1. PROJECT OVERVIEW

PROJECT OVERVIEW STATEMENT	Project Name: EASY ROOMS

Problem:
There are many problems faced by students in hostel allocation and room allocation. The issues are also there in laundry and room cleaning as there is no centralized system for it and many times complaints are delayed for longer time.

Goal: As efficient and amplified software tool kit for management of hostel allocation and room maintenance problems capable of storing data in tables, forms etc. It is aimed at solving hostel related problems efficiently.

Objectives: With the help of web development and data base, our objective is :

1. To minimize time consumed in allocation of hostels and rooms and other queries.
2. To give pleasant and smooth experience to users and to centralize the tedious process of hostel allocation and complaint registration.

Overview of Software:

1. Our software will have access to the database of students and its model can store details of users.
2. It will contain various functions like fee payment, laundry system, complaint management etc.
3. Hostel management and other officials can access the functions of software and receive required information for efficient management of hostel.

Product Scope: The application can be used at various hostels.

A CASE STUDY (IEEE Format)

Software Requirements Specification Document

Version 1.0

EazyRooms

(Hostel Room Management)

1. Introduction

1.1 Purpose of this Document

The purpose of this SRS document is to provide a detailed overview of our software product, its parameters, and goals. This document describes the project's target audience and its user interface, hardware, and software requirements. It defines how our client, team, and audience see the product and its functionality.

1.2 Scope of the Development Project

The goal is to design a web page making the task of hostel management for students as well as the staff easier and more manageable. In this system, Hostel staff and resident students would be able to login and perform certain activities at the ease of their rooms. The activities include room allocation, swapping, cleaning, registering complaints and laundry management. All the data starting from the Allocation to other facilities will be stored and displayed in an organized manner.

The software must be able to perform the following operations:

1. **Allocation of Room :** It must be able to collect hostel and room preferences from students and allocate them the desired room (if vacant) according to the status of their fee payment, as well as maintain the record of room allotted to the students of all hostels in separate tables for each hostel to make other processes easier for the hostel staff/management.

2. **Swapping of Room :** Creating a separate table for students of each hostel that want to change their rooms and pairing them up with the right student, who wants to be allocated the hostel the other student is currently in. Further, making the process much simpler. Note: The student must be able to fill a form

3. **Room Cleaning :** Living in a hostel the simple concept of cleanliness is very important, but at times its very inconvenient to call the cleaner walking down all the stairs, this should help the user to register a request to call the cleaner to the room on a given convenient time from anywhere between to 9 AM and 5 PM.

4. **Complaint Registration :** The student must be able to use this feature to easily register a complaint in the warden office regarding anything that is needed to be fixed/repaired by the hostel it self , or call a carpenter, an electrician a plumber or any other person that could make the situation better.

5. **Cleaning Clothes :** This is an additional feature to the software where the student will always have a count of how many and what type of clothes has he given in the laundry (shirt, Shorts, etc.) so that there is a very rare loss of clothes, and students don't forget to collect/give laundry on the laundry days (Different for every hostel).

Initially, we plan to implement these functionalities for hostel-K, with 4 Hostel staff members, 30 students, 2 laundry staff, and 4 council members (as general staff), as this will give us a rough idea of what and how will things do/work out, slowly increasing the scope of our audience, taking the reviews of ease of use from the all the types of users.

The scope of this software must not be limited to just a few hostels, it can be implemented in all hostels in multiple universities just by updating a few specifications according to the need of the college and its allocation facilities.

