UML Model Report

UML Model

Made with help of star UML

TITLE:

HOSTEL MANAGEMENT

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PREFACE

This preface and the following introduction added by our group support of the first project in the subject Object Oriented Design and Programming 18CSC202J in SRM for the 3rd semester of the academic year 2022.

This document illustrates the working of the hostel management software's design in an object-oriented softwaresystem.

The assumption behind this project is that a good design is much easier to follow than to create. Only time & effort will tell if this approach is pedagogically sound.

GOAL OF PROJECT

The main goal is to introduce you to a hostel management system, to improve the productivity of management staff. Hopefully in the future, this project will prove useful for the whole world. In any case programming from a model is probably a more interesting and efficient way of programming using robustness diagrams and sequence diagrams.

BACKGROUND

This program simplifies hostel management and admission process of students in a university. It has a simple design which makes their profile safe and makes the entire management process clear and easy to understand.

TASK OF PROJECT

The main task is to build a project that faithfully implements the design. The main activity involved in this system are as follows:

1. Student profile activity
2. Admission activity
3. Hostel selection activity
4. Room selection activity
5. Transaction activity

HOSTEL MANAGEMENT SYSTEM USE CASE DIAGRAM

A use case diagram is a graphical depiction of a student's possible interactions with the hostel management system. It shows various use. The use cases are represented by ellipses. A UML use case diagram is the primary form of system/software requirements for a new software program underdeveloped .
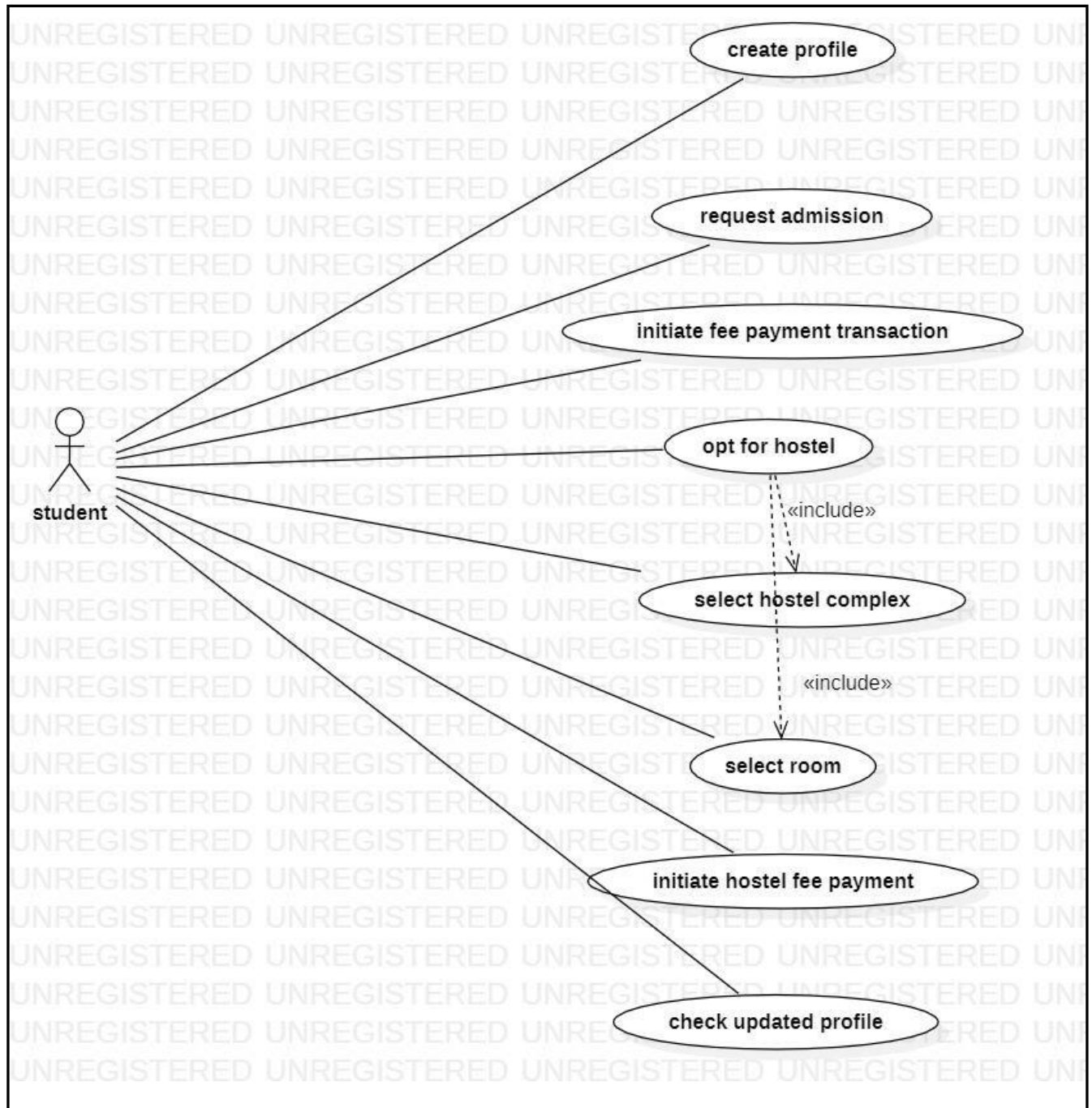
HOSTEL MANAGEMENT SYSTEM CLASS DIAGRAM

