PES University, Bengaluru

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Department of Computer Science & Engineering
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UE19CS353 – Object-Oriented Analysis and Design with Java

Theory ISA (Mini Project)

Report on

Exam Registration System

By:

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Project Description

AIM: To create a system to perform the Exam Registration.

The Exam Registration system/portal is used in the effective dispatch of the exam registration form to all of the students. This system adopts a comprehensive approach to minimize the manual work and schedule resources, and time in a cogent manner. The core of the system is to get the online registration form (with details such as name, date, etc.,) filled by the student whose testament is verified for its genuineness with respect to the already existing information in the database. The system also provides the student with the chance to enter the exam name and which date they want to take it on. The controller will be provided with fee details to display the current status of the application to the student, which they can pay through in the online interface. After all the necessary criteria have been met, the information persists on the database and the exam seat is confirmed.
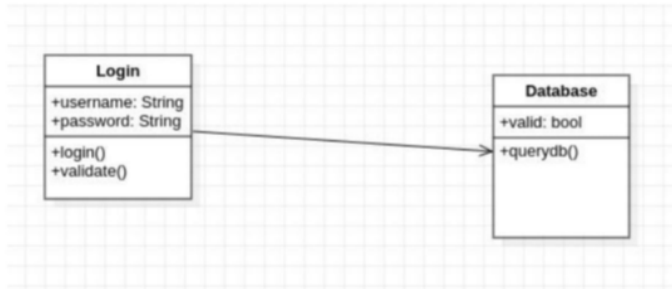
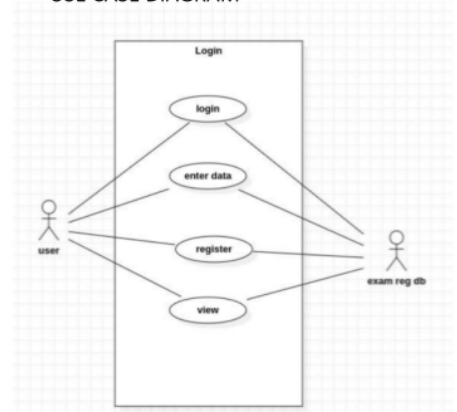## Analysis and Design Models
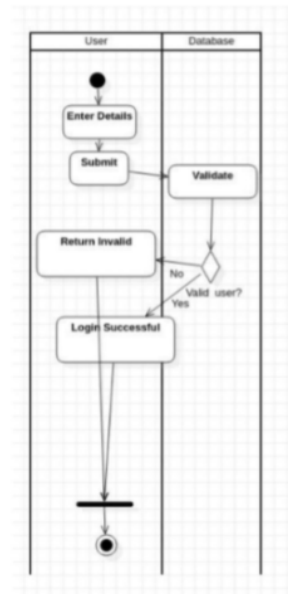
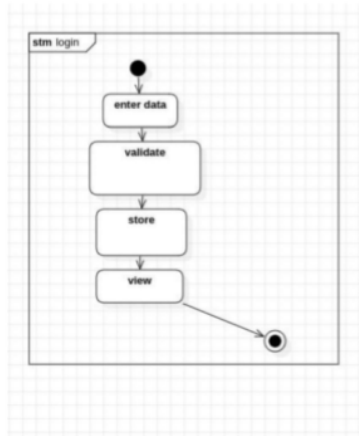MAJOR AND MINOR FUNCTIONALITY 1

SIGN UP
SIGN IN

USE CASE DIAGRAM

CLASS DIAGRAM

Login
+username: String
+password: String
+login()
+validate()

Database
+valid: bool
+querydb()

Login

login

enter data

register

view

user

exam reg db

STATE DIAGRAM

stm login

enter data

validate

store

view

User | Database

Enter Details

Submit

Validate

Return Invalid

No

Valid user?