1.3 Definitions, abbreviations and acronyms

1.4 References

[1] Information regarding different topics**: https://www.geeksforgeeks.org/**

[2] Template selection**: https://getbootstrap.com/**

[3] Web Designing: **https://www.figma.com/**

[4] knowledge on web-development: **https://www.w3schools.com/**

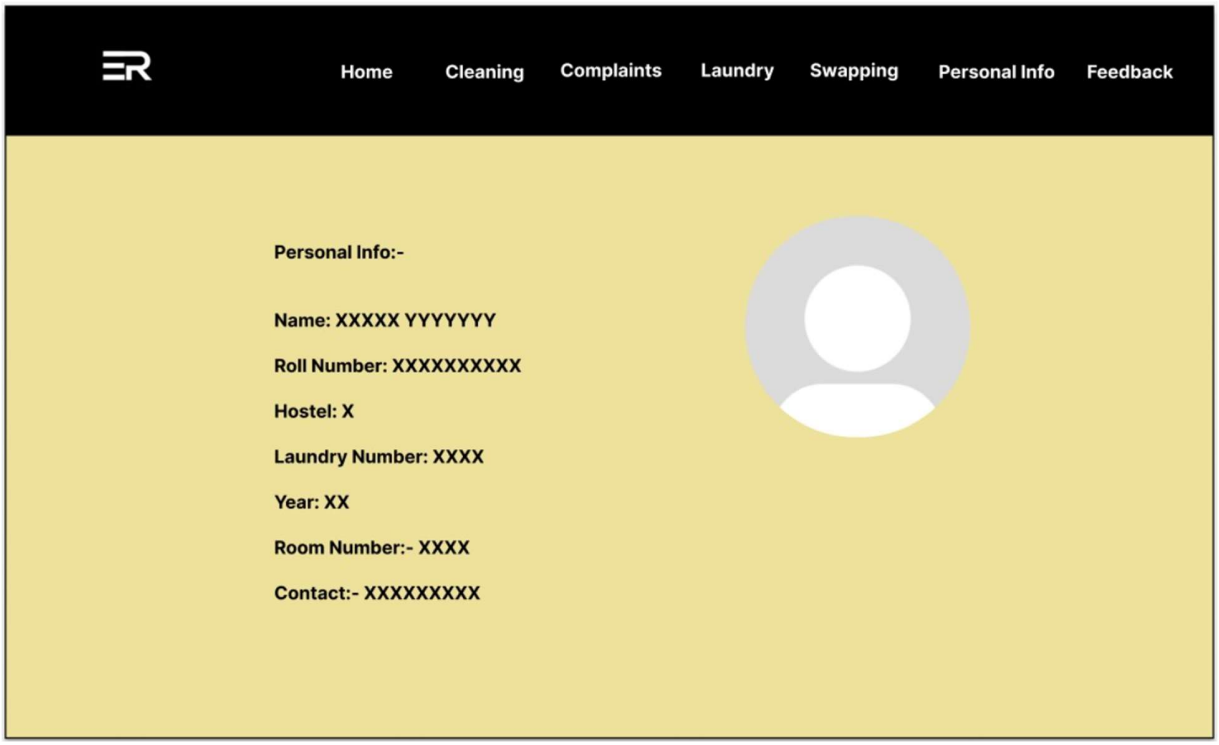
1.5 Overview

The remaining sections of this document provide a general description, including characteristics of the users of this project, the product's hardware, and the functional and data requirements of the product. General description of the project is discussed in section 2 of this document. Section 2 gives the functional requirements, data requirements and constraints and assumptions made while designing the multi-utility system. It also gives the user viewpoint of product use. Section 3 gives the specific requirements of the product. Section 3.0 also discusses the external interface requirements and gives detailed description of functional requirements.

2. Overall Description

2.1 Product Perspective

Here the student will have to access different functions by using the navigation bar on the website, and can use each function by separately clicking on it going to that functions separate page.



This should make going through the functions easier and make the user spend less time and effort. Figure 1. will show how the website's home page should look when it is finished, the rest of the pages are put in separate html packages.

2.2 Product Functions

Our software will be able to perform the following operations:-

1. The hostel and room allocation process will be simplified for users, eliminating the need for them to physically visit the hostel and wait in long queues. Users will be able to fill out the required details on the website, streamlining the process.

2. The website will enable users to easily swap hostels by indicating their desired hostel. If there is availability, the swap will be processed seamlessly.

3. The website will provide an efficient way for students to register complaints regarding any issues they may encounter in the hostel. Users will be able to fill out a form on the website, and the staff will resolve the issue.

4. The laundry service timings will be available on the website. Users can also register any issues they may have regarding laundry, and the staff will address them promptly.

By implementing these features, the website will provide a more efficient and convenient user experience for hostel allocation, swapping, complaints, and laundry services.

2.3 User Characteristics

The goal is to design a software for our college hostels which will make the lives of students and staff easy and sorted this software includes room cleaning, complaints, hostel swapping etc. The types of users that are included in this software are listed below:-

1. Students

2. Staff

3. Hostel staff

4. Laundry staff

Users from the above list may not be in touch with technology. Our prime objective is to make a software that will be relatively easy to use and even if the user doesn't have a lot of knowledge about technology. The user just needs to have a device which is connected to the internet (a mobile phone or a PC) and we'll initially provide him with a User ID and password, which he can use to login as a Staff member and have administrative rights.

2.4 General Constraints, Assumptions, and Dependencies

The implementation of our webpage for hostel allocation and other facilities within the hostel is subject to the following constraints, assumptions, dependencies, and guidelines:

- The software must be seamlessly integrated with the database to ensure flawless access and response time of a few seconds or less.

- The software must have a user-friendly interface that is easy to understand and accessible to anyone with basic computer knowledge.

- The webpage must be optimized to ensure that there is no buffering or delay.

- The data must be secure and a backup copy of the data should be maintained to prevent any data loss or confusion.

By incorporating these constraints and assumptions, we can ensure that our webpage for hostel allocation and other facilities within the hostel is efficient, user-friendly, and secure.