Hostel Management System Class Diagram describes the structure of a Hostel Management System classes, its attributes, operations (or methods), and the relationship among objects. The main classes of the Hostel ManagementSystem are:

~ **Transaction Class:** Manages transaction for admission process
~ **Student Class:** Saves login information of student
~ **Rooms Class:** Manages the available rooms
~ **User Class:** Saves updated student data
~ **Hostel Management Class:** Manages hostel complexes
~ **Allotment Class:** Confirms and saves hostels opted
~ **Payment Class**: Manages transaction for hostel fee payment

Classes and their attributes of Hostel Management System Class Diagram:

- ~ **Transaction Attributes:** name, student details, date of birth
- ~ **Student Attributes:** address, transaction, details
- ~ **Rooms Attributes:** ID, name, price
- ~ **Payment Attributes:** ID, details, date
- ~ **Allottment Attributes:** ID, name, amount
- ~ **Admission Attributes:** Id, application, date
- ~ **Hostel Management Attributes:** username, password
- ~ **Users Attributes :** ID, name, age, contactnum

Classes and their methods of Hostel Management System Class Diagram:

- ~ **Transaction Methods:** createTransaction(), updateTransaction()
- ~ **Student Methods:** create(), update()
- ~ **Rooms Methods:** add(), update()
- ~ **Payment Methods:** secures()
- ~ **Allottment Methods:** add(), update()
- ~ **User Methods:** add(), update()
- ~ **Hostel Management Methods:** adminStudents()
- ~ **Admission Methods:** update()

