I. INTRODUCTION

SOFTWARE ENGINEERING:-

It is collection of techniques, methodologies and tools that help to develop a high quality software system with a given budget before a given dead line.

PROBLEM STATEMENT:

A problem statement identifies the gap between current state and desired state of a problem statement is to identify and explain the problem.

SOFTWARE REQUIREMENT SPECIFICATION DOCUMENT (SRS):-

- A SRS is a document that describes what software will do and how it will be expected to perform. It also describes the functionality the product needs to fulfill all state holders (end users).
- A SRS document includes purpose, overall description and specific requirements of a project.

DESIGN DOCUMENTATION:

Design Document is a collection of documents and resources that cover all aspects of product design. It includes information about users, product features, project deadlines, all essential implementation details and design decisions that you and state holders are agreed on.

SOFTWARE TESTING:

Software Testing is an investigation conducted to provide stakeholders with information about quality of software product or service under test. It involves execution of software component or a system component to evaluate one or more properties of interest.

LEVELS OF TESTING:-

1. **Unit Testing:** Unit testing refers to that verify the functionality of a specific of a code.
2. **Integration Testing:** Integration testing seeks to verify the interfaces between components against a software design.
3. **System Testing:** System testing verifies weather it meets your requirements or not.
4. **Acceptance testing:** Acceptance testing is conducted to determine if the requirements of a specification are met.

   There are 4 types of acceptance testing, they are:

   i) User acceptance testing

   ii) Operational acceptance testing

   iii) Contractual or regular testing

   iv) Alpha-Beta testing

SOFTWARE CONFIGURATION MANAGEMENT (SCM) DOCUMENT:

It is a process to systematically ménage (or) organizes and controls the changes in the document, code and other entries during SDLC.

RISK MANAGEMENT DOCUMENT:

A Risk is a problem that would cause some loss (or) threaten the progress of your project.

There are 3 main classifications of Risk that can affect a Software project, they are:

1) Project Risk
2) Technical Risk
3) Business Risk

COMPUTER AIDED SOFTWARE ENGINEERING (CASE) TOOLS:

CASE Tools are set of software applications which are used software project manage, analysts and engineers to develop software system.

There are various types of tools such as:

1) Diagram Tools [Ex: Flow chart]
2) Process Modeling Tools [Ex: epf computer]
3) Project Management Tools [Ex: creative pro office]
4) Documentation Tools [Ex: DOxygen]
5) Analysis Tools[Ex:accept 360]
6) Design Tools [Ex: Animated software design]
7) Configuration Tools[Ex: Fossil]
8) Programming Tools[Ex: C, C++, Java]
9) Quality Assurance Tools[Ex: Appswatch]
10) Maintenance Tools[Ex: Bugzilla]

Software Development Life Cycle (SDLC) :

SDLC is a process which defines the various stages involved in the development of software for delivering a high-quality product. Given below are the various phases:

- Requirement gathering and analysis
- Design
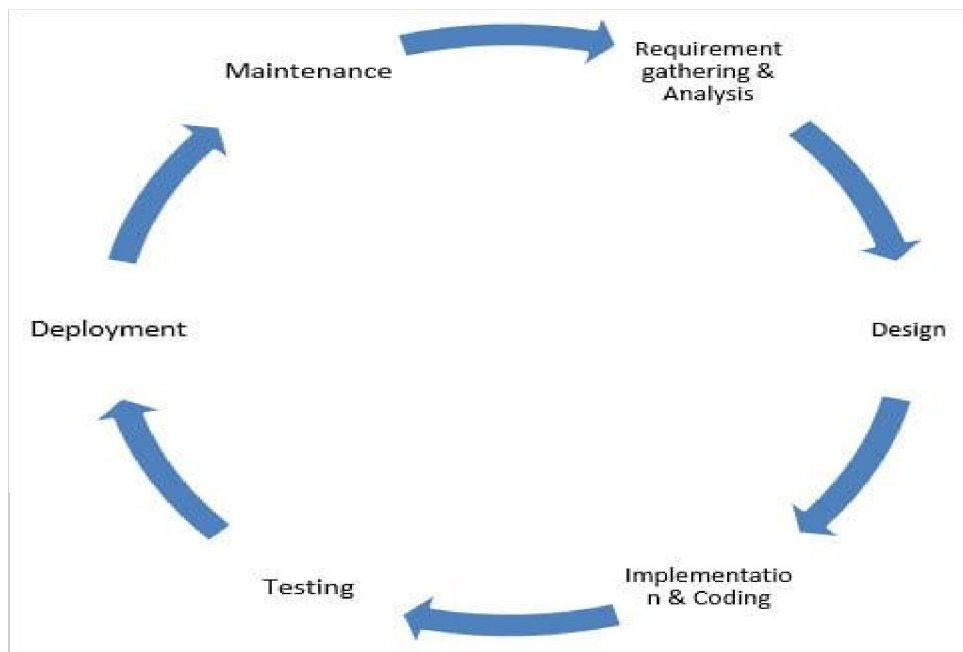- Implementation or coding
- Testing
- Deployment
- Maintenance

Figure 1 : Software Development Life Cycle

PASSPORT AUTOMATION SYSTEM

Experiment No:1

AIM :

    To create an automated system to perform the Passport Process.

i) 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.

ii)SOFTWARE REQUIREMENTS SPECIFICATION:

SNO	SOFTWARE REQUIREMENTS SPECIFICATION
1.0	Introduction
1.1	Purpose
1.2	Scope
1.3	Definition, Acronyms and Abbreviations
1.4	Reference
1.5	Tools to be used
1.6	Technologies to be used
1.7	Overview

1.0 INTRODUCTION

Passport Automation System is an interface between the Applicant and the Authority responsible for the Issue of Passport. It aims at improving the efficiency in the Issue of Passport and reduces the complexities involved in it to the maximum possible extent.

1.1 PURPOSE

If the entire process of 'Issue of Passport' is done in a manual manner then it would take several months for the passport to reach the applicant. Considering the fact that the number of applicants for passport is increasing every year, an Automated System become Essential to meet the demand. So this system uses several programming and database techniques to elucidate the work involved in this process. As this is a matter of National Security, the system has been carefully verified and validated in order to satisfy it.

1.2 SCOPE

- The System provides an online interface to the user where they can fill in their personal details.

- The authority concerned with the issue of passport can use this system to reduce his workload and process the application in a speedy manner.

- Provide a communication platform between the applicant and the administrator.

- Transfer of data between the Passport Issuing Authority and the Local Police for verification of applicant's information.

1.3 DEFINITIONS, ACRONYMS AND THE ABBREVIATIONS

- **Administrator** - Refers to the super user who is the Central Authority who has been vested with the privilege to manage the entire system. It can be any higher official in the Regional Passport Office of Ministry of External Affairs.

- **Applicant** - One who wishes to obtain the Passport.

- **PAS** - Refers to this Passport Automation System.

- **HTML** – Markup Language for creating web pages.

- **J2EE** – Java 2 Enterprise Edition is a programming platform java platform for developing and running distributed java applications.

- **HTTP** – Hyper Text Transfer Protocol.

- **TCP/IP -** Transmission Control Protocol/ Internet Protocol is the communication protocol used to connect hosts on the Internet.

1.4 REFERENCES

IEEE Software Requirement Specification format.

1.5 TOOLS TO BE USED

• Eclipse IDE (Integrated Development Environment)

• STAR UML tool (for developing UML Diagrams)

1.6 TECHNOLOGIES TO BE USED

• HTML

• JSP

• Javascript

• Java

1.7 OVERVIEW

SRS includes two sections overall description and specific requirements - Overall description will describe major role of the system components and inter-connections. Specific requirements will describe roles & functions of the actors.

iii) SOFTWARE CONFIGURATION MANAGEMENT AND RISK MANAGEMENT:

SNO	SOFTWARE REQUIREMENTS SPECIFICATION
2.0	Overall description
2.1	Productive description
2.2	Software interface
2.3	Hardware interface
2.4	System function
2.5	User Characteristic
2.6	Constraints
2.7	Assumption and Dependences

2.0 OVERALL DESCRIPTION

2.1 PRODUCT PERSPECTIVE

The PAS acts as an interface between the 'applicant' and the 'administrator'. This system tries to make the interface as simple as possible and at the same time not risking the security of data stored in. This minimizes the time duration in which the user receives the passport.

2.2 SOFTWARE INTERFACE

- Front End Client - The applicant and Administrator online interface is built using JSP and HTML. The Administrator's local interface is built using Java.

- Web Server - Apache tomcat application server (Oracle Corporation).

- Back End – Oracle 11g database

2.3 HARDWARE INTERFACE

The server is directly connected to the client systems. The client systems have access to the database in the server.

2.4 SYSTEM FUNCTIONS

• Secure Registration of information by the Applicants.

• Message box for Passport Application Status Display by the Administrator.

• Administrator can generate reports from the information and is the only authorized personnel to add the eligible application information to the database.

2.5 USER CHARACTERISTICS

• **Applicant** - They are the people who desire to obtain the passport and submit the information to the database.

• **Administrator** - He has the certain privileges to add the passport status and to approve the issue of passport. He may contain a group of persons under him to verify the documents and give suggestion whether or not to approve the dispatch of passport.

• **Police** - He is the person who upon receiving intimation from the PAS, perform a personal verification of the applicant and see if he has any criminal case against him before or at present. He has been vetoed with the power to decline an application by suggesting it to the Administrator if he finds any discrepancy with the applicant. He communicates via this PAS.

2.6 CONSTRAINTS

• The applicants require a computer to submit their information.

• Although the security is given high importance, there is always a chance of intrusion in the web world which requires constant monitoring.

• The user has to be careful while submitting the information. Much care is required.

2.7 ASSUMPTIONS AND DEPENDENCIES

• The Applicants and Administrator must have basic knowledge of computers and English Language.

• The applicants may be required to scan the documents and send.

Risk Management

Risk architecture:

It defines that some process loss, or any problem can be faced while creating the project.

Software risk:

If the software for passport automation, it is works very fast, after sometimes software works very slowly because of virus attack. It can be rectified by the new way.

Hardware risk:

If the hardware component is suddenly burn or broke down due to over burden, while creating the project.

Non-function risk:

Due to failure of Hardware and software, then it can't be completed within the time schedule and budget schedule.

iv) STUDY AND USAGE OF DESIGN PHASE CASE TOOL :

StarUML is a sophisticated software modeler aimed to support agile and concise modeling. The key features of StarUML are:

• Multi-platform support (MacOS, Windows and Linux)

• UML 2.x standard compliant

• SysML support

Entity-Relationship diagram (ERD)

• Data-flow diagram (DFD)

• Flowchart diagram

• Multiple windows

• Modern UX

• Dark and light themes

• Retina (High-DPI) display support

• MacPro Pro's Touch Bar support

• Model-driven development

• Open APIs

• Various third-party extensions

• Asynchronous model validation

• Export to HTML docs

• Automatic updates.

v) Performing the Design by using any Design phase CASE tools:

1) Dataflow Diagram
2) UML Diagrams

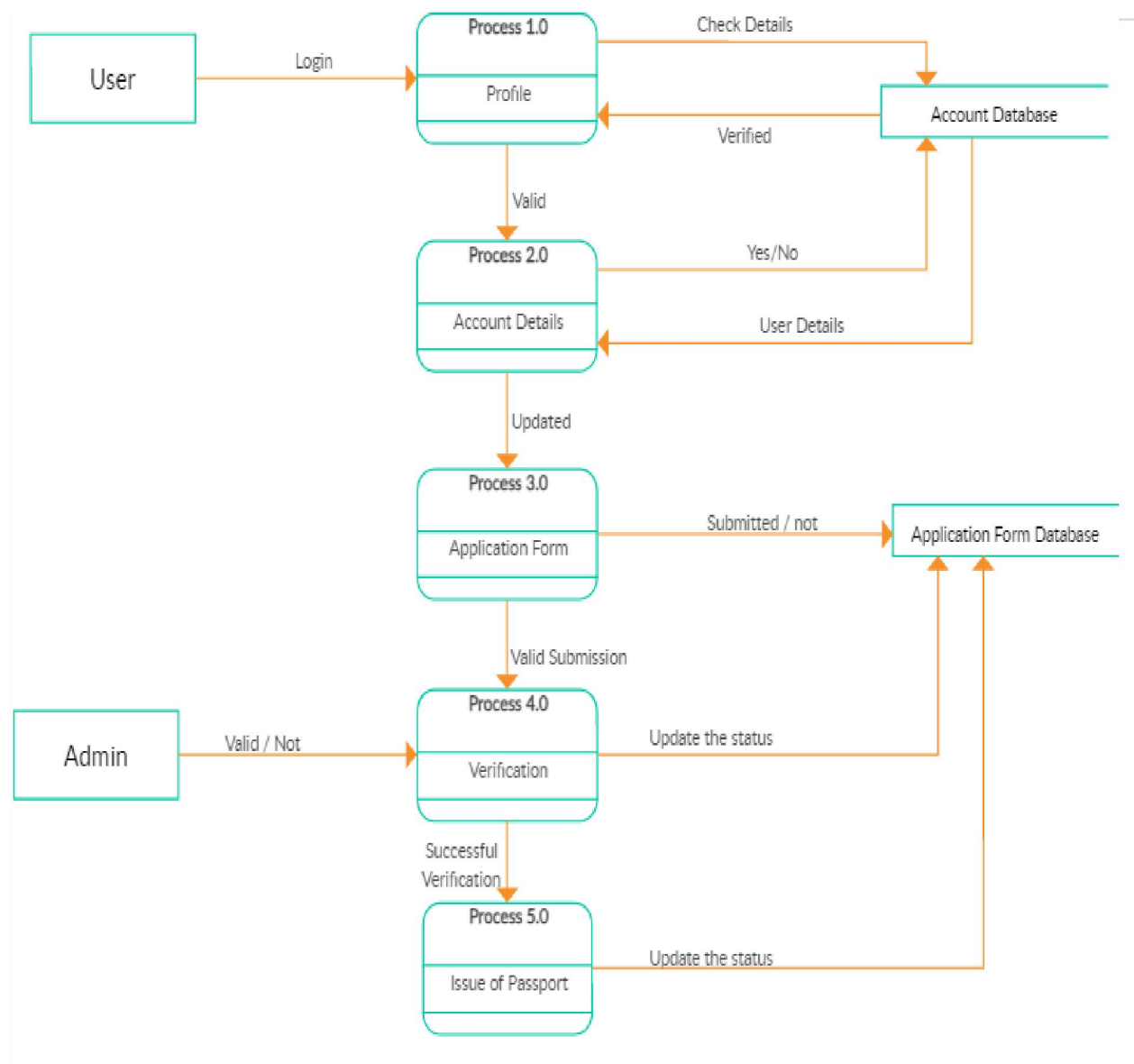## 1) Data flow Diagram for **passport automation system**

Figure 1 :Dataflow Diagram for Passport Automation System

2) UML DIAGRAMS

S.No	UML DIAGRAMS
1	Use Case diagram
2	Class diagram
3	Sequence diagram
4	Collaboration diagram
5	State Chart diagram
6	Activity diagram

7	Component diagram
8	Package diagram
9	Deployment diagram

1. 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.
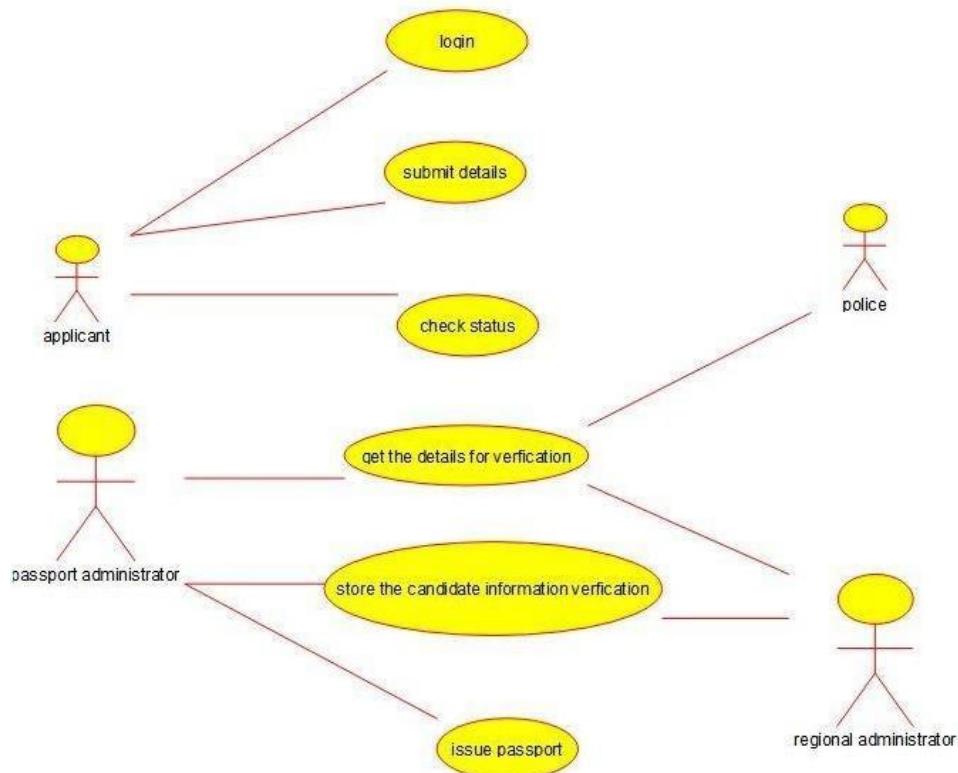
Figure 2: Usecase Diagram for Passport Automation System

DOCUMENTATION OF USECASE DIAGRAM

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

- The use cases are Login, give details, logout, collect details, verification, issue.

- The actors use the use case are denoted by the arrow

- The login use case checks the username and password for applicant, regional administrator, passport administrator and police.

- The submit details use case is used by the applicant for submitting his details

- The check status use case is used by the applicant for checking the status of the application process.

- The get details, verify and store verification use case is used by passport administrator, regional administrator, and police.

10

- The details use case is used for getting the details form the database for verification. The verify use case is used for verifying the details by comparing the data in the database.

- The store verification use case is to update the data in the database

- And finally the issue passport use case is used by the passport administrator for issuing passport who's application verified successfully by all the actor.

2. CLASSDIAGRAM

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.
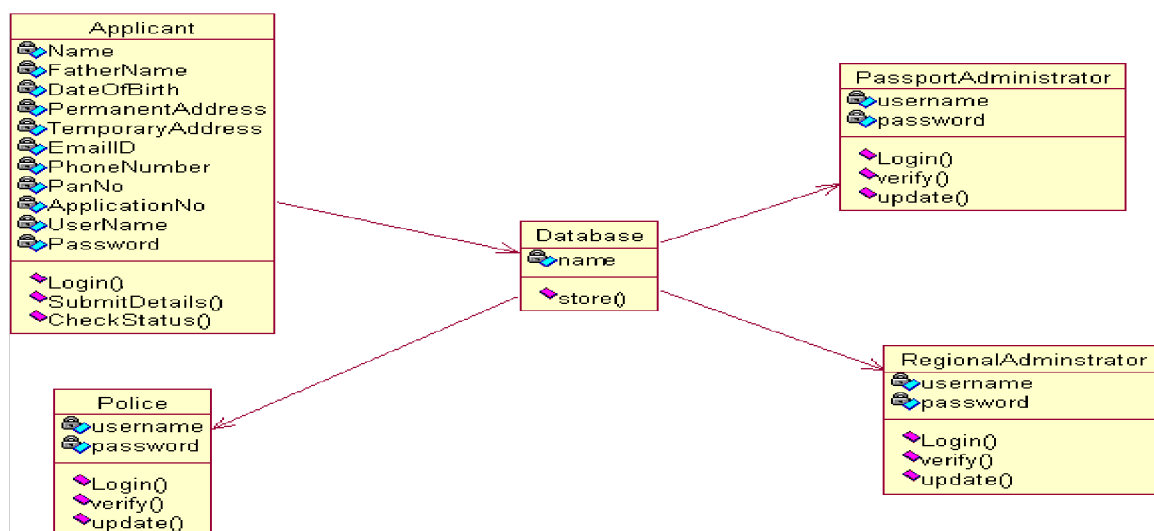
Figure 3: Class Diagram for Passport Automation System

DOCUMENTATION OF CLASS DIAGRAM

- **APPLICANT**-The applicant has attribute such as name and password and operations are login, give details and logout. The applicant login and fill the details that are required for applying the passport .After applying the person can view the status of the passport verification process.

- **THE DATABASE**-The database has attributed such as name and operation is store. The purpose is to store the data.

- **REGIONAL ADMINISTRATOR**- The regional administrator has attribute such as name and operation are get details, verify details and send. The regional administrator get the details form database and verify with their database

- **PASSPORT ADMINISTRATOR**-The passport administrator has attributed such as name and operation are get details, verify details and issue. The passport administrator get the details form database and verify with their database , update the verification and issue the passport.

11

- **THE POLICE**-The police has attribute such as name and operation are get details, verify details and send. The police get the details form database and verify with their database , update the verification in the database

3. 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.
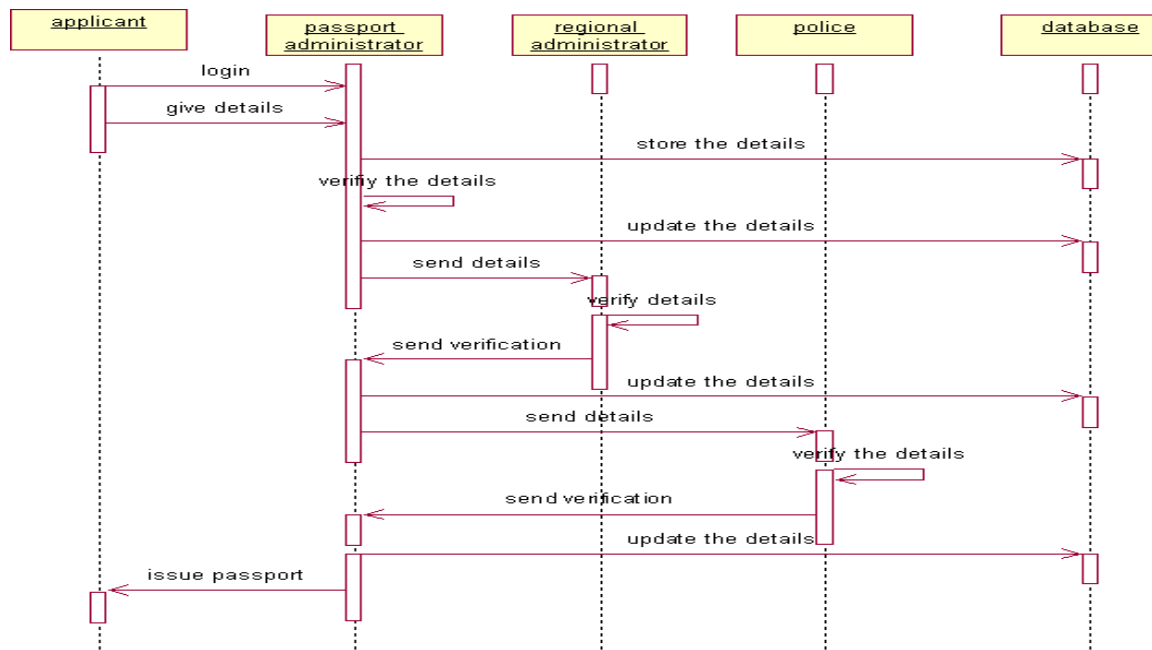

Figure 4: Sequence Diagram for Passport Automation System

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.

4. 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. 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.
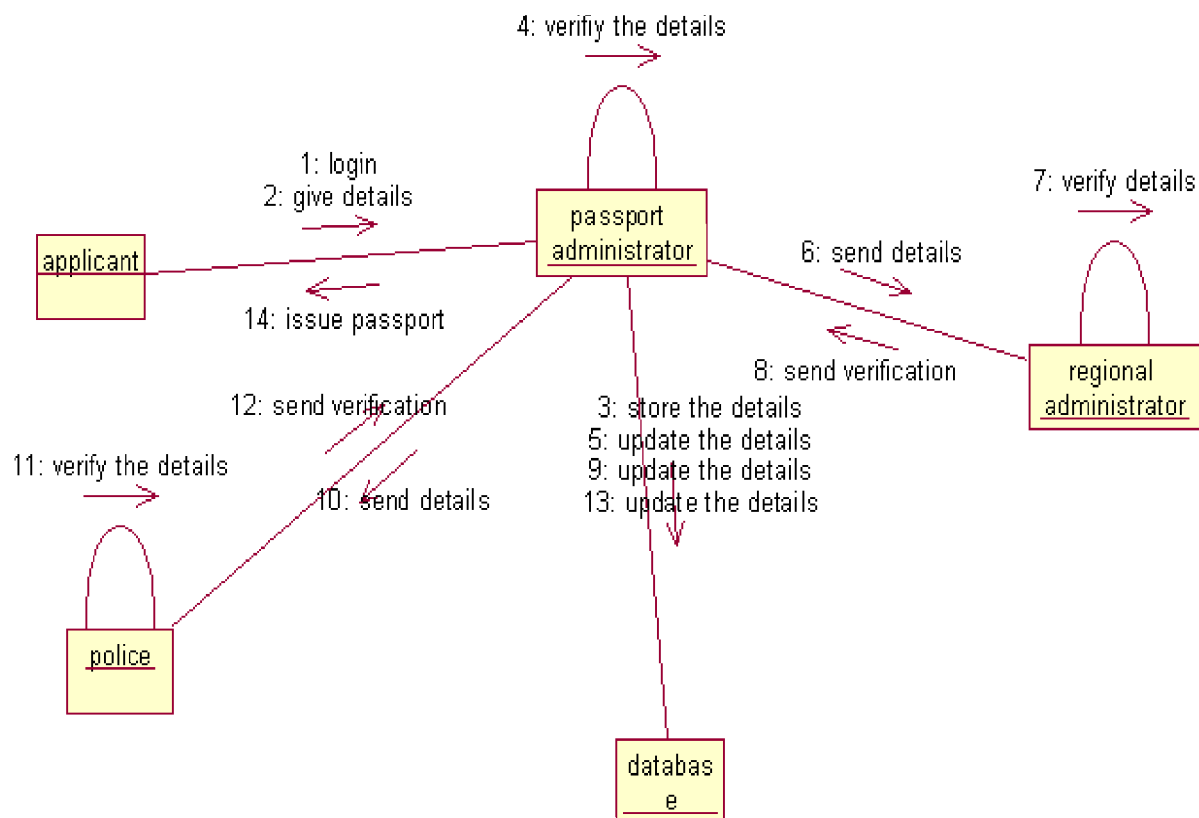

Figure 5: Collaboration Diagram for Passport Automation System

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.

5. 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.
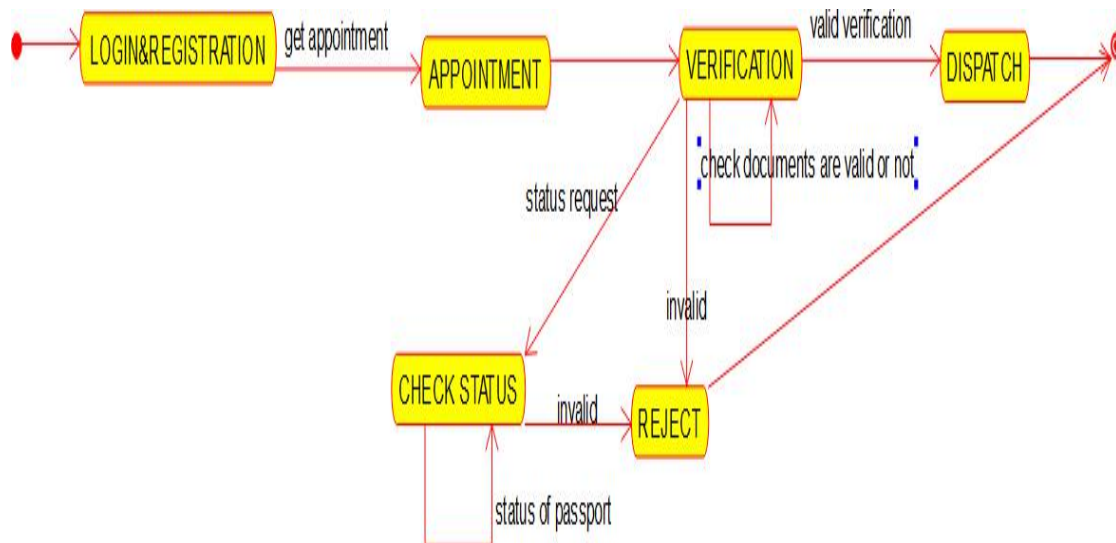
Figure 6: State Chart Diagram for Passport Automation System

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 Get detail state and verification state

6. 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.