2.5 Apportioning of requirements

EazyRooms - The Hostel and room allocation software will be implemented in three phases, with the aim to provide efficient and convenient services to students and staff in the hostel. The phases are as follows:

i. Pilot Phase: This website will be initially available to only students of one hostel , namely hostel-K. Access privileges will be provided for four types of users: Hostel Staff(2), Laundry Staff(2), Student(30) and student cum Staff(2) as they will be most involved in this phase. The pilot phase will help us to identify any issues or improvements needed before the full deployment of the system.

ii. Hostel-wide deployment: Following the successful completion of the pilot phase, the system will be deployed across the whole hostel, enabling the students to interact with the hostel better and reside in the hostel conveniently. This phase will involve a larger number of students and wider implementation of the system.

iii. Institute-wide deployment: In the future, every single student and staff will be able to access this software and further add the feature to mark attendance for the students residing in the hostel and even more facilities like calling the rickshaw in case of urgency, etc.

The same functionalities will be implemented in each phase, but the number of students and the scale of implementation will increase as the project progresses. The system aims to simplify, and other utility services in the hostel, making it easier and more convenient for students and staff.

3. Specific Requirements

3.1 External Interface requirements

The following list presents the external interface requirements:

The product requires very limited graphic usage with just a simple keypad for taking the user input.

The product does not require usage of sound or animation. The hardware and operating system requires a screen resolution not more than 320 x 240 pixels (owing to the small form factor).

Sound is not an essential feature but it can be considered for future variants of the system wherein the user will be greeted by his name as he swipes his card against the reader-writer terminal.

3.3 Performance Requirements

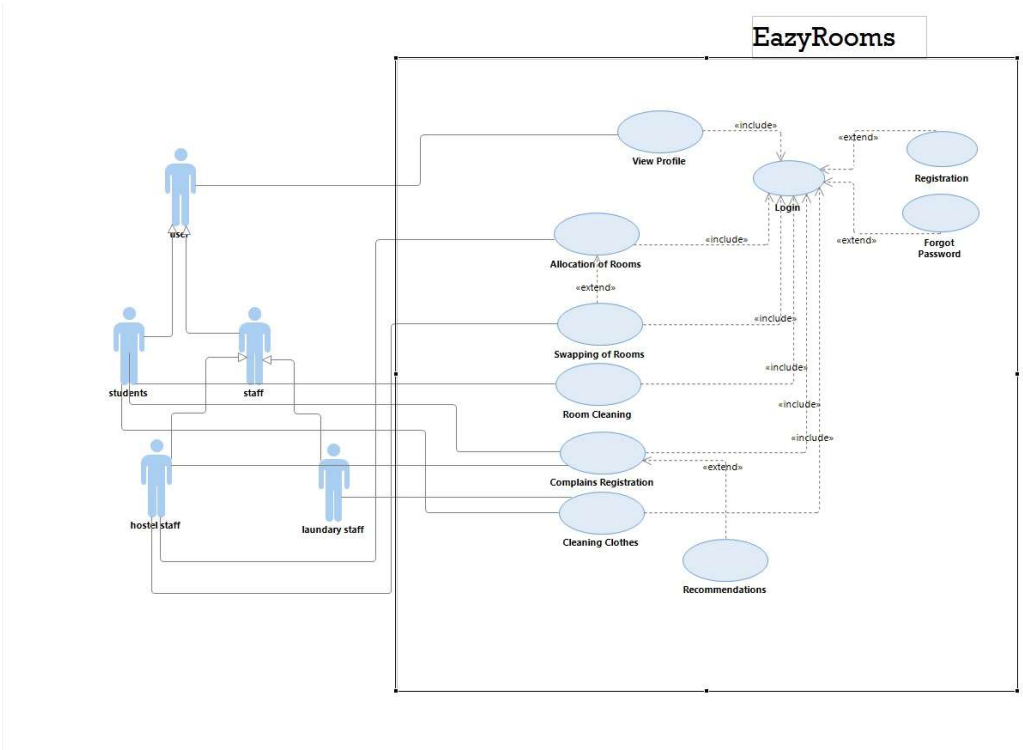
The software will not take all the hostel's data automatically , the caretaker/warden of the respective hostel should be involved and should add the data of all students , including Name , year , Roll number and Other details .

3.4 Logical database requirements

The following figure 3. Is the ER Diagram for your project.

3.5 Quality Attributes

The product is targeted towards a wide variety of users such as Student, Hostel Staff, Laundry staff and the student cum staff members. The product should load quickly and be relatively easier to use. It will handle incorrect and insufficient values easily.



Use Case Templates

1. Use Case Title	Allocation of Rooms
2. Abbreviated Title	Allocation
3. Use Case Id	1
4. Actors:	Hostel Staff, Students

5. Description:

The student should be able to add their preference regarding which hostel should be allocated to them and after they pay the fees, the hostel staff will allocate them their desired room (if vacant).