CLASS DIAGRAM:
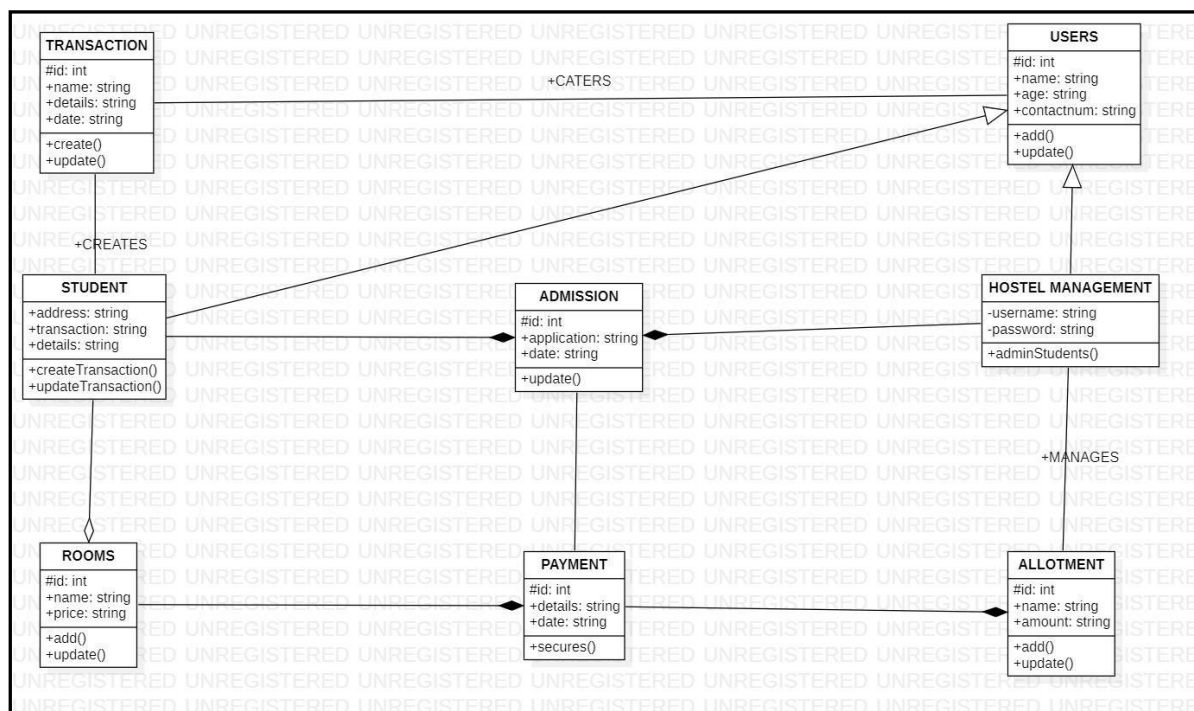
HOSTEL MANAGEMENT SYSTEM SEQUENCE DIAGRAM

This is the UML sequence diagram of Hostel Management System which shows the interaction between the objectsof Login, registration, manage student, admin, visit, student, roomselect and report. The instance of class objects involved in this UML sequence diagram of HostelManagement System are as follows:

- Visit Object
- Registration Object
- Login Object
- Student Object
- Room select object
- Admin Object
- Manage student Object
- Report Object
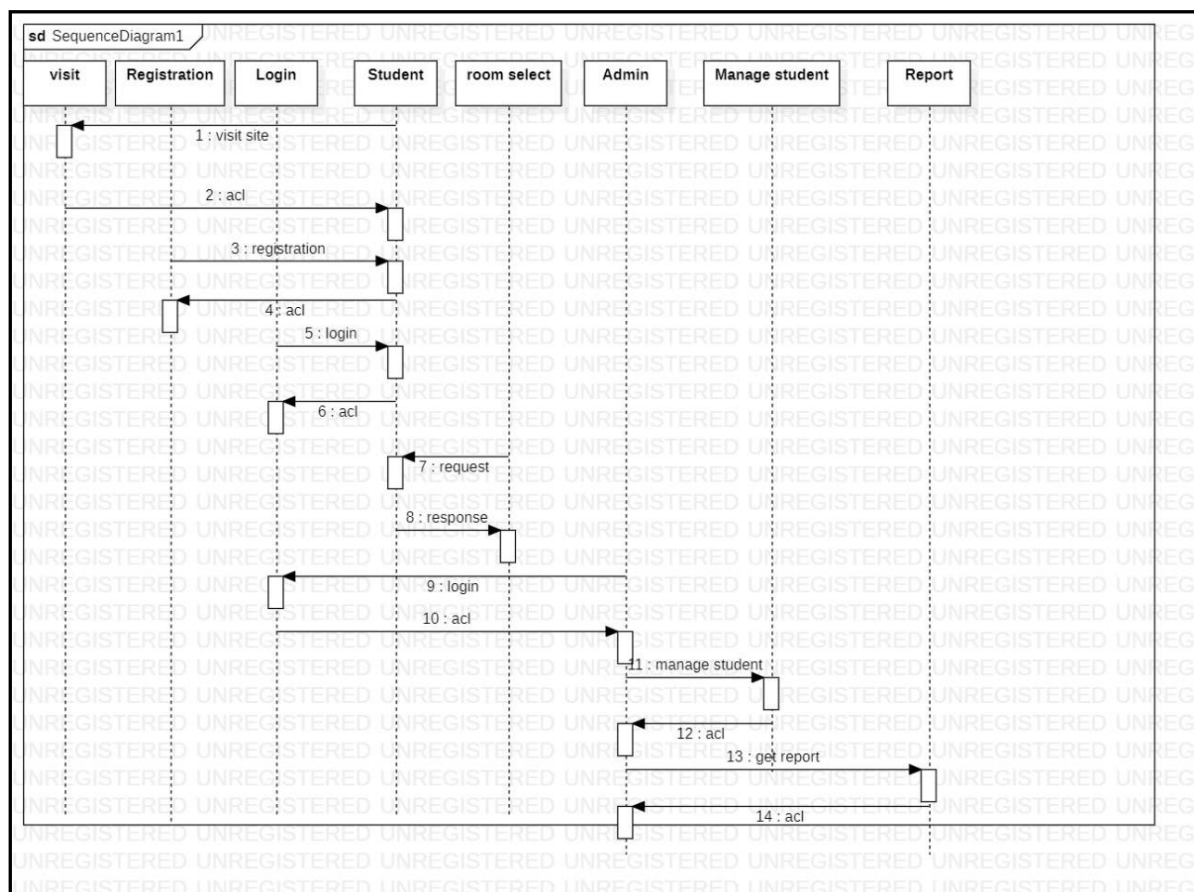
HOSTEL MANAGEMENT SYSTEM COLLABORATION DIAGRAM