REGIONAL ADMINISTRATOR :

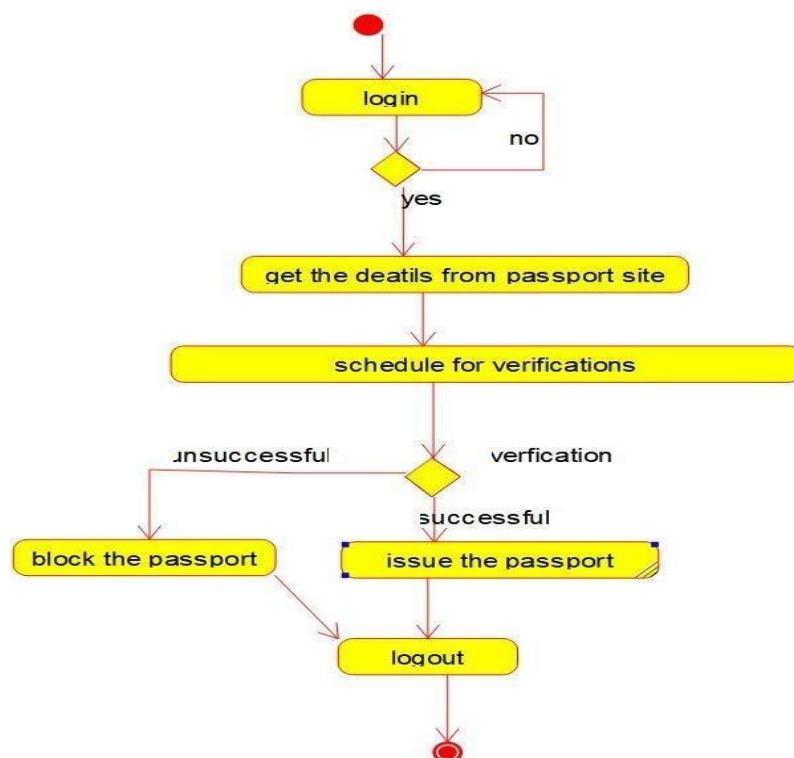**Figure 7: Activity Diagram for Regional Administrator**

PASSPORT ADMINISTRATOR :

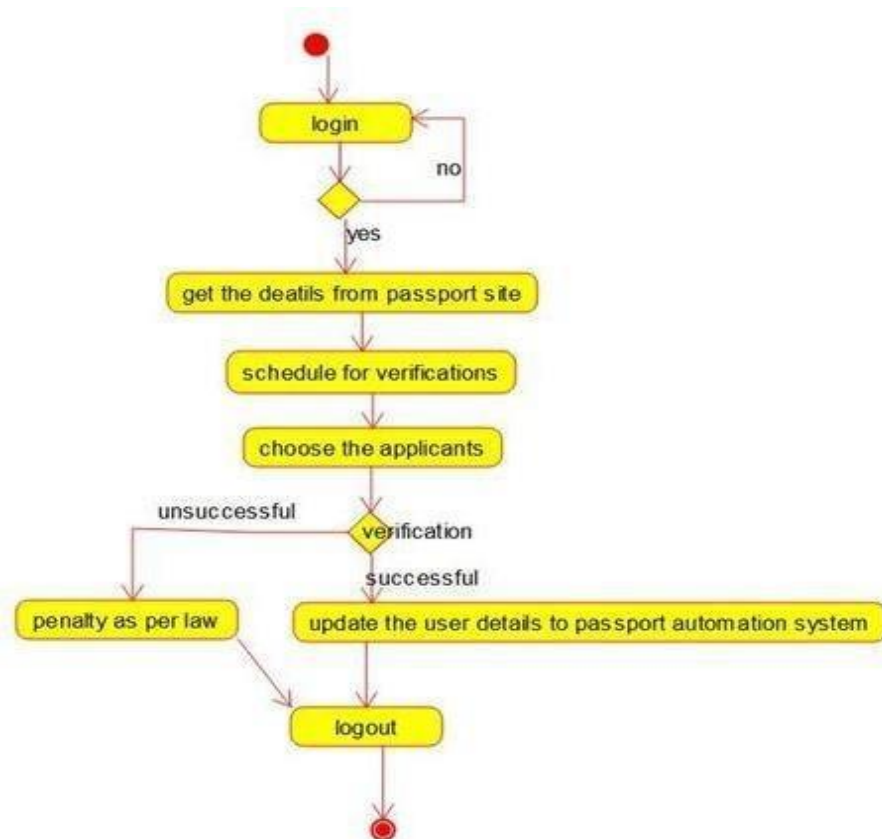**Figure 8: Activity Diagram for Passport Administrator**

15

POLICE :

Figure 9: Activity Diagram for Police
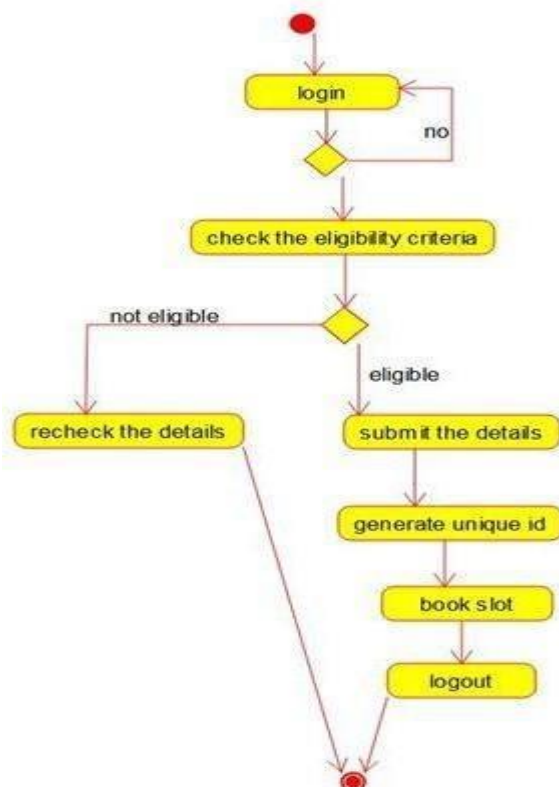
APPLICANT:

Figure 10: Activity Diagram for Applicant

DOCUMENTATION OF ACTIVITY DIAGRAM

- The activities in the passport automation system are login, submit details, get details, issue passport and penalty and verification.

- In the login activity applicant give username and password and then login into the passport automation system after then fill the details that are required for application.

- After the verification procedure completed successfully the passport is issued to the applicant.

7. 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 system. It is represented by boxed figure. Dependencies are represented by communication association.
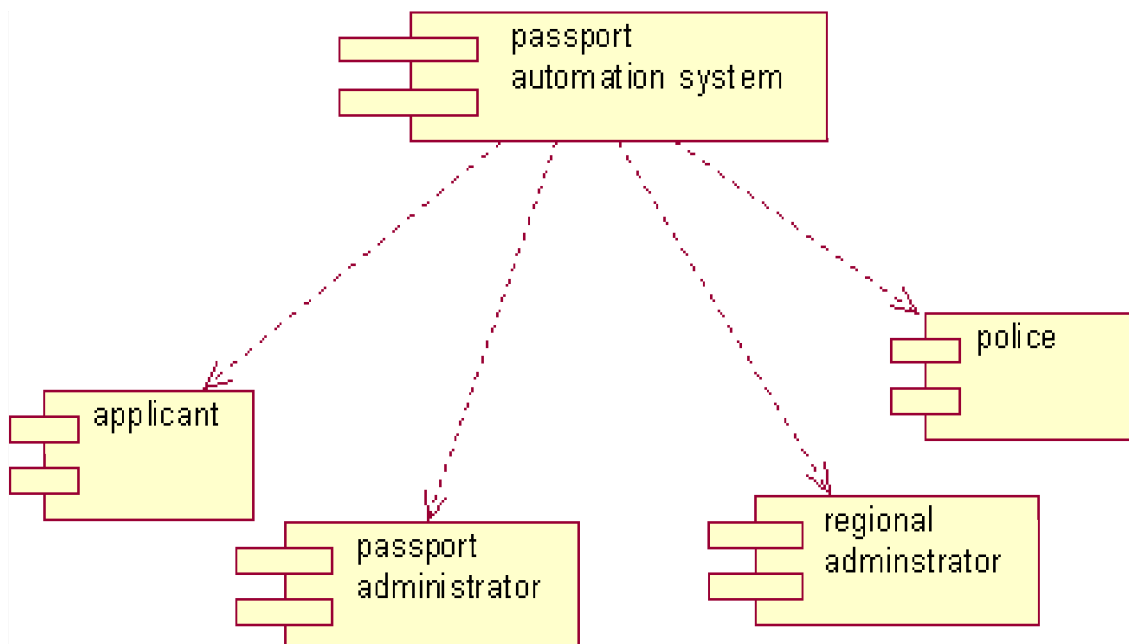

Figure 11: Component Diagram for Passport Automation System

DOCUMENTATION OF COMPONENT DIAGRAM

- The components in the passport automation system are passport automation system, applicant, passport administrator, regional administrator, and police.

- Applicant ,passport administrator, regional administrator and police are dependent on passport automation system are shown by the dotted arrow.

8. PACKAGE DIAGRAM

A package diagram is represented as a folder shown as a large rectangle with a top attached to its upper left corner. A package may contain both sub ordinate package and ordinary model elements. All uml models and diagrams are organized into package. A package diagram in unified modeling language that depicts the dependencies between the packages that make up a model. A Package Diagram (PD) shows a grouping of elements in the OO model, and is a Cradle extension to UML. PDs can be used to show groups of classes in Class Diagrams (CDs), groups of components or processes in Component Diagrams (CPDs), or groups of processors in Deployment Diagrams (DPDs).

There are three types of layer. They are

- User interface layer
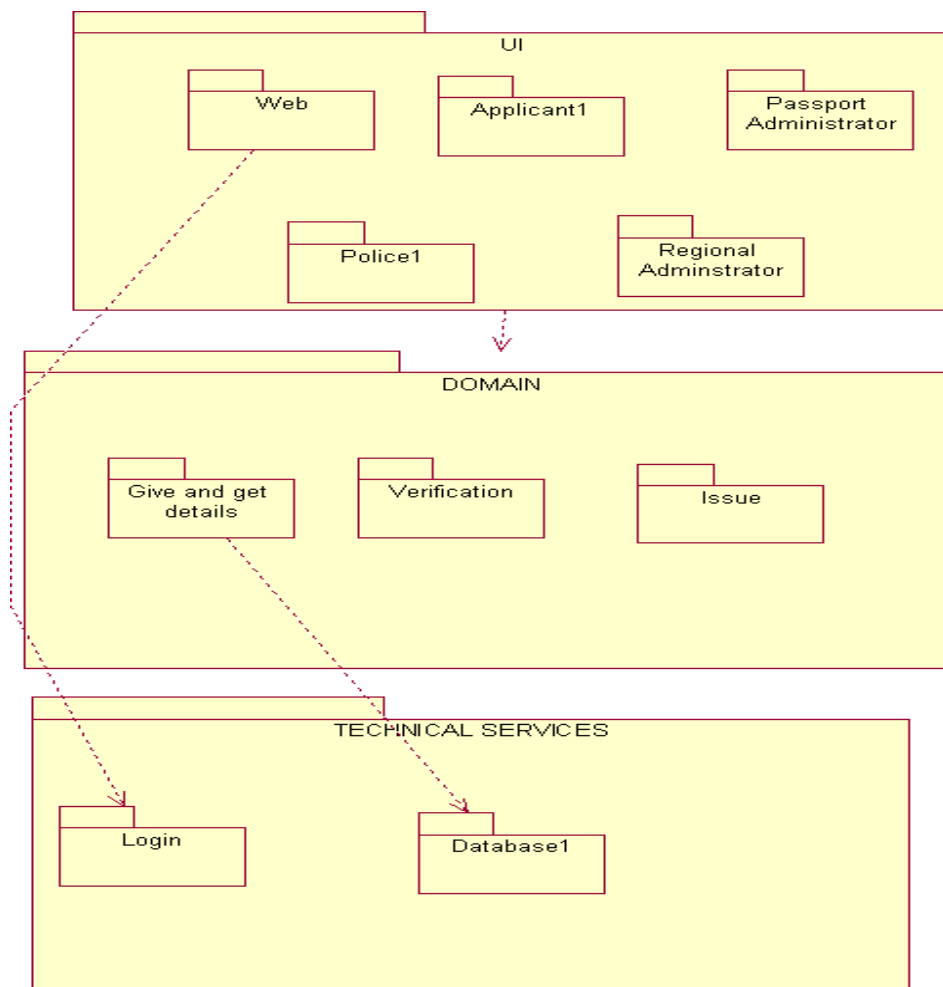- Domain layer
- Technical services layer

Figure 12: Package Diagram for Passport Automation System

DOCUMENTATION OF PACKAGE DIAGRAM

The three layer in the passport automation system are user interface layer, domain layer, technical service layer

- **The user interface layer-** represents the user interface components such as web, applicant, passport administrator, police, and regional administrator.

- **The domain layer-** has major actions such as give and get details, verification and issues.

- **Technical service layer**- authenticated user only can access the technical services.

9. 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.
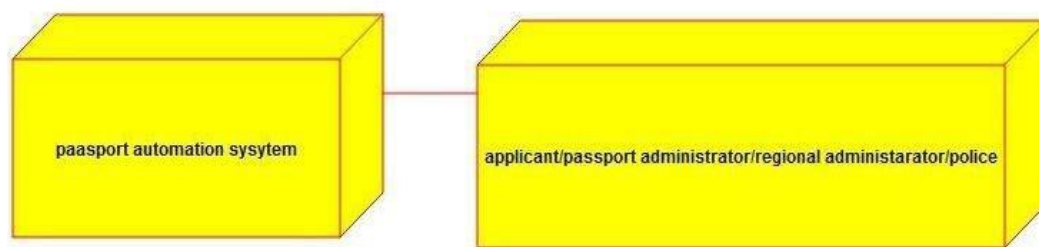

Figure 13: Deployment Diagram for Passport Automation System

DOCUMENTATION OF DEPLOYMENT DIAGRAM

The device node is passport automation system and execution environment nodes are applicant passport administrator, regional administrator, and police.

Implementation:

After completing the 8 diagrams we have to select the respective programming language domain from the tool menu for each diagram we have to select main class and generate code for respective diagram.

vi) UNIT TESTING AND INTEGRATION TESTING

Unit Testing

It focuses on the smallest unit of software design. In this, we test an individual unit or group of interrelated units. It is often done by the programmer by using sample input and observing its corresponding outputs.

Test Case	Passport Number	Expected Result
TC211	E6703892	Passport number is Valid
TC906	V6287191	Passport number is Valid

Test Case	Date of Expiry	Expected Result
TC611	14/13/2020	Date of Expiry is Invalid
TC524	11/06/2022	Date of Expiry is Invalid
TC333	01/022025	Date of Expiry is Invalid

Test Case	Special Endorsement	Expected Result
TC101	185	Invalid
TC502	50	Valid
TC403	115	Valid

Integration Testing

The objective is to take unit tested components and build a program structure that has been dictated by design. Integration testing is testing in which a group of components is combined to produce output.

Test Case	Passport Number	Date of Issue	Date of Expiry	Place of Issue	Expected Result
TC001	E6703892	14/13/2010	14/13/2020	Hyderabad	**Passport date is Invalid**
TC002	V6287191	11/06/2022	10/06/2022	New Delhi	**Passport is Valid**
TC003	F5673896	03/02/2025	01/02/2025	Bangalore	**Passport is Valid**

vii) BLACK BOX TESTING AND WHITE BOX TESTING:

Black Box Testing

Black Box Testing is also known as behavioral, opaque-box, closed-box, specification-based or eye-to-eye testing.

It is a Software Testing method that analyses the functionality of a software/application without knowing much about the internal structure/design of the item that is being tested and compares the input value with the output value.

The main focus in Black Box Testing is on the functionality of the system as a whole. The term 'Behavioral Testing' is also used for Black Box Testing. Behavioral test design is slightly different from the black-box test design because the use of internal knowledge isn't strictly forbidden, but it's still discouraged.

Test Case	Card Number	Expected Result
TC211	E6703892	Valid
TC906	V628719123	Invalid

White Box Testing

White Box Testing is also known as Glass Box Testing.

It is based on the knowledge about the internal logic of an application's code.

Internal software and code working should be known for performing this type of testing. Under these tests are based on the coverage of code statements, branches, paths, conditions, etc.

Test Case	Passport Number	Visa Type	No. of Entries	Special Endorsement	Expected Result
TC001	E6703892	T	S	185	**Visa Special endorsement cannot be more than 180 days**
TC002	V6287191	P	M	---	**Passport is Valid**
TC003	AF573896	P	M	---	**Passport is Valid**

Conclusion:

Thus, the above project for passport automation system has been successfully executed and codes are generated.

BOOK BANK MANAGEMENT SYSTEM

Experiment No:2

AIM :

To create an automated system to perform the Book Bank Process.

i) PROBLEM STATEMENT:

The process of members registering and purchasing books from the book bank are described sequentially through following steps:

- First the member registers himself if he was new to the book bank.

- Old members will directly select old member button..

- They select their corresponding year.

- After selecting the year they fill the necessary details and select the book and he will be directed towards administrator

- The administrator will verify the status and issue the book.

ii) SOFTWARE REQUIREMENT SPECIFICATION

S.NO	CONTENTS
1.	INTRODUCTION
2.	OBJECTIVE
3.	OVERVIEW
4.	GLOSSARY
5.	PURPOSE
6.	SCOPE
7.	FUNCTIONALITY
8.	USABILITY
9.	PERFORMANCE
10.	RELIABILITY
11.	FUNCTIONAL REQUIREMENTS

1. INTRODUCTION

This system would be used by members who are students of any college to check the availability of the books and borrow the books, and then the databases are updated. The purpose of this document is to analyze and elaborate on the high-level needs and features of the book bank management system. It also tells the usability, reliability defined in use case specification.

2. OBJECTIVE

The main objective of the system is to design an online book-bank monitoring system to enable a central monitoring mechanism of the book-bank be more faster and less error prone. Apart from this,

- To help the students acquire the right books for the syllabus at the right time.
- To ensure availability of basic textbooks to students against limited funds and To develop students ability to handle property loaned to them

3. OVERVIEW

.
The overview of this project is to design a tool for book bank so that it can be used by any book banks to lend their books as well as colleges.

4. GLOSSARY

TERMS	DESCRIPTION
MEMBER	The one who registers himself and purchase books from the bank.
DATABASE	Database is used to store the details of members and books.
ADMINISTRATOR	The one who verifies the availability of book and issue them
USER	Member
SOFTWARE REQUIREMENT SPECIFICATION	This software specification documents full set of features and function for online recruitment system that is performed in company website.

5. PURPOSE

The purpose of the book bank management system is to reduce the manual intervention .

6. SCOPE

The scope of this book bank management system is to act as a tool for book bank administrator for quick reference, availability of the books.

7. FUNCTIONALITY

Many members will be waiting to take the book from the book bank at a single day. To serve all the members.

8. USABILITY

User interface makes the Recruitment system to be efficient. That is the system will help the member to register easily and helps them to get their books easily. The system should be user friendly.

9. PERFORMANCE

It describes the capability of the system to perform the recruitment process of the applicant without any error and performing it efficiently.

10. RELIABILITY

The book bank management system should be able to serve the applicant with correct information and day-to-day update of information.

11. FUNCTIONAL REQUIREMENTS

Functional requirements are those refer to the functionality of the system. That is the services that are provided to the member who borrows book.

12. EXTERNAL INTERFACE REQUIREMENTS

SOFTWARE REUIREMENTS

Front end : Java, JSP, HTML

Back end : Oracle 11g database

HARDWARE REQUIREMENTS

Processor : Pentium 4

RAM : 256MB

Hard Disk Drive : 2GB

Risk architecture:

It defines that some process loss, or any problem can be faced while creating the project.

Software risk:

If the software for passport automation, it is works very fast, after some times software works very slowly because of virus attack. It can be rectified by the new way.

Hardware risk:

If the hardware component is suddenly burn or broke down due to over burden, while creating the project.

Non-function risk:

Due to failure of Hardware and software, then it can't be completed with in the time schedule and budget schedule.

iii) UML DIAGRAMS

The following UML diagrams describe the process involved in the online recruitment system.

1. Use case diagram
2. Class diagram
3. Sequence diagram
4. Collaboration diagram
5. State chart diagram
6. Activity diagram
7. Component diagram
8. Package diagram
9. Deployment diagram

1. 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.
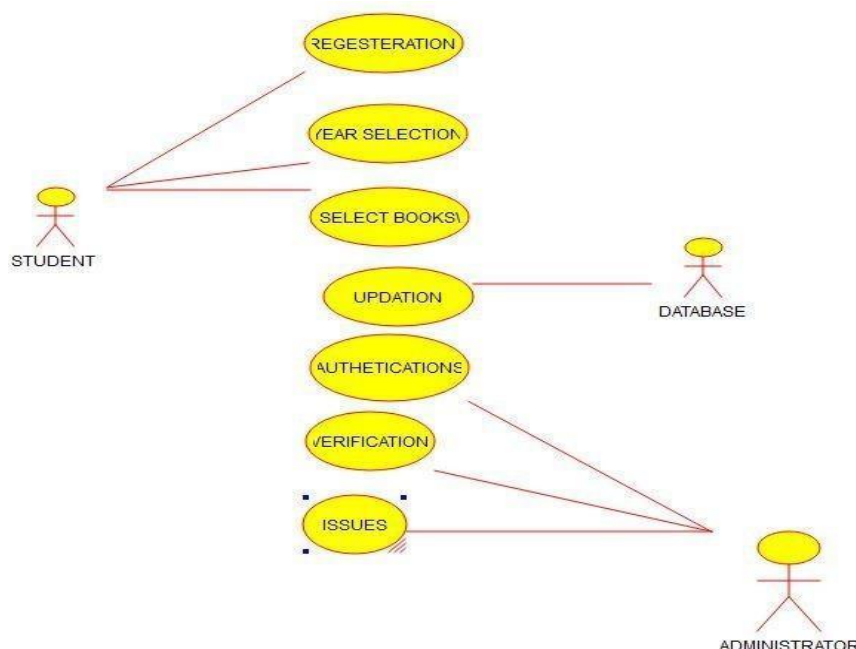
Figure 1: Uecase Diagram for Book Bank Management System

DOCUMENTATION OF USE CASE DIAGRAM

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

- The member will register himself in the book bank.
- After registration he will select the year to which he belongs
- After selecting he will select books
- Database will verify the status of book and the books will be given.

2. 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 compartments the attributes and the bottom compartment with operations.
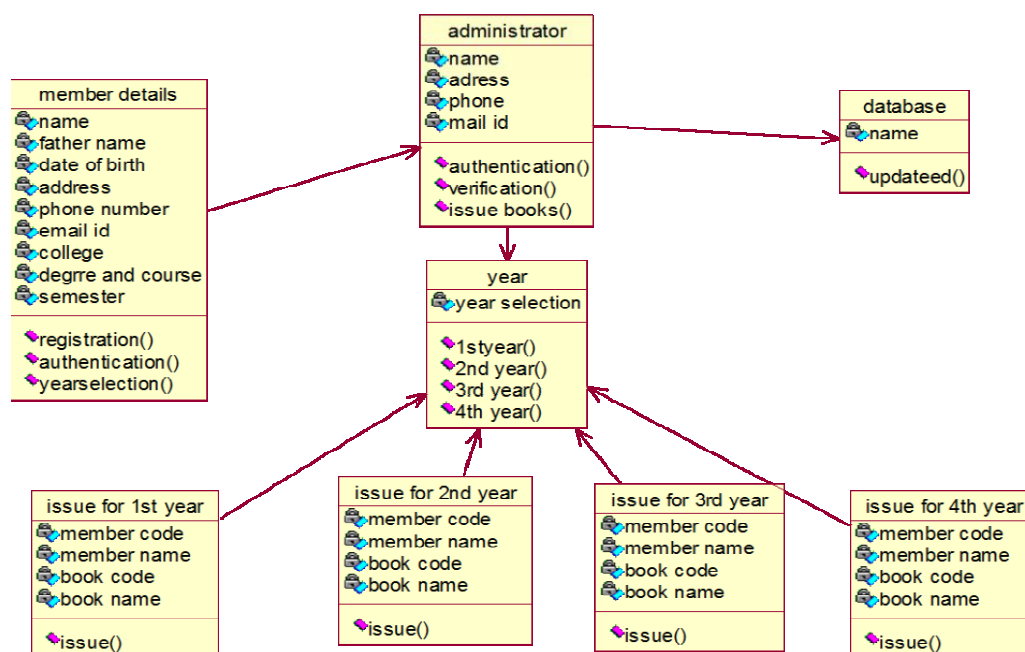
Figure 2: Class Diagram for Book Bank Management System

DOCUMENTATION OF CLASS DIAGRAM

This class diagram has 8 classes:

- **Member details class-** is the class name. Its attributes are name, father name, date of birth, address, phone number, member id, college, degree, course and semester. Its operations are registration, authentication, and year selection.
- **Administrator-** is the class name. Its attributes are name, address, phone, mail id. Its operations are authentication, verification and issue books.

26

- **Year-**is the class name. Its attribute is year selection. Its operations are 1_{st} year,2_{nd} year, 3_{rd} year,4_{th} year.

- **Issue for 1st year-**is the class name. Its attributes are member code, member name, book code, book name, and quantity. Its operation is issue. **Issue for 2nd year-**is the class name. Its attributes are member code, member name, book code, book name, and quantity. Its operation is issue

- **Issue for 3rd year-**is the class name. Its attributes are member code, member name, book code, book name, and quantity. Its operation is issue.

3. 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.
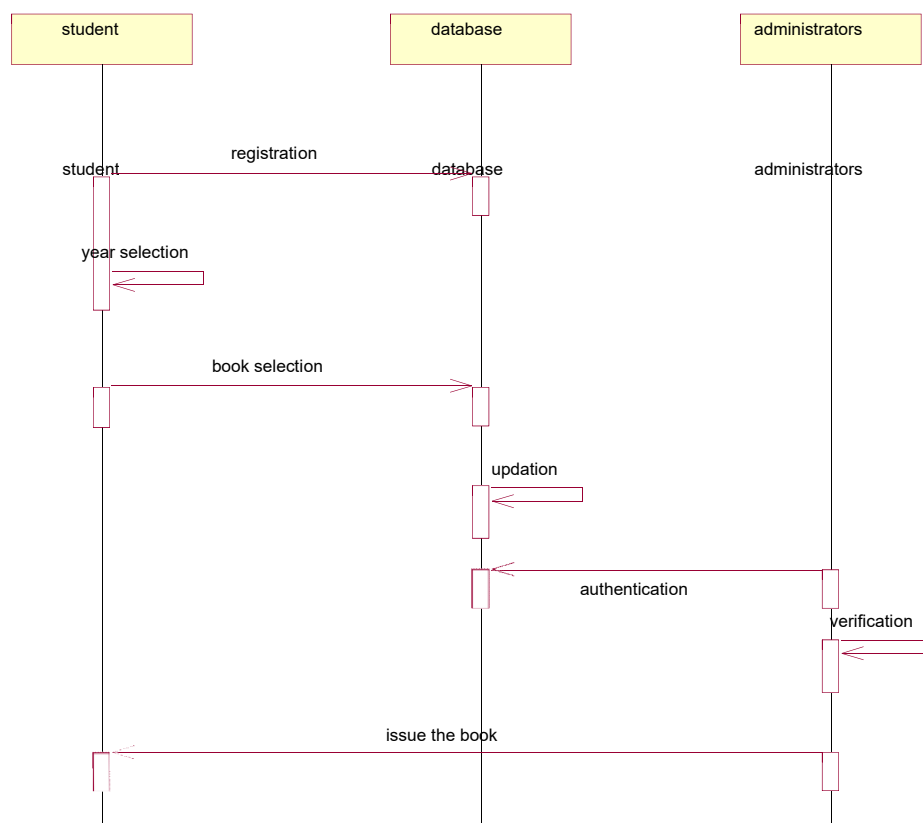
Figure 3: Sequence Diagram for Book Bank Management System

DOCUMENTATION OF SEQUENCE DIAGRAM

The sequence diagram describes the sequence of steps to show

- The member registers himself in book bank

27

- He will select the year

- He select the books given and the database will update the status of book.

- Then administrator will log in and verify the status of books.

- If the book is available he will issue the book.

4. 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
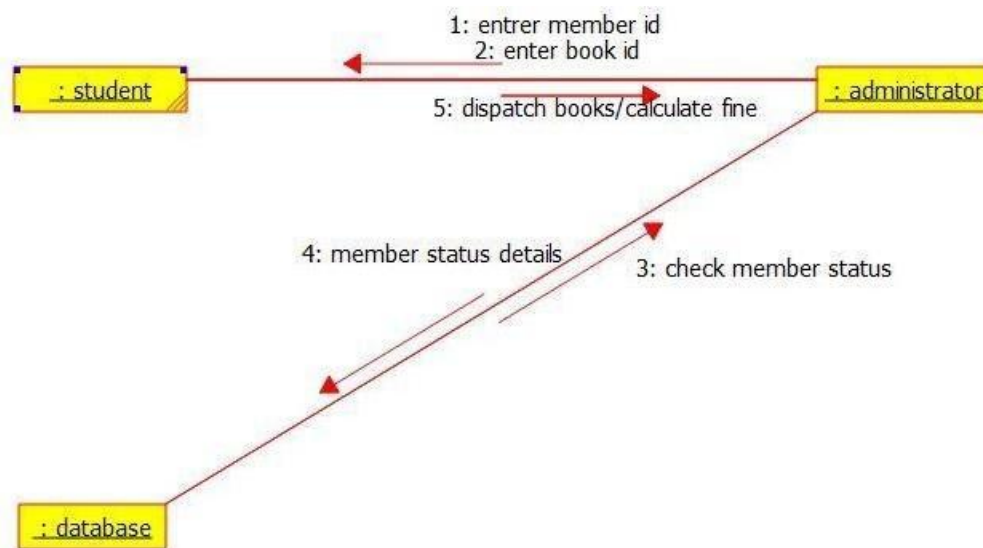
Figure 4 : Collaboration Diagram for Book Bank Management System

DOCUMENTATION OF COLLABORATION DIAGRAM

The collaboration diagram is to show how the member registers himself and borrow the book from the book bank. Here the sequence is numbered according to the flow of execution.

5. 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.

REGISTRATION:
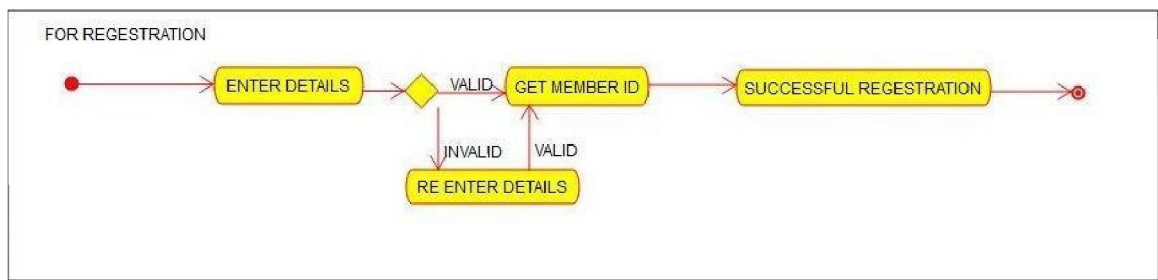
Figure 5 : State Chart Diagram for Registration
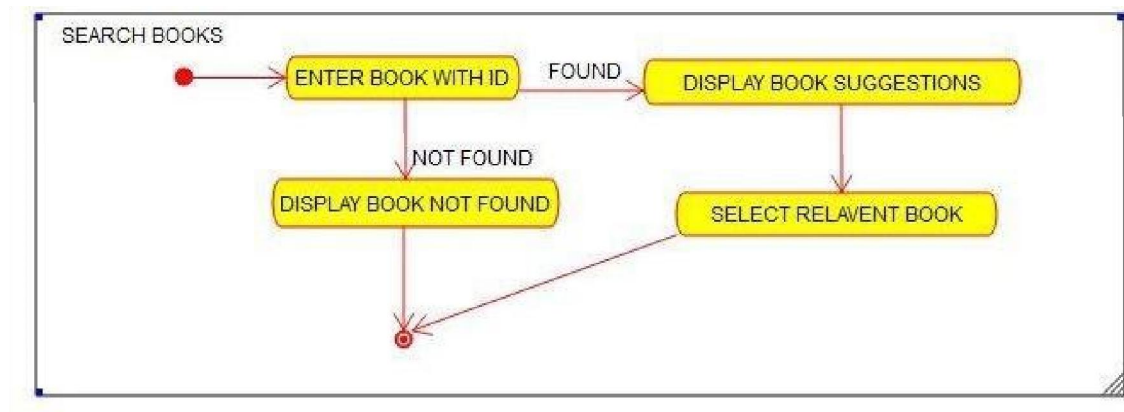
SEARCH BOOK:

Figure 6 : State Chart Diagram for Search Book

DOCUMENTATION OF STATE CHART DIAGRAM

This state diagram describes the behavior of the system.

