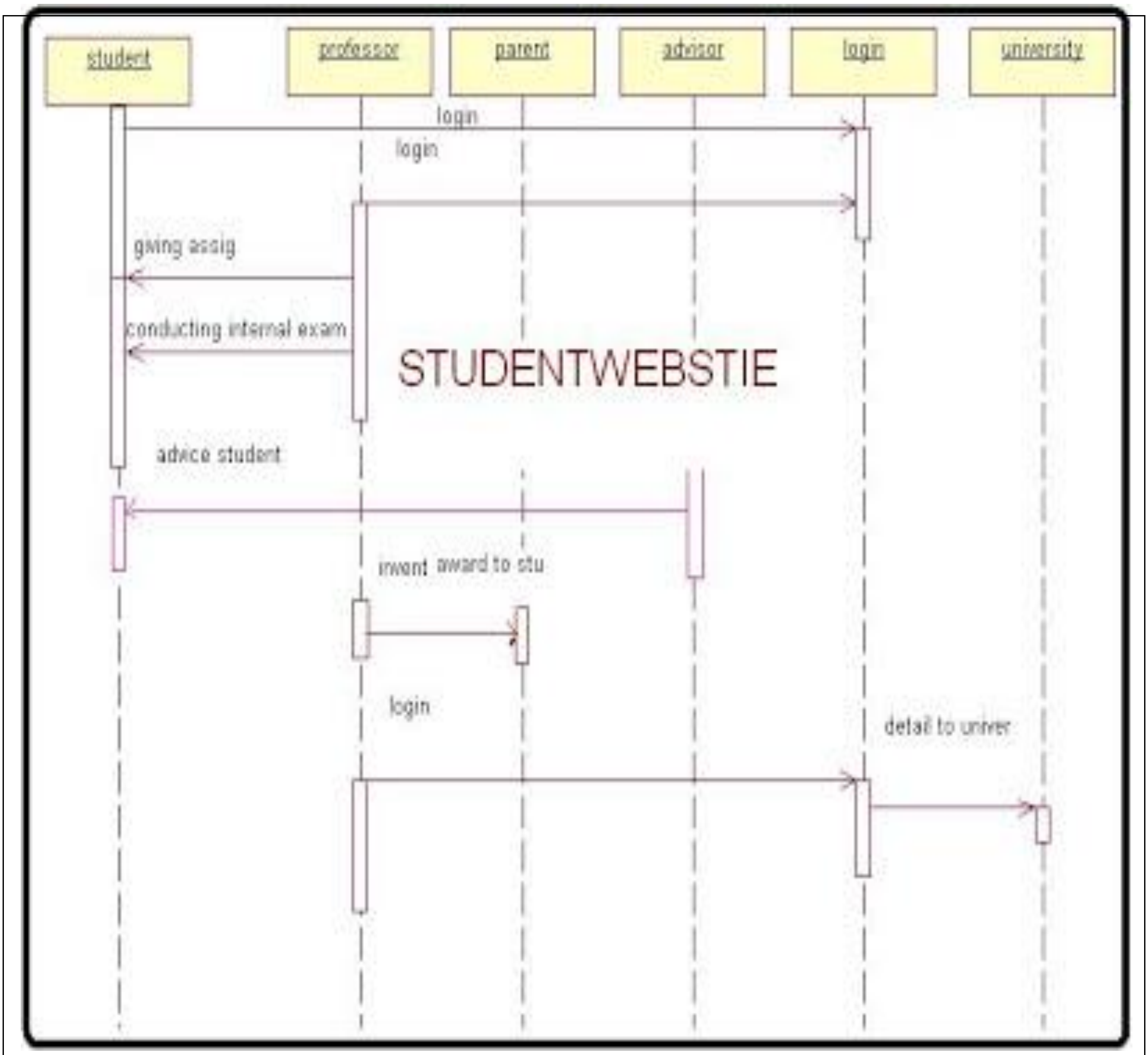
CLASS DIAGRAM:

A class is a description of a set of objects that share the same attributes, operations, relationships, and semantics. Graphically, a class is rendered as a rectangle, usually including its name, attributes, and operations in eparate, designated compartments. The name of the class is the only required tag in the graphical representation of a class. It always appears in the top most compartment. The below diagram describes the students information system.