This is the UML Collaboration Diagram of Hostel Management System which shows the relationships and interaction among the objects. This is used to portray dynamic behaviour of a particular use case and define the role of each object.
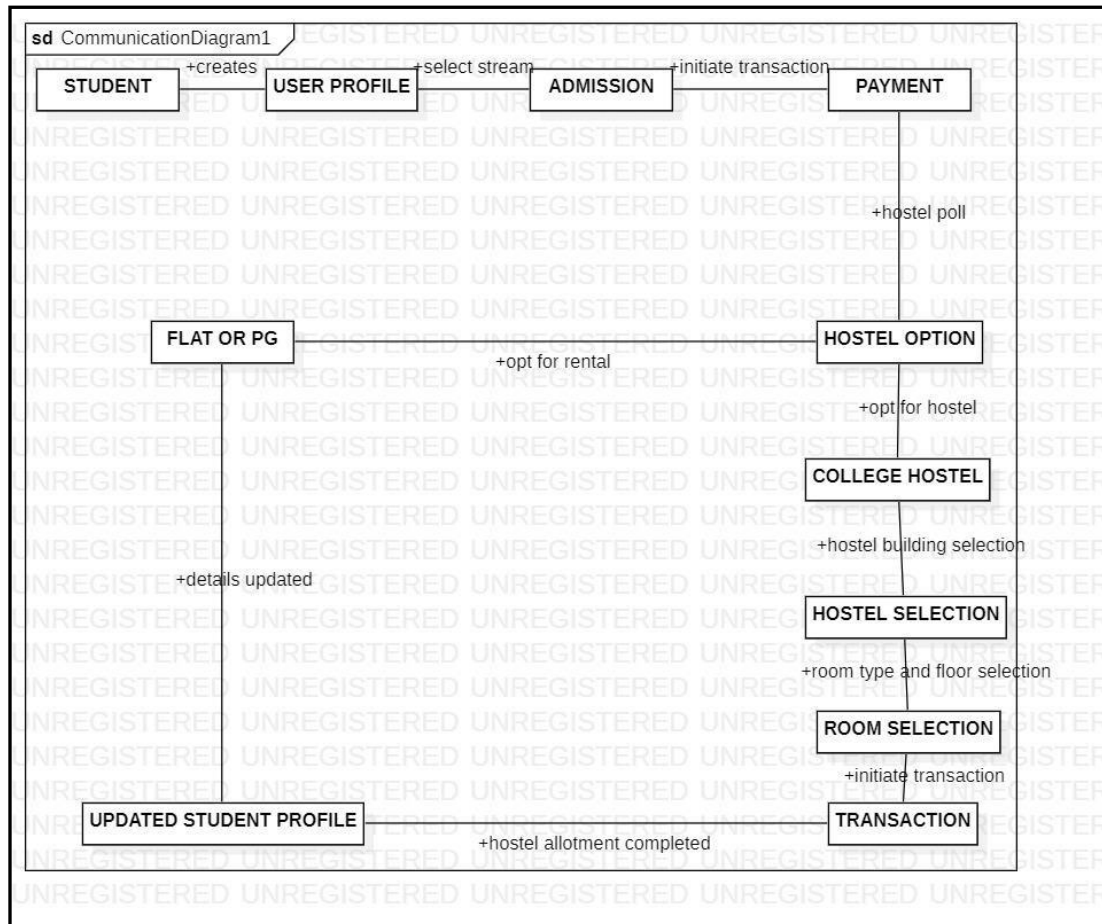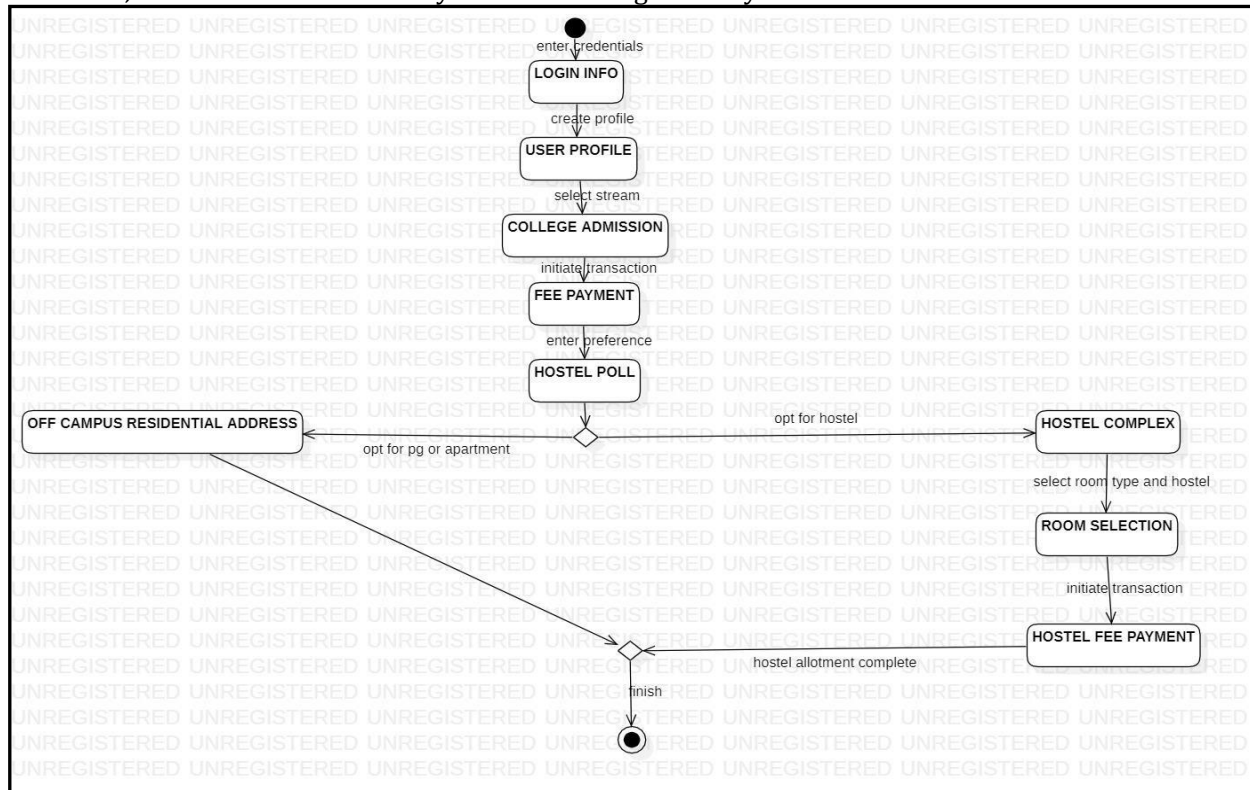
HOSTEL MANAGEMENT SYSTEM STATE CHART DIAGRAM