- In the first state the member registers himself in book bank
- After that he will select the year in next state.
- In the next state he will select the books.
- In the next state database will update the status of book.
- In the next state administrator will log in.
- After authentication he will verify the availability of book.
- If available he will issue the book.

6. 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.

ADMINISTRATOR:
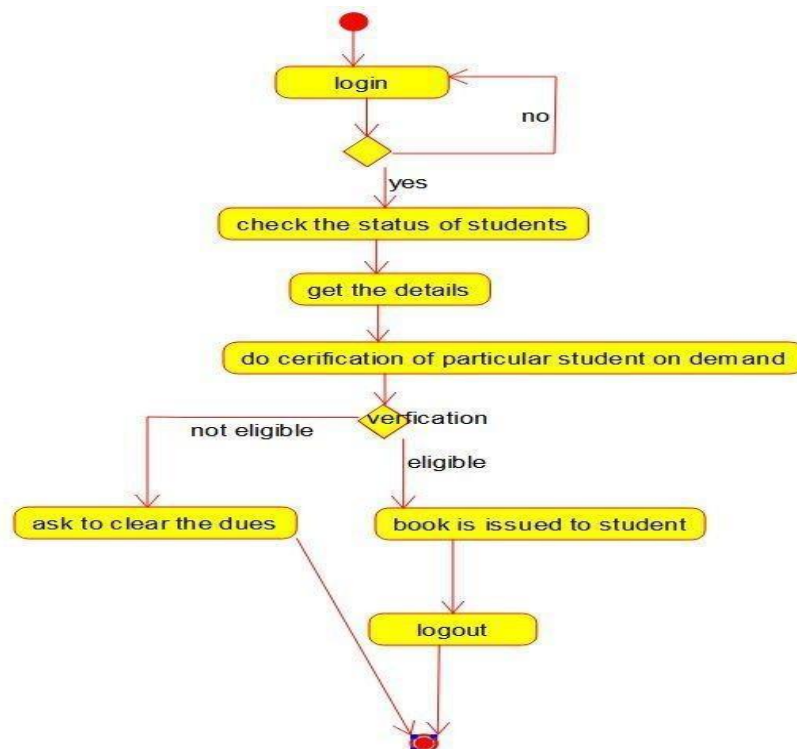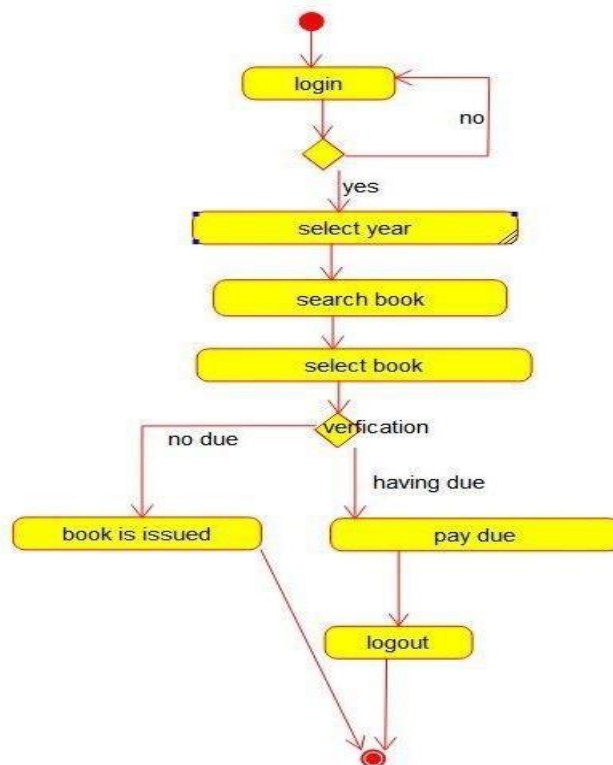

Figure 7 : Activity Diagram for Administrator

STUDENT:

Figure 8 : Activity Diagram for Student

DOCUMENTATION OF ACTIVITY DIAGRAM

This activity diagram flow of stepwise activities performed in book bank management system.

- The member registers himself in book bank
- After that he will select the year.
- He will select the books.
- Database will update the status of book.
- Database will update the details
- Then the administrator will log in to his account.
- After authentication he will verify the availability of book.
- If available he will issue the book.

7. 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.
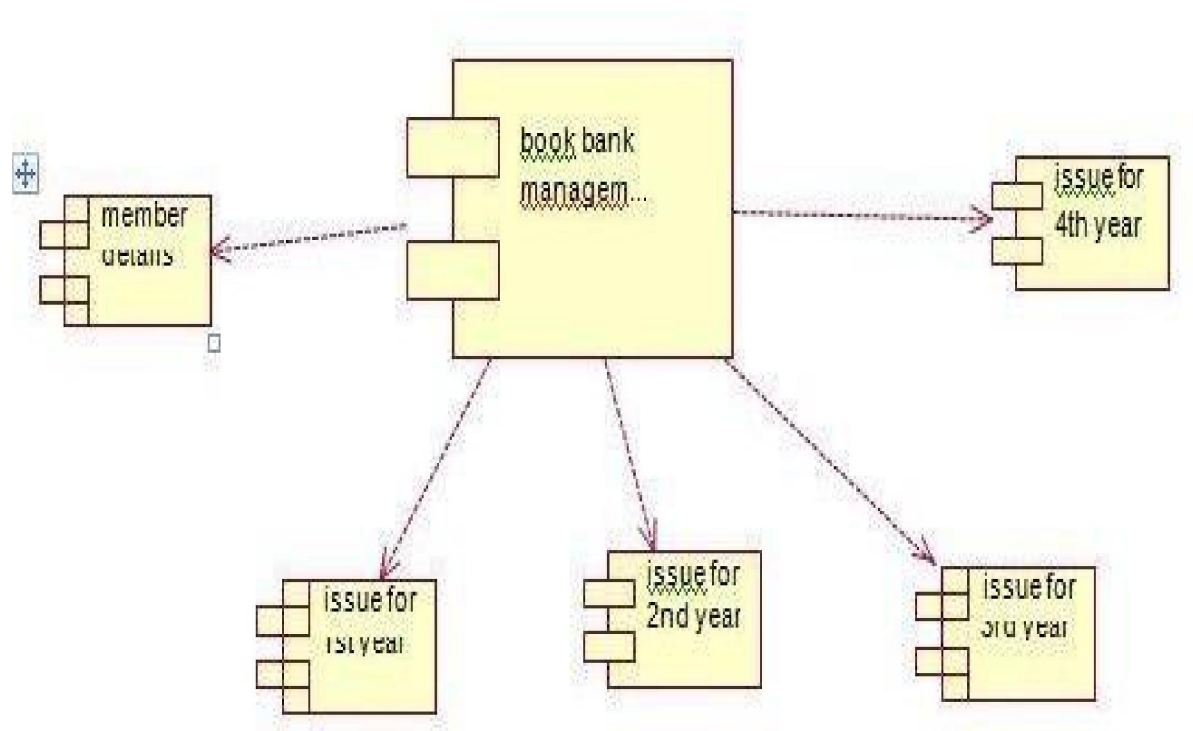
Figure 9 : Component Diagram for Book Bank Management System

DOCUMENTATION OF COMPONENT DIAGRAM

The main component in this component diagram is online book bank management systems. And member details, issue for first year, issue for second year issue for third year and issue for fourth year are components comes under the main component

8. PACKAGE DIAGRAM

A package diagram in unified modeling language that depicts the dependencies between the packages that make up a model. A Package Diagram (PD) shows a grouping of elements in the OO model, and is a Cradle extension to UML. PDs can be used to show groups of classes in Class Diagrams (CDs), groups of components or processes in Component Diagrams (CPDs), or groups of processors in Deployment Diagrams (DPDs).

There are three types of layer. They are

- User interface layer
- Domain layer
- Technical services layer
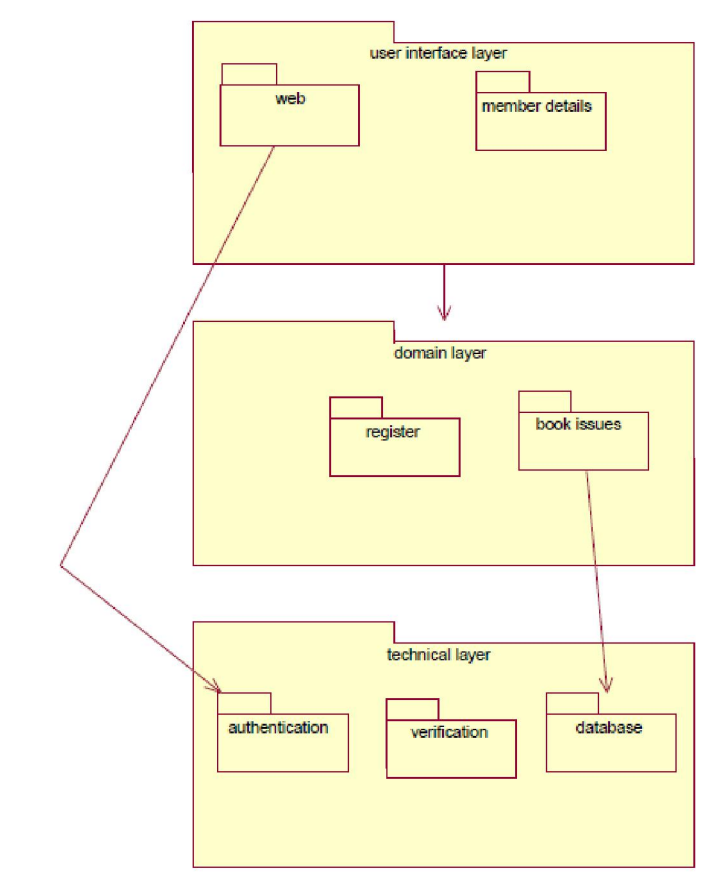
Figure 10 : Package Diagram for Book Bank Management System

- **The User interface layer** - consists of the web and member details. This layer describes how the member goes to book bank and registers himself..
- **The Domain layer** – shows the activities that are performed in the book bank

management system. The activities are register and book issues..

- **The Technical service layer -** the member details and verification details are stored in the database.

9. 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.
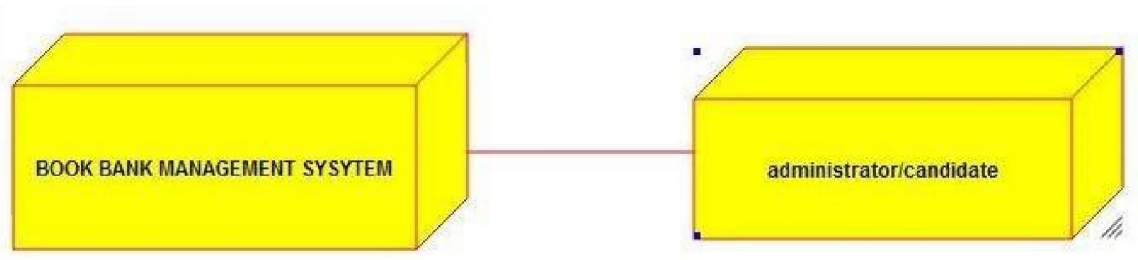
Figure 11 : Deployment Diagram for Book Bank Management System

DOCUMENTATION OF DEPLOYMENT DIAGRAM

The processor in this deployment diagram is the book bank which is the main part and which are the some of the main activities performed in the system. And issue for first year, issue for second year issue for third year and issue for fourth year are some activities performed in this system.

Implementation:

After completing the 8 diagrams we have to select the respective programming language domain from the tool menu for each diagram we have to select main class and generate code for respective diagram.

Testing:

After completing the code generation for each diagram. Select the tool menu under quality architect performs unit testing and scenario testing for each code.

Testing activities are made several types of testing is carried on.

Conclusion:

Thus, the above project for passport automation system has been successfully executed and codes are generated.

EXAM REGISTRATION SYSTEM

Experiment No.3

AIM

To create an automated Exam Registration system.

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.

SOFTWARE REQUIREMENT SYSTEM

1. INTRODUCTION
2. OBJECTIVE
4. OVERVIEW
5. GLOSSARY
6. PURPOSE
7. SCOPE
8. FUNCTIONALITY
9. USABILITY
10. PERFORMANCE
11. RELIABILITY
12. FUNCTIONAL REQUIREMENTS

1. INTRODUCTION

Exam Registration application is an interface between the Student and the Authority responsible for the Exams. It aims at improving the efficiency in the registration of exams and reduces the complexities involved in it to the maximum possible extent.

2. OBJECTIVE

The main objective of Exam Registration System is to make applicants register themselves and apply for the exam. Exam Registration System provides easy interface to all the users to apply for the exam easily.

3. OVERVIEW

The overview of the project is to design an exam registration tool for the registration process which makes the work easy for the applicant as well as the Authorities of Exam. Authorities of the exam can keep track of and maintain the database of the registered applicants for the exams.

4. GLOSSARY

TERMS	DESCRIPTION
APPLICANT OR STUDENT	Applicant can register himself by filling out the registration form and finally paying the payment for attending the exam.
DATABASE	Database is used to maintain and store the details of registered applicants.
SOFTWARE REQUIREMENT SPECIFICATION	This software specification documents full set of features and function for online recruitment system that is performed in company website.

5. PURPOSE

The purpose of exam registration system is to register for the exam in an easier way and to maintain the registered details in an effective manner.

6. SCOPE

The scope of this Exam Registration process is to provide an easy interface to the applicants where they can fill their details and the authorities maintain those details in an easy and effective way.

7. FUNCTIONALITY

The main functionality of registration system is to make the registration and database for it to be maintained in an efficient manner.

8. USABILITY

User interface makes the Exam Registration system to be efficient. That is the system will help the applicant to register easily and helps the authorities to maintain details effectively. The system should be user friendly.

9. PERFORMANCE

It describes the capability of the system to perform the registration process of the applicant without any error and performing it efficiently.

10. RELIABILITY

The Exam Registration system should be able to serve the applicant with correct information and day-to-day update of information.

11. FUNCTIONAL REQUIREMENTS

Functional requirements are those refer to the functionality of the system. That is the services that are provided to the applicant who apply for the Exam.

12. EXTERNAL INTERFACE REQUIREMANTS
SOFTWARE REQUIREMENTS

Front end: JSP,HTML, Java.
Back end: Oracle 11g.

HARDWARE REQUIREMENTS

Processor   : Pentium 4.
RAM   : 256MB
Operating system   : Microsoft windows xp.
HDD   : 2GB

UML DIAGRAMS

The following UML diagrams describe the process involved in the online recruitment system

- Use case diagram
- Class diagram
- Sequence diagram
- Collaboration diagram
- State chart diagram

- Activity diagram
- Component diagram
- Package diagram
- Deployment diagram

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.

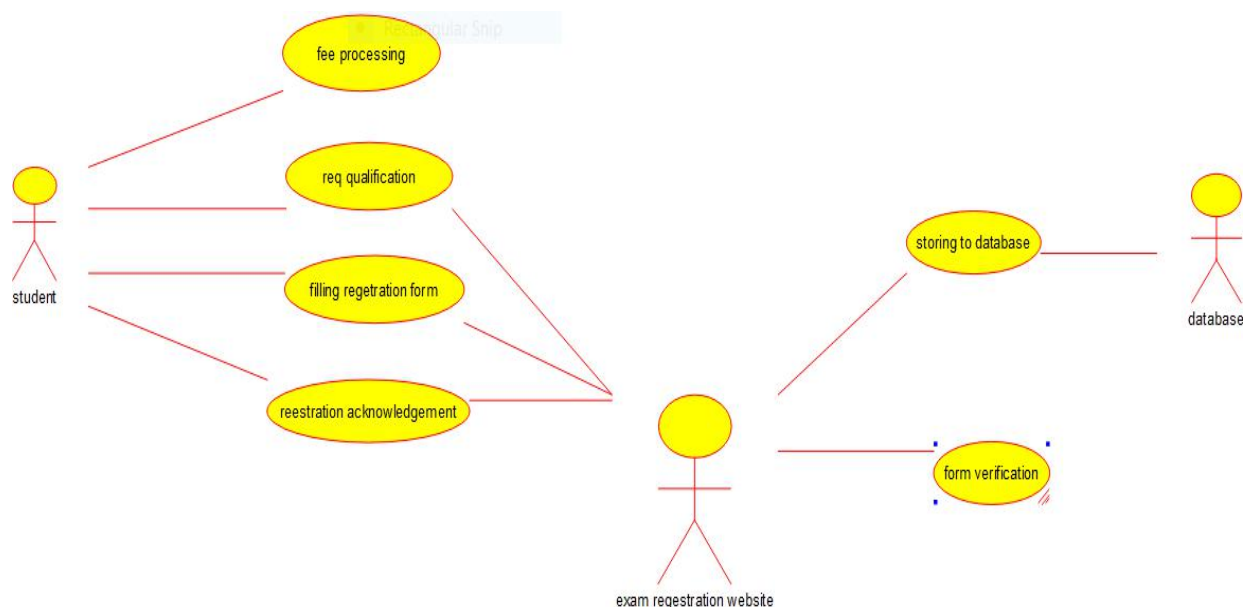Actor is any external entity that makes use of the system being modeled. It is represented using stick figure.

Figure 1 : Usecase Diagram for Exam Registration System

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

37

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.
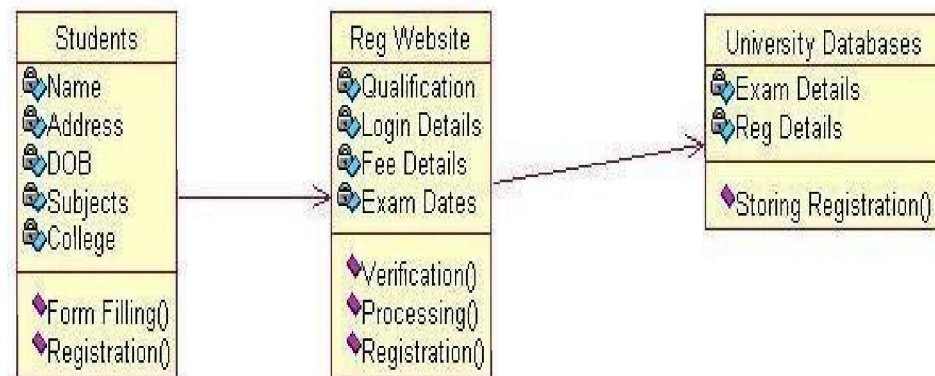

Figure 2 : Class Diagram for Exam Registration System

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. Vertical dimension-represent time.

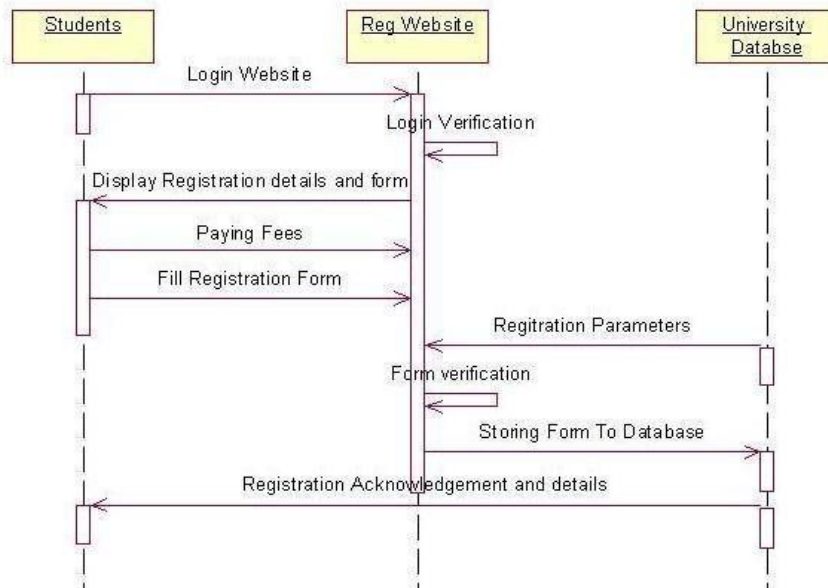2. Horizontal dimension-represent different objects.

Figure 3 : Sequence Diagram for Exam Registration System

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.
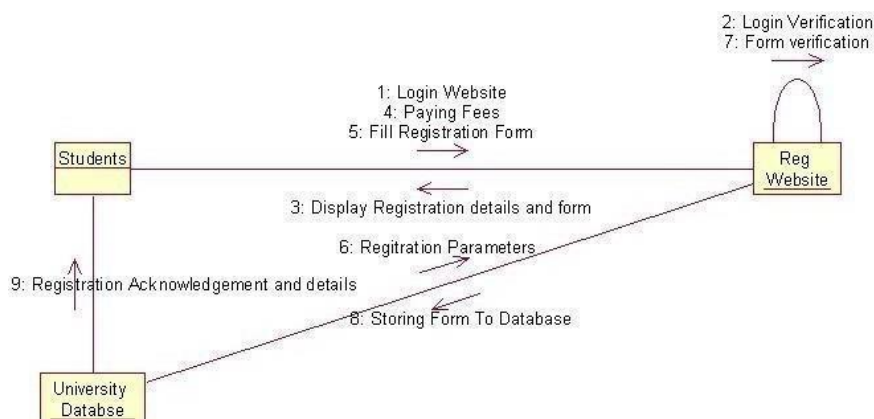
Figure 4 : Collaboration Diagram for Exam Registration System

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.
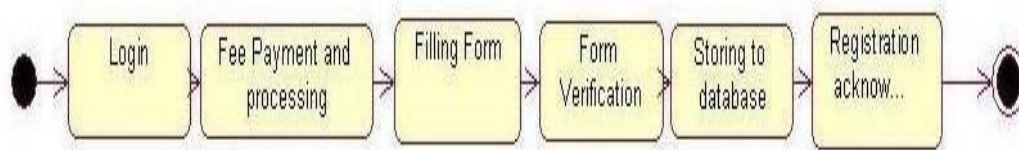
Figure 5 : State Chart Diagram for Exam Registration System

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.
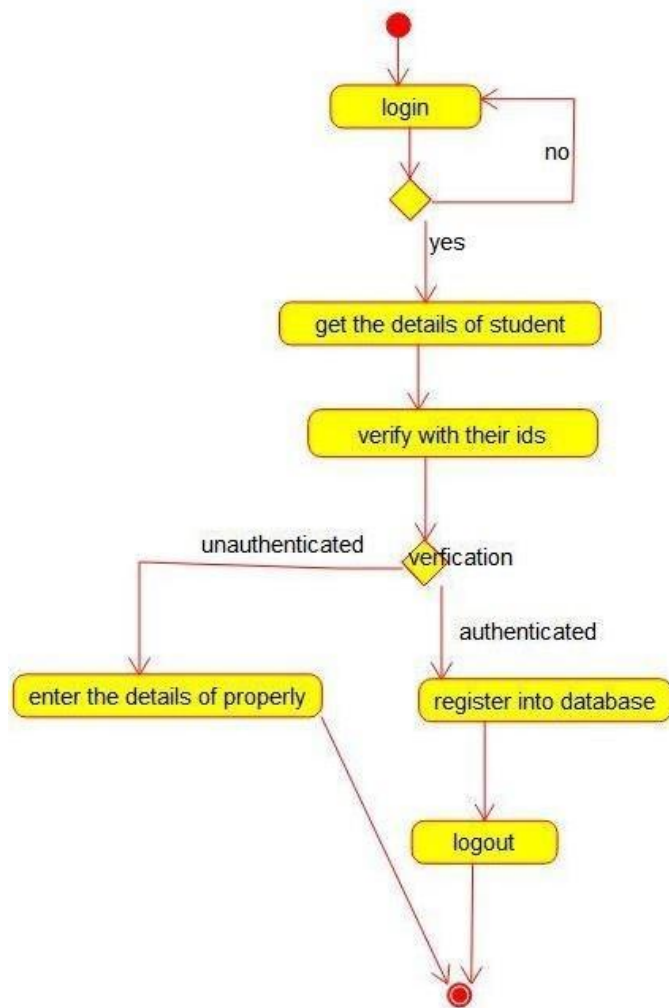
REGISTRATION :

Figure 6 : Activity Diagram for Registration
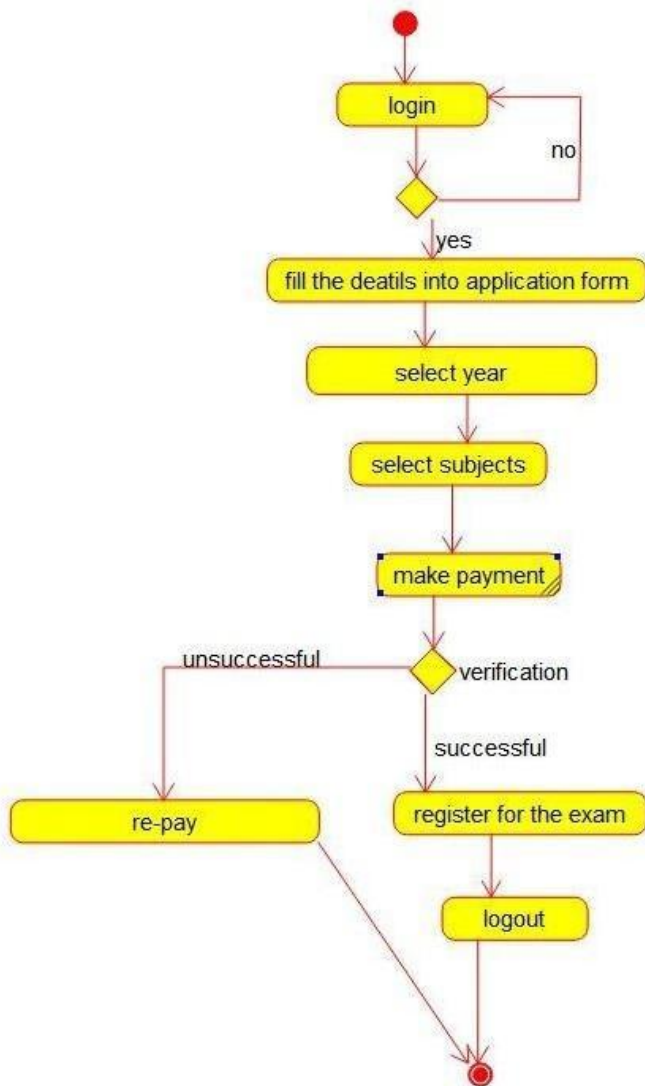
STUDENT:

Figure 7 : Activity Diagram for Student

DOCUMENTATION OF ACTIVITY DIAGRAM

This activity diagram flow of stepwise activities performed in recruitment 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
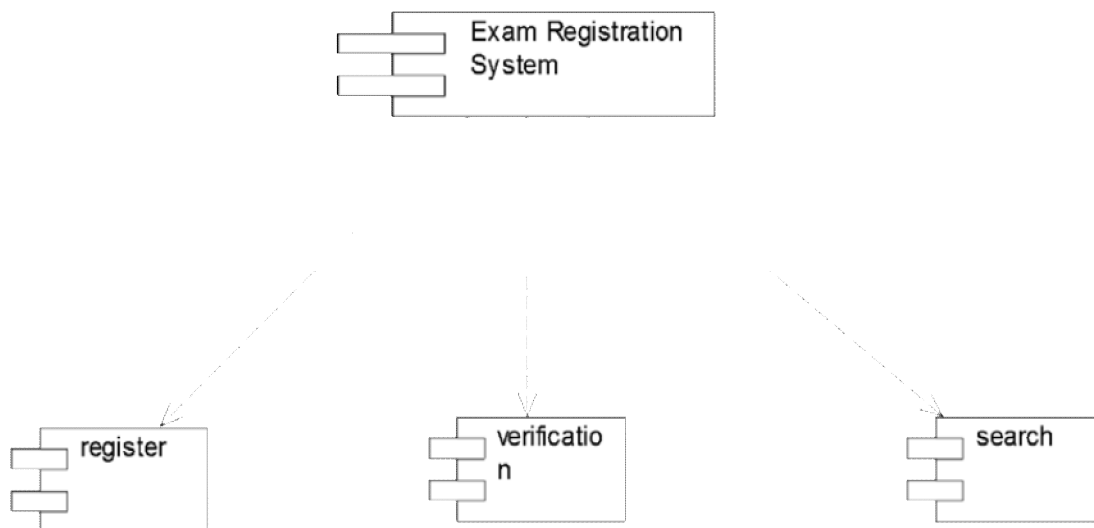
Figure 8 : Component Diagram for Exam Registration System

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.

PACKAGE DIAGRAM

A package diagram in unified modeling language that depicts the dependencies between the packages that make up a model. A Package Diagram (PD) shows a grouping of elements in the OO model, and is a Cradle extension to UML. PDs can be used to show groups of classes in Class Diagrams (CDs), groups of components or processes in Component Diagrams (CPDs), or groups of processors in Deployment Diagrams (DPDs).

There are three types of layer. They are

- User interface layer
- Domain layer
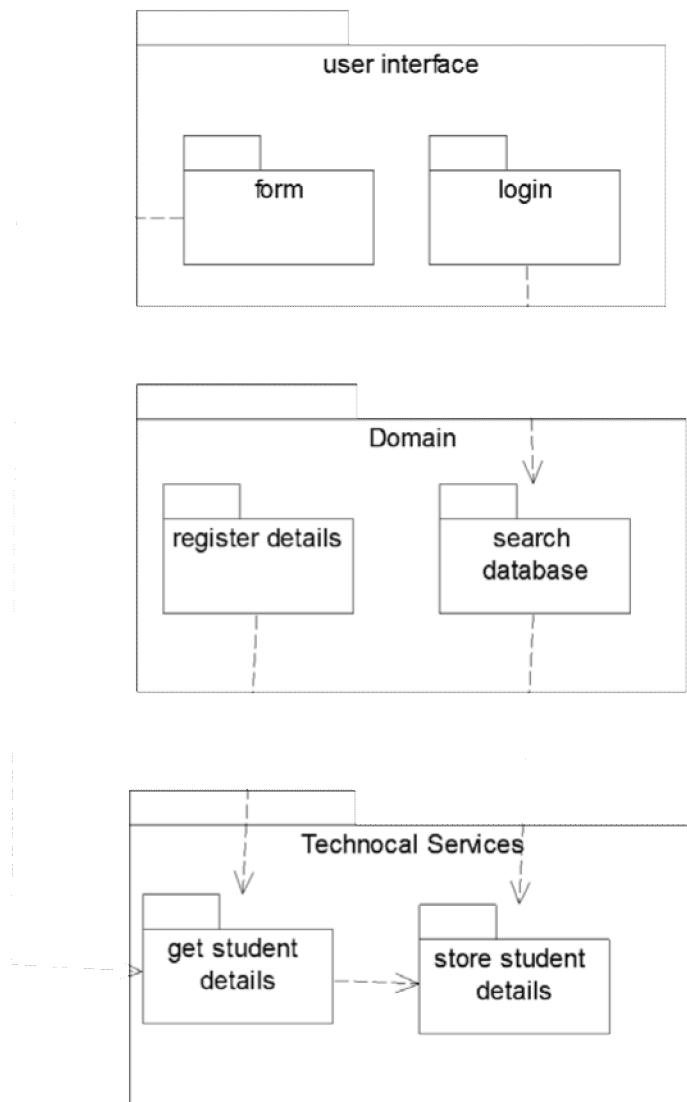- Technical services layer

Figure 9 : Package Diagram for Exam Registration System

DOCUMENTATION OF PACKAGE DIAGRAM

The three layers in the online recruitment system are

- **The User interface layer** - consists of the form and login. This layer describes how the applicant logins to the search and apply for the exam.

