Software Requirements Specification

Hostel Room Allocation Management

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Contents

1. INTRODUCTION

1.1 Purpose

The purpose of this document is to illustrate the requirements of the software – Hostel room allocation and management. The main purpose of this software is to automate the process of hostel room allocation in university hostels.

1.2 Scope

The software aims at providing a mobile application for the convenient allocation of rooms fir the students as well as an equally convenient way of managing the process by the concerned authorities. The students will be able to request for a room of their choice at the start of each academic year and also apply for a room change. The room allocation will be based on the gender, room availability and the preference of the students. The Hostel Management Committee will be able to process the requests. This software will thus help to reduce the hassle generally involved in the process of room allocation. Moreover the details of the rooms of the students can thus be retrieved easily as and when needed.

1.3 Constraints

The number of students who can simultaneously use the software will be limited by the server capacity. It also requires internet access for its use.

1.4 Assumptions and Dependencies

The hostel room available and their capacities are known to the users. The students do not request a room on behalf of someone else without his/her consent. Users will provide legitimate information while login. The sever on which the database is stored is well secured. The end user should have proper understanding of the software. Appropriate hardware must be available.

1.5 Definitions, Acronyms and Abbreviations

Term	Definition
User	Student, Admin
Student	Who wants to change/swap room
Admin	Authority to manage Hostels

