UNIVERSITI MALAYSIA TERENGGANU
FACULTY OF OCEAN ENGINEERING TECHNOLOGY & INFORMATICS

CSE3023
WEB-BASED APPLICATION DEVELOPMENT

System Proposal

UMT HOSTEL MANAGEMENT SYSTEM

Prepared by:
Group 3

Prepared for:
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Group Members

No	Matric No	Name	Job Description
1	S63597	WONG HONG HEI	• Guide the process of the project. • Handles manage hostel module. • Handles manage merit MyStar module.
2	S63657	EVANGELINE CHIA KAR YI	• Handles manage room module.
3	S63743	LAU YONG	• Handles manage user module. • Handles manage report module.

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1.0. PROJECT OVERVIEW

1.1. PROBLEM STATEMENT

Throughout the years, the students at University Malaysia Terengganu complained that they are not satisfied with the rooms they received as the rooms are assigned to them at random all these while. There are a few reasons that they are not happy with the room they are assigned to.

Firstly, some of the students prefer a room for two (2) however they are assigned to a room for three (3) instead. On the other hand, some students might prefer a room for three (3) as it is cheaper compared to that of a room for two (2), but in the end what they get is a room for two (2) which might be a burden for them.

Moreover, sometimes the students might encounter some problems with their roommates as the thinking and behaviors between them are very different and do not match at all. In addition to that, this is not a one-month matter but is a one-year problem as he/she has to bear with the situation for another one (1) year. Hence it will cause and bring an uncomfortable living experience for the students. In the end, the officers of the Residential College (KK) will receive a lot of complaints and requests for a room exchange.

Besides, the students also complain that the announcement of the application result was not efficient enough as there are several phases of the result announcement. These inefficient and inaccurate results make it hard for the students to decide whether or not to start finding houses outside to rent or continue waiting for the second or third phase of result announcement. The results might be announced right before a new semester starts. If they are to wait for the second or third phase of the result announcement, they might end up with no place to stay due to the rejection of hostel application and full-house rental outside. Else they may have signed a rental agreement

but in the end get a hostel room offer. This makes students cost more and at the same time, the assigned room becomes empty which reduces the other students' opportunity.

Lastly, the records of students in the rooms are difficult to trace before this as most of the data is recorded manually. The downsides of recording data manually are that data might be duplicated or data is easily lost and it is hard to track. It can be seen clearly that the warden will have to knock room by room to check which student is staying in which room all this while. Sometimes the student may not be in the room which also caused the information retrieval to become difficult.

1.2. PROBLEM SOLUTION

By recognizing the shortcomings brought on by the current hostel management technique at University Malaysia Terengganu, a hostel management system that is more user-friendly and automated is to be introduced in order to solve the problems regarding the hostel management at University Malaysia Terengganu.

This system is much more pleasant and effective than the current management method used at the hostel University Malaysia Terengganu. Firstly, students are given the option for applying to the hostel. Students who are in the top 4420 of the highest collected merit among the applied students are then seeking for confirmation of the application. They are then given the opportunity to choose their preferred room type and their satisfied hostel room. This system may also provide the student with the information and pictures about the room type that they are selected to answer the student's inquiry and make their best decision.

Besides, students can also choose their ideal roommate by making a discussion with their kindred spirits who is also eligible in applying to the hostel to apply in the same room. With the freedom to choose the ideal room and roommate, students'

demand has been greatly fulfilled and at the same time repetition works on hostel officers can also be reduced due to the lessening of changing room applications.

Furthermore, by giving the opportunity for students to choose the hostel room, it also reduces the hostel administrator and hostel staff workload since the distribution of room for each hostel application student is not needed anymore but is replaced by a simple and easier application approval job.

Lastly, hostel administrators and hostel staff can identify students' information and status through the system. Each of the student's info will be automatically saved in the system when they are making an application for a hostel. Hostel administrators can trace the student record only through the system without asking the hostel warden by manually knocking the door room one by one to get the student information. Besides, the hostel administrator and hostel staff can generate and view any reports based on their needs. This has saved much more time and energy of the hostel administrators compared to the manual and time-consuming method.

1.3. OBJECTIVE OF THE SYSTEM

1. To study the existing UMT Hostel Management System's environment.
2. To design a more efficient and compatible hostel management system.
3. To develop a well-coordinated and high-efficiency hostel management system.

1.4. SCOPE OF THE SYSTEM

The scopes of the system that have been identified are:

(i) The hostel management system is only used by Residential College of University Malaysia Terengganu (UMT).

(ii) Users of the system are:

a. Hostel administrators

b. Hostel staff

c. Students

(iii) The system is supported by both Windows OS and MacOS. This system will use HTML, JavaScript and CSS to design the input & output screen while the backend will be programmed using SQL. The system works as an online system, connecting to UMT servers. All the information regarding the hostel will be saved in the database.

(iv) The module of this system are:

a. Manage User Module

- The system shall provide the hostel administrators with an ability to register and delete the students', hostel staff's and hostel administrators' account.
- The system should provide the hostel administrators with the ability to track and update the students' information and records.
- The system shall provide the students, hostel staff and hostel administrator with the ability to update their personal information.
- The system shall provide the students, hostel staff and hostel administrators to log into and log out of their account.

- The system shall provide the students, hostel staff and hostel administrators with an ability to re-login if the password or username entered is incorrect.

b. Manage Hostel Module

- The system shall provide the hostel administrators with an ability to create, retrieve, update and delete the hostel information and records.
- The system should provide the hostel staff with the ability to update and retrieve the hostel information and records.
- The system should provide the students with the ability to apply for hostels.
- The system shall provide the students with the ability to accept or reject the hostel offer.

c. Manage Merit MyStar Module

- The system should provide the students with an ability to check their merit Mystar.
- The system shall provide the hostel staff and hostel administrator the ability to create, update and delete the records of merit MyStar.

d. Manage Room Module

- The system shall provide the hostel administrators with an ability to create, retrieve, update and delete the room information and records.
- The system should provide the students with the ability to select room type and room number.

- The system should provide the students with the ability to view room application results.
- The system should provide the hostel staff with the ability to update and retrieve the room information and records.
- The system shall provide the hostel staff with the ability to update and delete the result generated if needed.
- The system should send confirmation notices for each student's room application.
- The system should provide the hostel's information and update the availability of rooms from time to time.
- The system shall generate the result for each room application with student details.

e. Manage Report Module

- The system shall provide the hostel staff and hostel administrator the ability to view the reports of users, hostel, rooms, merit MyStar, and application result.
- The system shall provide the hostel staff and hostel administrator the ability to create specific analytic reports.
- The system shall provide the hostel staff and hostel administrator the ability to update and delete reports if needed.