- **The Domain layer** – shows the activities that are performed in the Exam Registration system. The activities are register and search the database.

- **The Technical service layer –** get student details and the selected applicant details are stored in the database.

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.
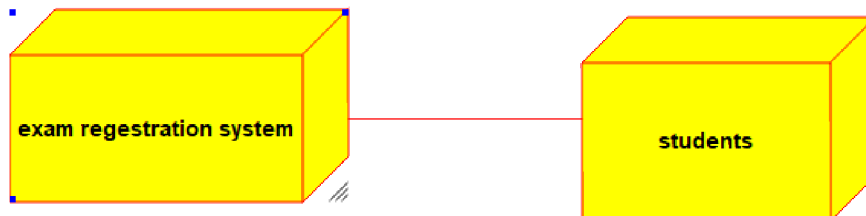

Figure 10 : Deployment Diagram for Exam Registration System

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.

STOCK MAINTENANCE SYSTEM

Experiment No:4

AIM :

To develop a project stock maintenance system.

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.

SOFTWARE REQUIREMENT SPECIFICATION

S.NO	CONTENT
1	Introduction
2	Objective
3	Overview
4	Glossary
5	Purpose
6	Scope
7	Functionality
8	Usability
9	Performance
10	Reliability
11	Functional Requirements

1. INTRODUCTION

This software specification documents full set of features and function for online stock maintenance system that is performed in company website. In this we give specification about the customer orders. It tells the usability, reliability defined in use case specification.

2. OBJECTIVE

The main objective of the stock maintenance system is to maintain the stock. It provides the vendor to maintain the stock in an precise manner.

3. OVERVIEW

The overview of the project is to design an online tool for the recruitment process which eases the work for the customer as well as the companies. Companies can create their company forms according to their wish in which the applicant can register.

4. GLOSSARY

TERMS	DESCRIPTION
CUSTOMER	The customer can have the username and password after login to the system. After login they directed to fill the customer details. And the customer places their order. After placing orders they lead to verify all the details in a single form. Then they places the order successfully.
VENDOR	Vendor has the login id. After login vendor verify the customer details and orders. And maintain the stocks.
DATABASE	Database is used to verify the customer details and orders.
SOFTWARE REQUIREMENT SPECIFICATION	This software specification documents full set of features and function for stock maintenance system that is performed in company website.

1. **PURPOSE**

    The purpose of stock maintenance system is to maintain the stock in an precise manner.

2. **SCOPE**

    The scope of this stock maintenance system is to maintain the stock.

3. **FUNCTIONALITY**

    The main functionality of the stock maintenance system is to maintain the stock.

4. **USABILITY**

    User interface makes the stock maintenance system to be efficient. That is the system will help the customer to place the details and orders easily and helps the vendor to maintain the stock accurate. The system should be user friendly.

5. **PERFORMANCE**

    It describes the capability of the system to maintain the stock without any loss of stock and performing it efficiently.

6. **RELIABILITY**

    The stock maintenance system should be able to maintain the stock with correct updates from day to day placement of new orders from customer.

7. **FUNCTIONAL REQUIREMENTS**

    Functional requirements are those refer to the functionality of the system. That is the services that are provided to the customer who places the orders.

UML DIAGRAMS

    The following UML diagrams describe the process involved in the online recruitment system

- Use case diagram
- Class diagram
- Sequence diagram
- Collaboration diagram
- State chart diagram

- Activity diagram
- Component diagram
- Package diagram
- Deployment diagram

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.

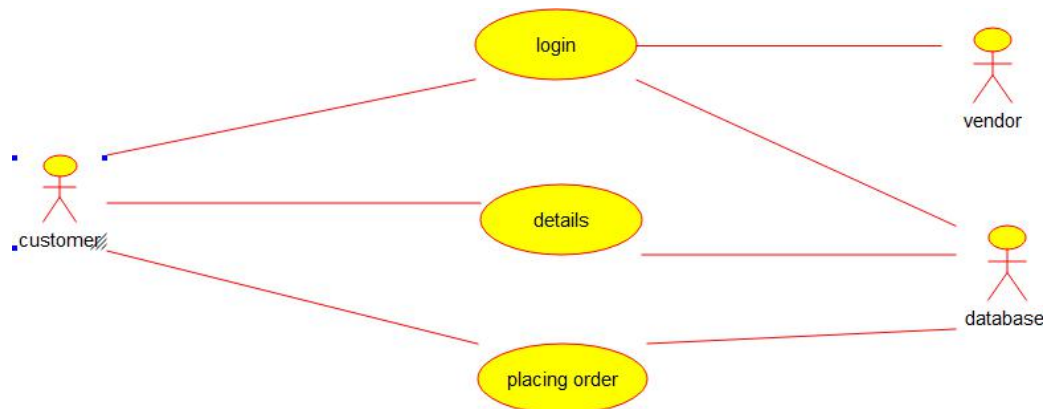Actor is any external entity that makes use of the system being modeled. It is represented using stick figure.

Figure 1 : Usecase Diagram for Stock Maintenance System

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 thedatabase. 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.
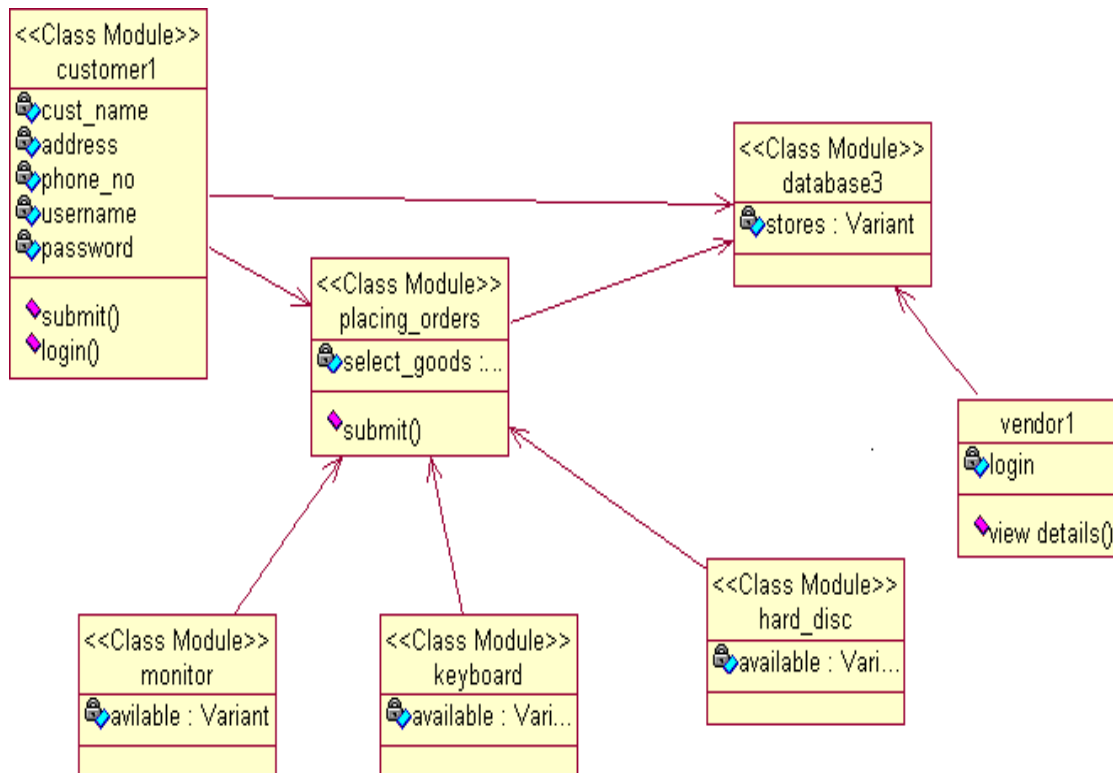

Figure 2 : Class Diagram for Stock Maintenance System

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. Vertical dimension-represent time.

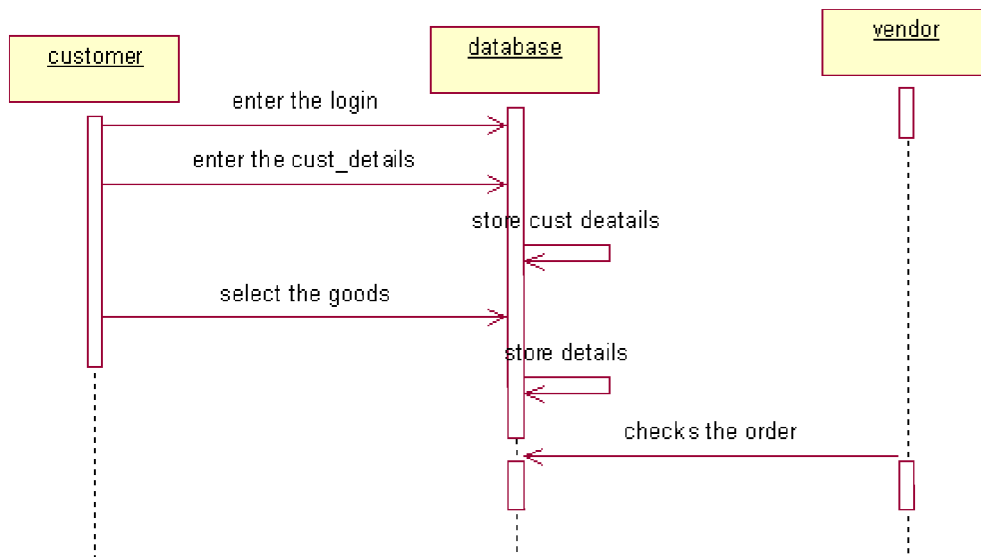2. Horizontal dimension-represent different objects.

Figure 3 : Sequence Diagram for Stock Maintenance System

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.

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
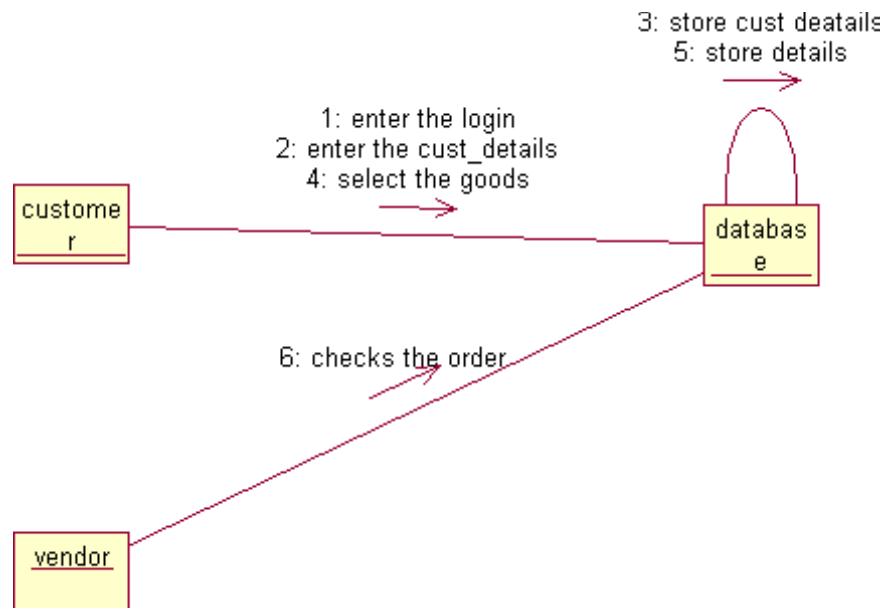
Figure 4 : Collaboration Diagram for Stock Maintenance System

DOCUMENTATION OF COLLABRATION 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.
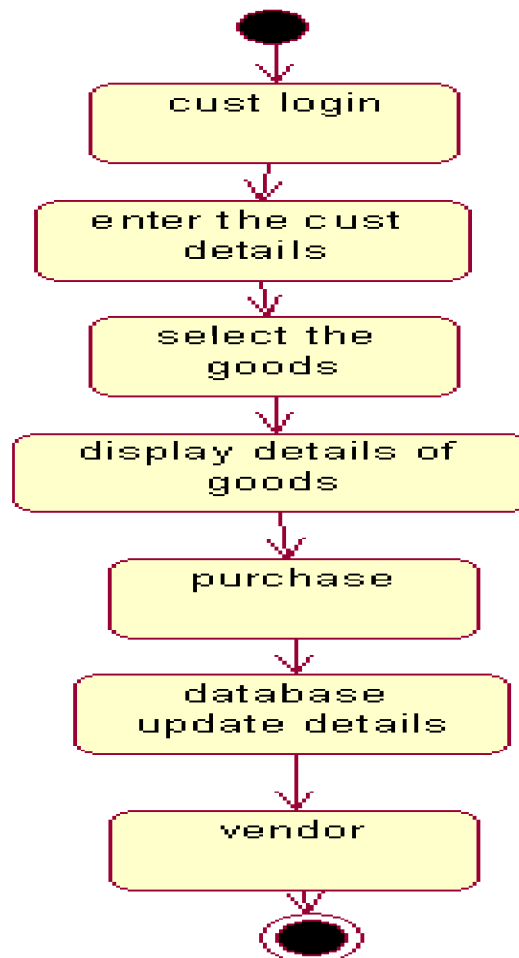
Figure 5 : State Chart Diagram for Stock Maintenance System

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.
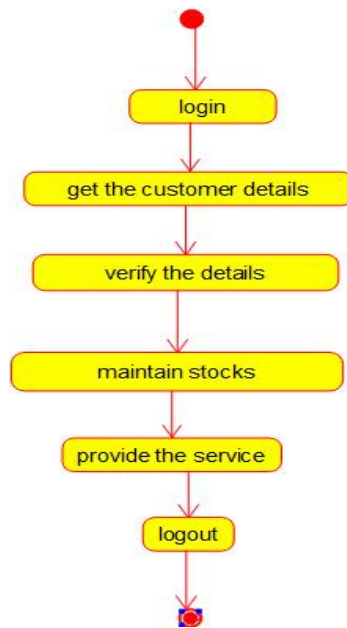
VENDOR:

Figure 6 : Activity Diagram for Vendor in Stock Maintenance System

CUSTOMER:

Figure 7 : Activity Diagram for Customer in Stock Maintenance System

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 association.
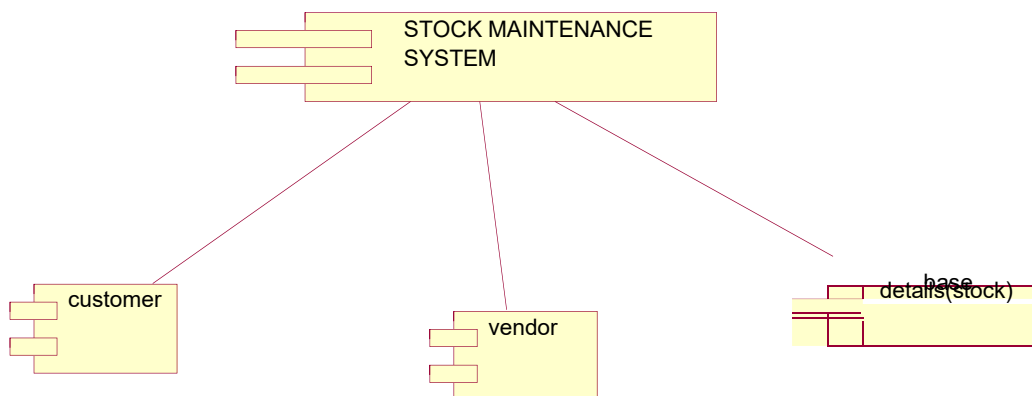

Figure 8 : Component Diagram for Stock Maintenance System

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.

PACKAGE DIAGRAM

A package diagram in unified modeling language that depicts the dependencies between the packages that make up a model. A Package Diagram (PD) shows a grouping of elements in the OO model, and is a Cradle extension to UML. PDs can be used to show groups of classes in Class Diagrams (CDs), groups of components or processes in Component Diagrams (CPDs), or groups of processors in Deployment Diagrams (DPDs).

There are three types of layer. They are

User interface layer

Software objects representing domain concepts that fulfill application requirements, such as calculation of a sale total.

Domain layer

Layer that contains domain objects to handle application logic work

Technical services layer

     General purpose object and sub system that provide supporting technical services, such as interfacing with a database logging.
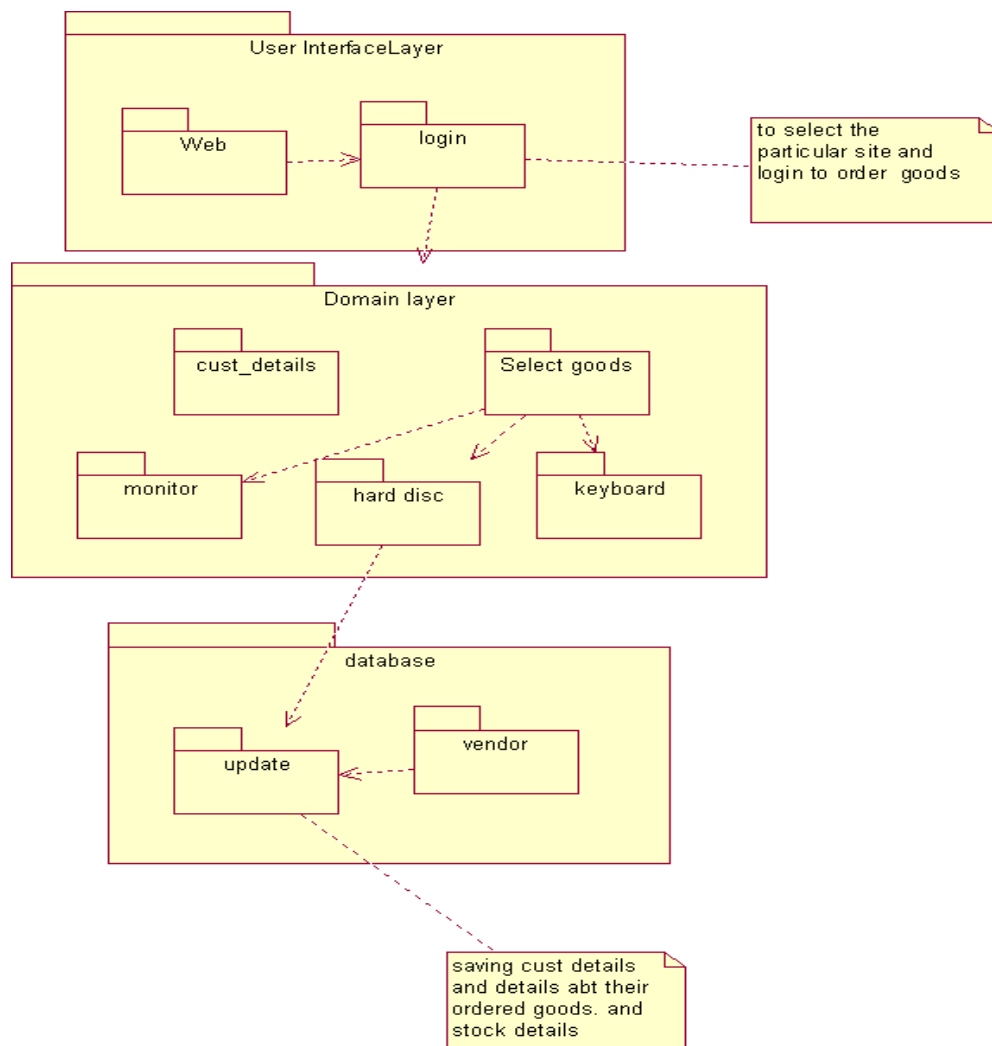

Figure 9 : Package Diagram for Stock Maintenance System

DOCUMENTATION OF PACKAGE DIAGRAM

     The three layers in the online recruitment system are

- **The User interface layer** - consists of the web and login. This layer describes how the applicant logins to the website and places the order.

- **The Domain layer** – shows the activities that are performed by the customer to place the orders.

56

- **The Technical service layer -** the vendor logins and verifies the customer orders and stock details.

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.

Figure 10 : Deployment Diagram for Stock Maintenance System

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.

ONLINE COURSE RESERVATION SYSTEM

Experiment No:5

AIM : To design an object oriented model for course reservation system.

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.

SYSTEM REQUIEMENT SPECIFICATION GLOSSARY

Generally a glossary is performed to define the entire domain used in the problem. It defines about the storage items that are familiar to the uses it provided these definitions and information about the attribute we are using in the particular project to the use,

DEFINITIONS

The glossary contain the working definition for the key concept in the course registration system.

COURSE

The course which are offered by the institution

COURSE CATALOG

The un a bridged for all the course offered by the institution.

GRADE

The ranking of a particular student for a particular course offered

PROFESSOR

A person who reaches the course

CERTIFICATE

It is the proof for the completion the course

REGISTER

One who register the course for the student

OBJECTIVES

- The main purpose of creating the document about the software is to know about the list of the requirement in the software project part of the project to be developed.

- It specifies the requirement to develop a processing software part thatcompletes the set of requirement.

SCOPE

- In this specification, we define about the system requirements that are about from the functionality of the system.

- It tells the users about the reliability defined in usecase specification

FUNCTIONALITY

Many members of the process line to check for its occurrences and transaction, we are have to carry over at sometimes

USABILITY

The user interface to make the transaction should be effectively

PERFORMANCE

It is the capability about which it can performed function for many user at sometimes efficiently (i.e.,) without any ever occurrences

RELIABILITY

The system should be able to the user through the day to day transaction.

USERCASE 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
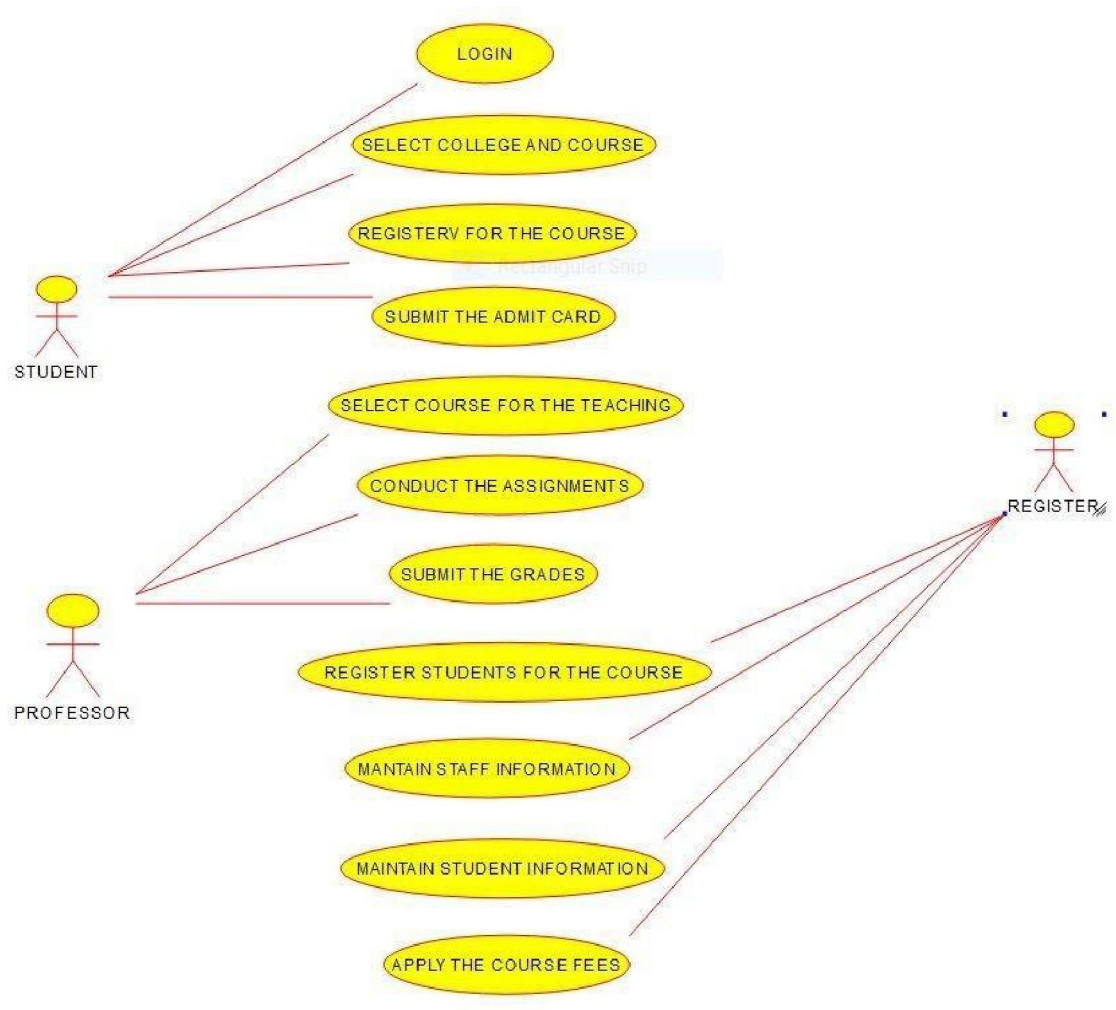

Figure 1 : Usecase Diagram for Online Course Reservation System

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 objects in the system the various kinds of static relationship that exist among them.
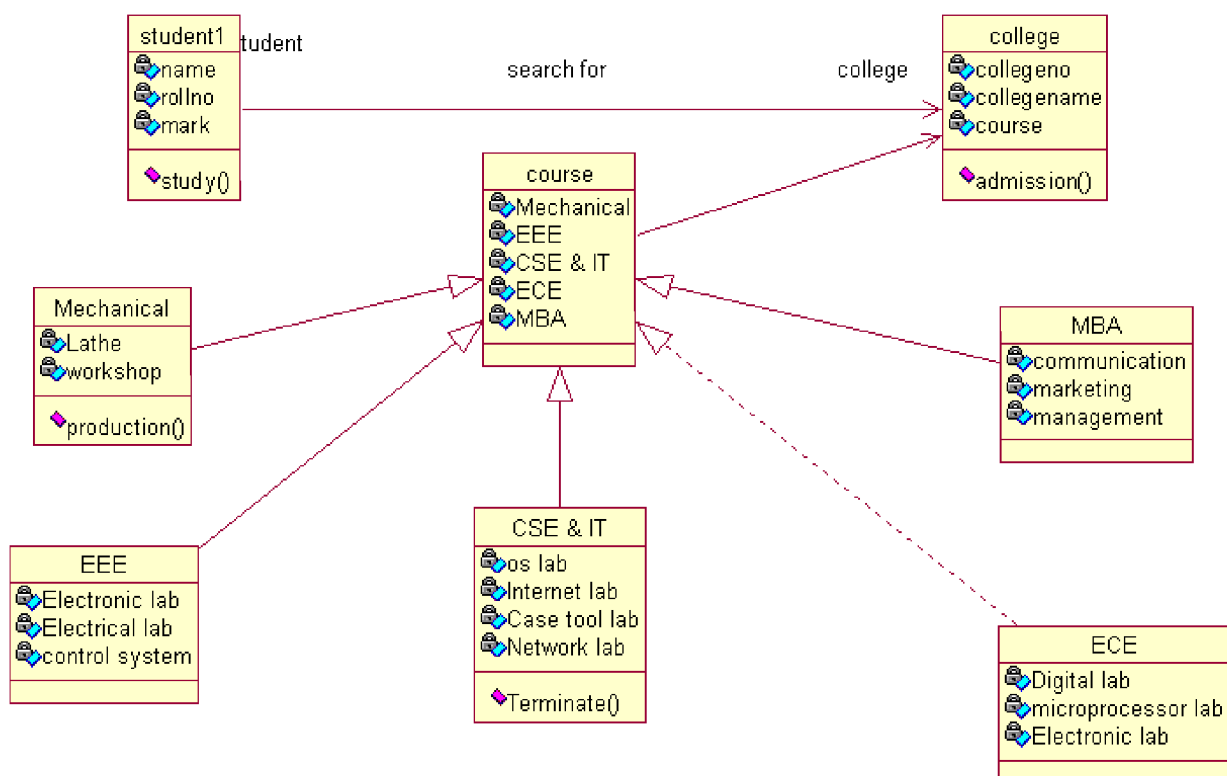
Figure 2 : Class Diagram for Online Course Reservation System

DOCUMENTATION OF CLASS DIAGRAM

- The various classes involved in the system are registered student record, professor record all administration 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.