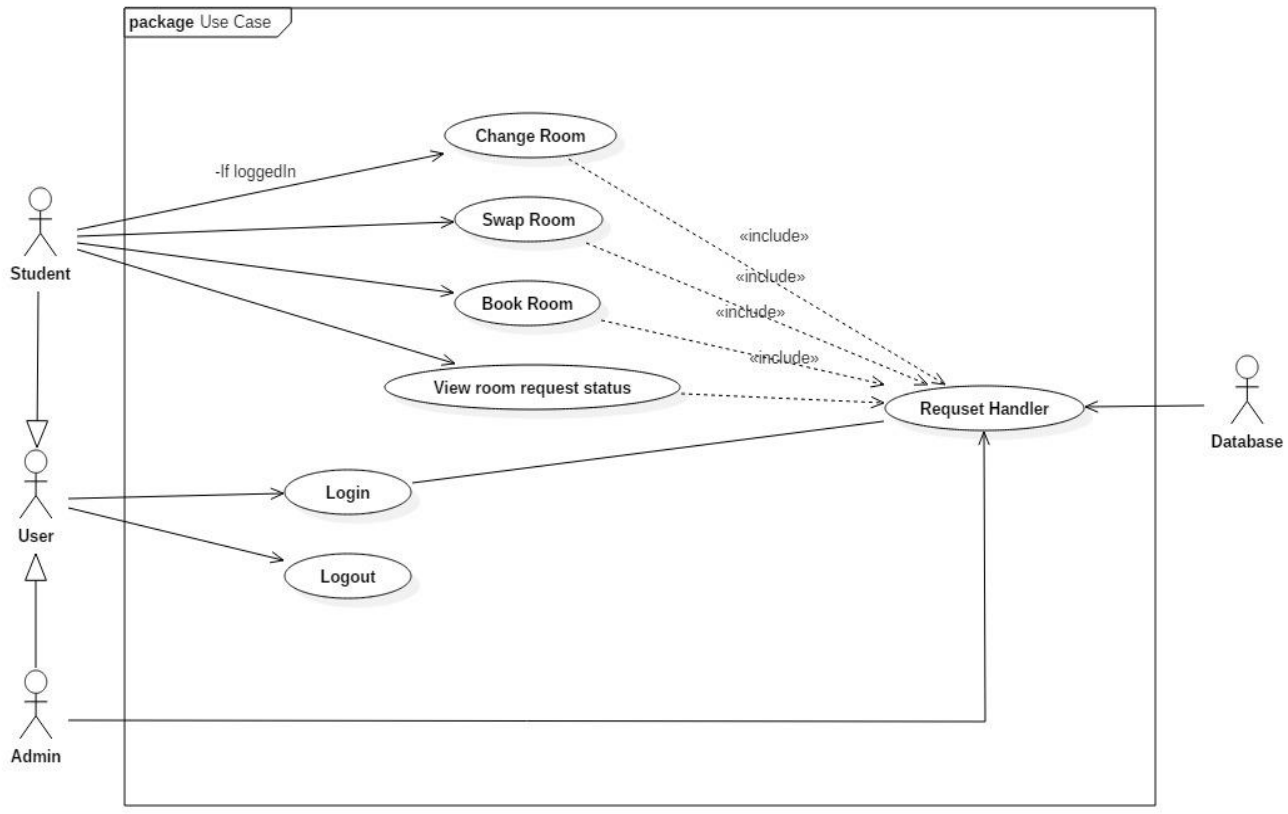
2. Overall Description

2.1 Product Functions

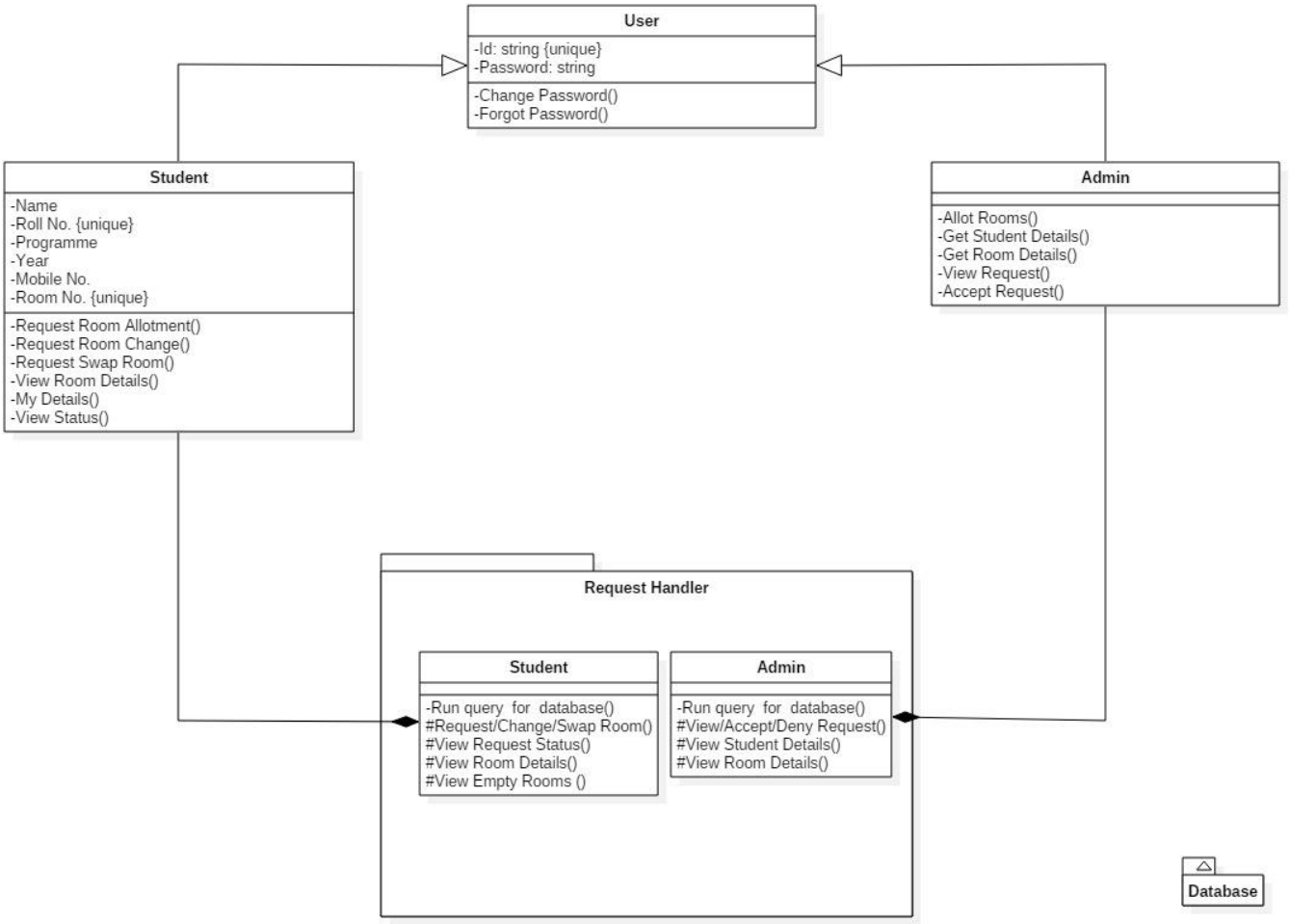
2.1.1 Functional Requirements

Students can see their allotted room/hostel. Rooms will be automatically allotted to 1st year students. After that, anyone can request for room change / swap / allocate. The request will be stored in database. Admin can view request from database and accept/decline that request. He can also allocate rooms to 1st year students.