1.5. MODULES ARRANGEMENT

Lau Yong (S63743)

- Manage User Module
- Manage Report Module

Wong Hong Hei (S63597)

- Manage Hostel Module
- Manage Merit MyStar Module

Evangeline Chia Kar Yi (S63657)

- Manage Room Module

2.0 SYSTEM MODELING

2.1 USE CASE DIAGRAM & CRUD MATRIX

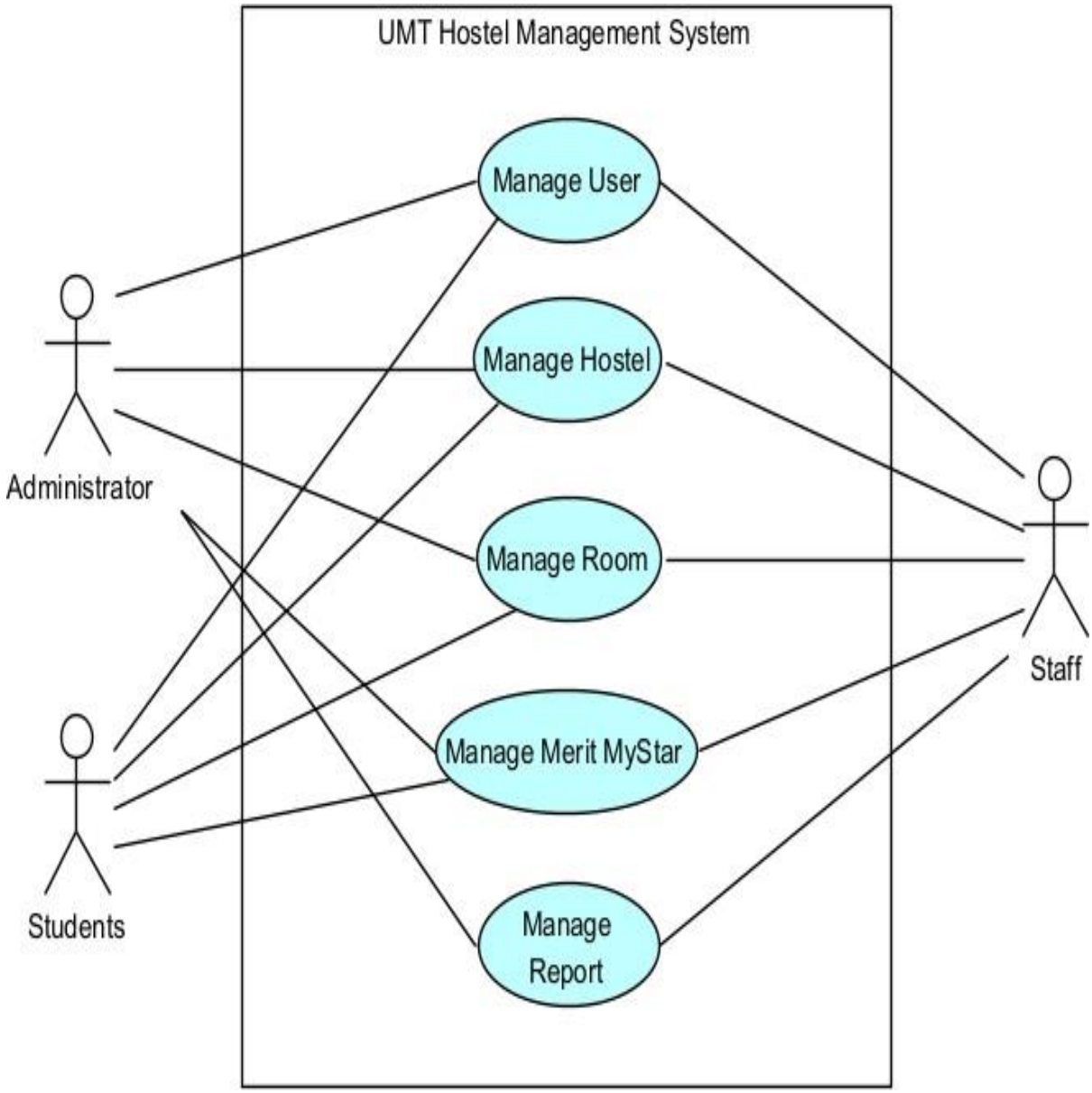


Figure 2.1.1: Use Case Diagram of UMT Hostel Management System

	Administrator	Staff	Student
Manage User	C, R, U, D	U	U
Manage Hostel	C, R, U, D	R, U	C
Manage Room	C, R, U, D	R, U	C, R
Manage Merit MyStar	C, R, U, D	C, R, U, D	R
Manage Report	C, R, U, D	C, R, U, D	