LOGIN:
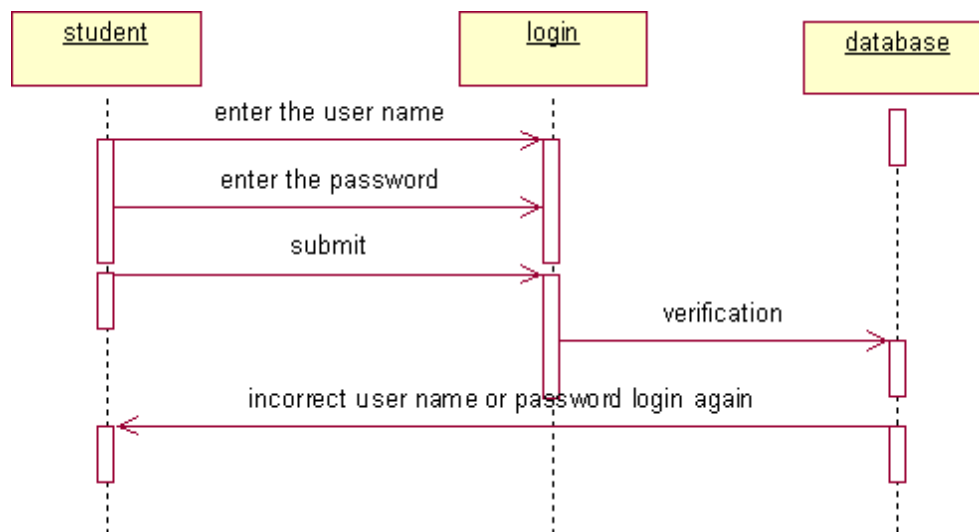
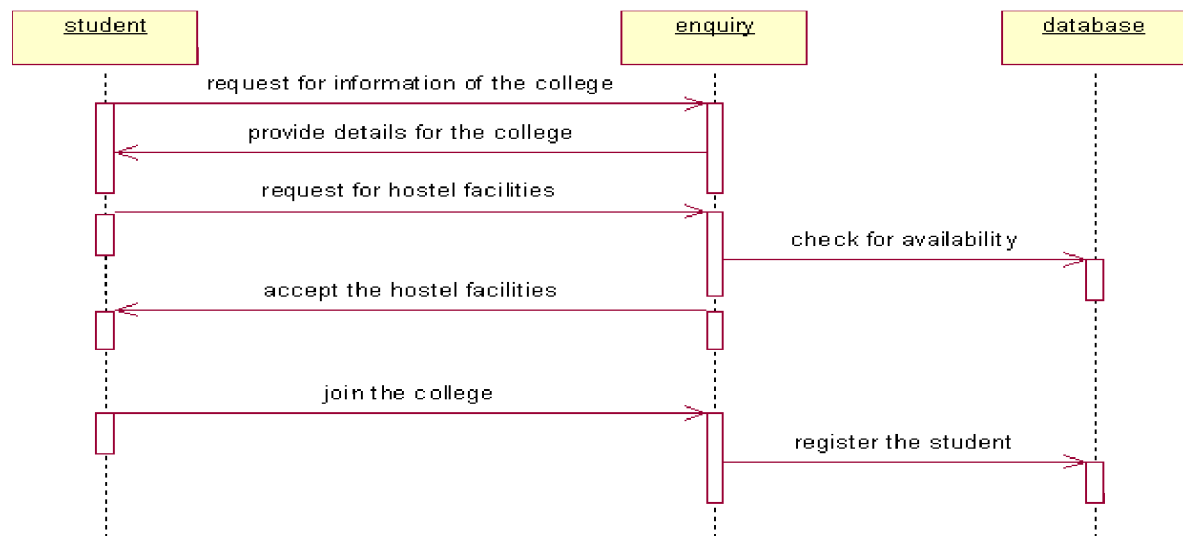**Figure 3 : Sequence Diagram for Login in Online Course Reservation System**

ENQUIRY:

Figure 4 : Sequence Diagram for Enquiry in Online Course Reservation System
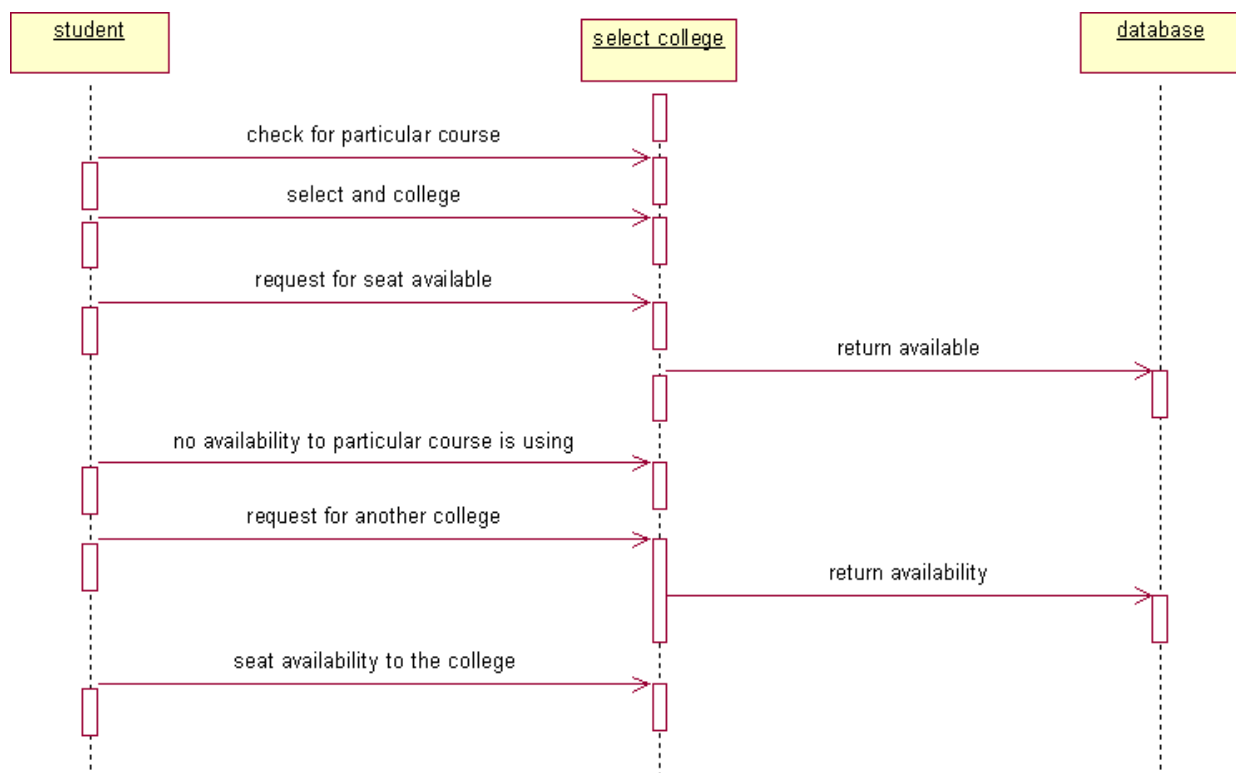
SELECT COLLEGE:

Figure 5 : Sequence Diagram for Select College in Online Course Reservation System

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 evaluate for the issue of grade sheet and the grade are submitted.

COLLOBORATIION 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.
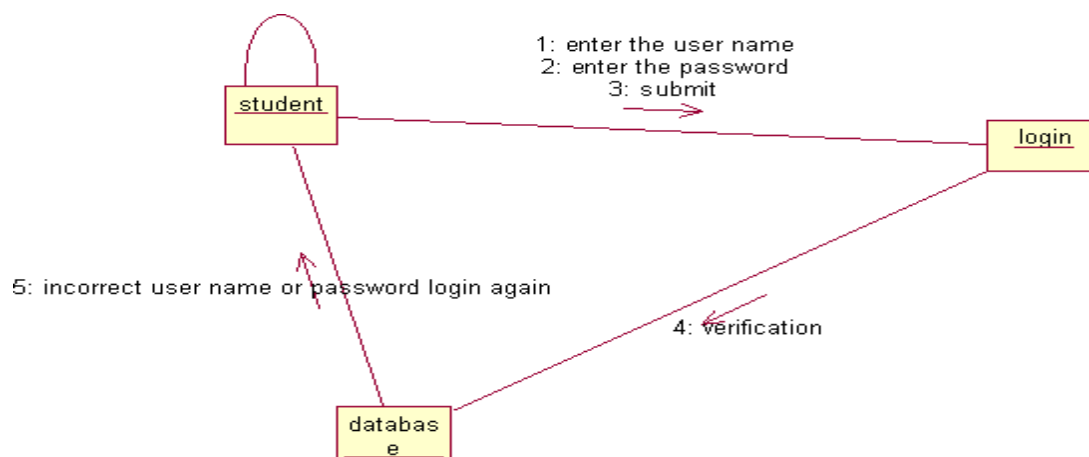
LOGIN:

Figure 6 : Collaboration Diagram for Login in Online Course Reservation System
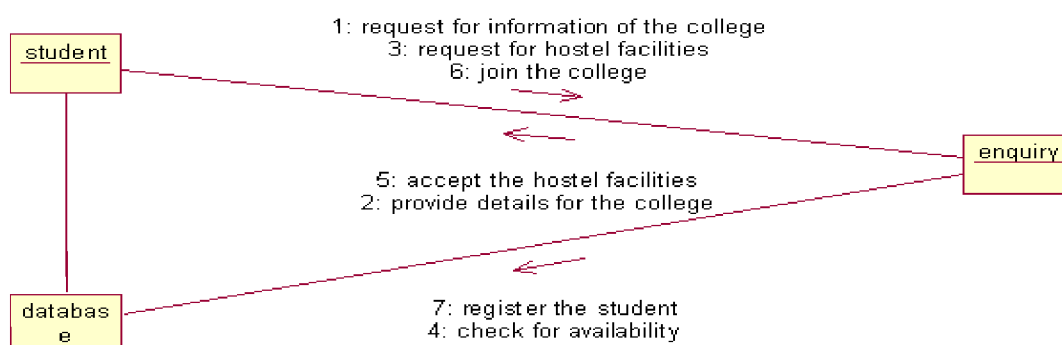
ENQUIRY:

Figure 7 : Collaboration Diagram for Enquiry in Online Course Reservation System
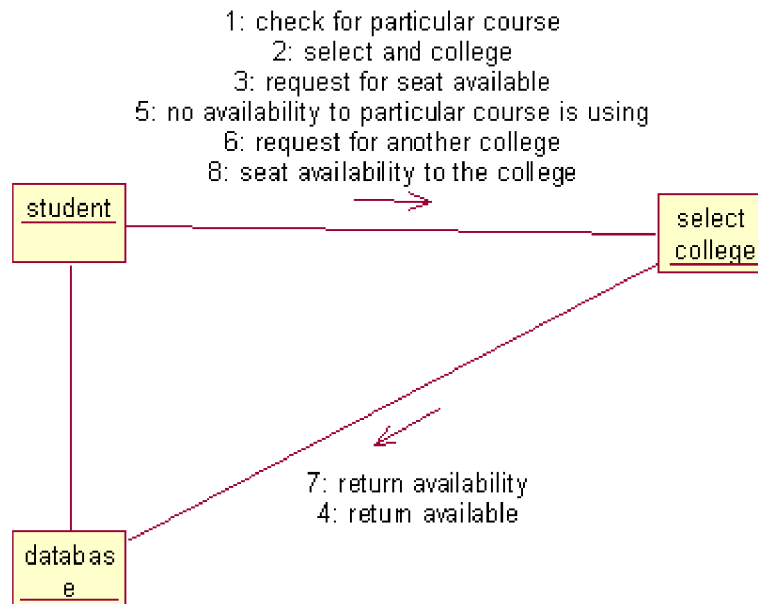
SELECT COLLEGE:

Figure 8 : Collaboration Diagram for Select College in Online Course Reservation System

DOCUMENTATION OF COLLOBORATION 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 grade 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 DIAGRAM

It is a technique to describe the behavior 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.
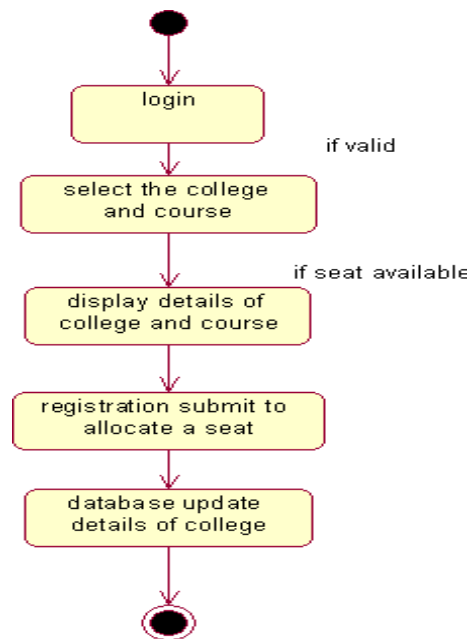
65

Figure 9 : State Chart Diagram for Online Course Reservation System

DOCUMENTATION OF THE STATE 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 analyzed for the grade sheet purpose

- After the certification the registration is closed.

ACTIVIY DIAGRAM

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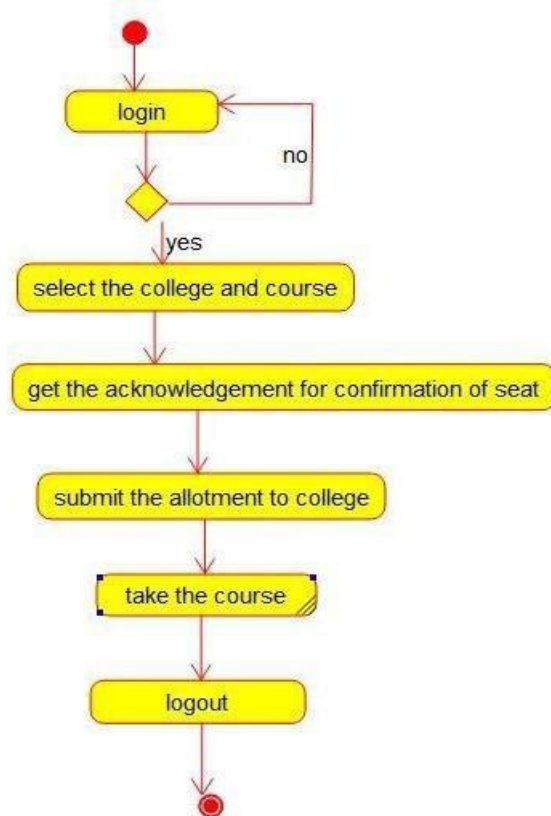
STUDENT:

Figure 10 : Activity Diagram for Student in Online Course Reservation System
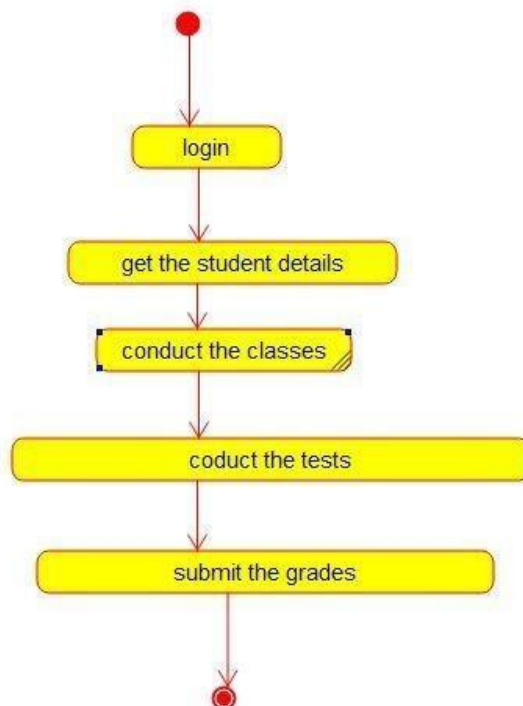
PROFESSOR:

Figure 11 : Activity Diagram for Professor in Online Course Reservation System
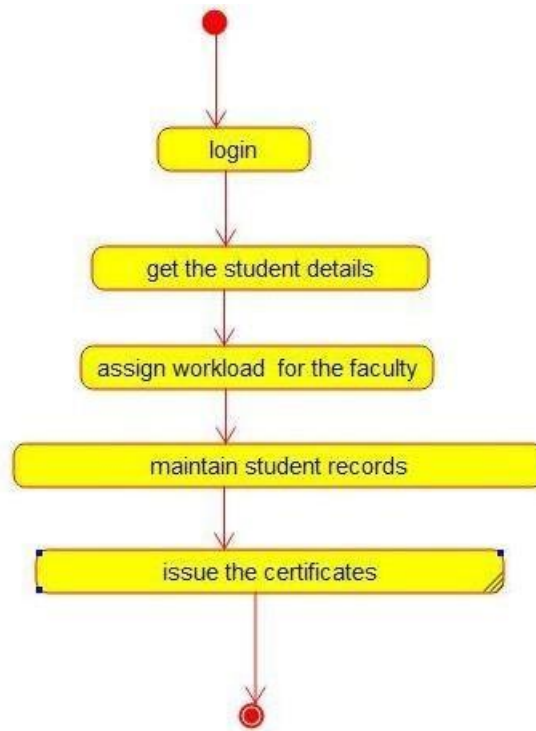
REGISTER:

Figure 12 : Activity Diagram for Register in Online Course Reservation System

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.

SOFTWARE DEVELOPMENT AND DEBUGING

- Using STAR UML software the software development and debugging is done

- This gives the over view of the project by the generation of definition and implementation of packages classes with all the relationship method and constructor

- We debug the diagram using log file and rectify the immoral relationship that exist among them and finally produce the project perfect diagram which gives exact print of the project.

SOFTWARE TESTING

- In this step we prepare their plan for testing the diagram

- We perform the validation for the various data involved into the projects

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.
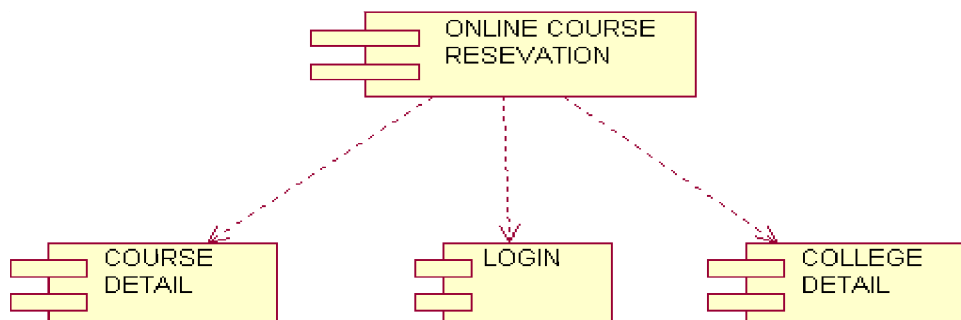

Figure 13 : Component Diagram for Online Course Reservation System

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.

PACKAGE DIAGRAM

A package diagram is represented as a folder shown as a large rectangle with a top attached to its upper left corner. A package may contain both sub ordinate package and ordinary model elements. All uml models and diagrams are organized into package. A package diagram in unified modeling language that depicts the dependencies between the packages that make up a model. A Package Diagram (PD) shows a grouping of elements in the OO model, and is a Cradle extension to UML. PDs can be used to show groups of classes in Class Diagrams (CDs), groups of components or processes in Component Diagrams (CPDs), or groups of processors in Deployment Diagrams (DPDs). There are three types of layer. They are

- User interface layer
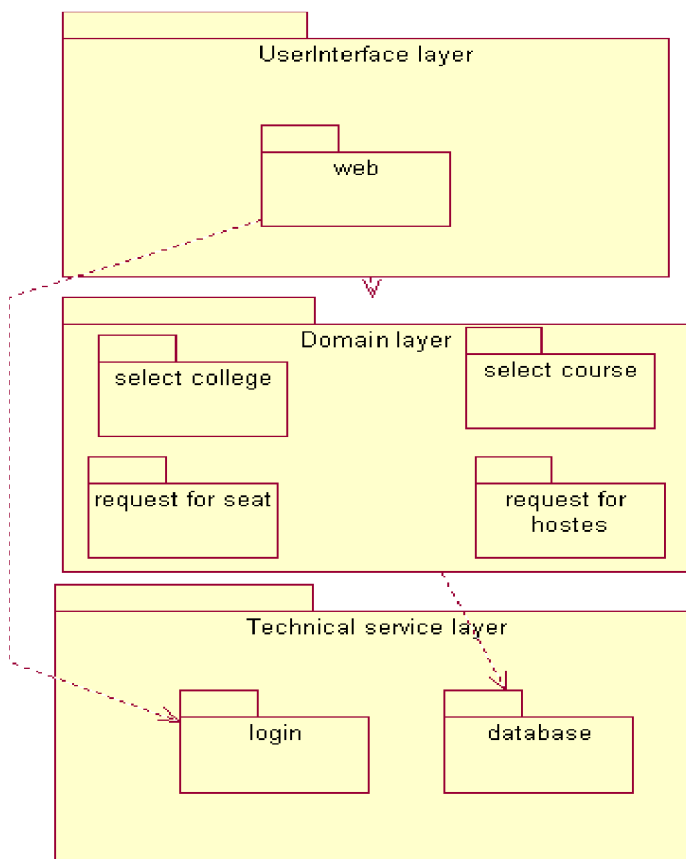
- Domain layer
- Technical services layer

Figure 14 : Package Diagram for Online Course Reservation System

DOCMENTATION OF PACKAGE DIAGRAM:

- The three layer of online course reservation are user interface layer, domain layer and technical service layer

- **The user interface layer-** represent the user interface component such as web where the student login

- **The domain layer-** has the major action such as select college, select course, request for seat and request for hostel.

- **Technical service layer-**only authenticated user can access the technical service.

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.
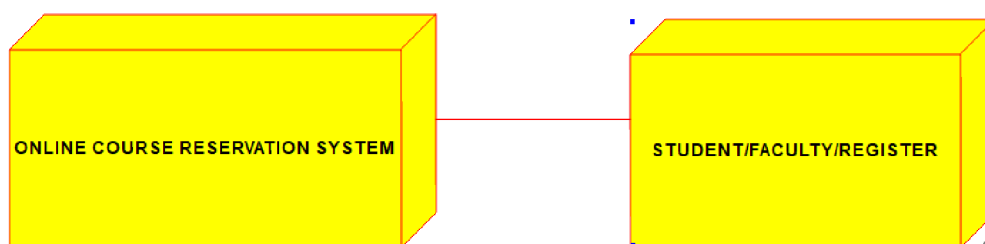

Figure 15 : Deployment Diagram for Online Course Reservation System

DOCUMENTATION OF DEPLOYMENT DIAGRAM

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

Experiment No:6

AIM : To develop the E-Ticketing System.

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 reserve 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 search for ticket or else the person will cancelled the ticket if he/she no need.

SRS DOCUMENT

S.NO	TABLE OF CONTENTS
1	**INTRODUCTION** Purpose Scope References Technology To Be Used Tools Be Used Overview

2	OVERALL DESCRIPTION
	Functionality
	Usability
	Performance
	Reliability

Purpose

The applicant should login to the database for reserving the ticket.

References

IEEE Software Requirement Specification format.

Technology To Be Used

Microsoft Visual Basic 6.0

Tools Be Used

STAR UML tool (for developing UML Patterns)

Overview

SRS includes two sections overall description and specific requirements - Overall description will describe major role of the system components and inter- connections. Specific requirements will describe roles & functions of the actors.

2. OVERALL DESCRIPTION

Functionality

The database should be act as a main role of the e-ticketing system it can be booking the ticket in easy way.

Usability

The User interface makes the Credit Card Processing System to be efficient.

Performance

It is of the capacities about which it can perform function for many users at the same times efficiently that are without any error occurrence.

Reliability

The system should be able to process the user for their corresponding request.

UML DIAGRAMS

The project can be explained diagrammatically using the following diagrams.

- Use case diagram
- Class diagram
- Sequence diagram
- Collaboration diagram
- Activity diagram
- Component diagram
- Package diagram
- Deployment diagram

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.
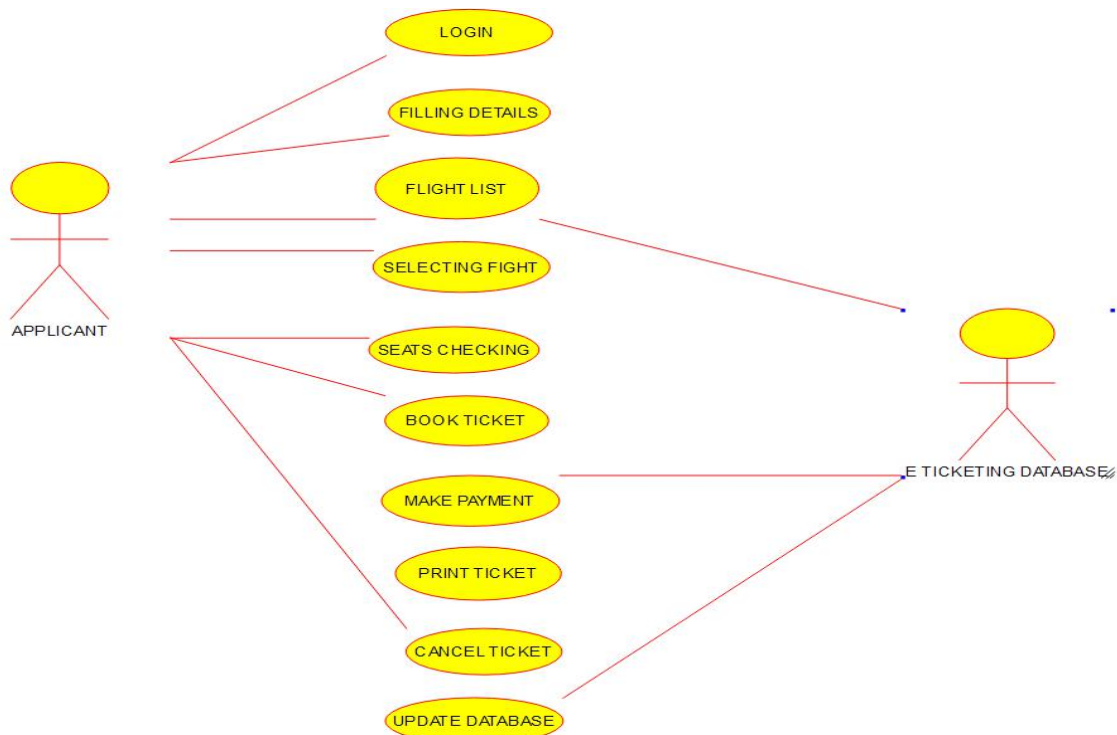
Figure 1 : Usecase Diagram for E-Ticketing

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

Search –it is used to search the flight details.

Cancel Ticket- it is used to cancel 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 class name, middle compartment the attributes and the bottom compartment with operations.
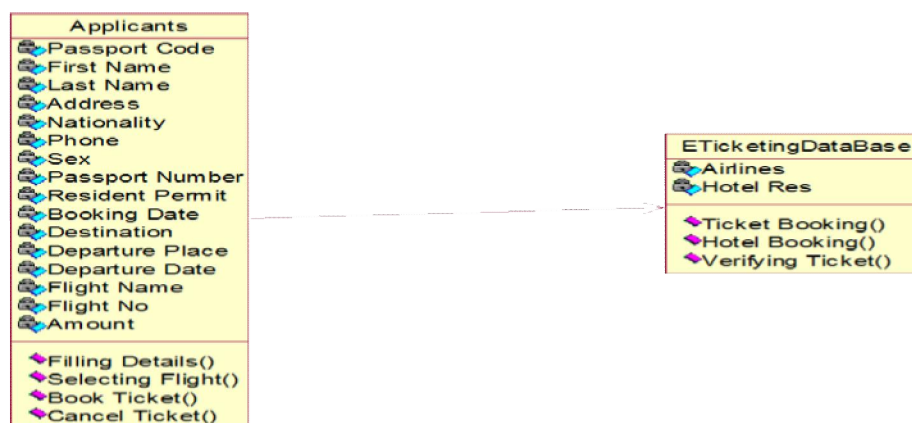

Figure 2 : Class Diagram for E-Ticketing

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.
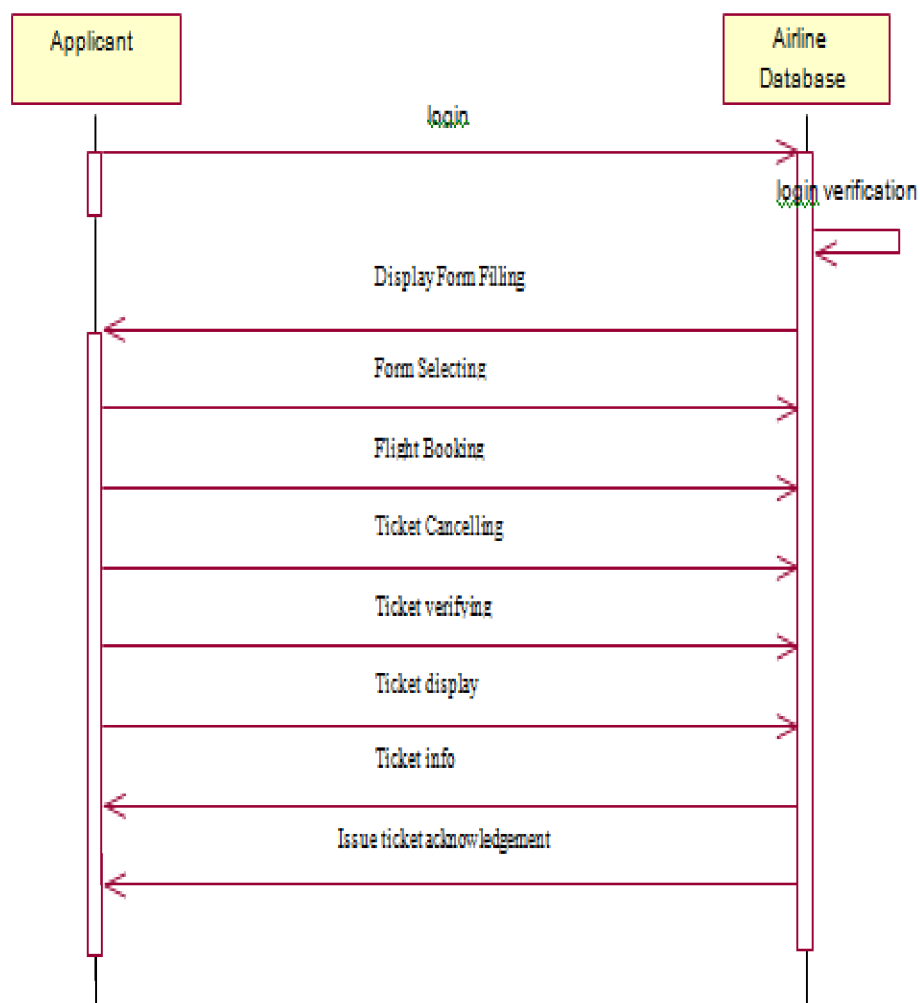2. Horizontal dimension-represent different objects.

Figure 3 : Sequence Diagram for E-Ticketing

DOCUMENTATION OF SEQUENCE DIAGRAM

- 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 displays the ticket information.

- In case of any sudden change of the plan, the applicant can cancel the ticket.

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.
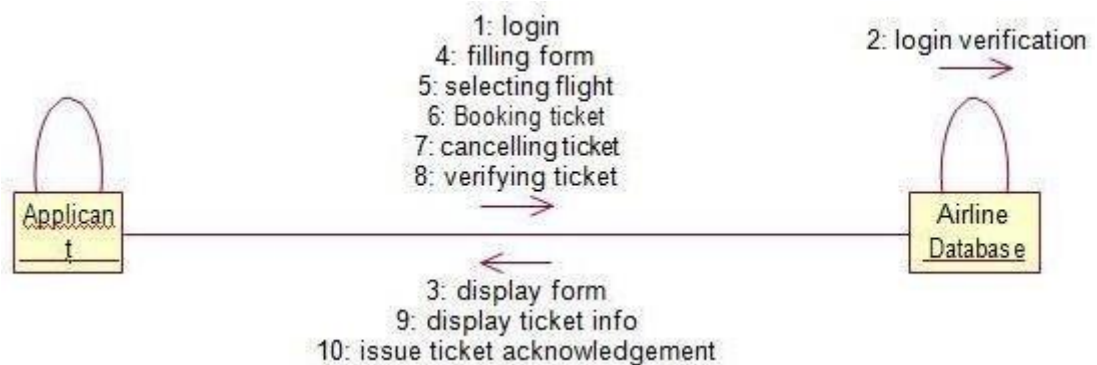
Figure 4 : Collaboration Diagram for E-Ticketing

DOCUMENTATION OF COLLABRATION 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.