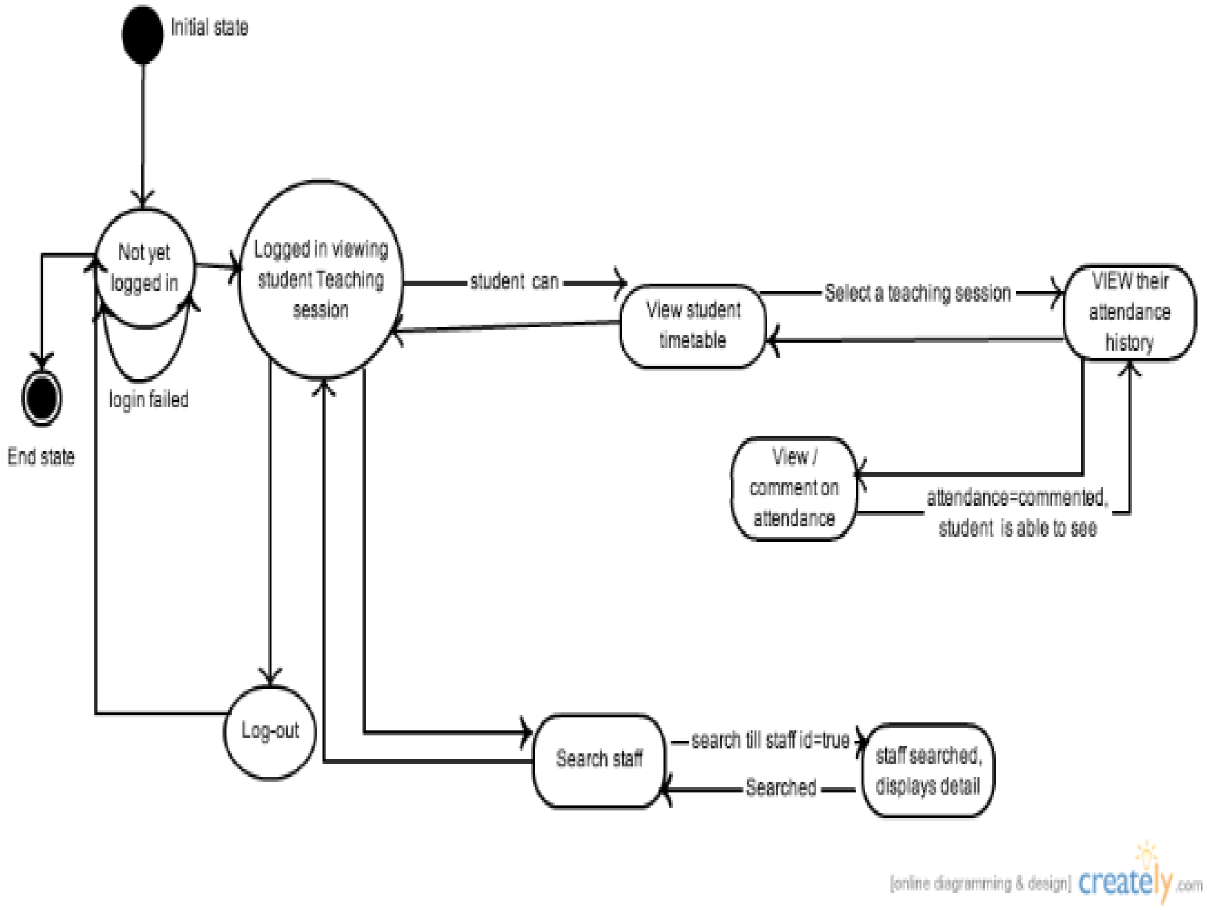
SEQUENCE DIAGRAM

A sequence diagram is an interaction diagram that emphasizes the time ordering of messages. It shows a set of objects and the messages sent and received by those objects. An object in a sequence diagram is rendered as a box with a dashed line descending from it. The line is called the object lifeline, and it represents the existence of an object over a period of time. The sequence iagram represent the student information system.



