Software Requirements Specification

for

HOSTEL MANAGEMENT SYSTEM

Version <1.0>

Prepared by

Team Number: 15

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1 Introduction

This project work proposes a NITC Hostel Management system web application for students so that they can register to hostels. The main focus of the project is the computerization of allocated hostel rooms so we can keep a track of rooms allocated to students from every hostel.

1.1 Document Purpose

The purpose of this document is to provide a detailed description of the requirements for the NITC Hostel Management web application. The application aims to help students to register for hostel and help hostel management to keep track of students with their hostel and room details. The document contains a general description, the functional, interface, and specific requirements for the application, a list of other relevant application attributes, application usage scenarios, and use case diagrams. From this SRS, the Hostel Management System can be designed, constructed, and finally tested.

1.2 Product Scope

The objective of this application is to make the process of hostel registration for students as well as for hostels easy and efficient. This application's goal is to simplify the whole process at every stage:
students get the application form to fill up for registration, management checks the eligibility of students whether he/she belongs to the college, keeping a track of student, and attaining hostel records in the database.

1.3 Definitions, Acronyms and Abbreviations

Acronyms:

1. HM – Hostel Management

Definitions:

1. User – a student or hostel manager/administrator or Admin based on the scenario.

1.5 Document Conventions

This document follows the IEEE formatting requirements. Document text is single spaced and 1" margins are maintained.

H1 heading:

Font name	Times
Font size	18

H2 heading:

Font name	Times

Font size	14

Body:

Font name	Arial
Font size	11

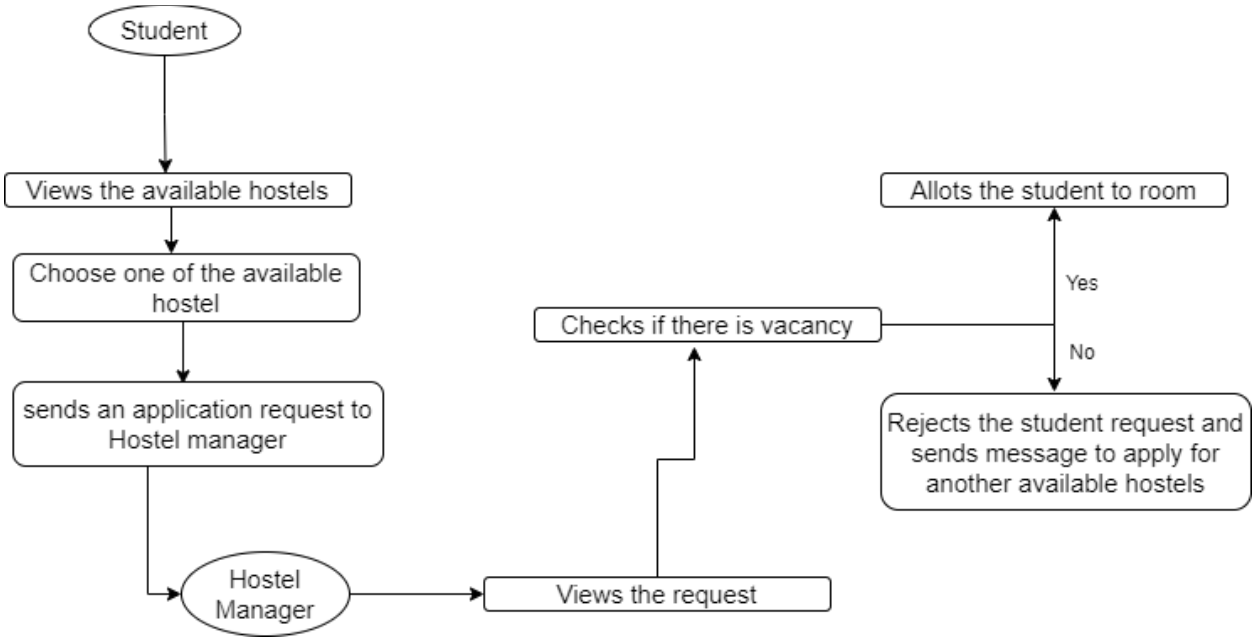
1.6 References and Acknowledgments

IEEE. IEEE Std 830-1998 IEEE Recommended Practice for Software Requirements Specifications. IEEE Computer Society, 1998

2 Overall Description

2.1 Product Overview

Currently, when students are required to register for hostel they were asked to fill up forms and submit them. The NITC HM web app will make this task efficient by making it all online which helps both students and the hostel management.



2.2 Product Functionality

The NITC HM app :