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.
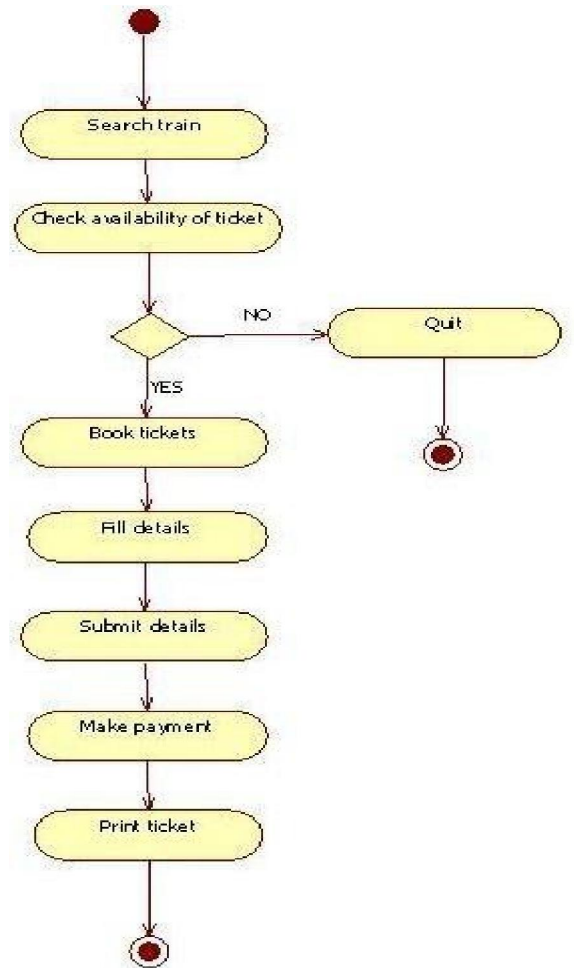
APPLICANT:

Figure 5 : Activity Diagram for Applicant in E-Ticketing
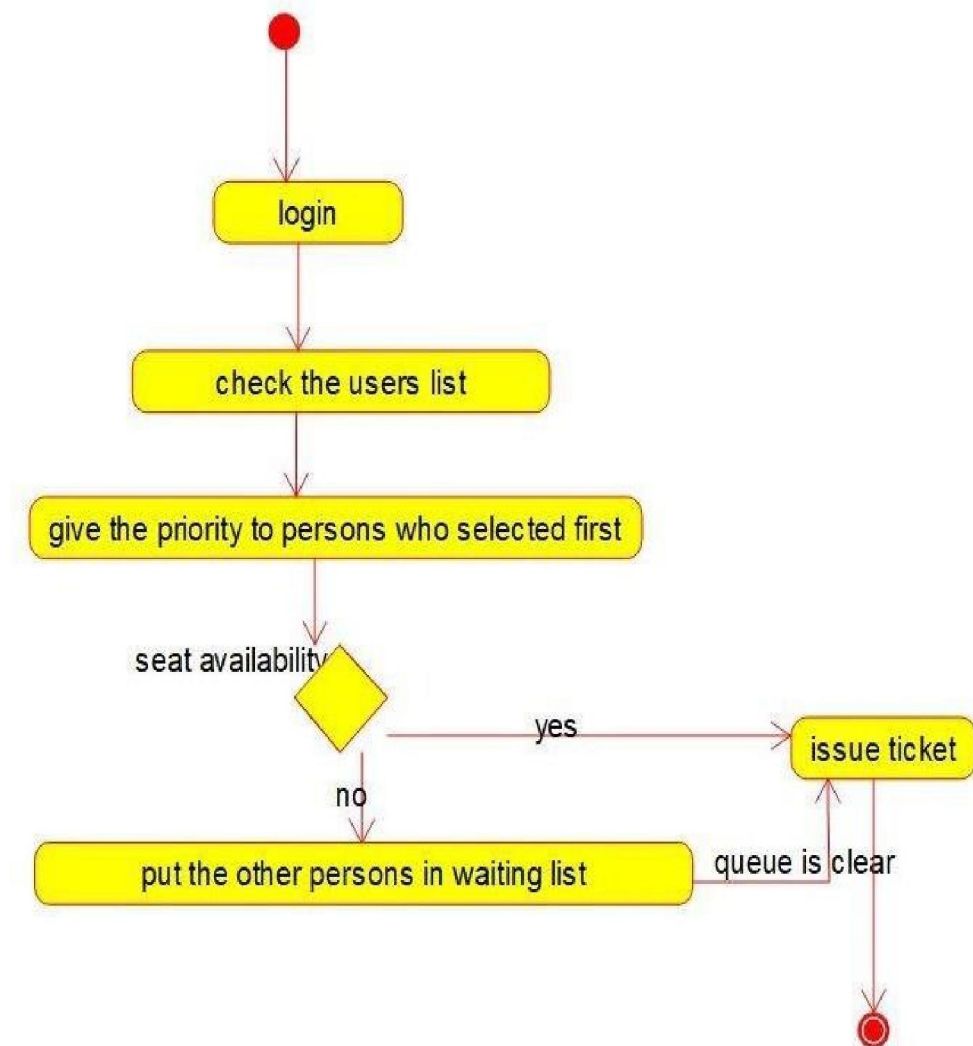
ETICKETING DATABASE:

Figure 6 : Activity Diagram for E-Ticketing Database

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.
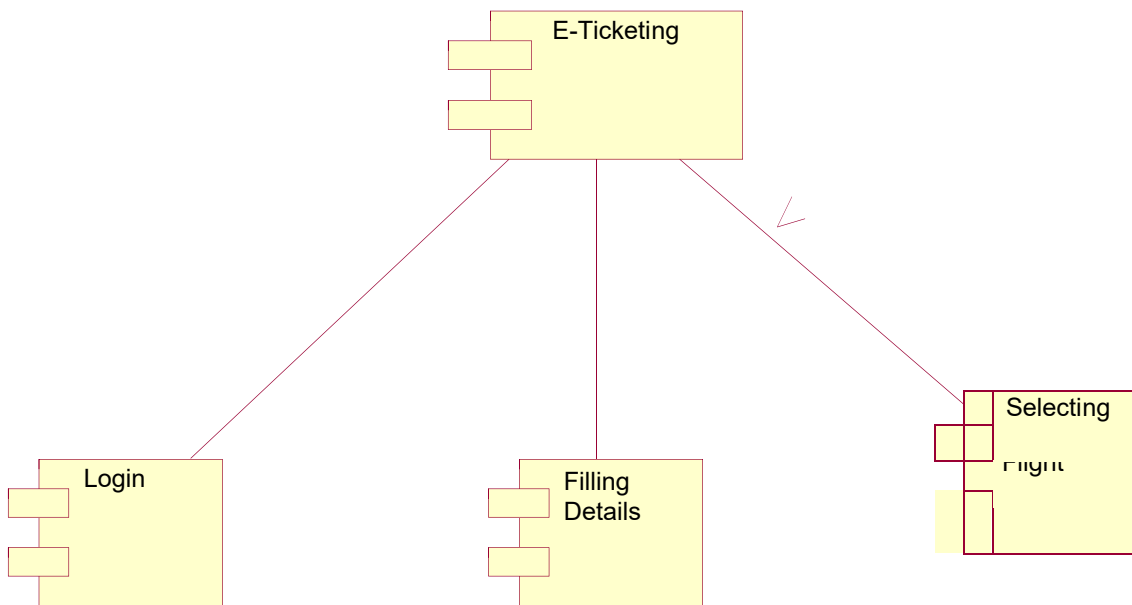
Figure 7 : Component Diagram for E-Ticketing

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.

PACKAGE DIAGRAM

A package diagram in unified modeling language that depicts the dependencies between the packages that make up a model. A Package Diagram (PD) shows a grouping of

elements in the OO model, and is a Cradle extension to UML. PDs can be used to show groups of classes in Class Diagrams (CDs), groups of components or processes in Component Diagrams (CPDs), or groups of processors in Deployment Diagrams (DPDs).

There are three types of layer. They are

- User interface layer
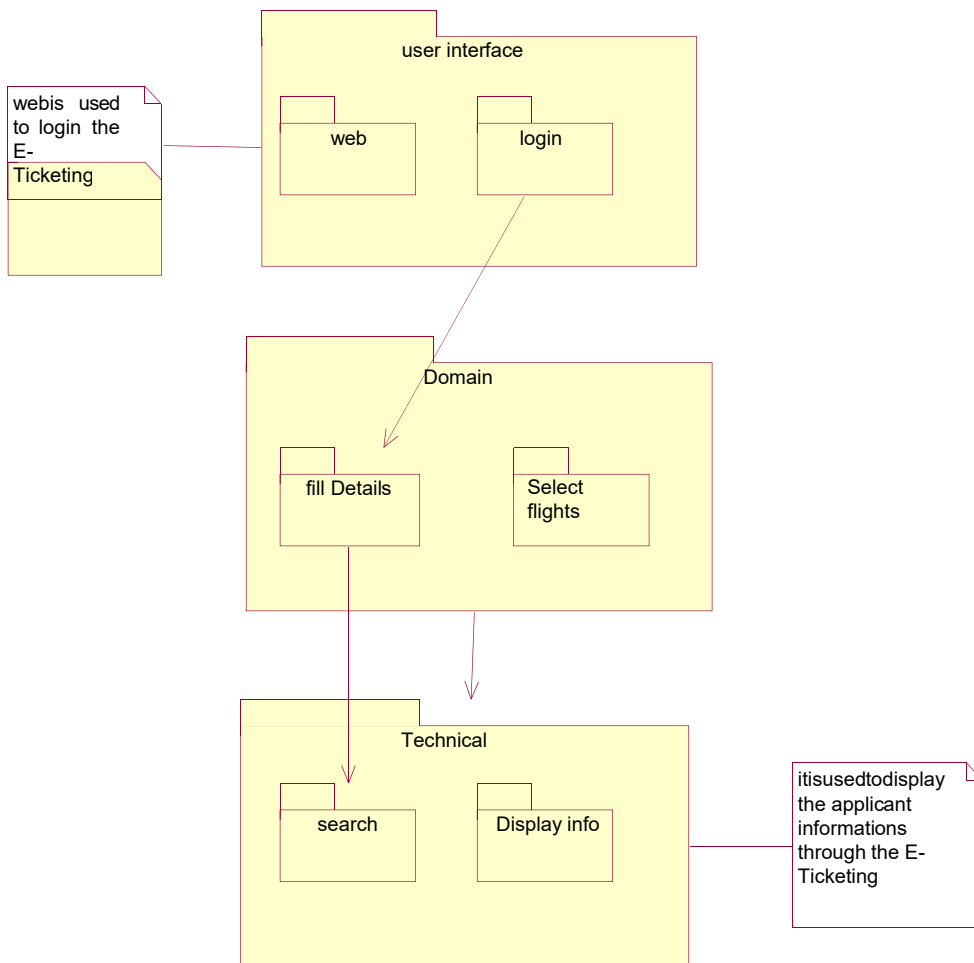- Domain layer
- Technical services layer

web is used to login the E-Ticketing

user interface

web

login

Domain

fill Details

Select flights

Technical

search

Display info

itisusedtodisplay the applicant informations through the E-Ticketing

Figure 8 : Package Diagram for E-Ticketing

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.
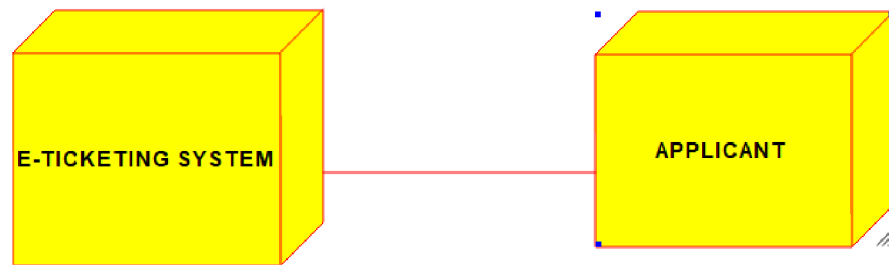
Figure 9 : Deployment Diagram for E-Ticketing

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.

EMPLOYEE MANAGEMENT SYSTEM

Experiment No:7

AIM

To develop a project employee management system.

PROJECT ANALYSIS AND PROJECT PLANNING

The employee management system is used to manage our personnel things such as maintaining databases in offices etc. this project is easy for the CEO to handle the details. This is personally used for CEO.

PROBLEM STATEMENT

The CEO must enter the name and password to login the form and select the particular employee to view the details about that employee and maintaining the employee details personally. This process of employee management system are described sequentially through following steps,

- The CEO login to the employee management system.

- He/she search for the list of employees.
- Then select the particular employee.
- Then view the details of that employee.
- After displaying the employee details then logout.

SOFT REQUIREMENT SPECIFICATION:

S.NO	TABLE OF CONTENTS
1	**INTRODUCTION** Purpose Scope References Technology To Be Used Tools Be Used Overview

2	OVERALL DESCRIPTION
	Product Perspective
	Functionality
	Usability
	Performance
	Reliability
	Assumption and Dependencies

Purpose

The main purpose of creating the document about the software is to know about the list of requirements that is to be developed.

Scope:

It specifies the requirements to develop a processing software part that complete the set of requirements. In this specification, we define about the system requirements that are apart from the functionality of system

References:

IEEE Software Requirements Specification format

Technology to Be Used

Java, JSP, Javascript

Tools to Be Used

STAR UML tool (for developing UML Patterns)

Overview

SRS includes two sections overall description and specific requirements - Overall description will describe major role of the system components and inter-connections. Specific requirements will describe roles & functions of the actors.

OVERALL DESCRIPTION

Product Perspective:

The SPMP acts as an interface between the user and the database. This tries to handle the personnel databases easily.

Functionality:

Many members of the process live to check for the occurrence and transaction, we all have to carry over at sometime.

Usability:

The User interface makes the employee Management System to be efficient.

Performance:

It is the capability about which it can perform function for many users at the same time for the efficiency (i.e.) without any error occurrences.

Reliability:

The system should be able to the user through the day to day transactions.

Assumptions and dependencies:

The user must have the basic knowledge of computer and English language. The user must correctly login the database.

UML DIAGRAMS:

The following UML diagrams describe the process involved in the online recruitment system.

- Use case diagram

- Class diagram
- Sequence diagram
- Activity diagram

The project can be explained diagrammatically using the following diagrams.

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.
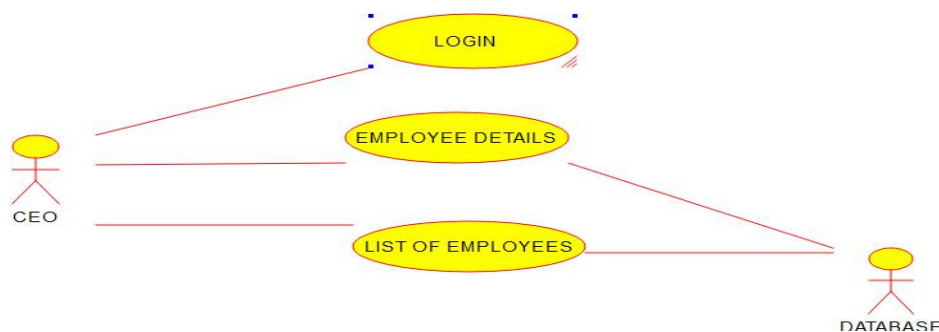

Figure 1 : Usecase Diagram for Employee Management System

DOCUMENTATION OF USE CASE DIAGRAM

The use case diagram in the employee management system illustrates the sequence of sequencing and describing an interaction between a CEO and a system.

Login:

This use case gives as entry to the CEO and the database.

List of employee:

This will create the situation for the CEO to select particular employee from the available list.

Employee details:

The CEO can able to view the details of the employee using this use case.

ACTIVITY DIAGRAM

The Activity diagram describes the sequencing of activity will support for both conditional and parallel. An activity is a variant of state diagram.
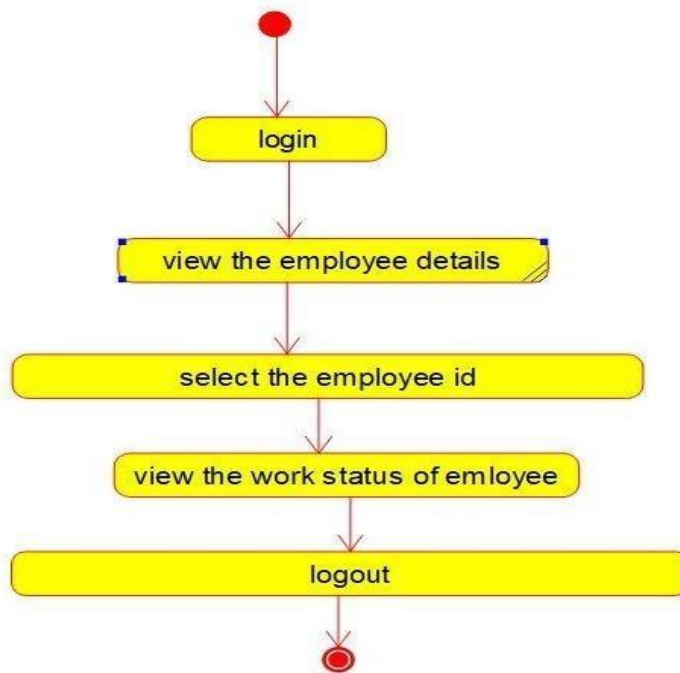
CEO:

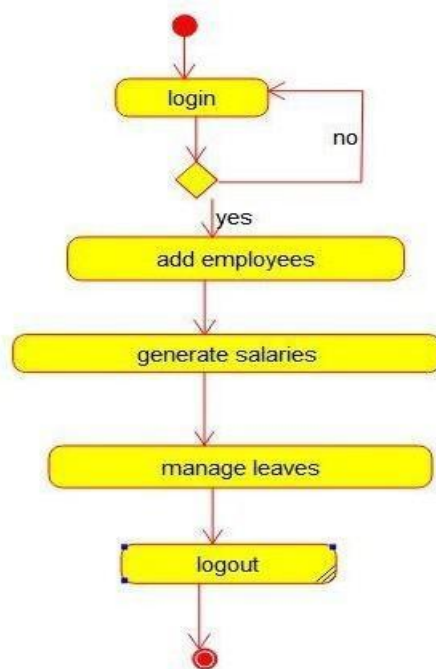**Figure 2 : Activity Diagram for CEO in Employee Management System**

ADMIN:

Figure 3 : Activity Diagram for Admin in Employee Management System

DOCUMENTATION OF ACTIVITY DIAGRAM

        The CEO Logins to the employee management system. He/she selects a particular employee from the list of available employee. The CEO can view the details of the particular employee by clicking the respective button. After viewing the details he is logout from the system.

CLASS DIAGRAM

        The Class diagram the types of object in the system a various kinds of static relationships that exists among them.
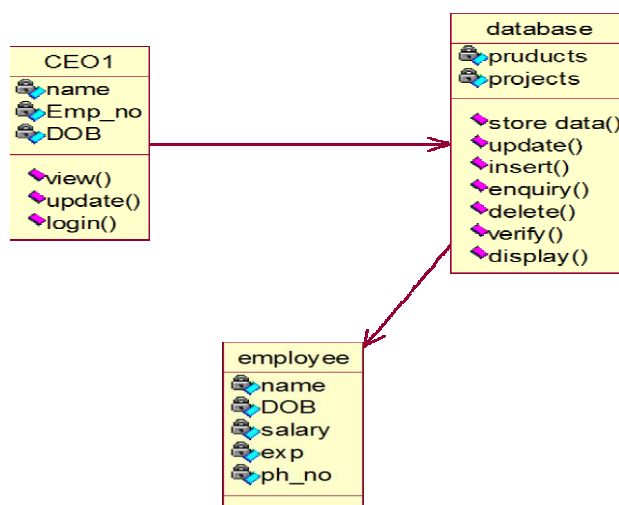

Figure 4 : Class Diagram for Employee Management System

DOCUMENTATION OF CLASS DIAGRAM

The Classes used in this project are

CEO: The CEO has to login the form by specifying the name and password of him. **Database:** The database checks whether the CEO has given the name and password accordingly if not the error message will be displayed.

Available employees: The database is connects to the list of available employees and the CEO if wants then select the employee from it.

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.

LOGIN:
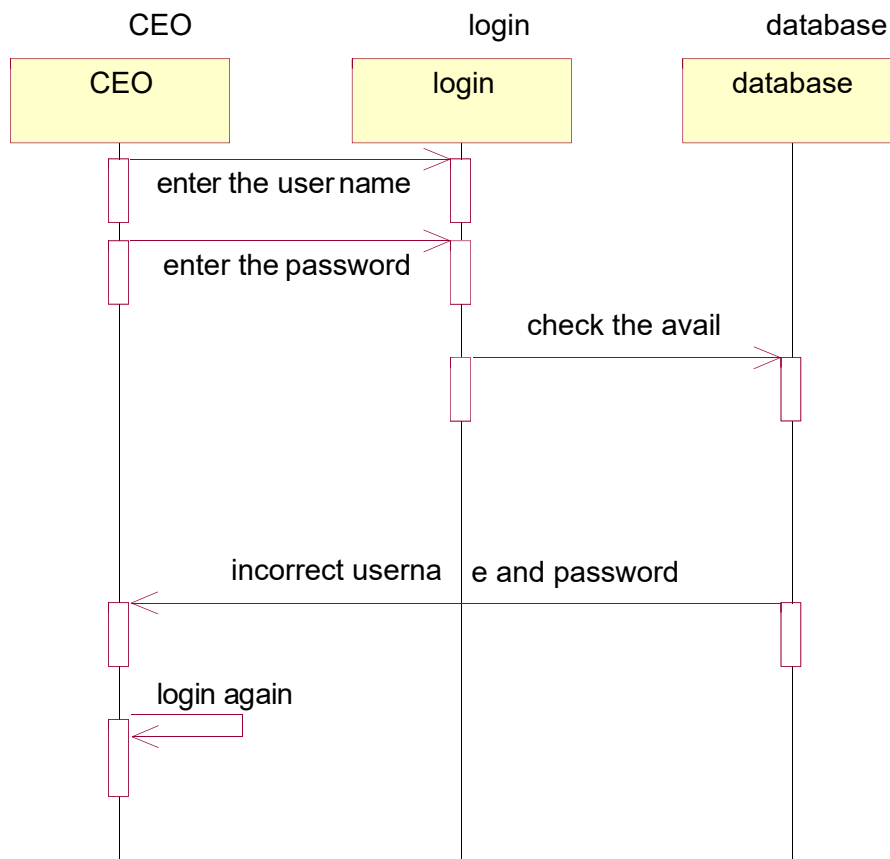
Figure 5 : Sequence Diagram for Login in Employee Management System

EMPLOYEE DETAILS:

| CEO | Employee Details Details | Database |

Request for info of the list of employee

searchin for the list

check for avail

provide the details

check for particular emp details

checking for avail

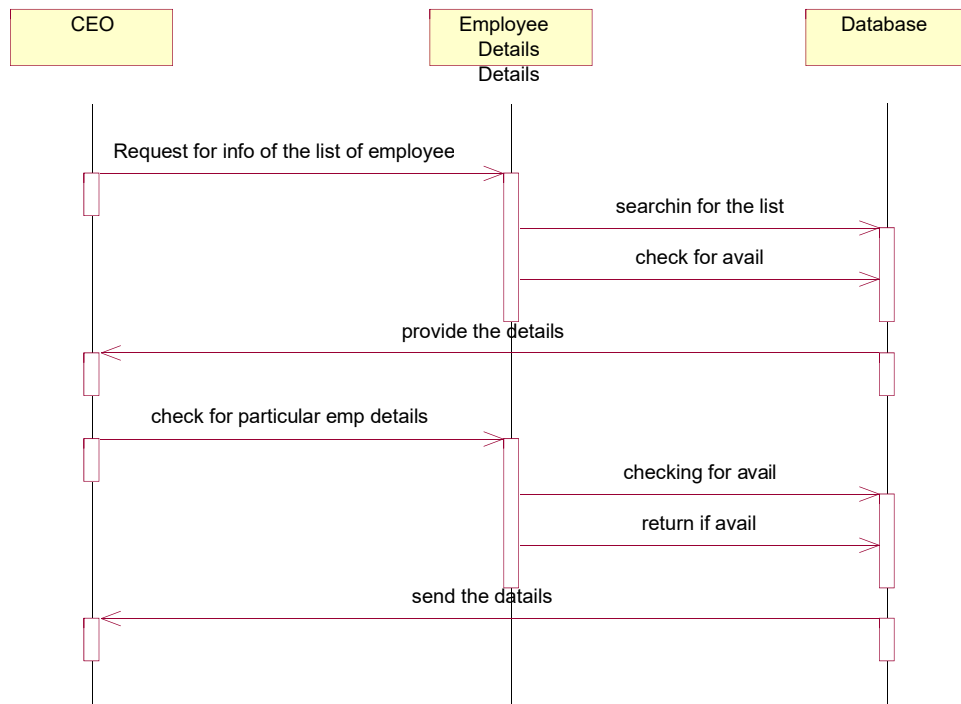return if avail

send the details

Figure 6 : Sequence Diagram for Employee Details in Employee Management System

CREDIT CARD PROCESSING SYSTEM

Experiment No: 8

AIM: To develop a project credit card .

i) 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.

ii)   SOFTWARE REQUIREMENT SPECIFICATION

SNO	SOFTWARE REQUIREMENTS SPECIFICATION
1.0	Introduction
1.1	Purpose
1.2	Scope
1.3	Definition, Acronyms and Abbreviations
1.4	Reference
1.5	Tools to be used
1.6	Technologies to be used
1.7	Overview

1.0 INTRODUCTION:

A credit card is a small plastic card issued to users as a system of payment. It allows its holder to buy goods and services based on the holder's promise to pay for these goods and services. The issuer of the card creates a revolving account and grants a line of credit to the

consumer (or the user) from which the user can borrow money for payment to a merchant or as a cash advance to the user.

When a purchase is made the merchant swipes the card. The information goes to a gateway processor, which either accepts or rejects the transaction. If it is accepted, the transaction is held until the end of the business day. The merchant then reenters the transaction via the gateway processor, the data is logged, and the debt is transferred to the account.

If you are selling to consumers, merchant services will allow you to expand your customer base and provide a more convenient method of payment than cash or checks.

And if you are interested in selling over the Internet, accepting credit card processing is a must. Accepting credit cards allows funds to be transferred to your bank account in less than a week. This can be a welcome relief for businesses that experience a tight cash flow.

The two purchase options for Credit Card Processing facility are:

> Validation only
> Credit card processing (which secures deposits at the time of booking)

With either option, credit card accounts entered during booking are validated to assure that the account is active and in good standing. The credit card processing option also allows properties to process credit card deposits.

1.1 PURPOSE

The customer should purchase an item from the shop by using credit card payment then the vendor should give response to the customers view while a purchasing item from the shop and required processing of transaction should be done by the vendor by using a credit card reader.

1.2 SCOPE

- Automatically connects to your financial network for credit card authorizations and settlements.
- Integrates with Sales Order, Accounts Receivable, and e-Business Manage**r.**
- Support for dial-up (modem) connections or secure Internet connections through TCP/IP and SSL.
- Compliant with Visa and MasterCard Electronic Commerce Indicator (ECI) regulations.

- Multiple address verification options available.

1.3 DEFINITION, ACRONYMS AND ABBREVIATIONS

•**ECI** - Electronic Commerce Indicator

• **HTML** – Markup Language for creating web pages.

• **J2EE** – Java 2 Enterprise Edition is a programming platform java platform for developing and running distributed java applications.

• **HTTP** – Hyper Text Transfer Protocol.

• **TCP/IP -** Transmission Control Protocol/ Internet Protocol is the communication protocol used to connect hosts on the Internet.

1.4 REFERENCES

IEEE Software Requirement Specification format.

1.5 TOOLS TO BE USED

• Eclipse IDE (Integrated Development Environment)

• STAR UML tool (for developing UML Diagrams)

1.6 TECHNOLOGIES TO BE USED

• HTML

• JSP

• Javascript

• Java

1.7 OVERVIEW

SRS includes two sections overall description and specific requirements - Overall description will describe major role of the system components and inter-connections. Specific requirements will describe roles & functions of the actors.

iii) SOFTWARE CONFIGURATION MANAGEMENT AND RISK MANAGEMENT:

SNO	SOFTWARE REQUIREMENTS SPECIFICATION
2.0	Overall description
2.1	Productive description
2.2	Software interface
2.3	Hardware interface
2.4	System functions
2.5	User Characteristic
2.6	Constraints
2.7	Assumption and Dependences

2. 0 OVERALL DESCRIPTION

2.1 PRODUCT PERSPECTIVE

The CCP acts as an interface between the 'Customer' and the 'Card Reader'. This system tries to make the transaction as simple as possible and at the same time not risking the security of data transaction process. This minimizes the time duration in which the user receives the item.

2.2 SOFTWARE INTERFACE

- Front End Client - The applicant and Administrator online interface is built using JSP and HTML. The Administrator's local interface is built using Java.

- Web Server - Apache tomcat application server (Oracle Corporation).

- Back End – Oracle 11g database

2.3 HARDWARE INTERFACE

The server is directly connected to the client systems. The client systems have access to the database in the server.

2.4 SYSTEM FUNCTIONS

1. Accept credit card numbers on the web, store them in database, then process them offline.
2. Credit card processing with Credit card processing system.
3. Credit card processing with a third – party Credit card processing company.

2.5 USER CHARACTERISTICS

1. **User/Customer** - They are the people who desire to purchase the goods using credit card.

2. **Authorization Service**

- Validate the credit card payments to ensure that the card number is valid and the card has not expired.

- Deposit processing to apply the deposit payment to the card.

- Prepare Credit card transaction reports that show authorization codes, amounts, and error/success message.

2.6 CONTRAINTS

• The User interface makes the Credit Card Processing System to be efficient.

• The system should be able to process the user for their corresponding request.