A state diagram is a type of diagram used in computer science and related fields to describe the behavior of systems. It describes the different abstract states in the hostel management system.
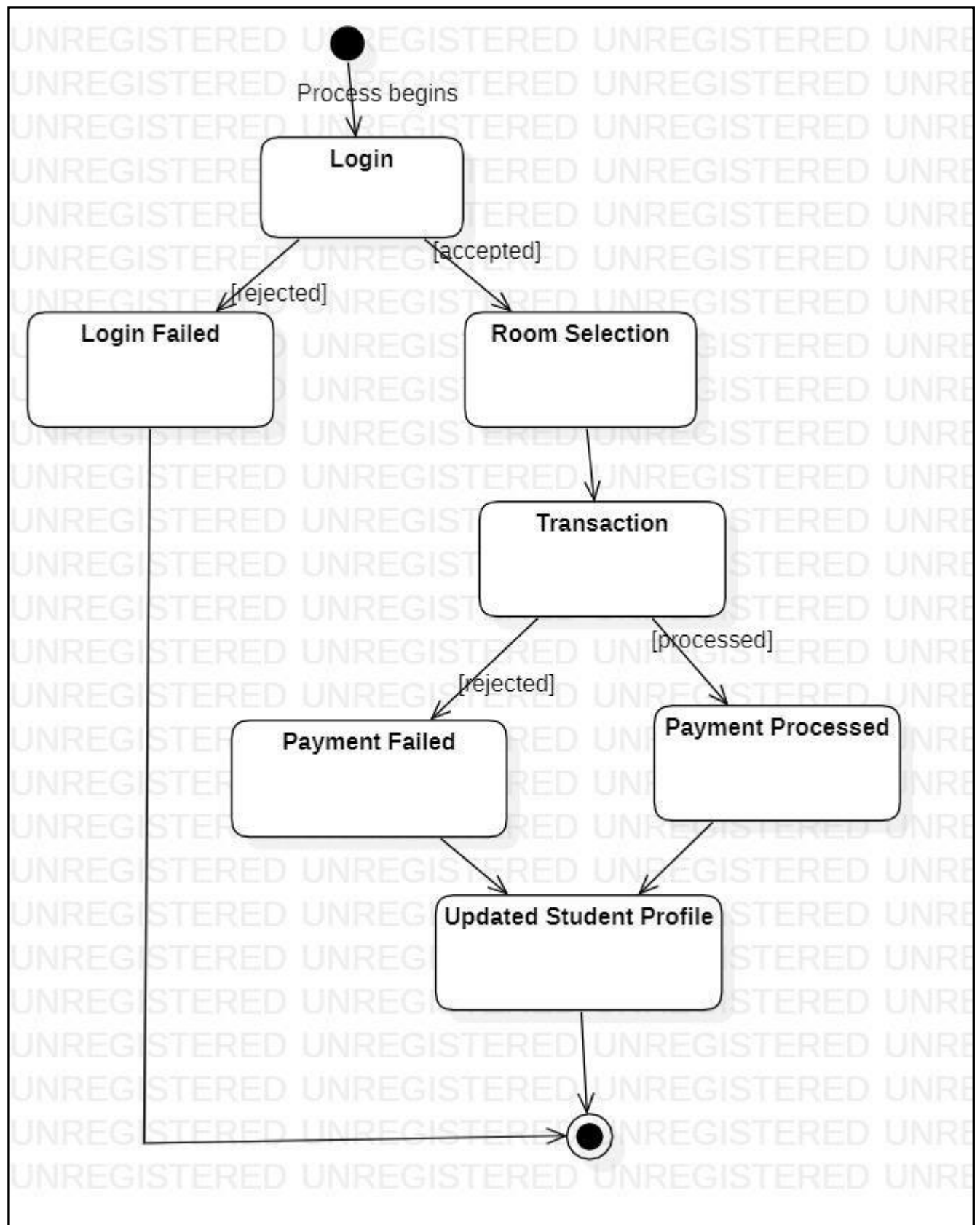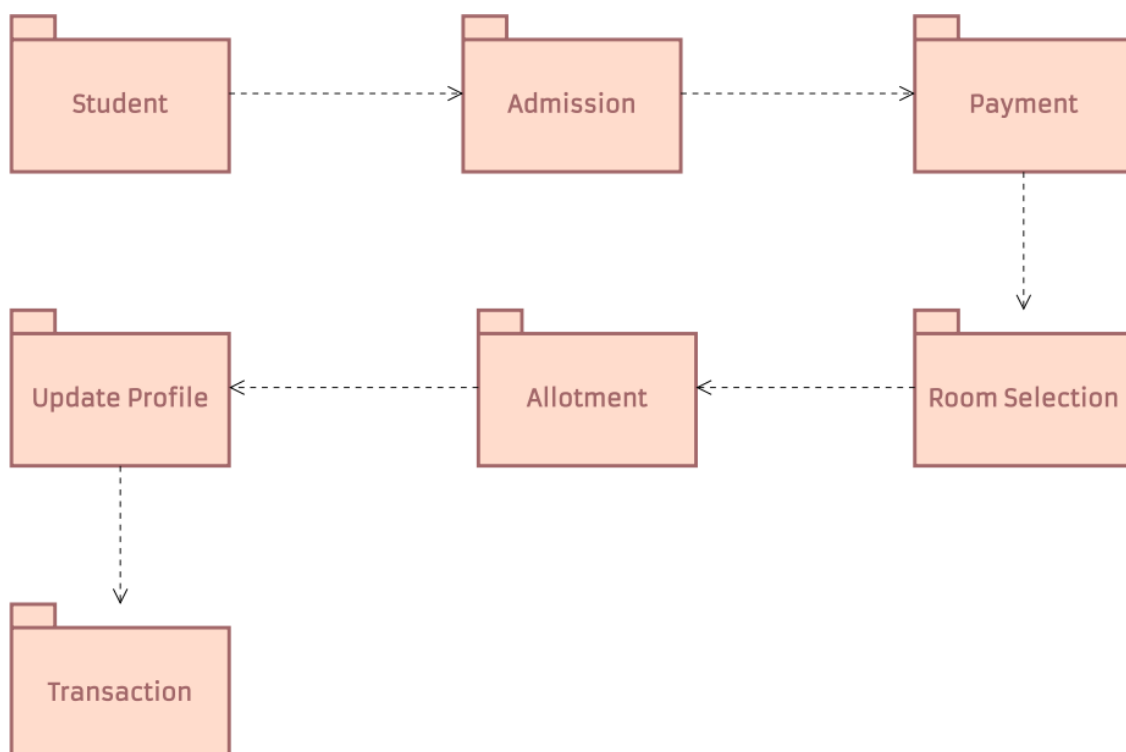
HOSTEL MANAGEMENT SYSTEM ACTIVITY DIAGRAM