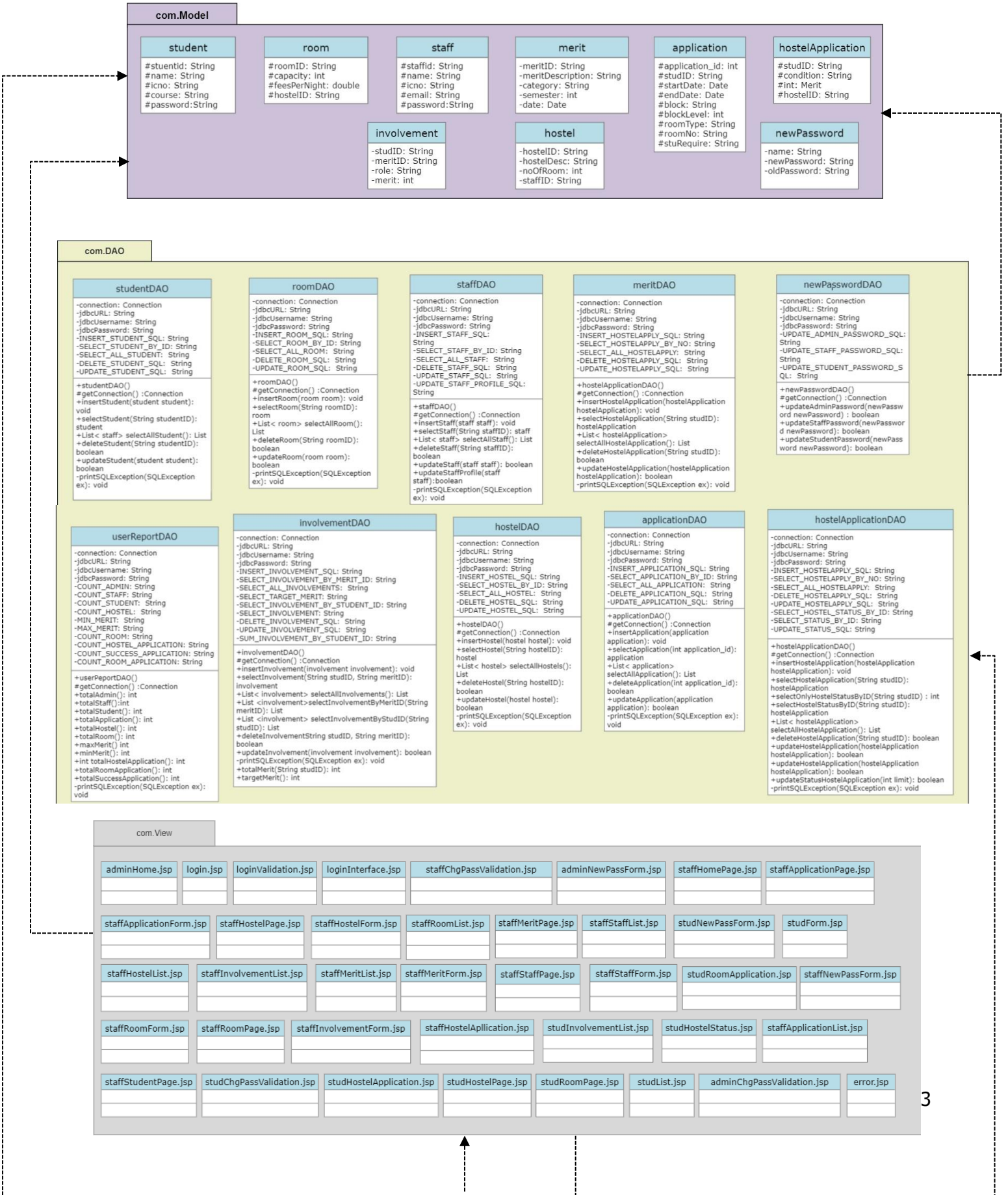
Figure 2.1.2: CRUD Diagram based on Use Case Diagram

In this use case, there are a total of three actors and five modules as shown in the UMT Hostel Management System. All actors which include Student, Staff and Administrator are involved in Manage User module, Manage Hostel module, Manage Room module and Manage Merit MyStar module. While, the Manage Report module is only involved by Staff and Admin.

Based on the use case and CRUD matrix as shown, Administrator is the one who has the right for all CRUD operations such as create, read, edit and delete data in all of the modules. While different from Administrator, Staff is allowed for RU operations instead of CRUD in some important modules such as Manage Hostel, Manage Room and Manage User module. For example, Staff are allowed to update his user profile, update hostel and room details but are not allowed to create and delete data in those modules. However, Staff are allowed all CRUD operations in Manage Merit MyStar module and Manage Report module.

Lastly, Students are allowed for CRU operations instead of CRUD in all of the modules except the Report module. Students are allowed to update his/her user profile, create hostel application and room application as well as retrieve room application and his/hermerit MyStar.