2.7 ASSUMPTION AND DEPENDENCIES

The Vendor and Customer must have basic knowledge of computers and English Language. The vendor may be required to delivered the item purchased by the customer.

iv) STUDY AND USAGE OF DESIGN PHASE CASE TOOL :

StarUML is a sophisticated software modeler aimed to support agile and concise modeling. The key features of StarUML are:

• Multi-platform support (MacOS, Windows and Linux)

• UML 2.x standard compliant

• SysML support

Entity-Relationship diagram (ERD)

• Data-flow diagram (DFD)

• Flowchart diagram

• Multiple windows

• Modern UX

• Dark and light themes

• Retina (High-DPI) display support

• MacPro Pro's Touch Bar support

• Model-driven development

• Open APIs

• Various third-party extensions

- Asynchronous model validation

- Export to HTML docs

- Automatic updates.

v) Performing the Design by using any Design phase CASE tools:

    1) Dataflow Diagram

    2) UML Diagrams

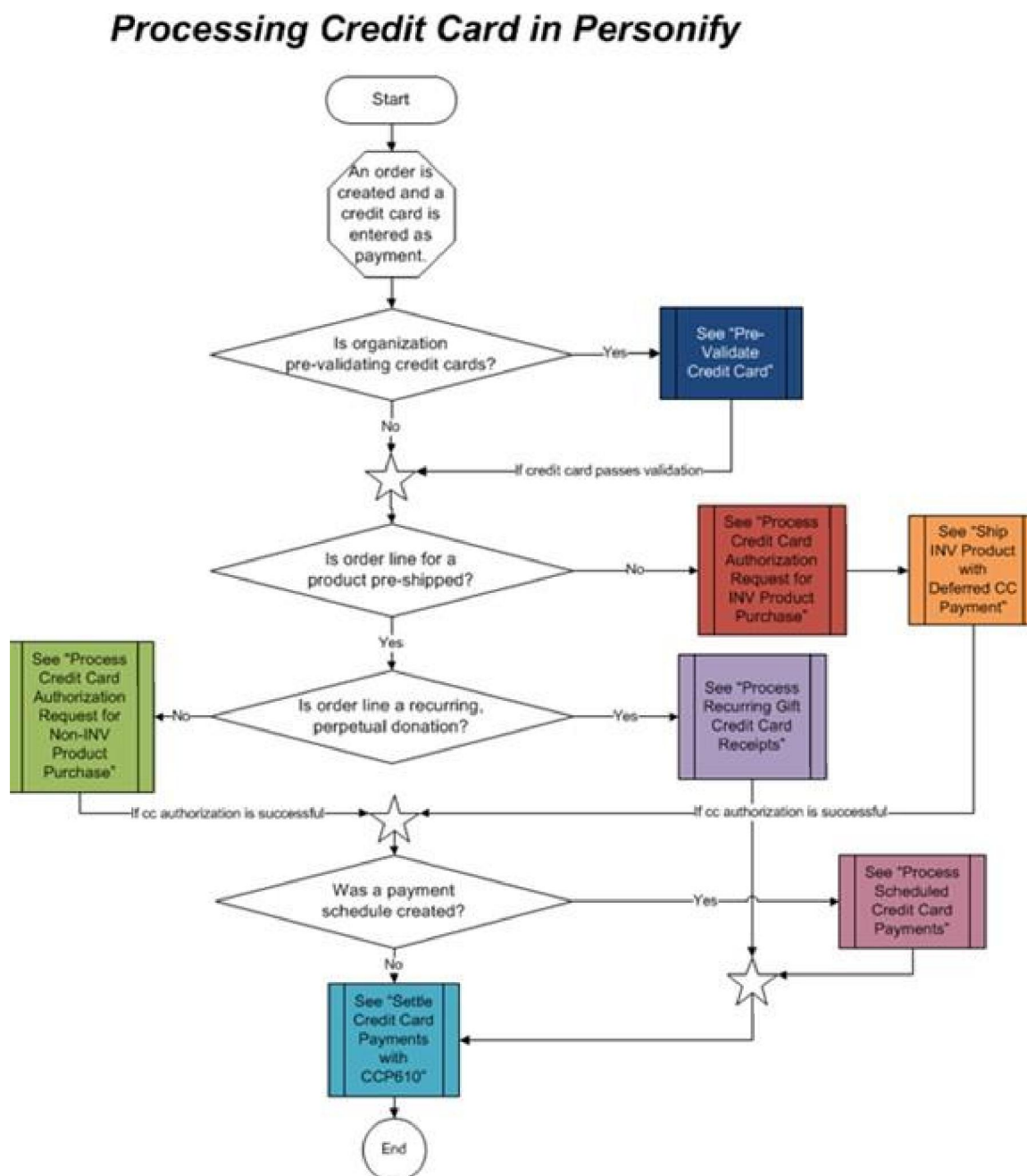**1) Data flow Diagram for credit card processing**

Figure 1 : Dataflow Diagram for Credit Card Processing System

2) UML DIAGRAMS

The following UML diagrams describe the process involved in the online recruitment system.

- Use case diagram
- Activity diagram
- Class diagram
- Component diagram
- State chart diagram
- Sequence diagram
- Collaboration diagram
- Package diagram
- Deployment diagram

USE CASE DIAGRAM

UML provides use case diagram notation to illustrate the names of use case and author relationship between them. Use case diagram and case relationship are secondary in use case work use case text document.
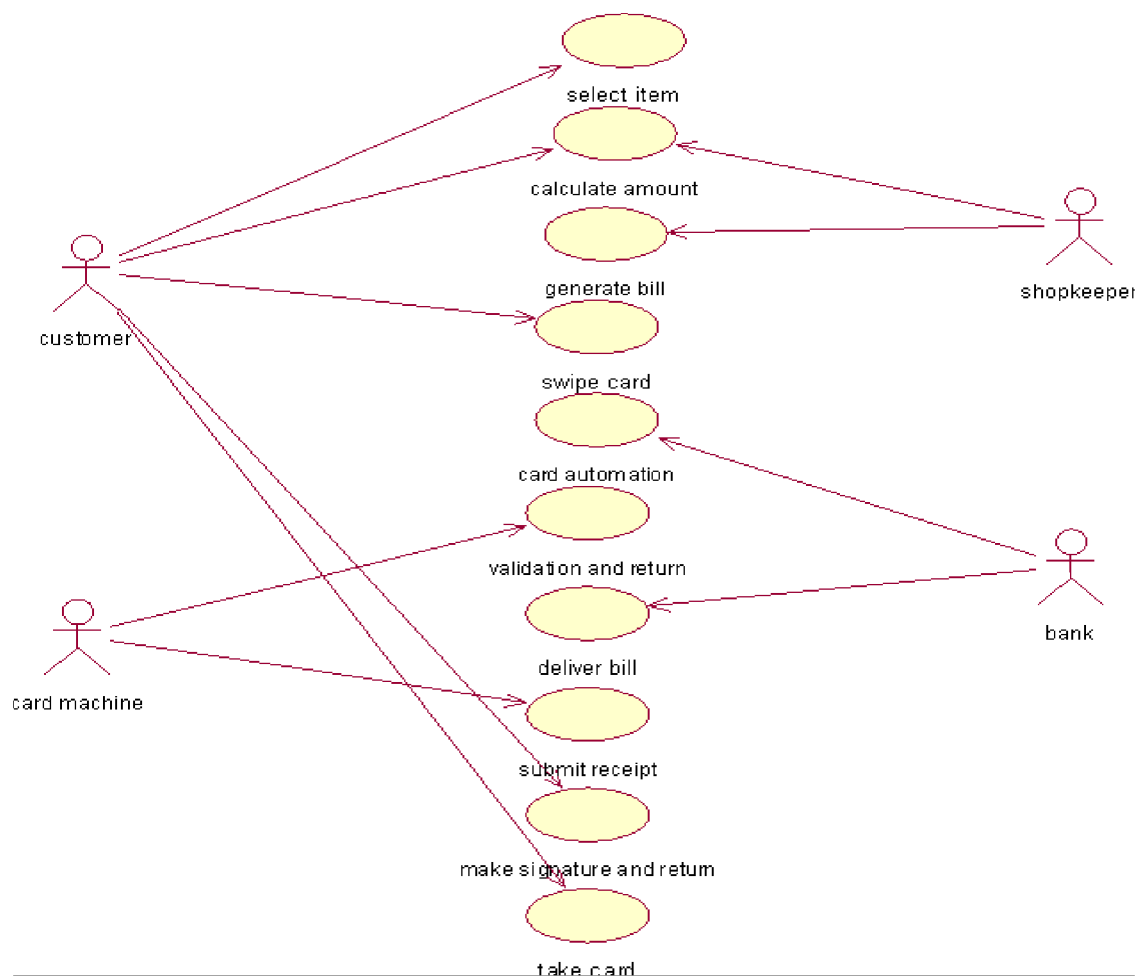

Figure 2 : Usecase Diagram for Credit Card Processing System

DOCUMENTATION OF USE CASE DIAGRAM

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.

Shop keeper – used to issue a bill for selected item and verify the card holder signature and then delivery the item.

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

Bank – used to verify and validate the card transactions and send the amount to the shop keeper.

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.
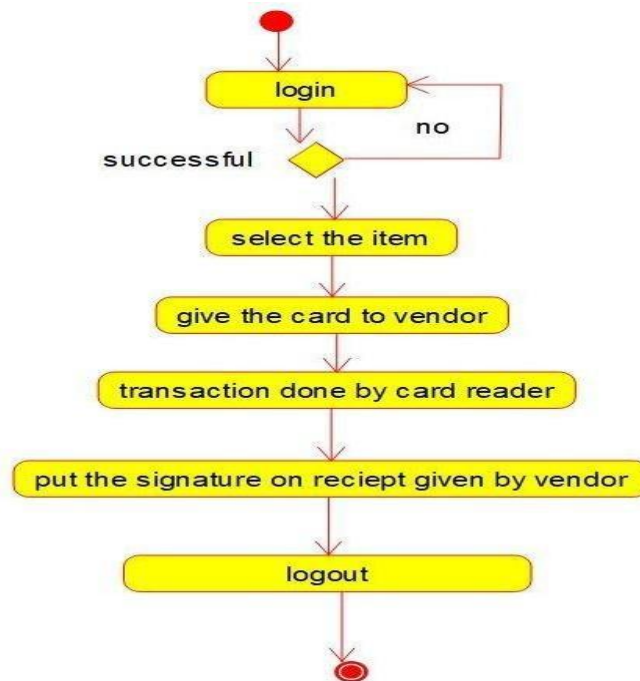
CUSTOMER:

Figure 3 : Activity Diagram for Customer in Credit Card Processing System
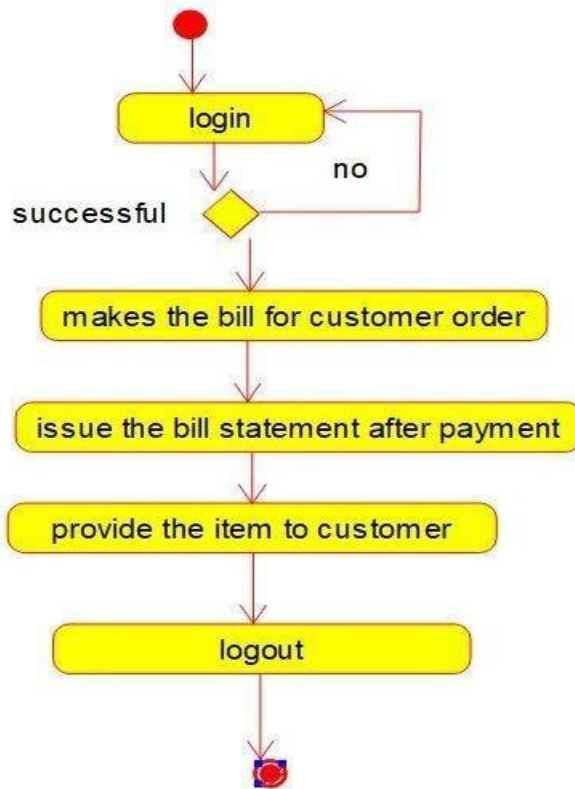
VENDOR:

Figure 4 : Activity Diagram for Vendor in Credit Card Processing System

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, 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.
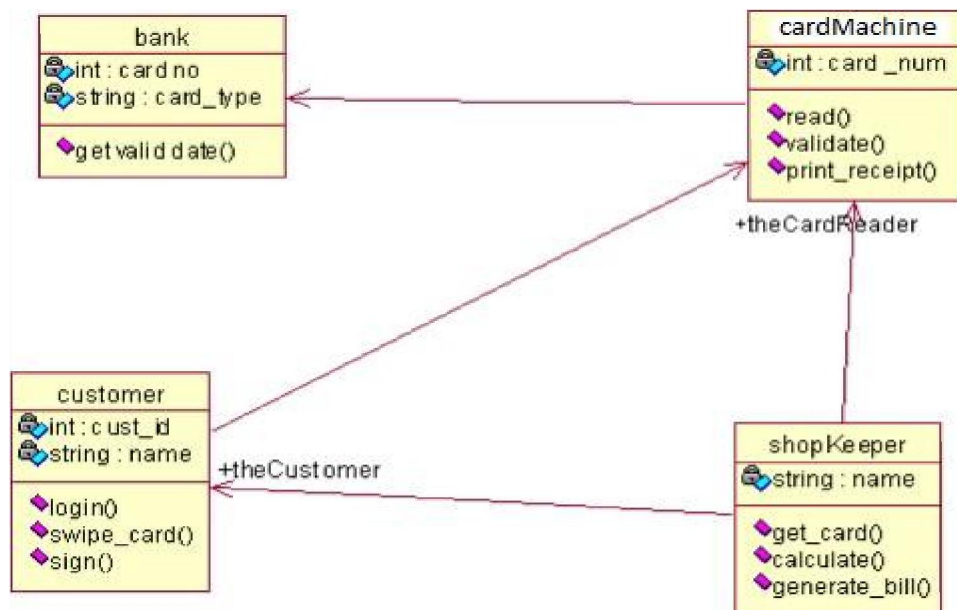

Figure 5 : Class Diagram for Credit Card Processing System

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.

COMPONENT DIAGRAM

Component diagrams are used to visualize the organization and relationships among components in a system.
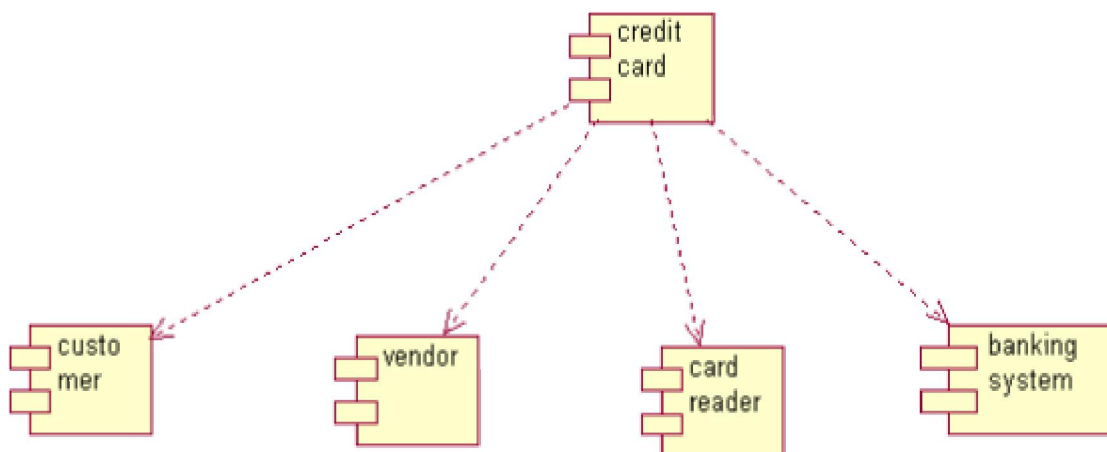

Figure 6 : Package Diagram for Credit Card Processing System

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.
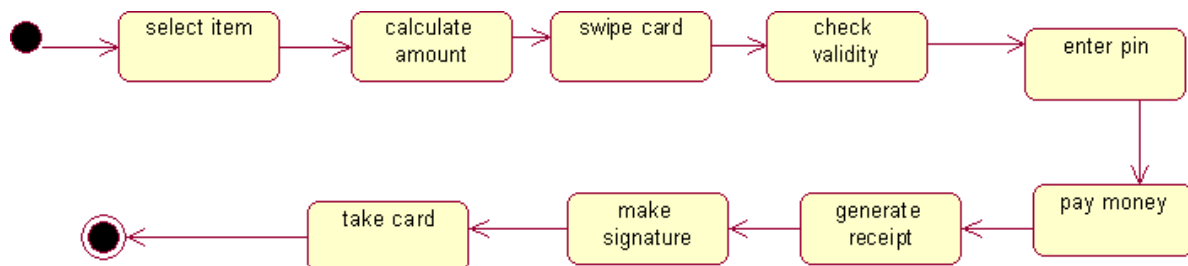

Figure 7 : Package Diagram for Credit Card Processing System

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.
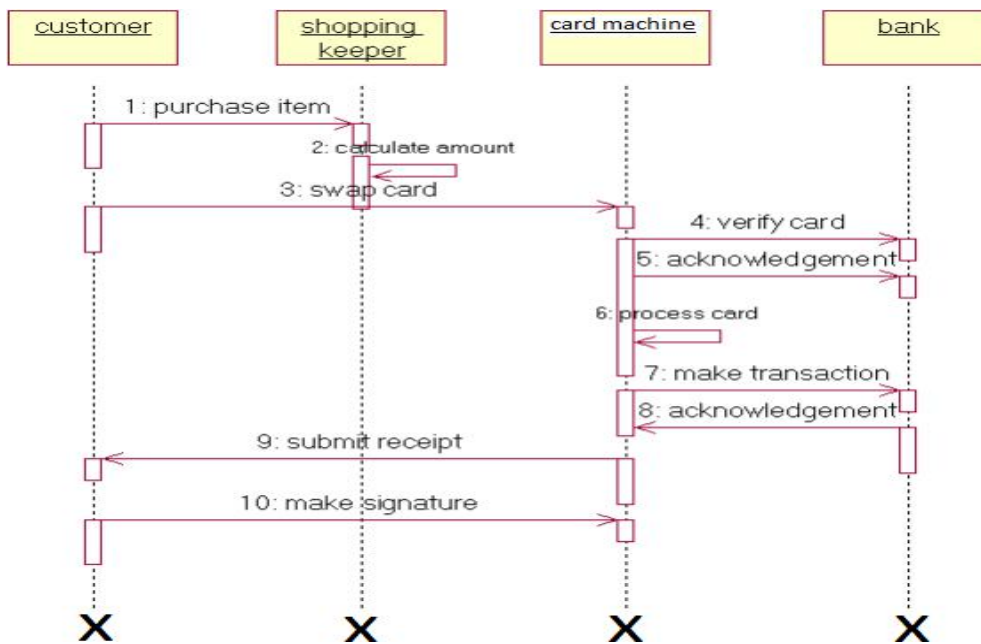

Figure 8 : Sequence Diagram for Credit Card Processing System

COLLABORATION DIAGRAM

Communication diagram illustrate that object interact on a graph or network format in which object can be placed where in the diagram. In collaboration diagram the object can be placed in anywhere on the diagram. The collaboration comes from sequence diagram.
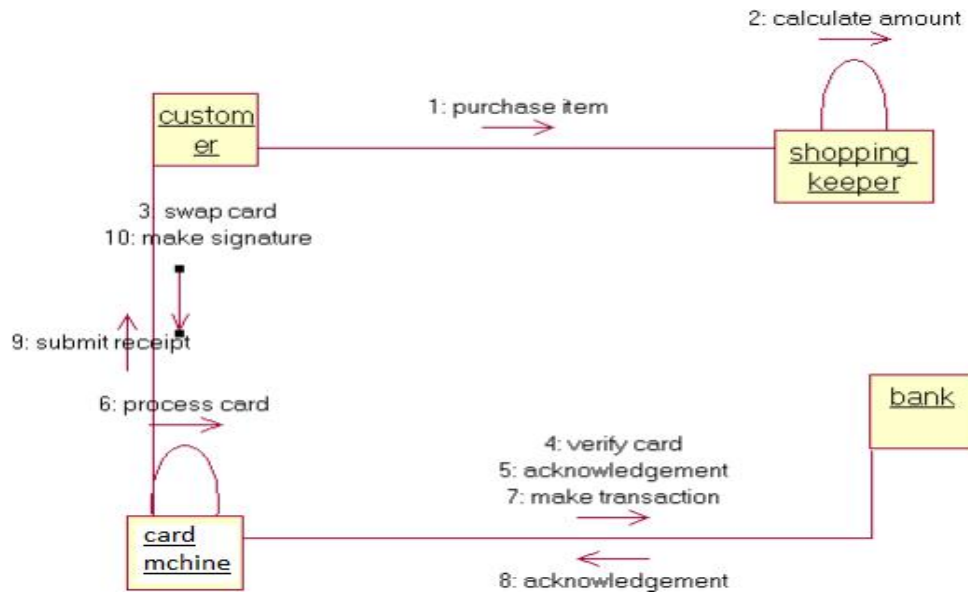
Figure 9 : Collaboration Diagram for Credit Card Processing System

PACKAGE DIAGRAM

A package is represented as folder among shown as large rectangle with a tab attached its upper left corner. A package may contain both subordinated package both ordinary model can be organized into packages.

There are three types of layers includes in package diagram:

- User interface layer
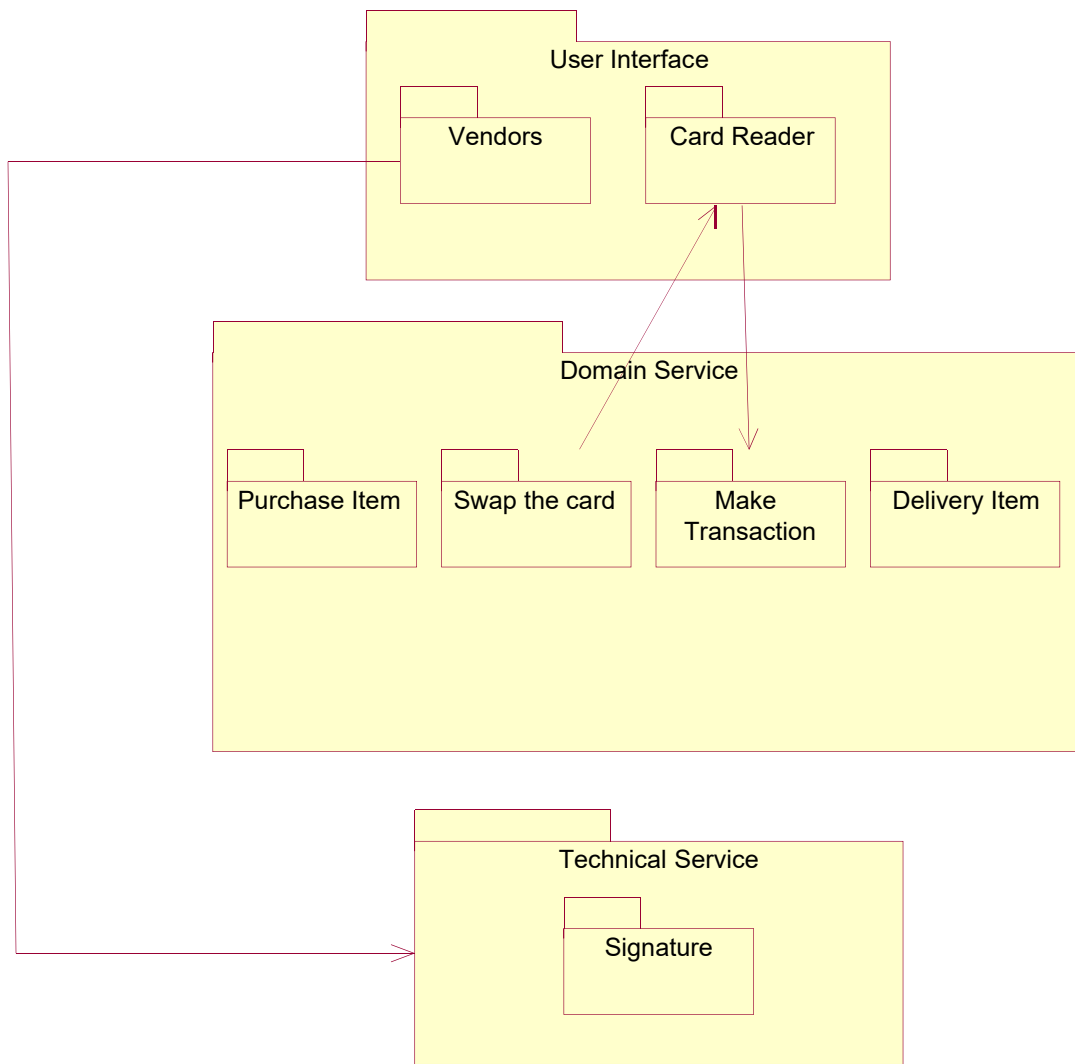
- Domain layer

- Technical layer

Figure 10 : Package Diagram for Credit Card Processing System

DOCUMENTATION OF PACKAGE DIAGRAM

The three layers in the credit card processing system are

- **The User interface layer** - consists of the Card reader and Vendor. This layer describes how the customer is used to purchasing and makes it transaction process.

- **The Domain layer** – shows the activities that are performed in the Credit card

processing system. The activities are purchase the item, make transaction and delivered item.

- **The Technical service layer –** To verify a required Customer Signature.

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.
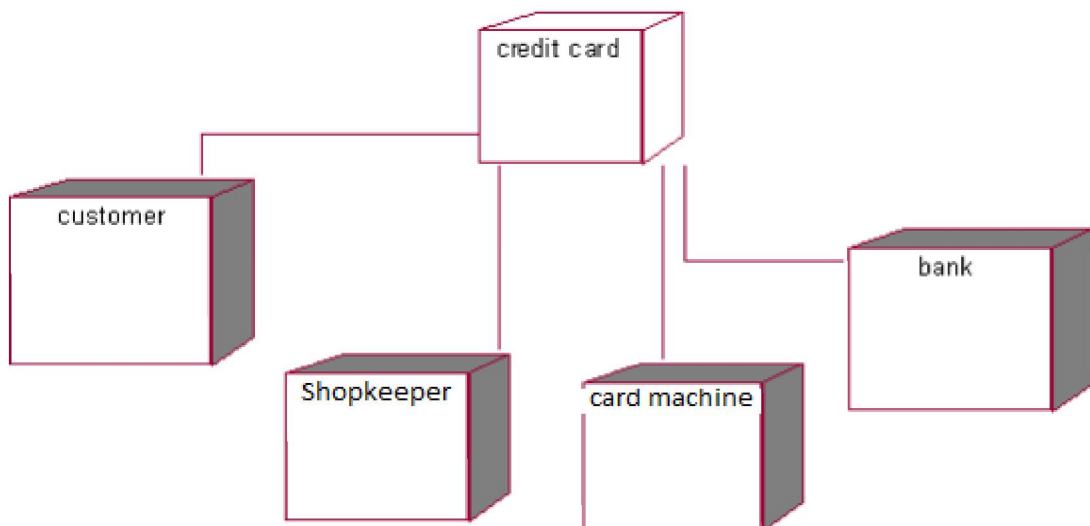

Figure 11 : Deployment Diagram for Credit Card Processing System

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.

vi) UNIT TESTING AND INTEGRATION TESTING

Unit Testing

It focuses on the smallest unit of software design. In this, we test an individual unit or group of interrelated units. It is often done by the programmer by using sample input and

observing its corresponding outputs.

Test Case	Card Number	Expected Result
TC001	67038902890001111	Card number is Valid
TC006	67039902990000011	Card number is Invalid

Test Case	Expiry Year	Expected Result
TC011	2020	Expiry Year is Invalid
TC022	2022	Success
TC033	2025	Success

Test Case	Amount	Expected Result
TC101	-1,500	Enter valid Amount
TC502	5000	Payment Success
TC403	77985	Amount Not Available

Integration Testing

The objective is to take unit tested components and build a program structure that has been dictated by design. Integration testing is testing in which a group of components is combined to produce output.

Test Case	Card Number	Expiry Month	Expiry Year	Amount	Expected Result
TC001	67038902890001111	05	2020	1500	**Payment Successful**
TC002	67039902990000011	07	2022	5000	**Payment Rejected** Card number is Invalid
TC003	68039903991100011	12	2025	7985	**Payment Rejected** Amount not available

vii) BLACK BOX TESTING AND WHITE BOX TESTING

Black Box Testing

Black Box Testing is also known as behavioral, opaque-box, closed-box, specification-based or eye-to-eye testing.

It is a Software Testing method that analyses the functionality of a software/application

without knowing much about the internal structure/design of the item that is being tested and compares the input value with the output value.

The main focus in Black Box Testing is on the functionality of the system as a whole. The term 'Behavioral Testing' is also used for Black Box Testing. Behavioral test design is slightly different from the black-box test design because the use of internal knowledge isn't strictly forbidden, but it's still discouraged.

Test Case	Card Number	Expected Result
TC001	67038902890001111	Card number is Valid
TC006	67039902990000011	Card number is Invalid

White Box Testing

White Box Testing is also known as Glass Box Testing.
It is based on the knowledge about the internal logic of an application's code.

Internal software and code working should be known for performing this type of testing. Under these tests are based on the coverage of code statements, branches, paths, conditions, etc.

Test Case	Card Number	Expected Result
TC001	67038902890001111	Card number is Valid
TC006	6703990290001	Card number is Invalid **Card number should be 17 digits**

Test Case	Amount	Expected Result
TC001	1500	**Payment Successful**
TC002	5,000	**Payment Rejected** Amount should not contain commas
TC003	7985	**Payment Rejected** Amount exceeds the available limit

E-BOOK MANAGEMENT SYSTEM

Experiment No: 9

AIM

To develop a project E-Book Management system.

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.

SOFTWARE REQUIREMENT SPECIFICATION

1	INTRODUCTION
2	OBJECTIVE
3	OVERVIEW
4	GLOSSARY
5	PURPOSE
6	SCOPE
7	FUNCTIONALITY
8	USABILITY
9	PERFORMANCE
10	RELIABILITY
11	FUNCTIONAL REQUIREMENTS

1. INTRODUCTION

Ebook management gives an idea about how ebooks are maintained in the particular concern. The ebooks that are to be purchased, the ebooks that are to be sold are maintained here. Further some additional details of the current ebook list that is available in the website is also given. Ebook management in this project is done in an authorized way.

2. OBJECTIVE

The main objective of this project is to overcome the work load and time consumption which makes the maintenance of the ebook in an organization as a tedious process. This project provides complete information about the details of the ebook to the customers. This project identifies the amount of book available, . Separate modules have been created for purchasing, viewing book details, and delivery details.

3. OVERVIEW

The overview of the project is to Storing of information about the ebooks and updating the ebook list for each organization which is using this system, keeps track of all the information about the ebooks purchased that are made by the customers, having registration feature of adding up new customers to the organization are provided in this system.

4. GLOSSARY

TERMS	DESCRIPTION
CUSTOMER	Customer will purchase the books from the Website .
DATABASE	Database is used to store the books and details of books.
ADMIN	Handles all the support features and the technical works in the application.
SOFTWARE REQUIREMENT SPECIFICATION	This software specification documents full set of features and function for ebook management system that is performed in application.

1. PURPOSE

The purpose of ebook management system is to store and sell the books in a website effectively.

2. SCOPE

The scope of this ebook management is to maintain the book details after the purchase and list of reaming books available in the same book type.

3. FUNCTIONALITY

The main functionality of ebook maintenance system is to store and sell ebooks for a website.

4. USABILITY

User interface makes the ebook management system to be efficient. That is the system will help the admin to maintain stock details easily and helps the store to handle the stocks effectively. The system should be user friendly.

5. PERFORMANCE

It describes the capability of the system to perform the ebook management system of the store without any error and performing it efficiently.

6. RELIABILITY

The ebook management system should be able to serve the customer with correct information and day-to-day update of ebook list details.

7. FUNCTIONAL REQUIREMENTS

Functional requirements are those refer to the functionality of the system. That is the services that are provided to the webstie which maintains ebooks in online database.