5.1 Pre conditions: User must be registered if not already for hostel allotment.

5.2 Task Sequence:

1. Hostel is allocated to the student.
2. Submitting their personal details , and checking if they have

paid their fees or not. 3. Allocating them rooms.
5.3 Post Conditions: 1. Users will be able to reside in the room very easily.
6. Exceptional flow of events: 1. If the fees is not paid the student will be sent a reminder email by the hostel staff regarding the same, and the request for room allocation will be denied.

1. Use Case Title	Swapping of Rooms
2. Abbreviated Title	Swapping
3. Use Case Id	2
4. Actors:	Student , Hostel staff

5. Description:

Whenever a student is unhappy with the hostel that has been allocated to him , he can simply fill out a swapping form which will

pair him up with the person who wants to come in his hostel and

Is ready to give up the hostel which the first student wants.

5.1 Pre conditions: User must have paid the fees of the hostel.

And the student must fill the form only once.

5.2 Task Sequence:

1. Take the request and process the details in the database.
2. Pair the student with the right student who wants to swap

   the hostel for the first students desired one.

5.3 Post Conditions:

1. The student will be contacted by a hostel staff member for

Their details, and further room allocation is done.

6. Exceptional flow of events:

1. If there is a difference in the fees of the hostel allocated to the student , the money will be refunded to him.

1. Use Case Title	Room Cleaning
2. Abbreviated Title	sweeping
3. Use Case Id	3
4. Actors:	Student , Hostel Staff

5. Description:

Whenever the student wants to call the sweeper to clean their room , they will just be required to fill out a form with their room and roll no.

5.1 Pre conditions: User must be a member of the hostel.

5.2 Task Sequence:

1. Request is registered by the student regarding the cleaning.
2. The request is received by the hostel staff and they reach the students out.

5.3 Post Conditions:

1. Their room will get cleaned hassle free.

1. Use Case Title	Complain Registration
2. Abbreviated Title	Complains
3. Use Case Id	4
4. Actors:	Student(Write), Hostel staff(Read-only)
5. Description: When there is an issue in the room or the floor, the students are required to fill out a form for the same, to call the carpenter, electrician or plumber and the desired time slot.	
5.1 Pre conditions: User must be registered if not already for band allotment.	
5.2 Task Sequence: 1. The student is required to fill out a form,	

2. The hostel staff receives the complaint and calls the required guy.
5.3 Post Conditions: 1. The students will get their work done conveniently.

1. Use Case Title	Cleaning Clothes
2. Abbreviated Title	laundry
3. Use Case Id	5
4. Actors:	Student , Laundry staff
5. Description: Helps the student and the laundry staff to keep a check on how many clothes the student has given in the laundry so that there is no loss of clothes and the student doesn't forget to take his clothes.	

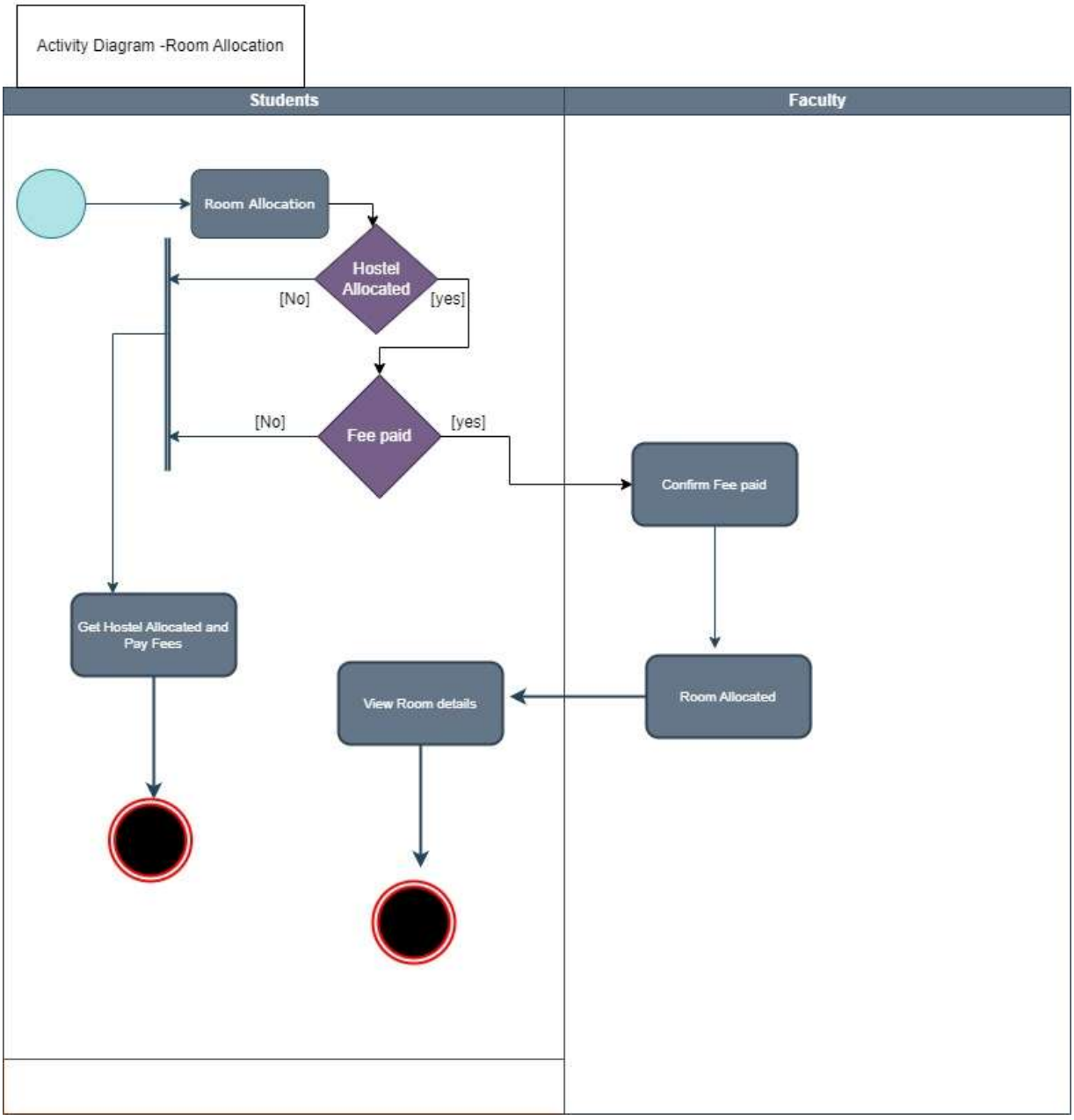
5.1 Pre conditions: The student must have a laundry number corresponding to his name.