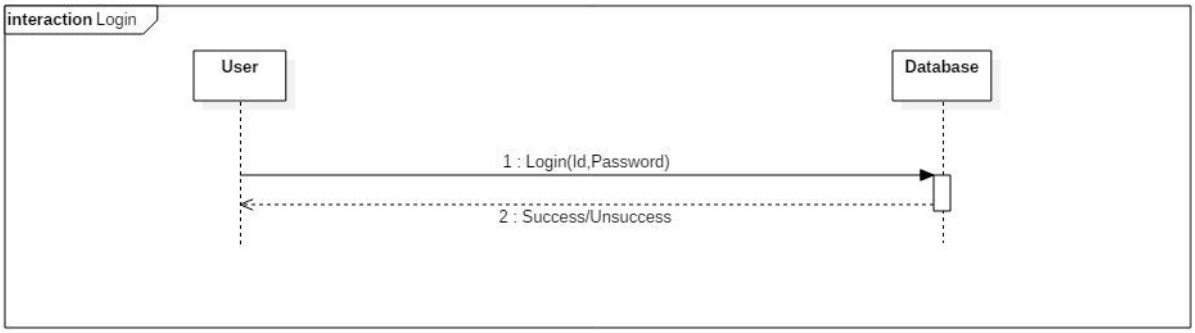
2.1.1.1 USE-CASE DIAGRAM

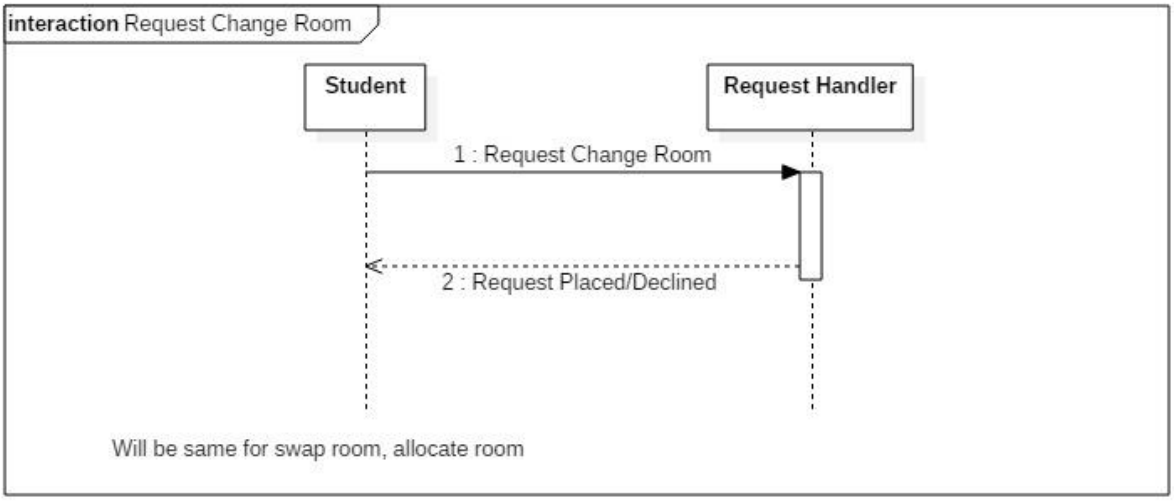


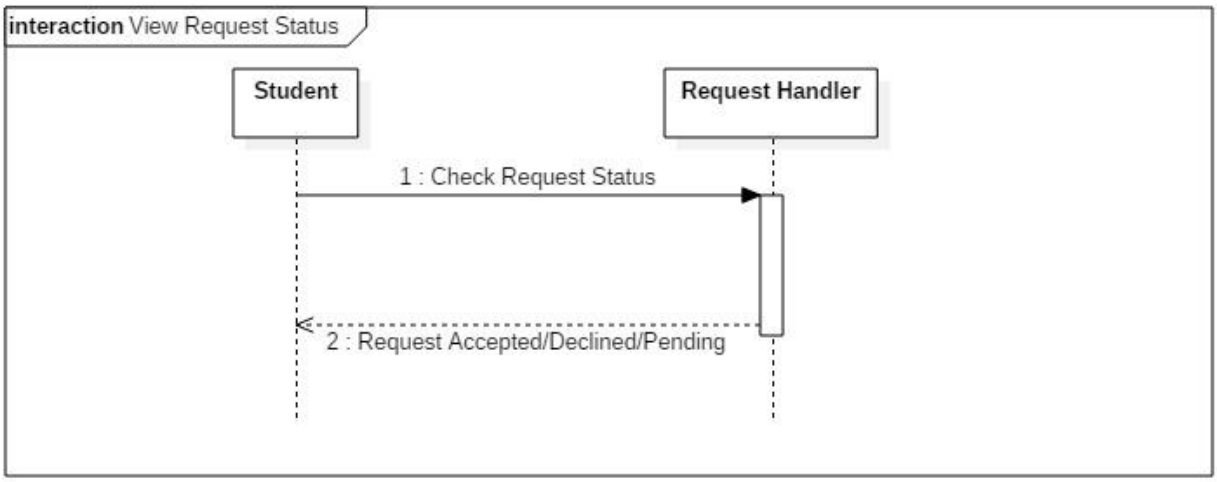
2.1.1.2 CLASS DIAGRAM

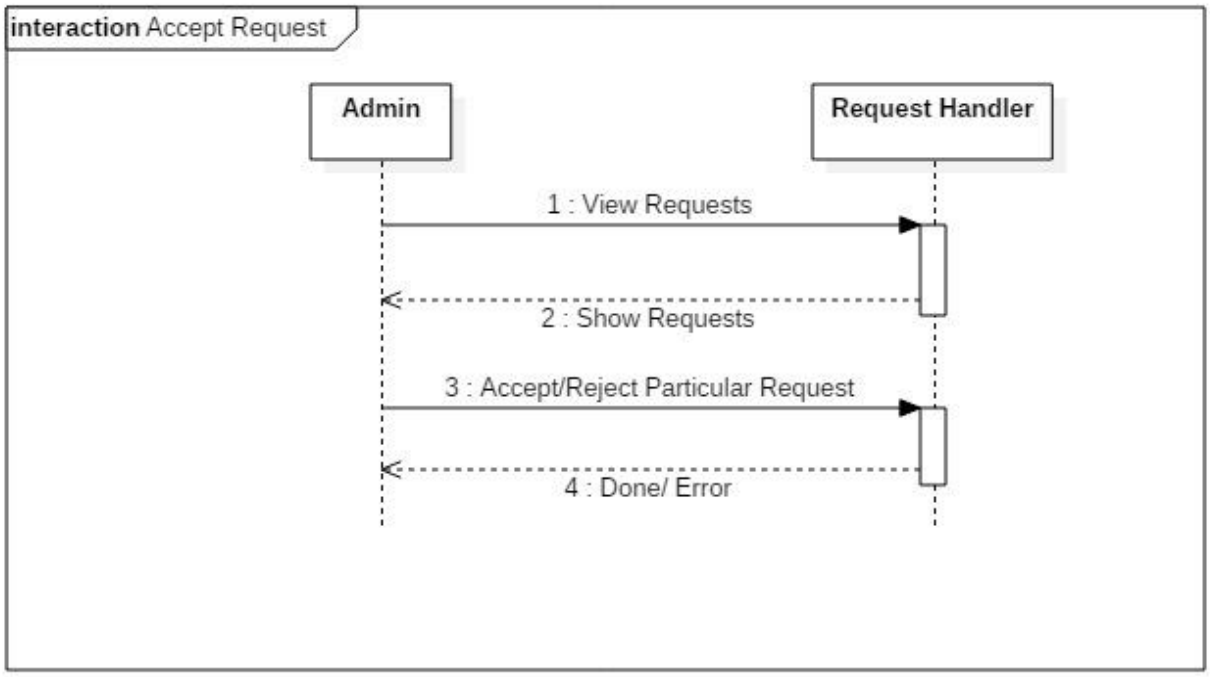


2.1.1.3 SEQUENCE DIAGRAM

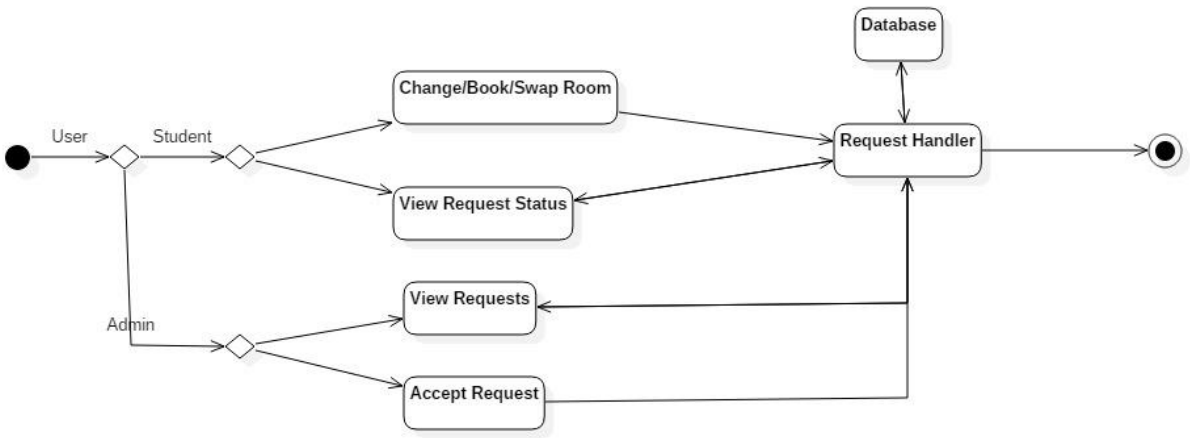





interaction View Request Status
Student
Request Handler
1 : Check Request Status
2 : Request Accepted/Declined/Pending


interaction Accept Request
Admin
Request Handler
1 : View Requests
2 : Show Requests
3 : Accept/Reject Particular Request
4 : Done/ Error

2.1.1.4 Activity Diagram



2.2 User Characteristics

There are two types of users that interact with the system – the Student and Admin (Hotel Committee). The 1st year students will interact with the software to view the rooms which will be randomly allocated to them. Then every student can place request for room change/swap/allot. The Admin will be able to process the requests by the students and will either approve or decline the requests. Student can also view the list of empty rooms.

3. SPECIFIC REQUIREMENTS

3.1 Use Case Description

3.1.1

Name	Login