Yes

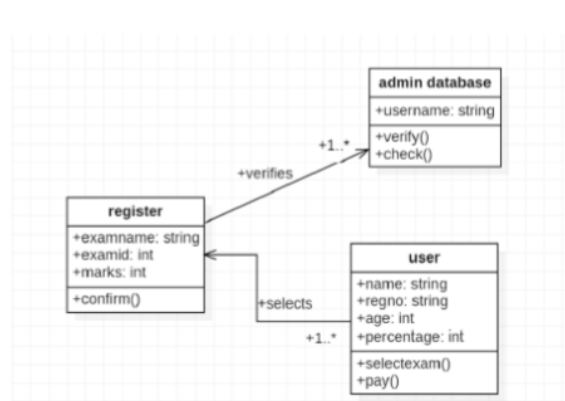Login Successful

ACTIVITY
DIAGRAM

MAJOR AND MINOR FUNCTIONALITY 2

EXAM REGISTRATION
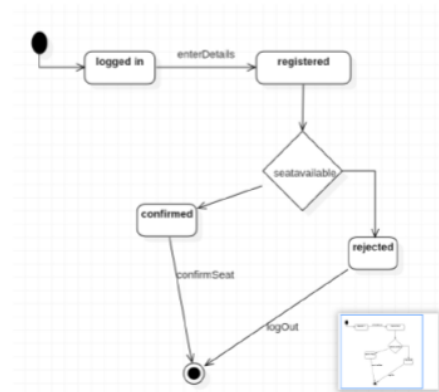CRUD OPERATIONS

USECASE

CLASS DIAGRAM

ACTIVITY DIAGRAM
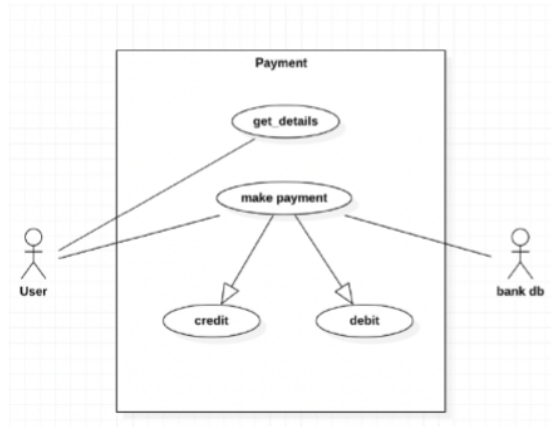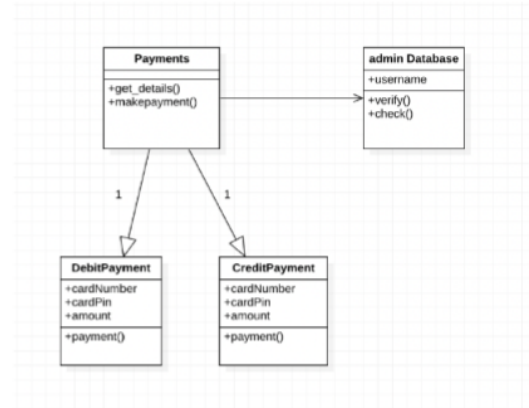

STATE DIAGRAM

MAJOR AND MINOR FUNCTIONALITY 1

PAYMENT PORTAL
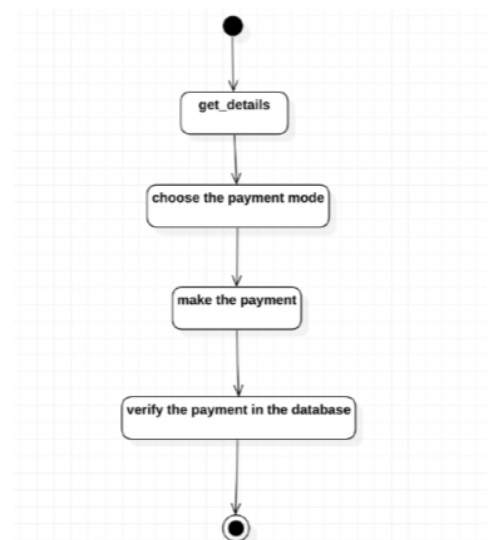VERIFYING STATUS

Use Case:
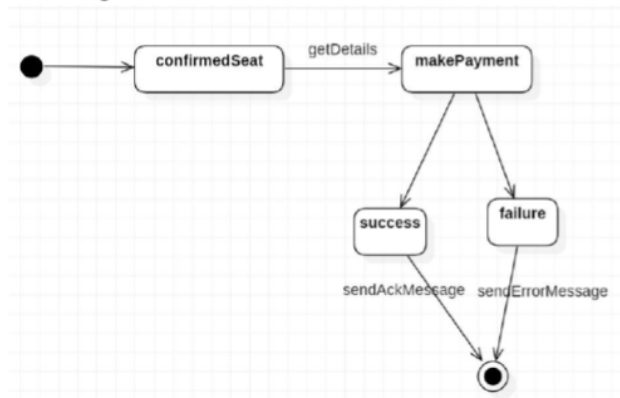

Class Diagram:

ACTIVITY DIAGRAM

State Diagram:

Tools and Frameworks Used
- ○ Spring Tool Suite
  - Spring Tool Suite (STS) is a java IDE tailored for developing Spring-based enterprise applications. It is easier, faster, and more convenient. And most importantly it is based on

Eclipse IDE. STS is free, open-source, and powered by VMware.

- ○ StarUML

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Design Principles and Design Patterns Applied

- ○ **Coupling** – low coupling has been maintained as the modules which interact with each other are not so dependent on the other.

- ○ **Cohesion** – high cohesion is maintained by keeping all related code in a single place for example code related to the calculation of scores along with displaying results is written in the results file.

- ○ **Single class responsibility** – each class should have a single responsibility for example answers class is only used to display the answers to all the questions at once, connect class has the sole purpose of connecting to the database, etc.

- ○ **Open close** – software entities must be open for extension and closed for modification example the behavior of the classes we have used can be extended without modifying code via inheritance/composition.

- ○ **Singleton** - The pattern creates only one object of the class. It has a private constructor with public access for the instance.

- ○ **MVC**

  i. The Model View Controller (MVC) design pattern specifies that an application consists of a data model, presentation information, and control information. The pattern requires that each of these be separated into different objects. MVC is more of an architectural pattern, but not for a complete application. MVC mostly relates to the UI / interaction layer of an application. You're still going to need a business logic layer, maybe some service layer, and a data access layer.

ii. Each major component in the project makes use of the MVC pattern, for example, the login and exam registration

Application Screenshots (3-4 important pages)

Welcome to the exam registration Portal

Sign up

Sign in

Please sign in

Username

Password

Sign in

Exam Registration Portal   Home   Add Exam

ID	Subject	ExamDate			
1	gdfwfd	23/3/22	Edit	Delete	Payment
2	ooad	30/4/22	Edit	Delete	Payment

Add Exam

Subject

Date

Register for exam

Make Payment

Enter Payment Method

Enter Card Number

Enter CVV

Enter Amount

Pay

Team member contributions

Team Member Name	Major Contribution	Minor Contribution
Uzair Rizwan	Sign In	Sign Up
Manali Tanna	Exam Registration	Seat Verification
Milinda KN	Payment Gateway	Seat Confirmation