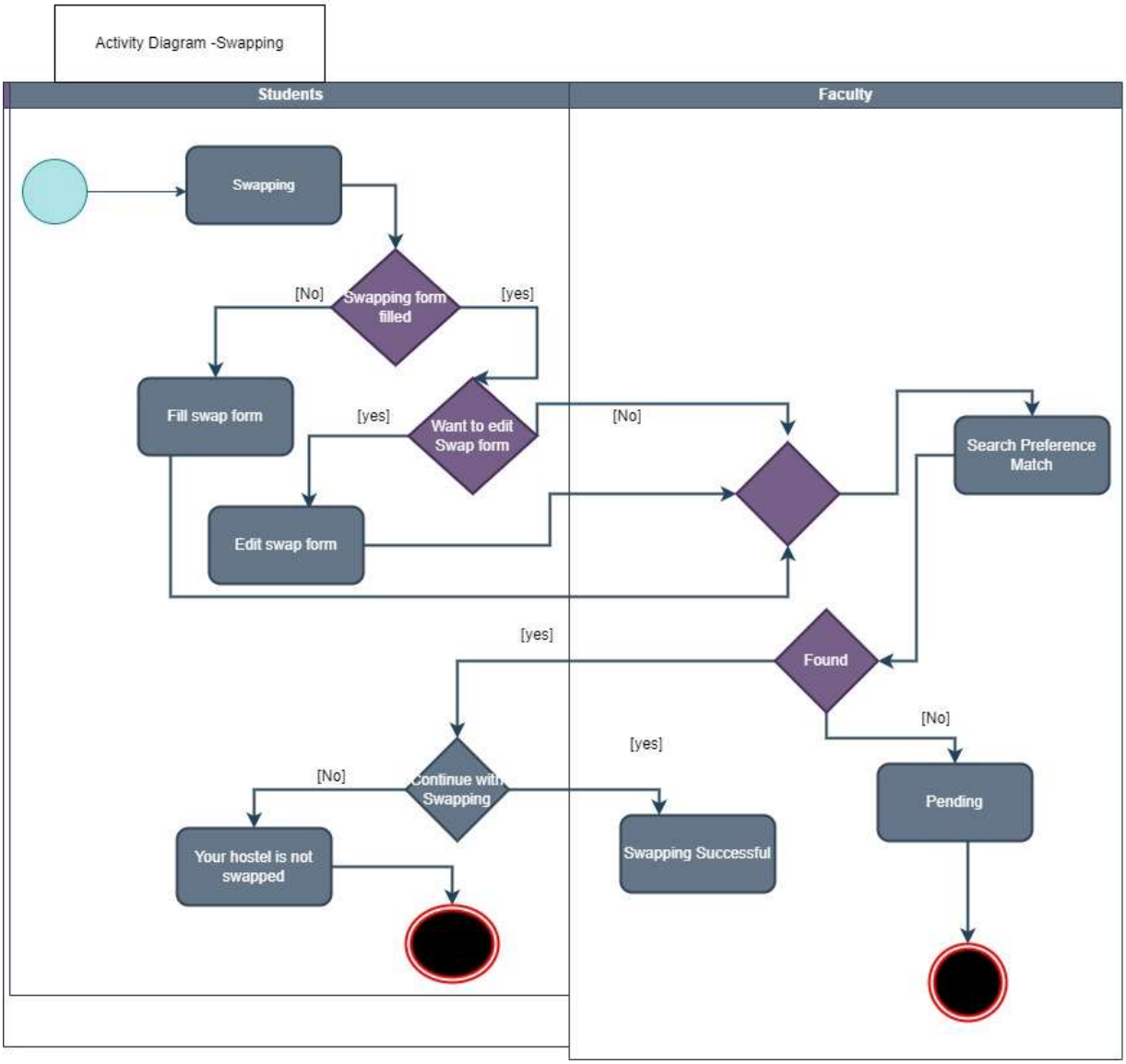
5.2 Task Sequence:

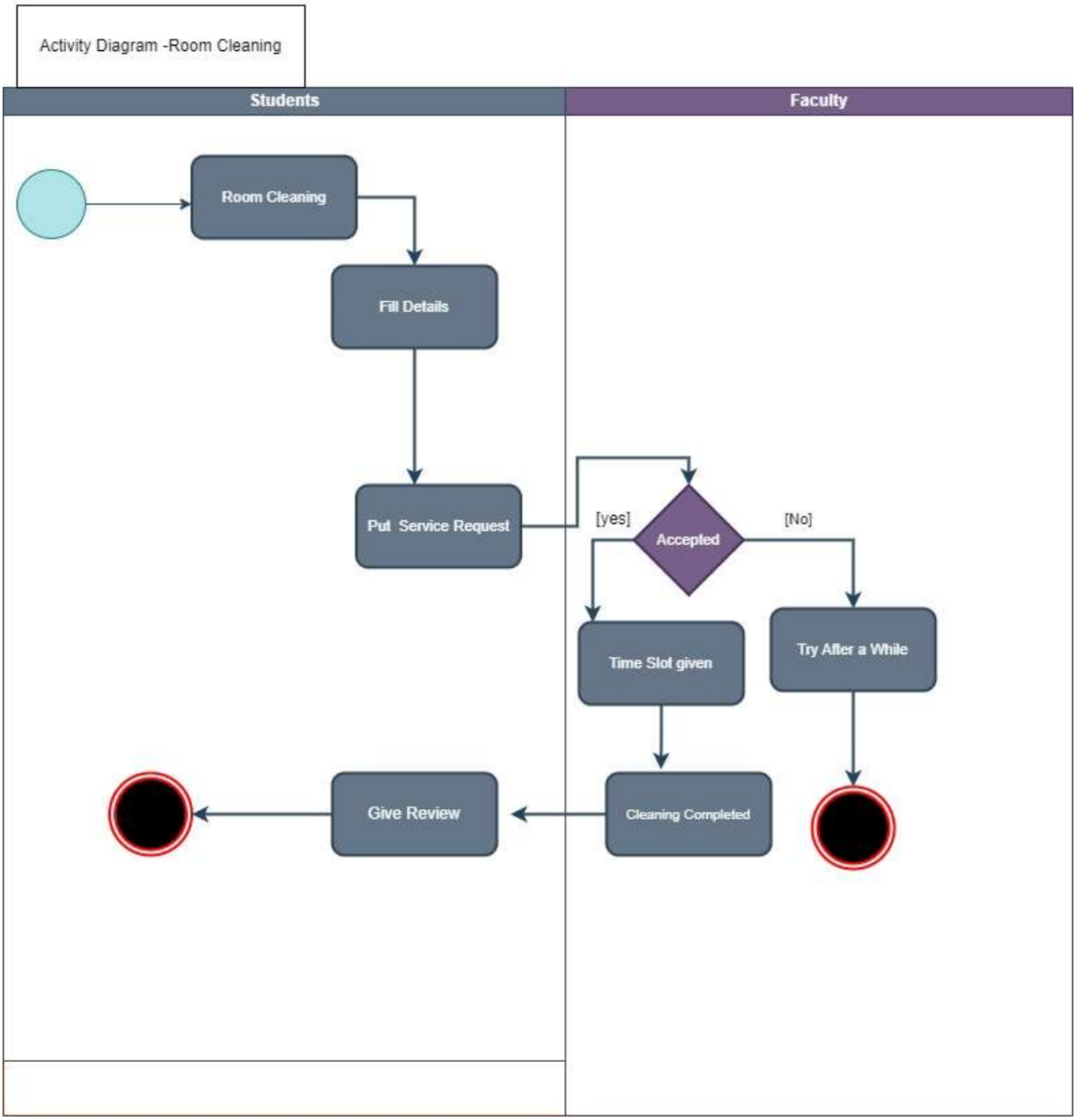
1. The student will enter their laundry number .
2. They will receive details about the number of clothes they have given , etc.