Activity diagrams are graphical representations of workflows of stepwise activities and actions with support for choice, iteration and concurrency in hostel management system.
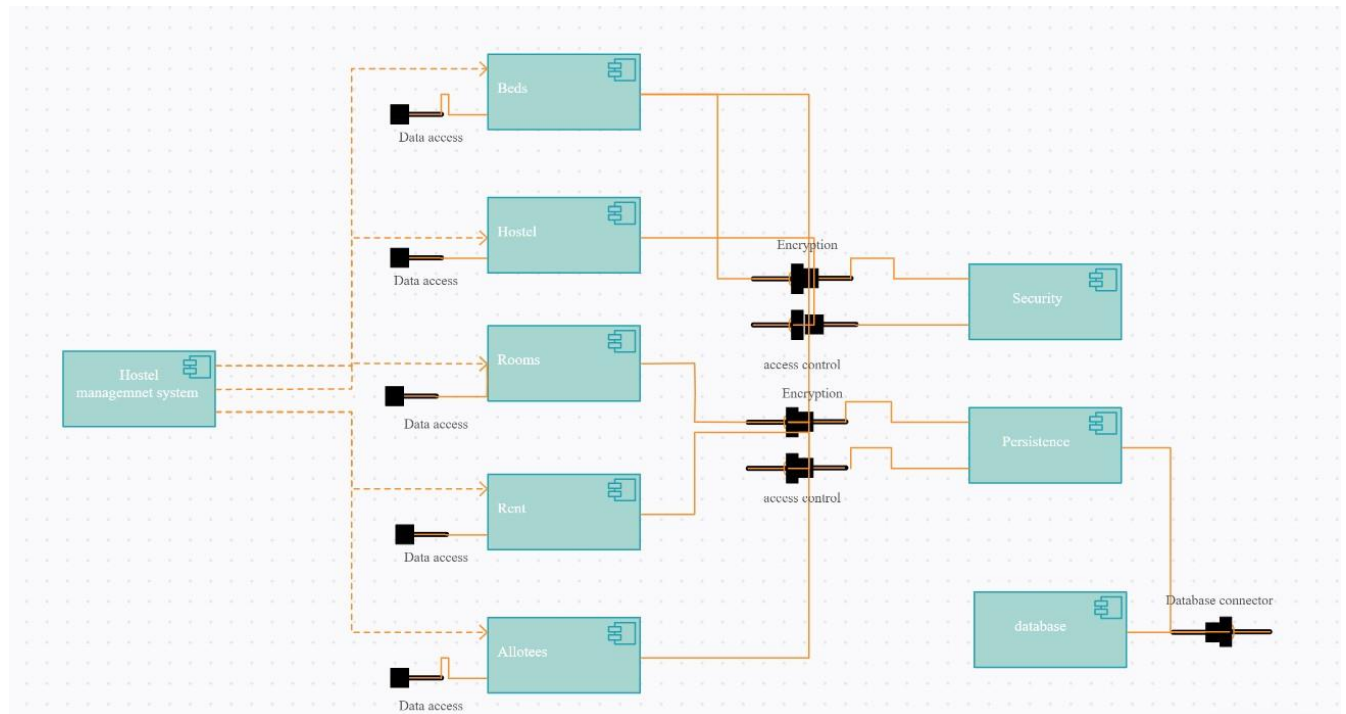