2.2 CLASS DIAGRAM



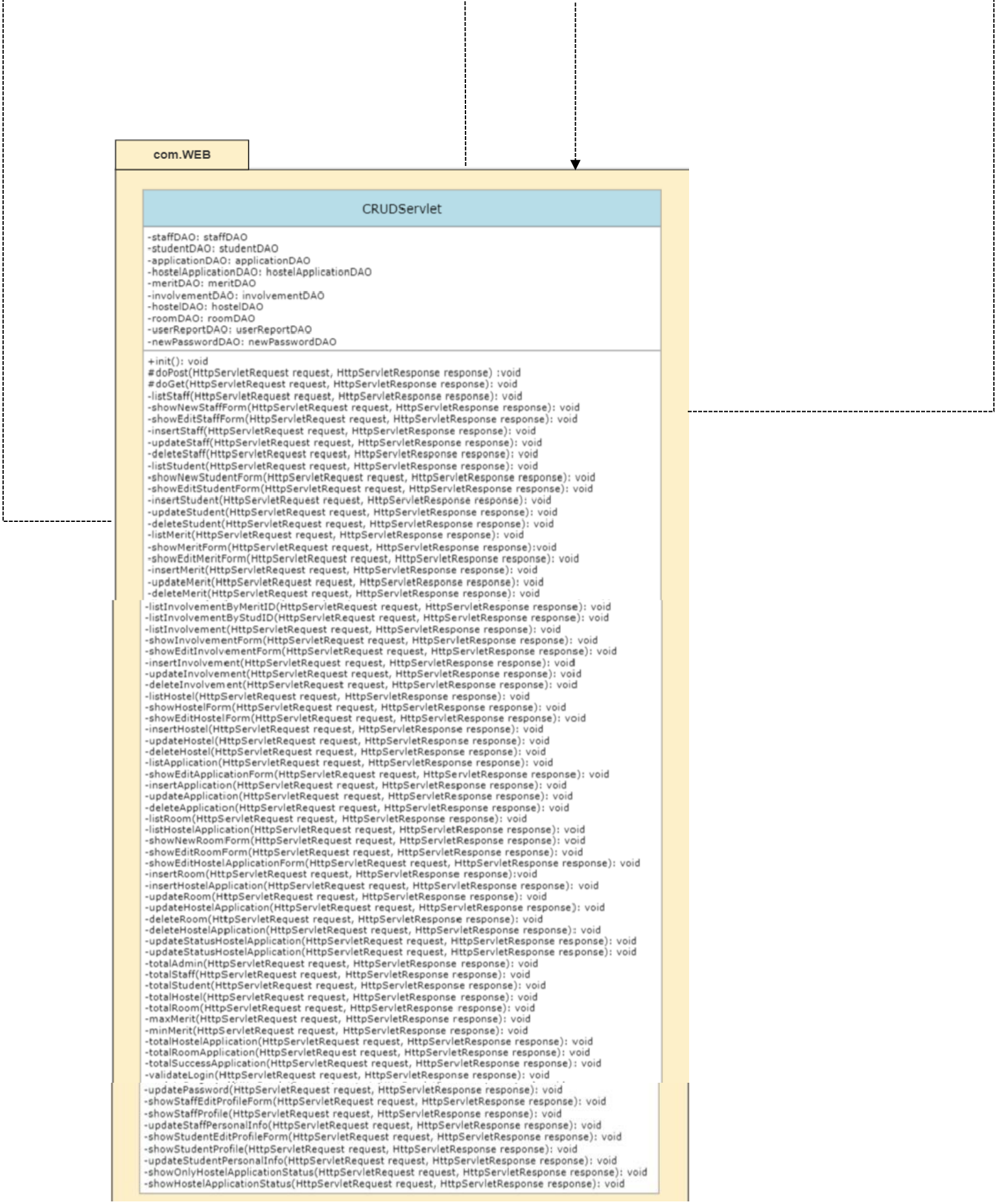


Figure 2.2.1: Class Diagram of UMT Hostel Management System

2.3 ERD DIAGRAM

The ERD Diagram depicts the relationship among the people, objects and events in UMT Hostel Management System.

There are 8 entities involved in the system:

- staffs
- hostel
- room
- roomapplication
- hostelapplication
- student
- involvement
- merit

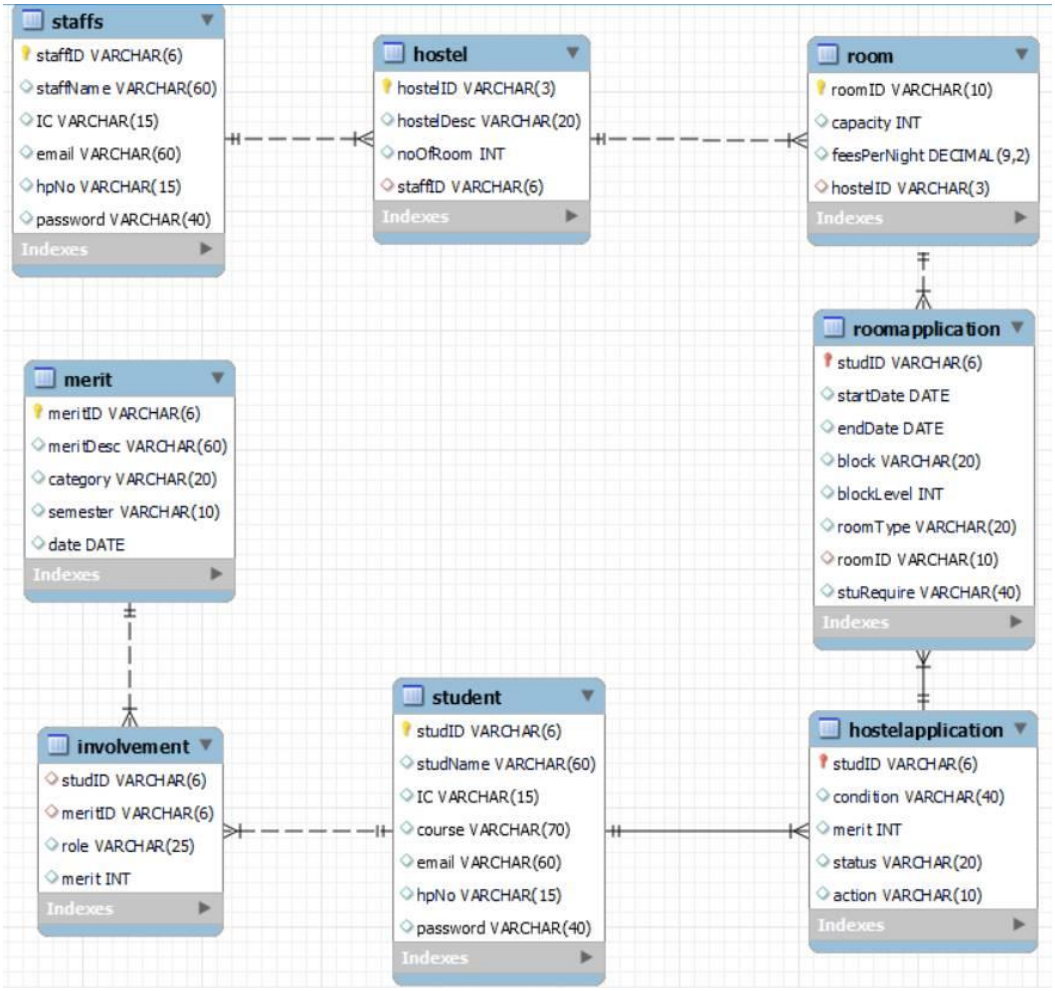


Figure 2.3.1: ERD Diagram of UMT Hostel Management System

2.4 WIREFRAME

Below shows the wireframe of the most important pages in UMT Hostel Management System which include:

- Change Password Page
- Student Home Page
- Student Hostel Application Page
- Student Room Application Page
- Staff Home Page
- Staff Room Page
- Staff Room Form
- Staff Room List