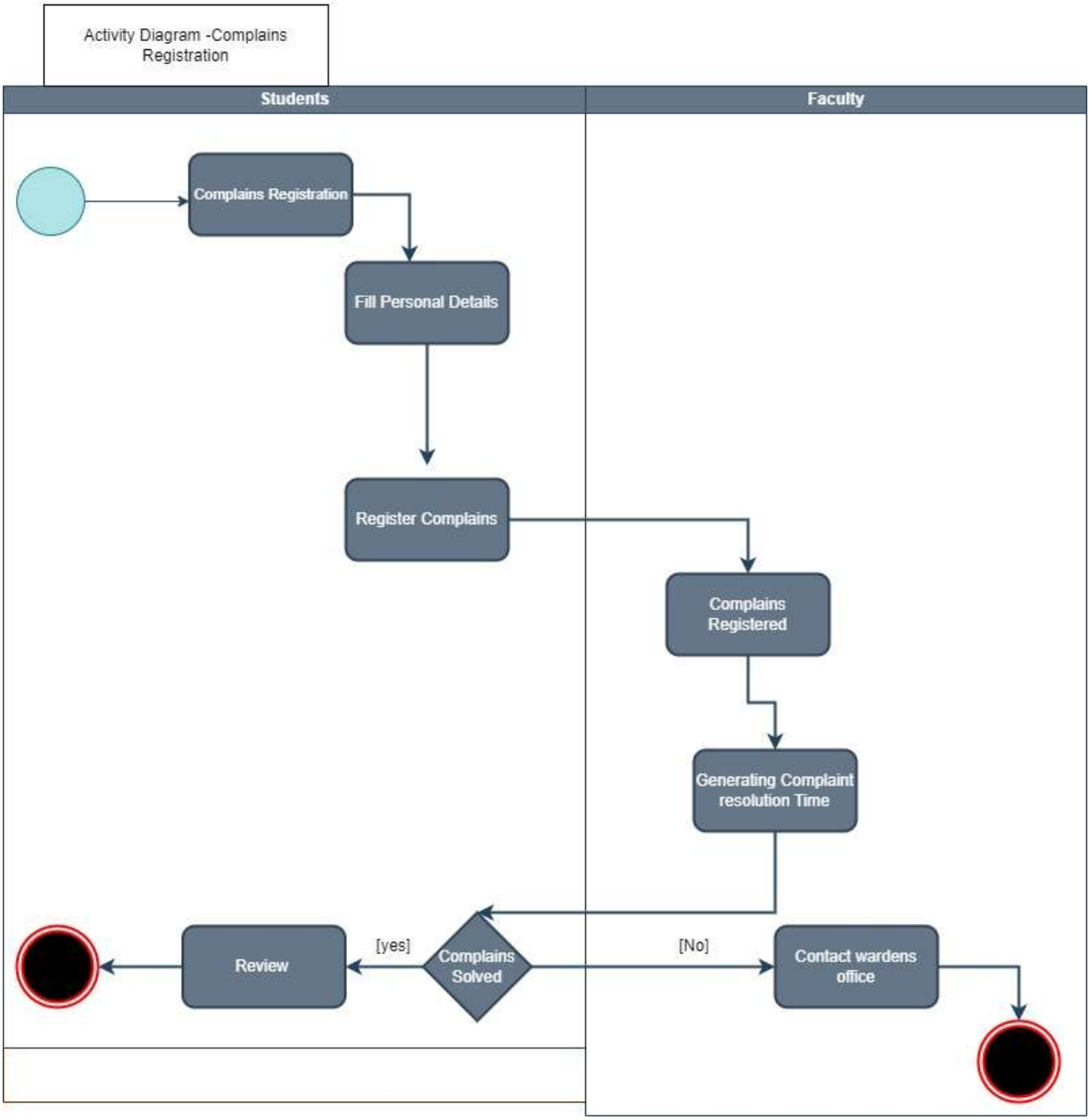
5.3 Post Conditions:

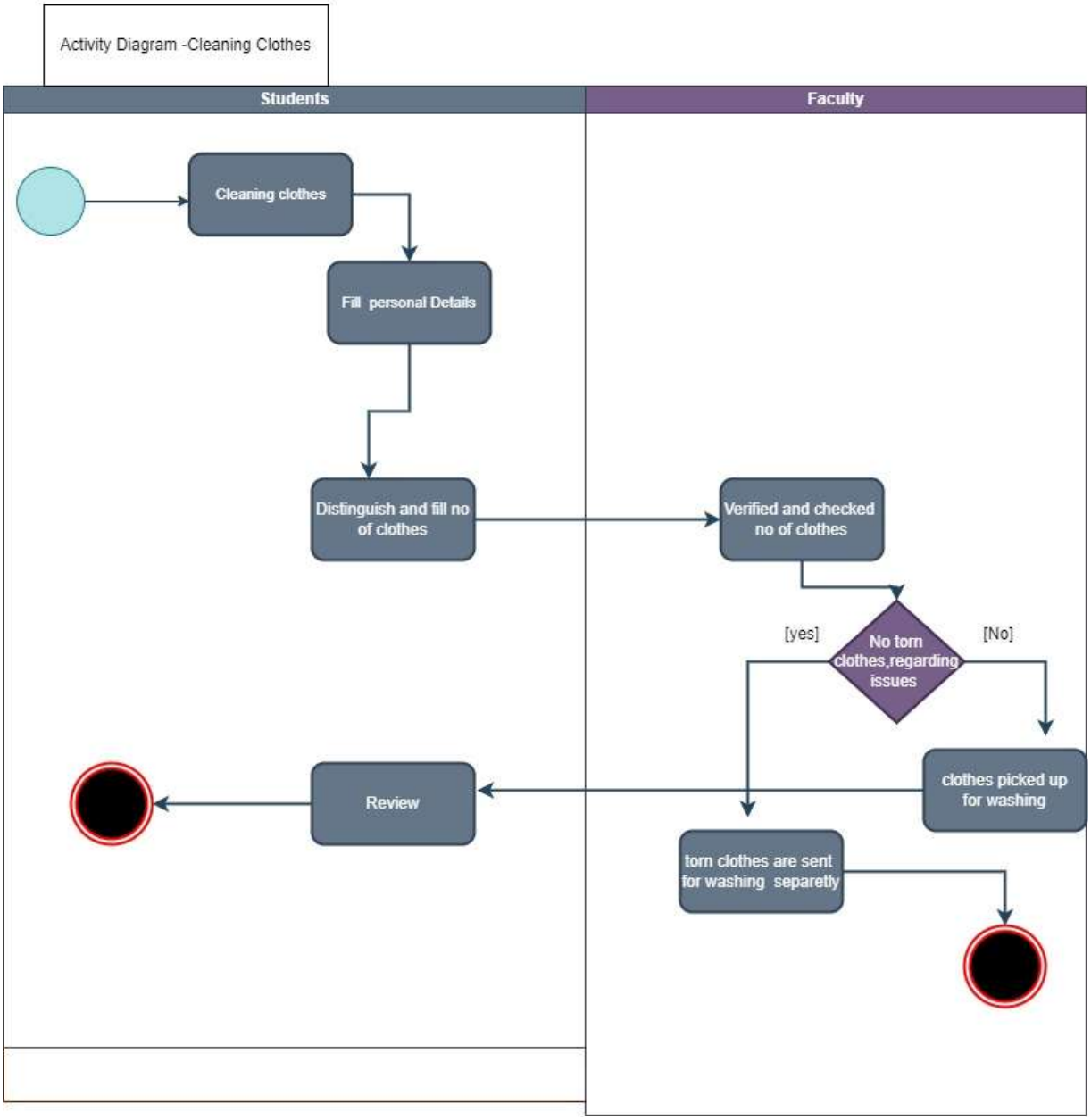
The student will get his desired information very easily and quickly.


Activity Diagram -Room Allocation
Students
Faculty
Room Allocation
Hostel Allocated
[No]
[yes]
Fee paid
[No]
[yes]
Confirm Fee paid
Get Hostel Allocated and Pay Fees
View Room details
Room Allocated


Activity Diagram -Swapping
Students
Faculty
Swapping
Swapping form filled
[No]
[yes]
Fill swap form
Want to edit Swap form
[yes]
[No]
Edit swap form
Search Preference Match
[yes]
Found
[No]
[yes]
Continue with Swapping
[No]
Pending
Your hostel is not swapped
Swapping Successful


Activity Diagram -Room Cleaning
Students
Faculty
Room Cleaning
Fill Details
Put Service Request
[yes]
Accepted
[No]
Time Slot given
Try After a While
Cleaning Completed
Give Review


Activity Diagram -Complains Registration
Students
Faculty
Complains Registration
Fill Personal Details
Register Complains
Complains Registered
Generating Complaint resolution Time
Complains Solved
[yes]
[No]
Review
Contact wardens office


Activity Diagram -Cleaning Clothes
Students
Faculty
Cleaning clothes
Fill personal Details
Distinguish and fill no of clothes
Verified and checked no of clothes
No torn clothes,regarding issues
[yes]
[No]
clothes picked up for washing
torn clothes are sent for washing separetly
Review