HOSTEL MANAGEMENT SYSTEM PACKAGE DIAGRAM

Package diagrams are structural diagrams used to show the organization and arrangement of various model element in the form of packages.

HOSTEL MANAGEMENT SYSTEM COMPONENT DIAGRAM

A component diagram, also known as a UML component diagram, describes the organization and wiring of the physical components in a system. Component diagrams are often drawn to help model implementation details and double-check that every aspect of the system's required functions is covered by planned development.

HOSTEL MANAGEMENT SYSTEM DEPLOYMENT DIAGRAM

A deployment diagram is a UML diagram type that shows the execution architecture of a system, including nodes such as hardware or software execution environments, and the middleware connecting them. Deployment diagrams are typically used to visualize the physical hardware and software of a system.
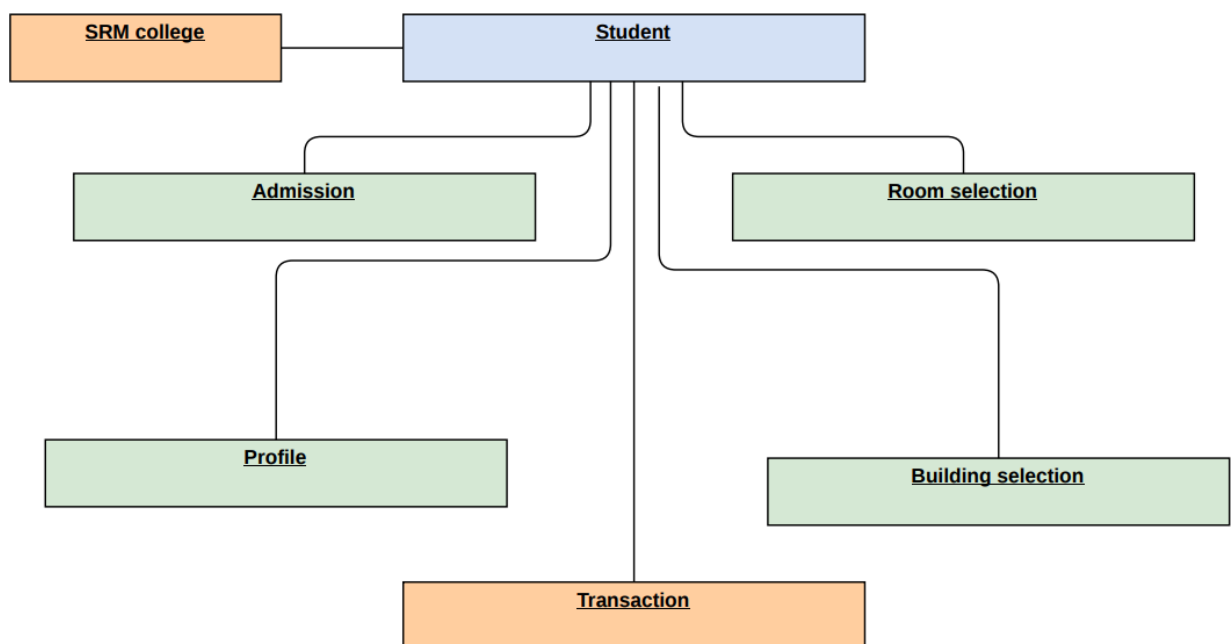
CONCLUSION

Hostel management diagrams of all the topics has been explained and shown in this project and all the diagrams have a unique feature about them.

REFERENCE

Staruml application