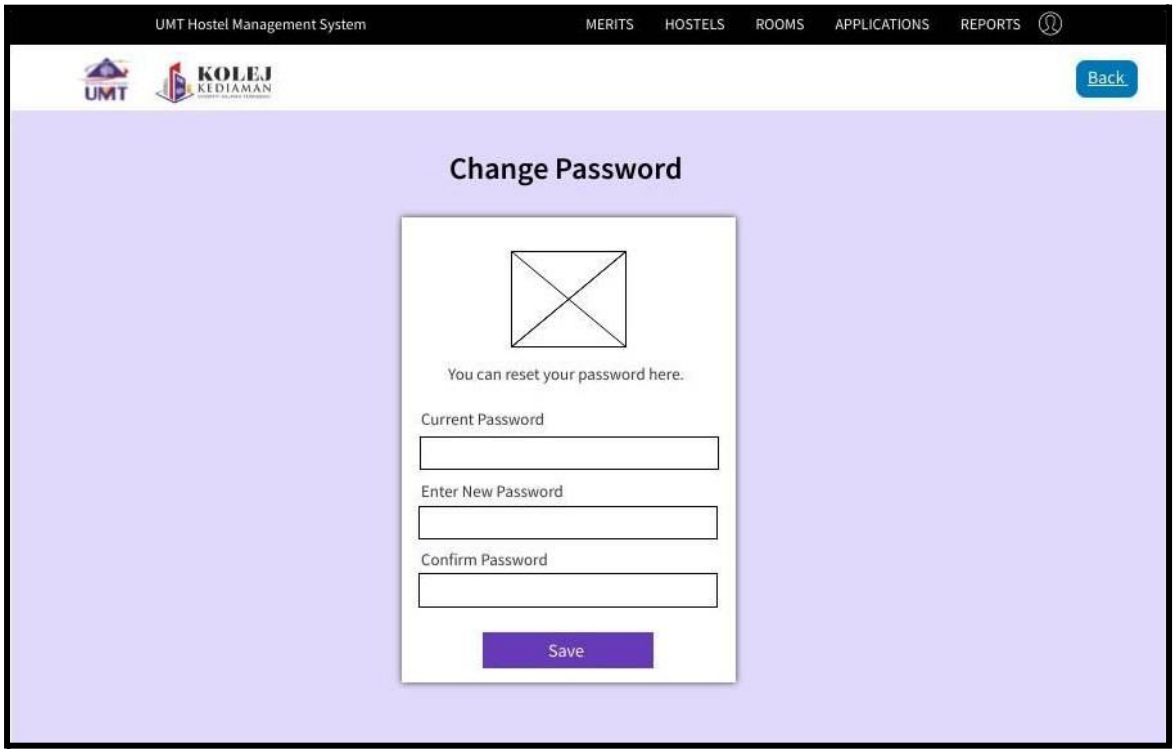


Figure 2.4.1: Change Password Page in UMT Hostel Management System

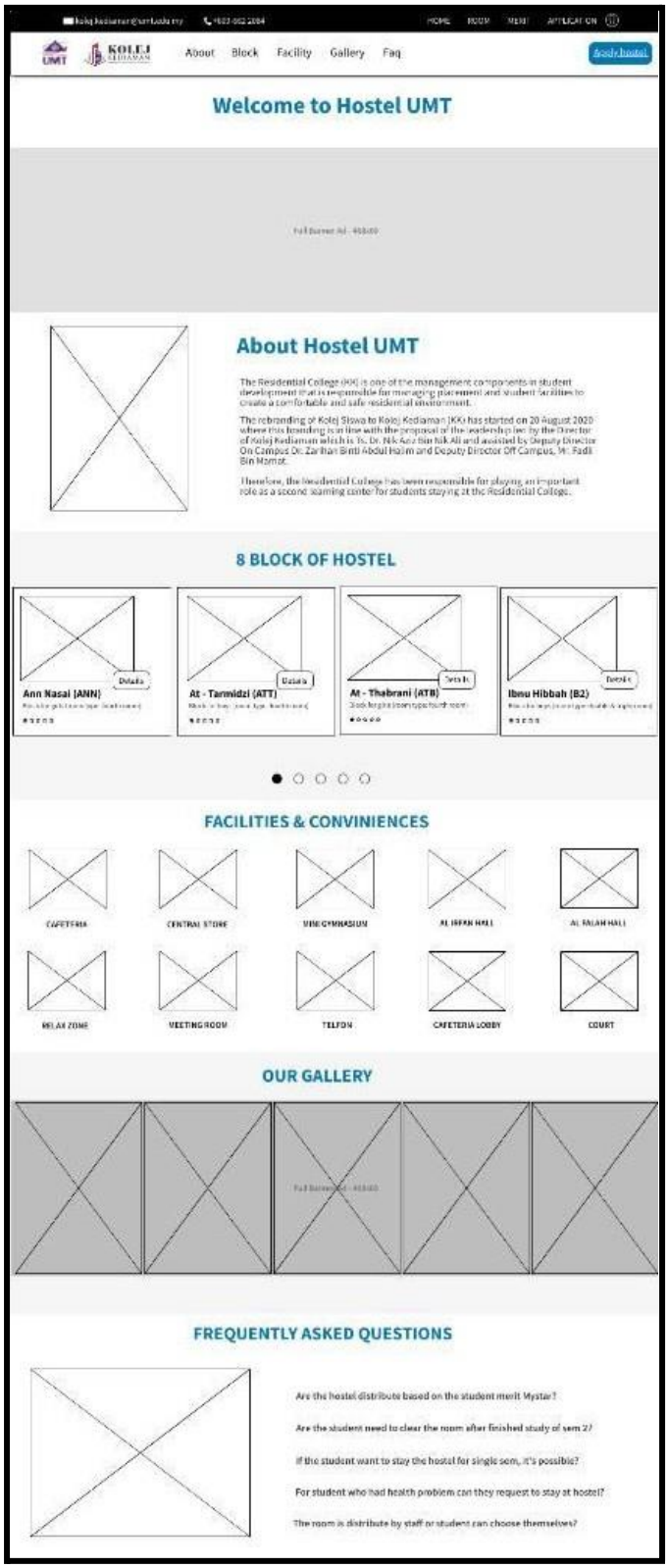


Figure 2.4.2: Student Home Page in UMT Hostel Management System

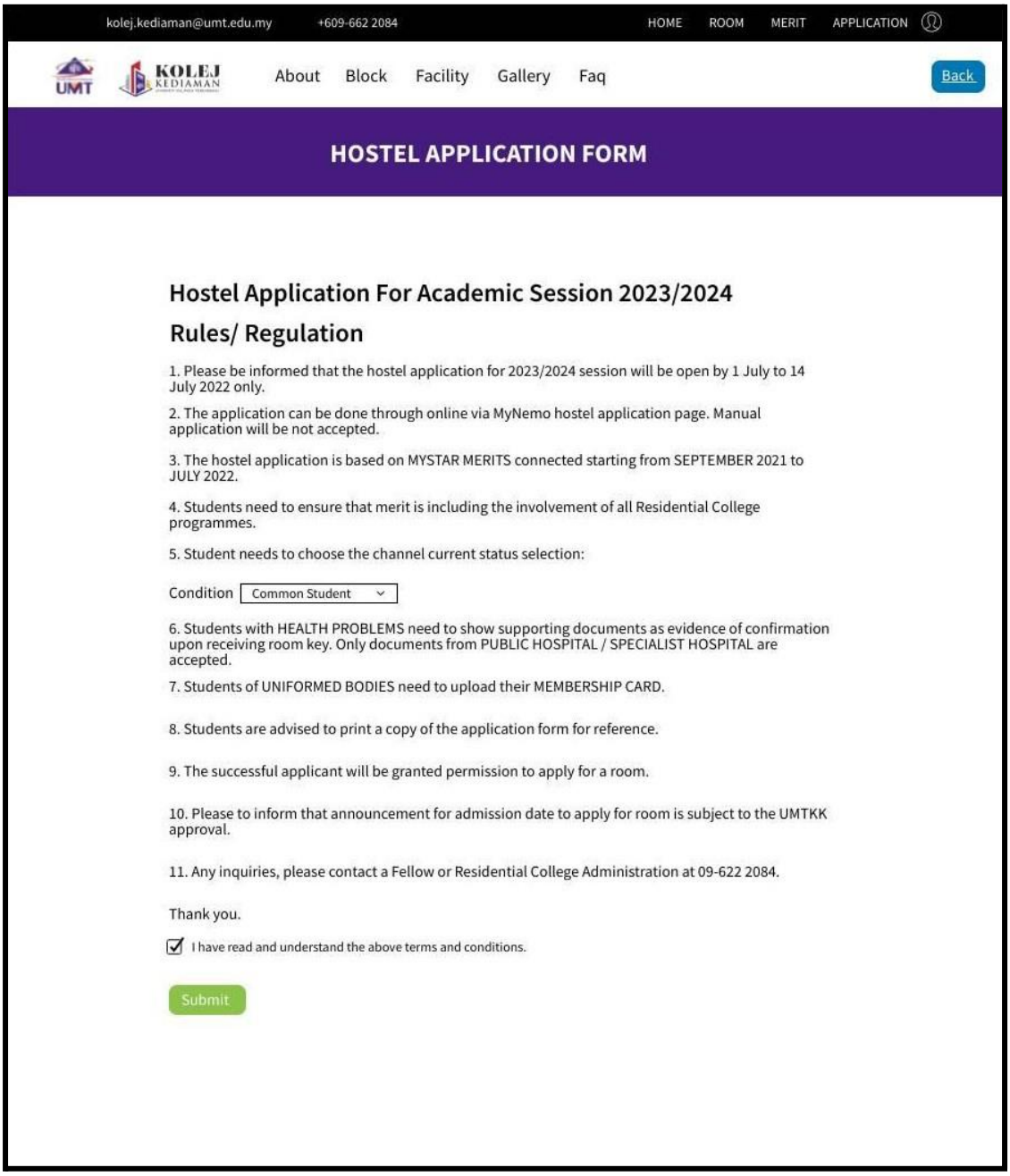


Figure 2.4.3: Student Hostel Application Page in UMT Hostel Management System

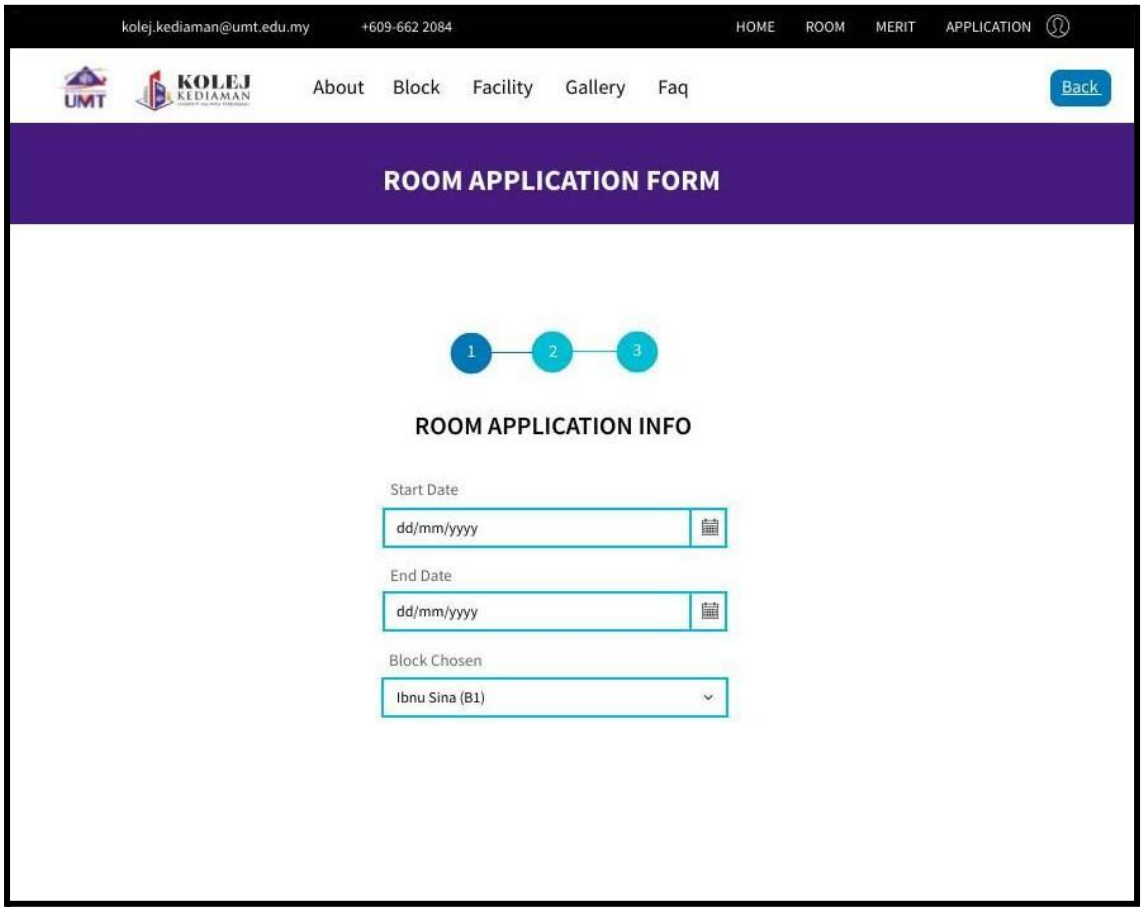


Figure 2.4.4: Student Room Application Page in UMT Hostel Management System

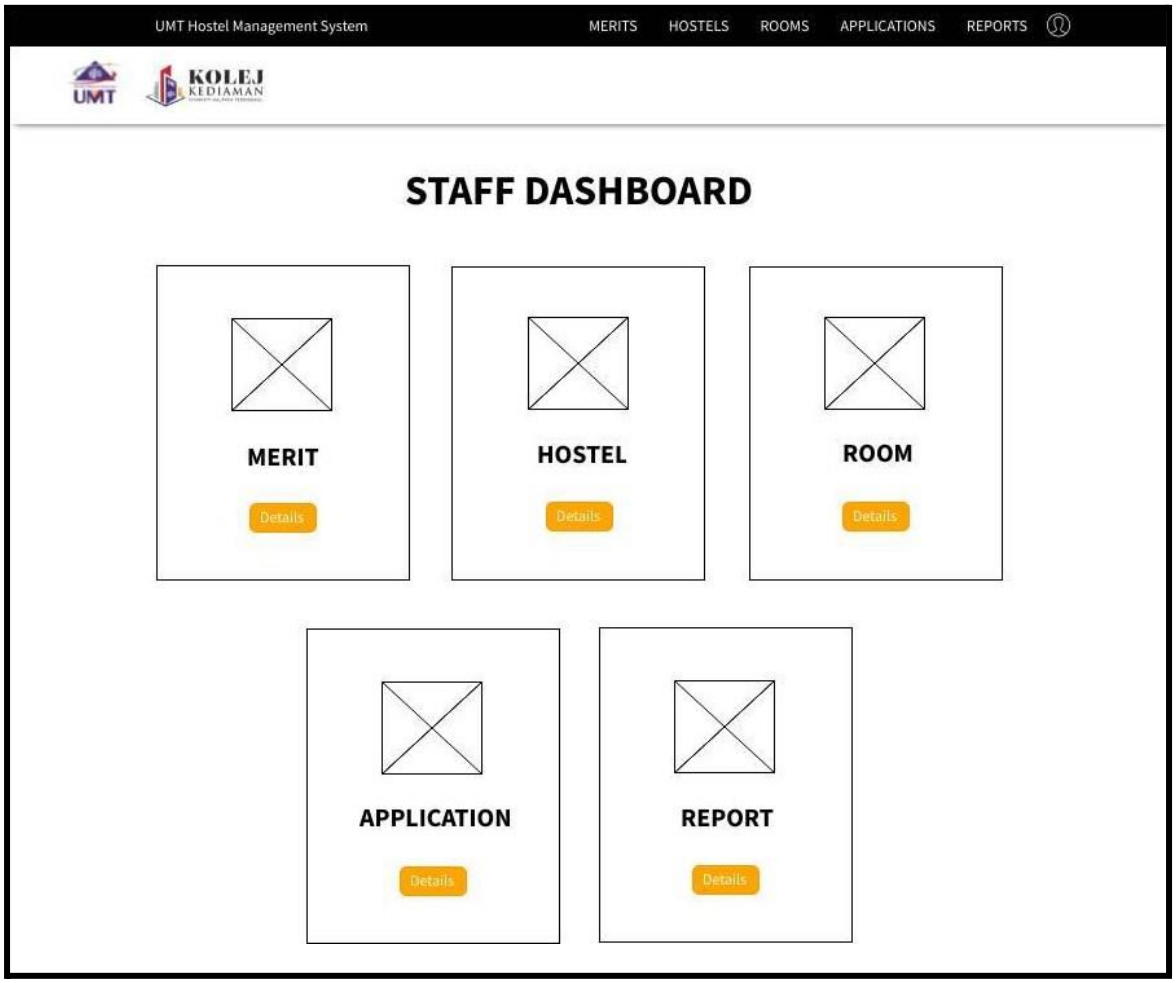


Figure 2.4.5: Staff Home Page in UMT Hostel Management System

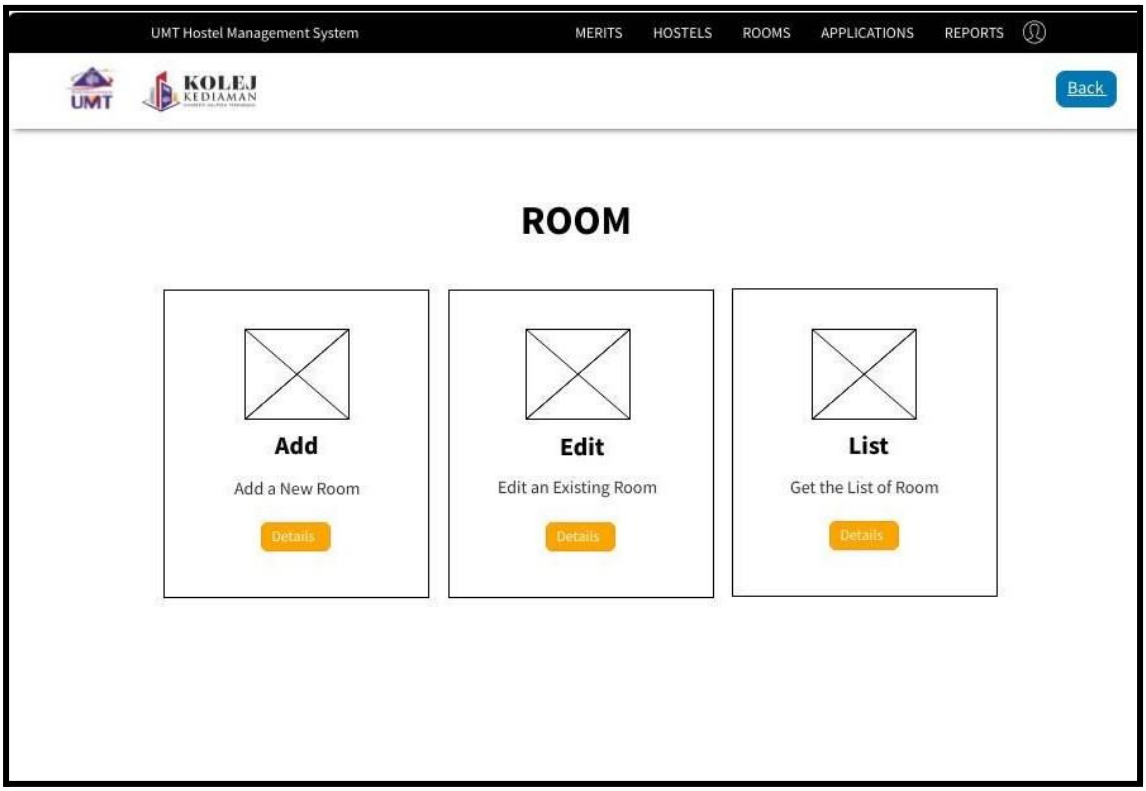