STATE CHART DIAGRAM

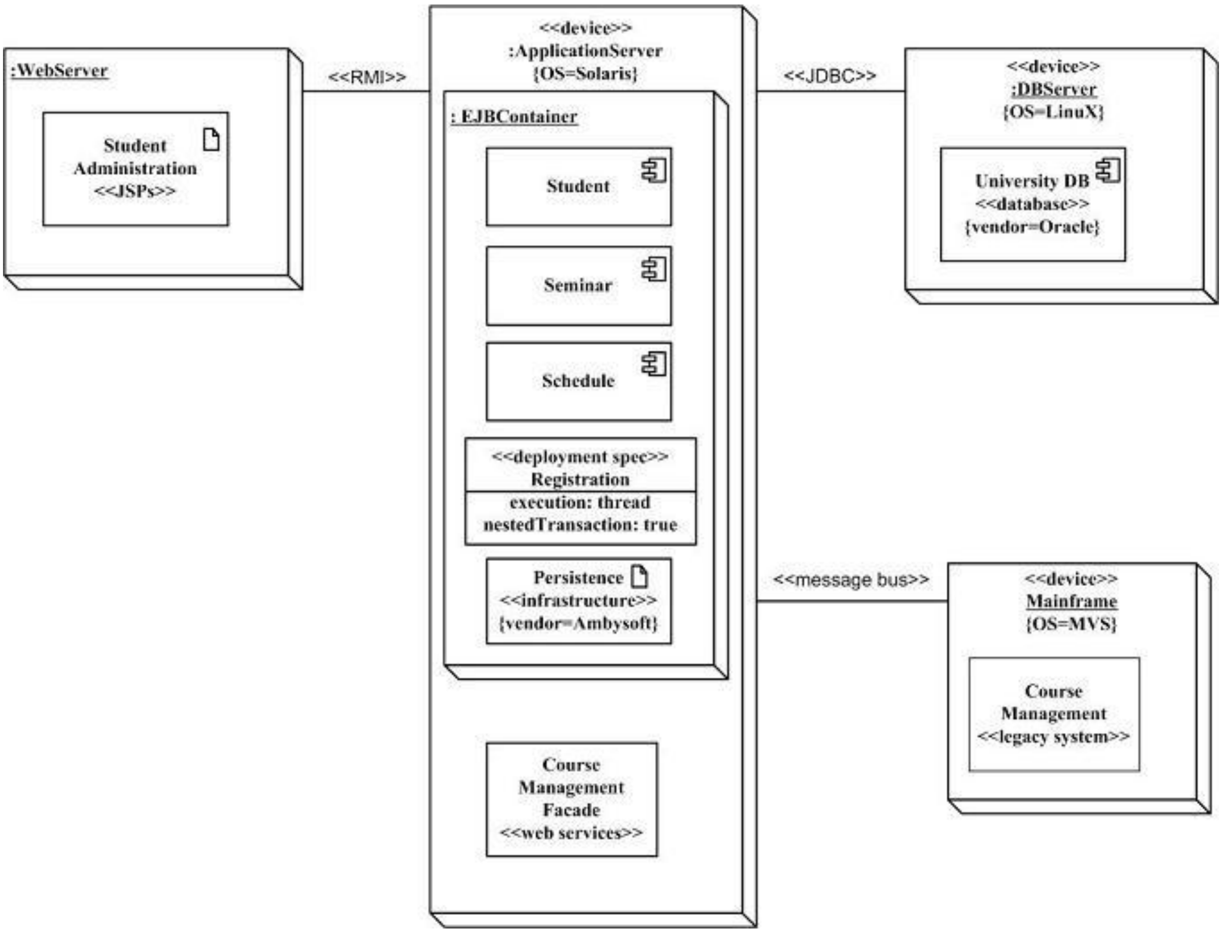
Statechart diagram describes the flow of control from one state to another state. States are defined as a condition in which an object exists and it changes when some event is triggered. So the most important purpose of Statechart diagram is to model life time of an object from creation to termination. Below diagram describes about the student information system.