Short Description	User will provide id and password to login.
Precondition	He must have valid id and password.
Postcondition	User will be logged in software
Error Situation	If the id and/or password is incorrect or database error.
System state in error event	Send user to start state showing an error message.
Actor	Student, Admin
Trigger	
Standard Process	1. Enter id + password. 2. Database will check the credentials. 3. Logged in if credentials are correct else throw error and throw user to login page.
Alternative Process	Do it without software

3.1.2

Name	Request change/swap room
Short Description	The main purpose of software.
Precondition	User should be logged in.
Postcondition	Request place and stored in database.
Error Situation	Database error
System state in error event	Show error message and no request will be placed.
Actor	Student
Trigger	
Standard Process	1. Check available rooms. 2. Place room change/swap/allocate request.
Alternative Process	Do it without software i.e., offline

3.1.3

Name	View Request Status
Short Description	User can view his/her already placed request status I.e., accepted/denied.
Precondition	User should be logged in.
Postcondition	He/she will able to view his/her request status.
Error Situation	Database error
System state in error event	Error Message
Actor	Student
Trigger	Student view his/her request status.
Standard Process	1. Login 2. View request status
Alternative Process	Do it without software i.e., offline

3.1.4

Name	Admin Accept Request
Short Description	Admin will accept request of room change/swap/allocate request(s) of students.
Precondition	Admin should be logged in.
Postcondition	The decision will be saved to database.
Error Situation	Database error
System state in error event	Show error message and don't modify database.
Actor	Admin (Hostel Committee)
Trigger	Admin will accept deny request.
Standard Process	1. Login 2. View requests 3. View available rooms & other requests. 4. Accept/Deny request
Alternative Process	Do it without software i.e., offline

3.2 Supportability

3.2.1 Naming Convention

All code will be written as specified by the Hungarian Naming Convention.

3.3 Design Constraints

3.3.1 Software Language

All code will be written in c++.