Figure 2.4.6: Staff Room Page in UMT Hostel Management System

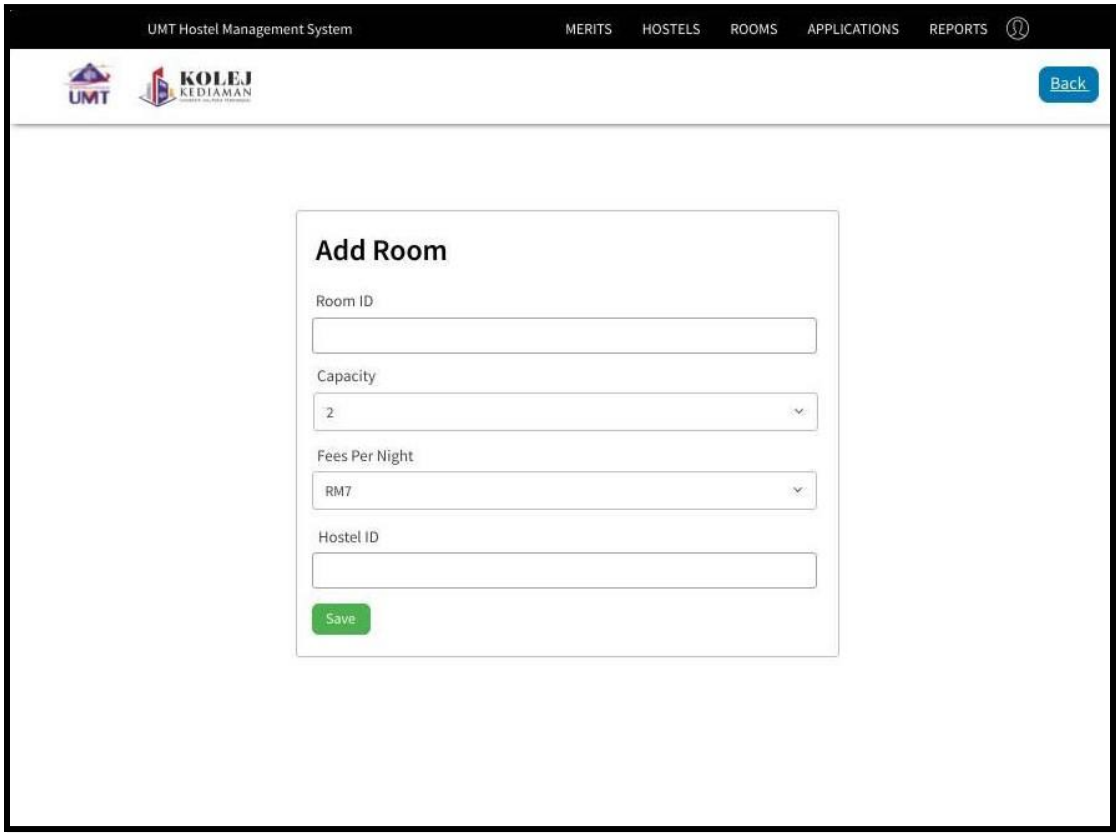


Figure 2.4.7: Staff Room Form in UMT Hostel Management System

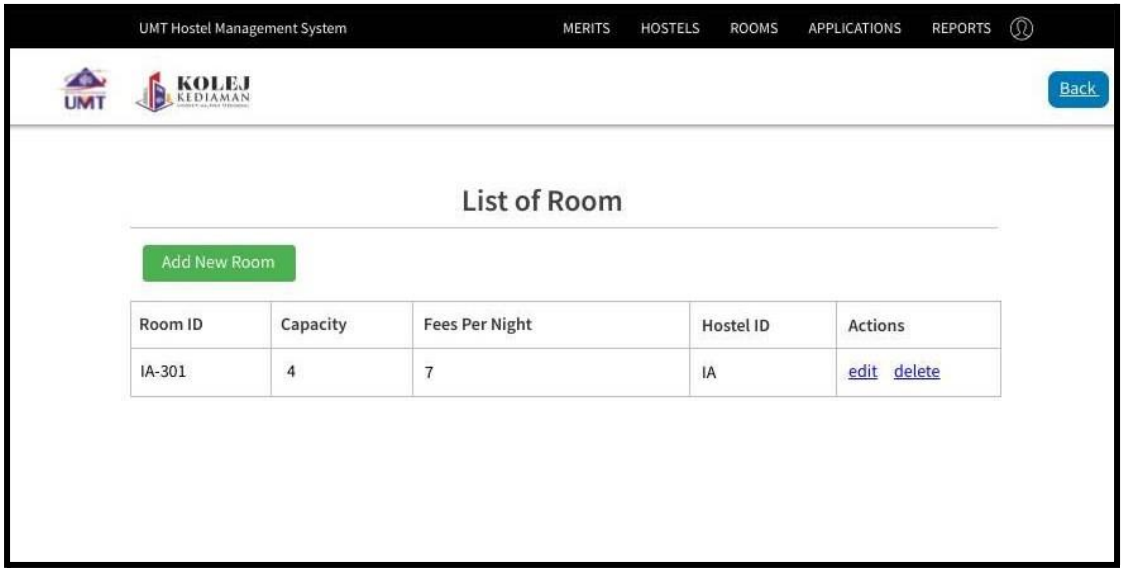


Figure 2.4.8: Staff Room List in UMT Hostel Management System

3.0 CONCLUSION

In conclusion, the Hostel Management System is a very helpful and important project system that will manage various activities in the hostel like room application, student, hostel information and many other things that are very useful for a well-managed hostel.

The scope of this project is to provide the opportunity to the students to choose for the hostel room they are satisfied with. Moreover, they can apply to the hostel with their friends. The main purpose for this option is to reduce the conflict or quarrel between roommates. In this case, the students are able to have a comfortable environment for living and studying.

All of the student and hostel information will be stored in the database system well while the administrators can easily and quickly access these data. It deals with the problems of managing a hostel and avoids the problems which occur when carried manually.

Another benefit of this system is that all the hostel managing work can be done easily through it by saving time and also by saving human efforts. By implementing the system, the workload of the administrators can be reduced a lot compared to allocating hostels to the students manually before. The efficiency of hostel allocation will be improved as well.

This system is developed based on the requirement specification of the user and the analysis of the existing system. Therefore, it is more compatible and efficient compared to the existing system. Besides, it has the flexibility for future enhancement to develop a more convenient system.