UML DIAGRAMS

The following UML diagrams describe the process involved in the stock maintenance system

- Use case diagram

- Class diagram

- Activity diagram

- Component diagram

- Package diagram

- Deployment diagram

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.

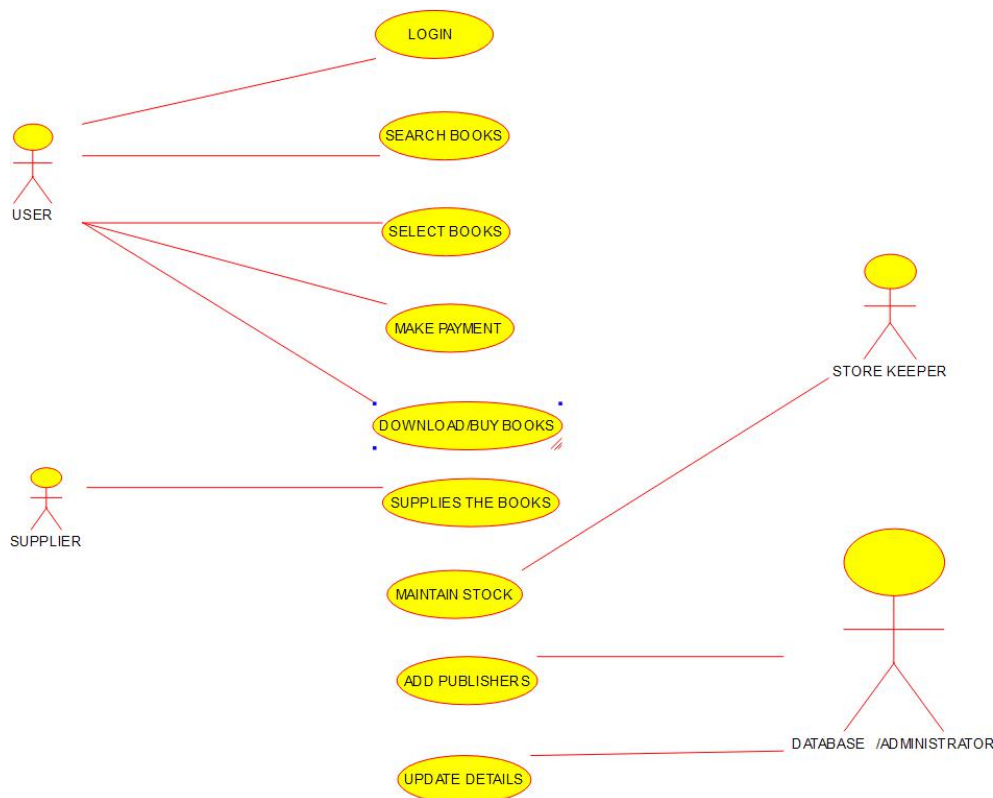Actor is any external entity that makes use of the system being modeled. It is represented using stick figure.

Figure 1: Usecase diagram for E-Book Management System

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

110

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.
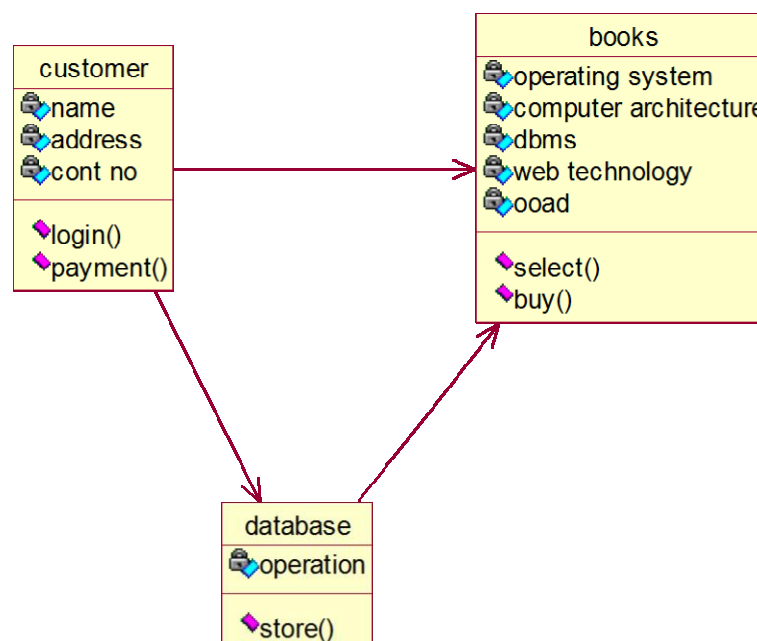

Figure 2: Class diagram for E-Book Management System

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.

111

- **Database** – is the class name. Its attribute is operation. The operations performed is store .

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.

USER:
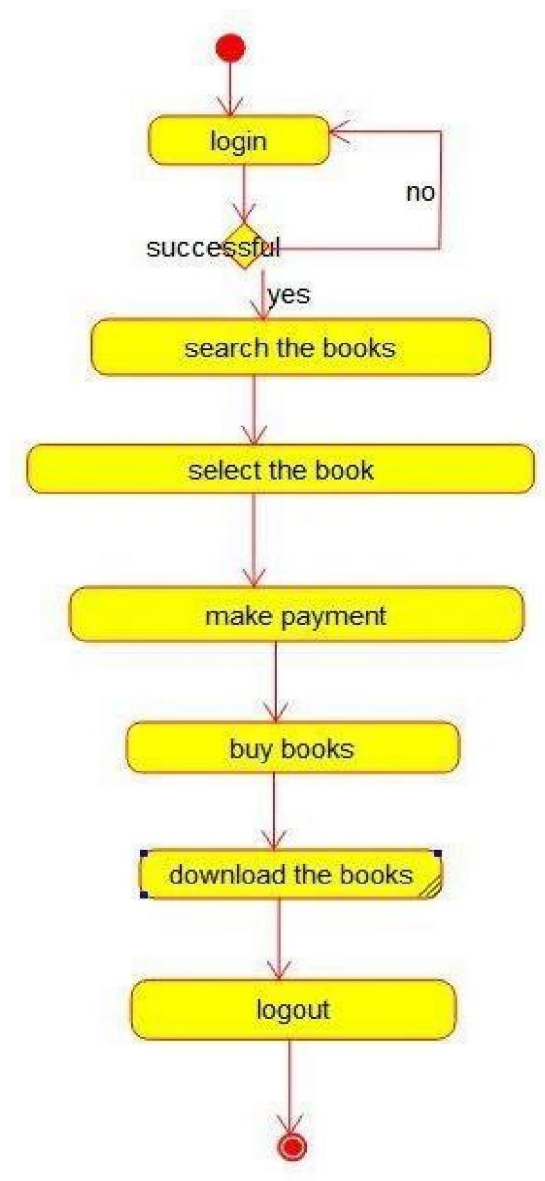
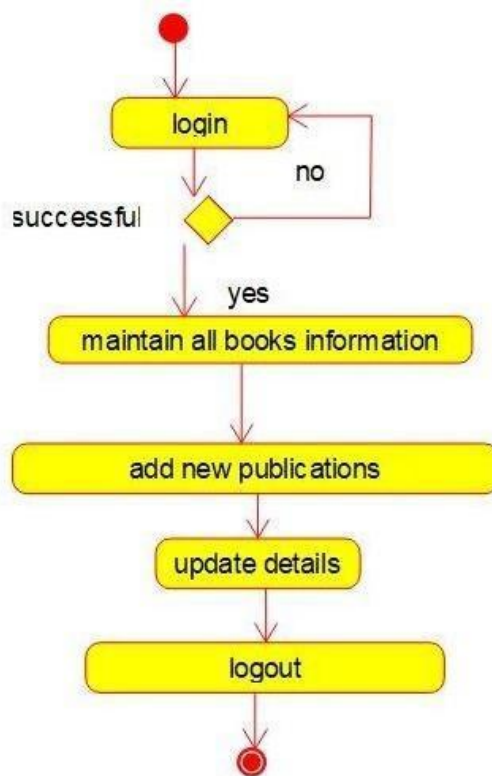**Figure 3: Activity diagram for User in E-Book Management System**

112

ADMIN:

Figure 4: Activity diagram for Admin in E-Book Management System
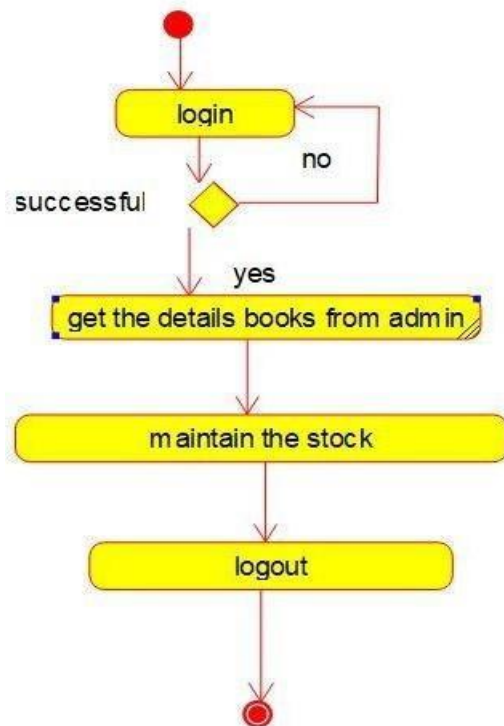
STOREKEEPER:

Figure 5: Activity diagram for Storekeeper in E-Book Management System
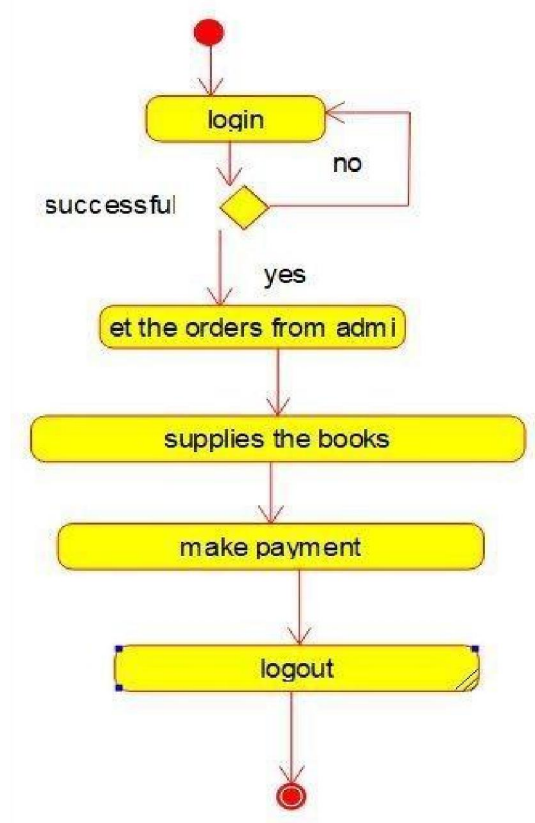
SUPPLIER:

Figure 6: Activity diagram for Supplier in E-Book Management System

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 system. It is represented by boxed figure. Dependencies are represented by communication association.
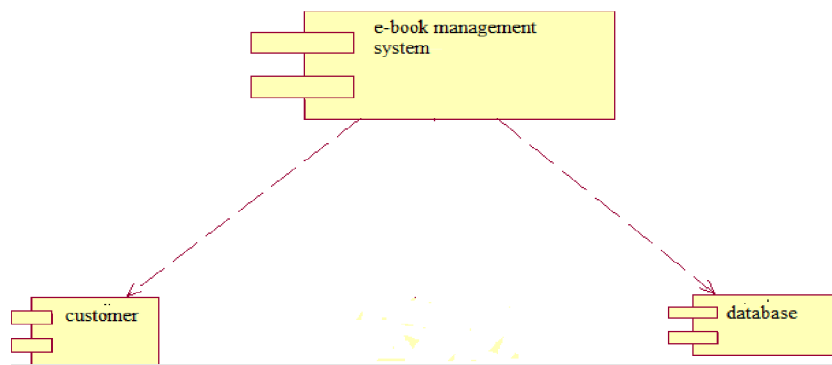
Figure 7: Collaboration diagram for E-Book Management System

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.

PACKAGE DIAGRAM

A package diagram in unified modeling language that depicts the dependencies between the packages that make up a model. A Package Diagram (PD) shows a grouping of elements in the OO model, and is a Cradle extension to UML.
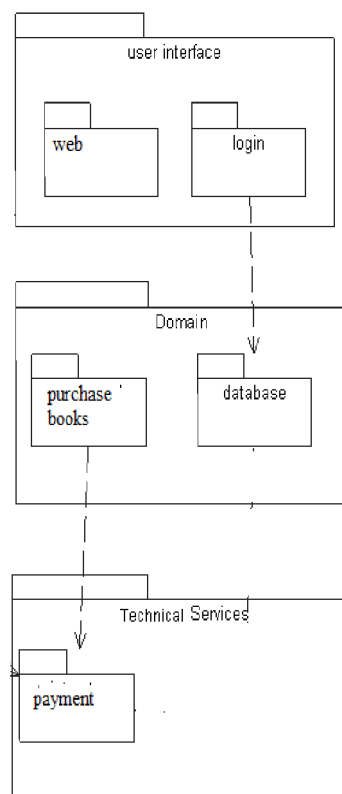

Figure 8: Package diagram for E-Book Management System

PDs can be used to show groups of classes in Class Diagrams (CDs), groups of components or

processes in Component Diagrams (CPDs), or groups of processors in Deployment Diagrams (DPDs).

There are three types of layer. They are

- **User interface layer:** consists of the form and login. This layer describes how the customer logins and books maintained in website.

- **Domain layer:** shows the activities that are performed in the ebook management system. The activities are books are purchased from the website

Technical services layer: the update the account details and buy the book by payment through the account

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.
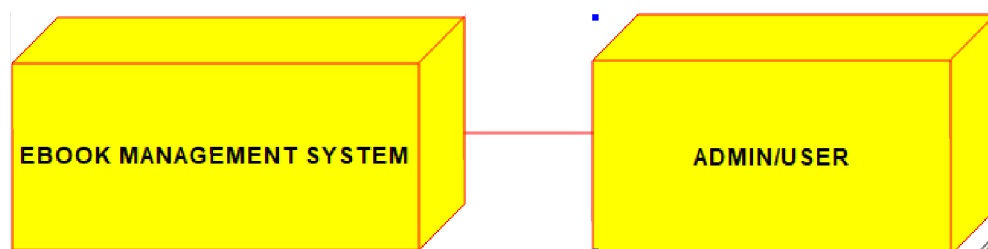

Figure 9: Deployment diagram for E-Book Management System

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.

ONLINE RECRITMENT SYSTEM

Experiment No: 10

AIM

To develop a project on online recruitment system.

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.

SOFTWARE REQUIREMENT SPECIFICATION

SNO	SPECIFICATION
1	INTRODUCTION
2	OBJECTIVE
3	OVERVIEW
4	GLOSSARY
5	PURPOSE
6	SCOPE
7	FUNCTIONALITY
8	USABILITY

9	PERFORMANCE
10	RELIABILITY
11	FUNCTIONAL REQUIREMENTS

1. INTRODUCTION

This software specification documents full set of features and function for online recruitment system that is performed in company website. In this we give specification about the system requirements that are apart from the functionality of the system to perform the recruitment of the jobseekers. It tells the usability, reliability defined in use case specification.

2. OBJECTIVE

The main objective of Online Recruitment System is to make applicants register themselves online and apply for job and attend the exam. Online Recruitment System provides online help to the users all over the world.

3. OVERVIEW

The overview of the project is to design an online tool for the recruitment process which ease the work for the applicant as well as the companies. Companies can create their company forms according to their wish in which the applicant can register.

4. GLOSSARY

TERMS	DESCRIPTION
APPLICANT	Applicant can register himself. After registration, he will be directed to his homepage. Here he can update his profile, change password and see the examination details and all.
RECRUITER	Recruiter verify applicant details and conduct examination, approve or disapprove applicant attending examination and provides results about the selected applicant.
DATABASE	Database is used to verify login and store the details of selected applicants.

READER	Anyone visiting the site to read about online recruitment system.
USER	Applicant and the reader
SOFTWARE REQUIREMENT SPECIFICATION	This software specification documents full set of features and function for online recruitment system that is performed in company website.

5. PURPOSE

The purpose of online recruitment system is to select the applicant from the list of applicants registered in their company.

6. SCOPE

The scope of this online recruitment process is to select the best applicant from the list of applicant registered based on their performance in the recruitment process.

7. FUNCTIONALITY

The main functionality of recruitment system is to recruit the applicant for the job in their company.

8. USABILITY

User interface makes the Recruitment system to be efficient. That is the system will help the applicant to register easily and helps the companies to recruit the applicant effectively. The system should be user friendly.

9. PERFORMANCE

It describes the capability of the system to perform the recruitment process of the applicant without any error and performing it efficiently.

10. RELIABILITY

The online recruitment system should be able to serve the applicant with correct information and day-to-day update of information.

11. FUNCTIONAL REQUIREMENTS

Functional requirements are those refer to the functionality of the system. That is the services that are provided to the applicant who apply for the job.

UML DIAGRAMS

The following UML diagrams describe the process involved in the online recruitment system.

- Use case diagram
- Class diagram
- State chart diagram
- Activity diagram
- Package diagram
- Deployment diagram

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.
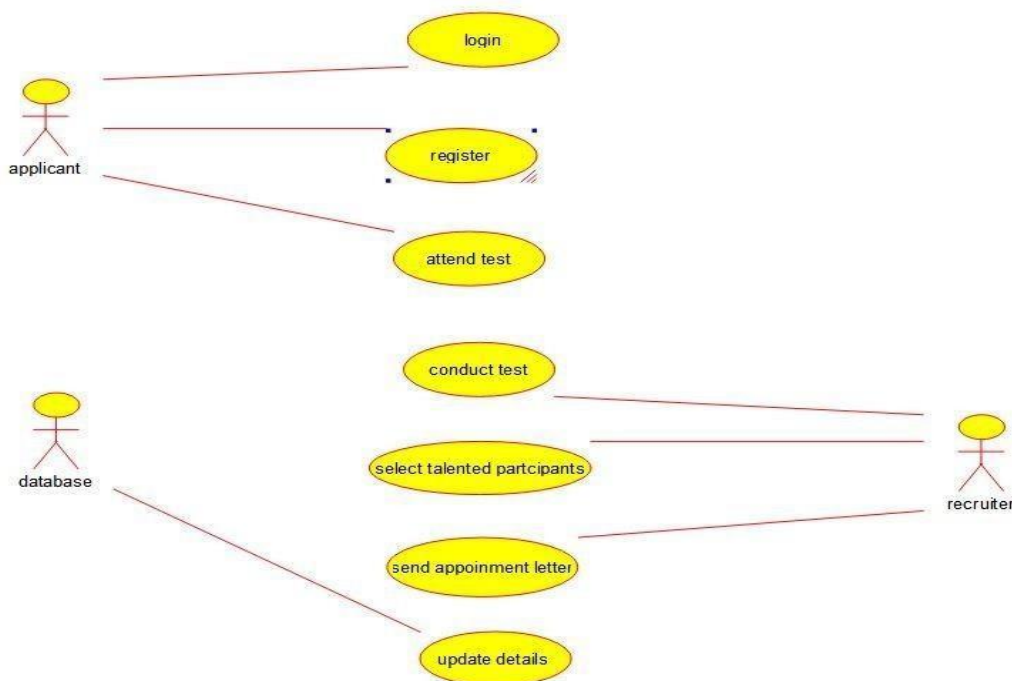

Figure 1: Usecase diagram for Online Recruitment System

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 class name, middle compartment the attributes and the bottom compartment with operations.
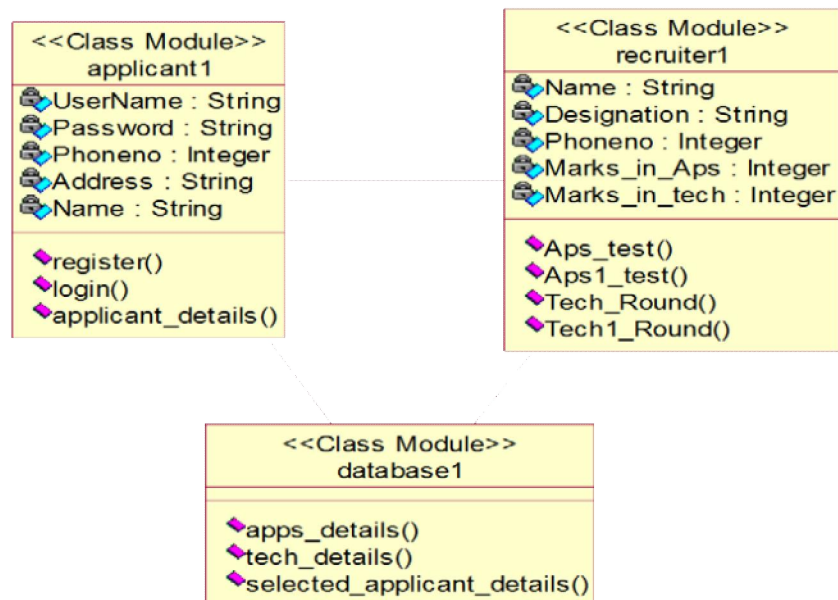

Figure 2: Class diagram for Online Recruitment System

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.

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.
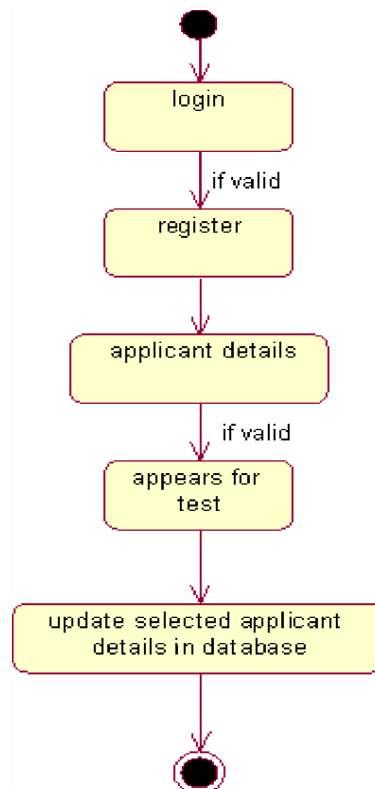
Figure 3: State Chart diagram for Online Recruitment System

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.
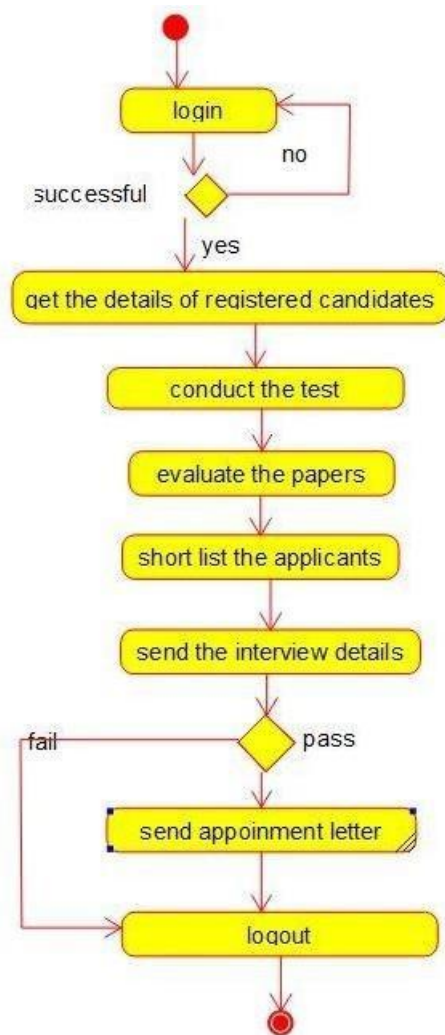
RECRUITER:

Figure 4: Activity diagram for Recruiter in Online Recruitment System
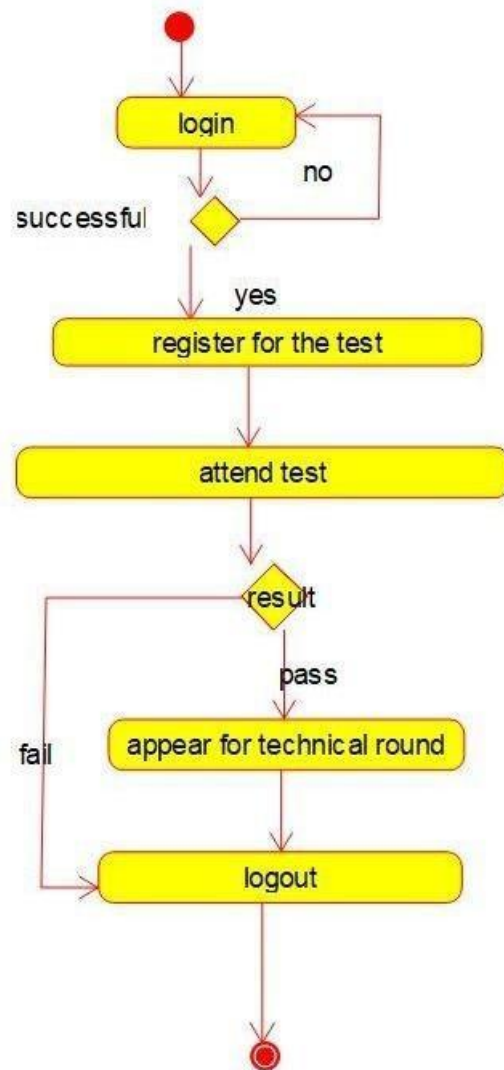
APPLICANT:

Figure 5: Activity diagram for Applicant in Online Recruitment System

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.

PACKAGE DIAGRAM

A package diagram in UML that depicts the dependencies between the packages that make up a model. A Package Diagram (PD) shows a grouping of elements in the OO model, and is a Cradle extension to UML. PDs can be used to show groups of classes in Class Diagrams (CDs), groups of components or processes in Component Diagrams (CPDs), or groups of processors in Deployment Diagrams (DPDs).

There are three types of layer. They are

- **User interface layer -** software objects representing domain concepts that fulfill application requirements, such as calculation a sale total.

- **Domain layer** – layer that contains domain objects to handle application logic work.

- **Technical services layer** – general purpose objects and subsystems that provide supporting technical services, such as interfacing with a database or error logging.
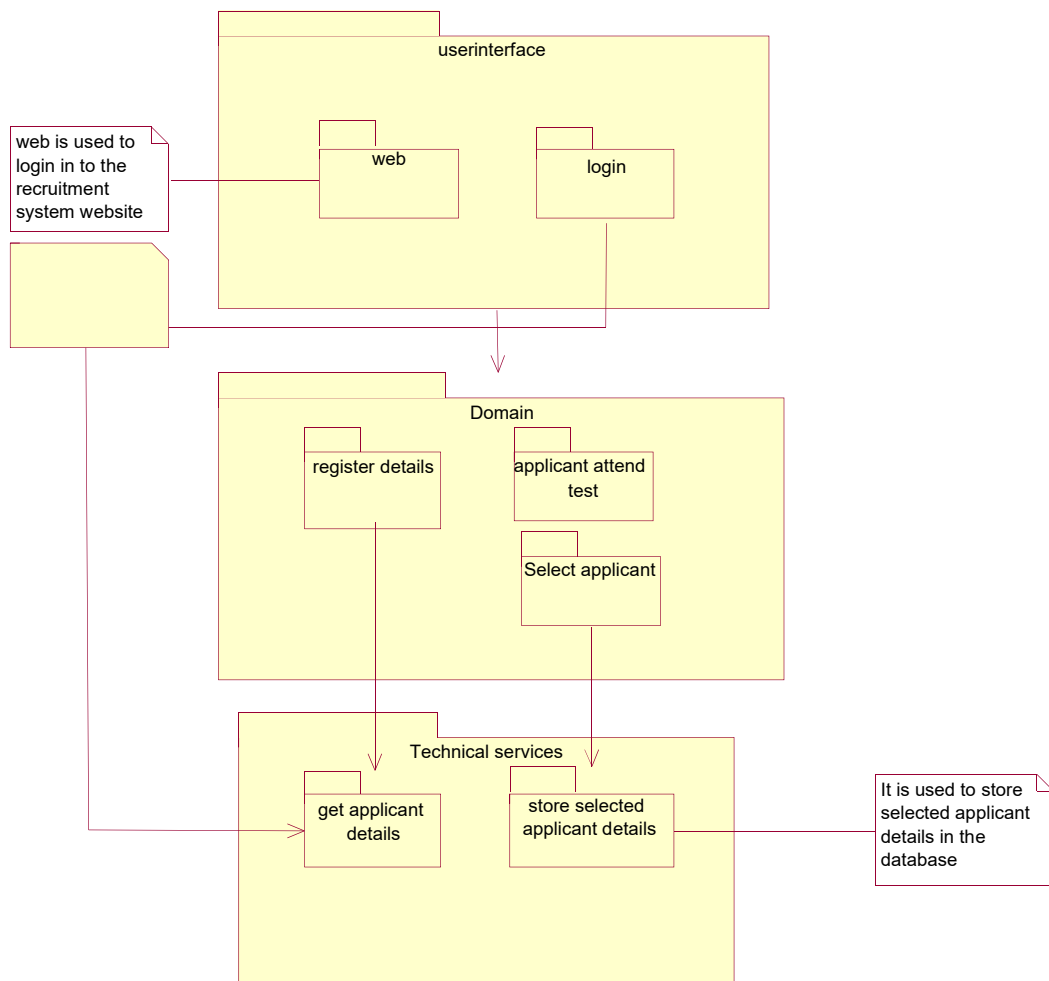
Figure 5: Package diagram for Online Recruitment System

DOCUMENTATION OF PACKAGE DIAGRAM

The three layers in the online recruitment system are

- **User interface layer:** The User interface layer - consists of the web and login. This layer describes how the applicant logins to the website and apply for the job.
- **The Domain layer** – shows the activities that are performed in the online

recruitment system. The activities are register, attend test and select talented applicant.

- **The Technical service layer -** the applicant details, verification details and the selected applicant details are stored in the database.

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.
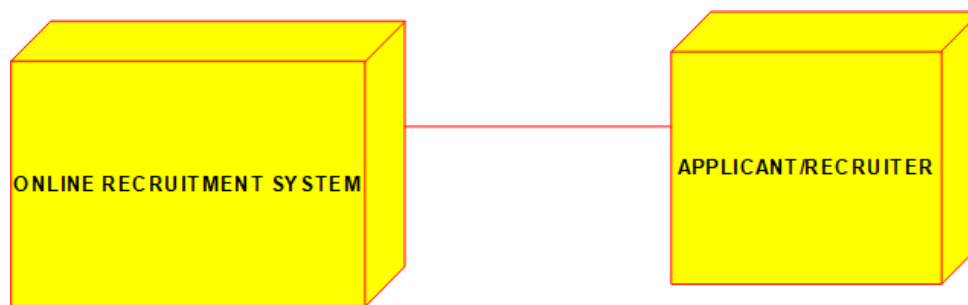

Figure 6: Deployment diagram for Online Recruitment System

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