Initial state
Not yet logged in
login failed
End state
Logged in viewing student Teaching session
student can
View student timetable
Select a teaching session
VIEW their attendance history
View / comment on attendance
attendance=commented, student is able to see
Log-out
Search staff
search till staff id=true
staff searched, displays detail
Searched
[online diagramming & design] creately.com

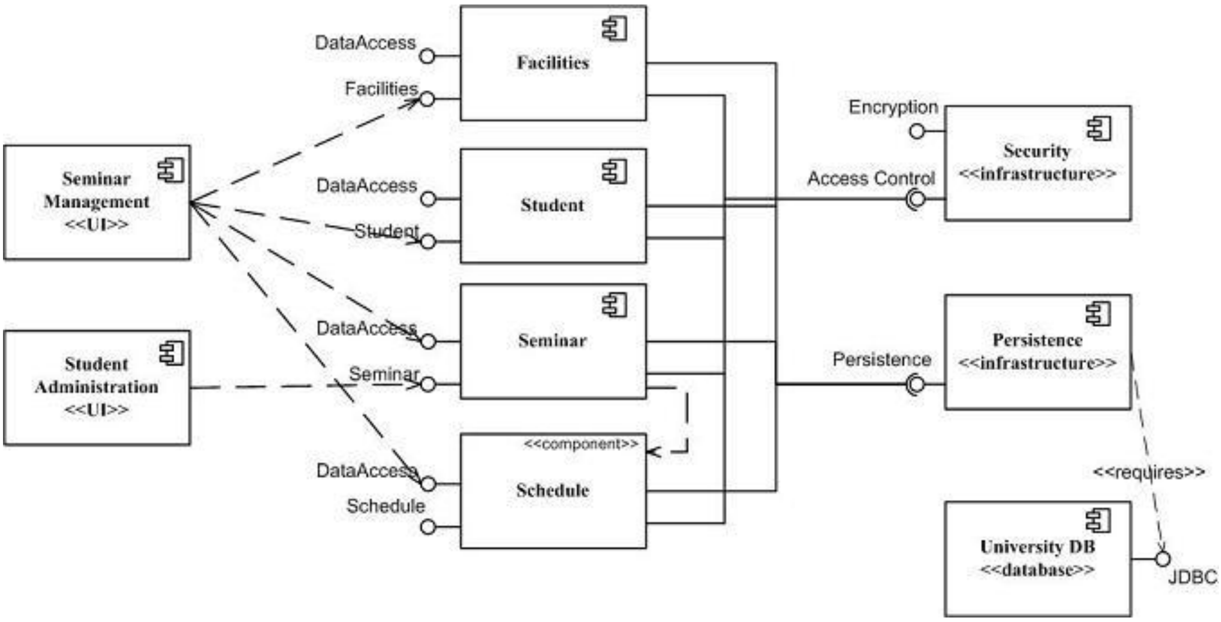
DEPLOYMENT DIAGRAM

The Deployment Diagram also helps to model the physical aspect of an Object-Oriented software system. It models the run-time configuration in a static view and visualizes the distribution of components in an application. In most cases, it involves modeling the hardware configurations together with the software components that lived on. Here it describes about the students information system.



COMPONENT DIAGRAM

Component-based development (CBD) and object-oriented development go hand-in-hand, and it is generally recognized that object technology is the preferred foundation from which to build components. I typically use UML 2 component diagrams as an architecture-level artifact, either to model the business software architecture, the technical software architecture, or more often than not both of these architectural aspects. Physical architecture issues, in particular hardware issues, are better addressed via UML deployment diagrams or network diagrams. Here it describes the student information system.



RESULT

Thus the Students Information System project had been done successfully using ArgoUML software.