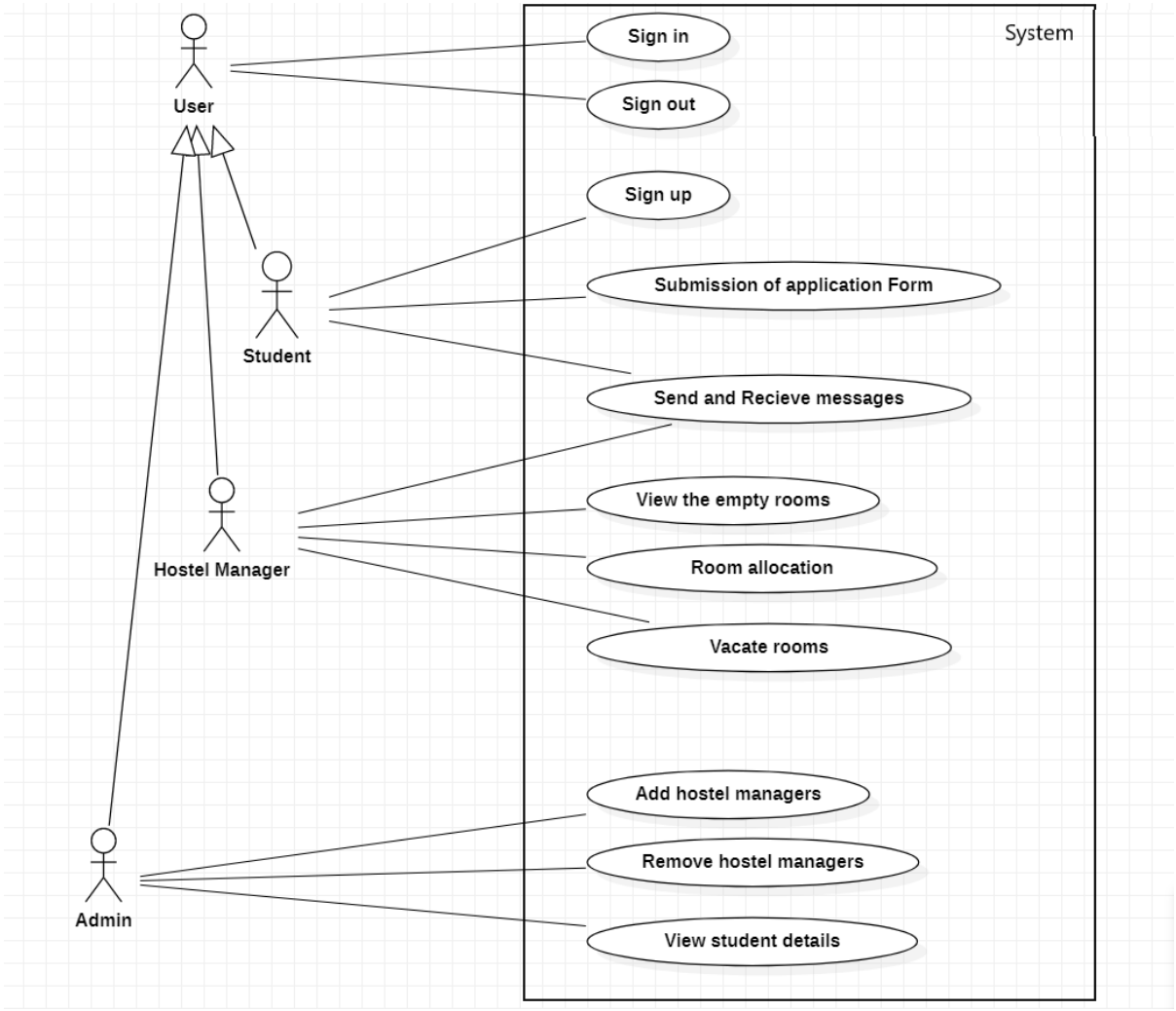
1. allows users who are not part of the system to register themselves.
2. allows users who are in the system to log in.
3. allows users to apply for hostel.
4. allows users to send messages to the hostel manager.
5. allows administrator to allot students to hostels
6. allows administrator to vacate students from hostels.
7. allows administrator to edit the student details.
8. allows administrator to communicate with users.
9. allows admin user to add administrators.
10. allows admin user to remove administrators.
11. allows admin to view all allocated users
12. allows admin to view all administrators who have access to the system.

3 Specific Requirements

3.1 Functional Requirements

F1 : The system shall add the user(student) to the database after registration.
F2 : The system shall verify the user details and sign in to the system.
F3 : The system shall sign out the user from the system.
F4 : The system shall let the user to view the available hostels.
F5 : The system shall let the user to send application form.
F6 : The system shall let the user to view the details of his administrator
F7 : The system shall let the user(manager/administrator) to allot students to the hostel.
F8 : The system shall let the user to remove the allotted students from the hostel.
F9 : The system shall let the user to view the empty rooms in the hostel.
F10 : The system shall let the users(students and managers) communicate with each other.
F11 : The system shall let the user(admin) to add administrators/hostel managers to the system.
F12 : The system shall let the user(admin) to remove administrators from the system.
F13 : The system shall let the user to view the list of all the students attained to the hostel.

3.2 Use Case Model



3.2.1 Use Case #1 (Sign up - U1)

Author - ADWIN M

Purpose - Users need to sign up to use the app.

Requirements Traceability – F1

Priority - High

Preconditions - The user shall belong to the university in which he is applying for the hostel.

Post conditions - The user will be able to log in to the system.

Actors – Student

Extends – None

Flow of Events

1. Basic flow of events
    - The user opens the website.
    - system prompts User to Sign Up or Sign In - User presses the sign up button.
    - system asks the user to enter information - User enters their roll no,username, phone number, year of study,department,password, and email information.
    - system sends user information to his or her email for confirmation - User verifies and the registration is successful.
2. Alternate flow of events
    - If one of the required fields (user name,roll no, password, e-mail) in the signup page does not meet the requirements, a warning message will be shown by the system to correct.
    - If all the required fields are properly filled, the system redirects the user to the sign in page.

Includes - None

3.2.2 Use Case #2 (Sign in - U2)

Author - ADWIN M

Purpose - If a user is signed up, he/she can sign in to the system.

Requirements Traceability – F2

Priority - High

Preconditions - The user shall be able to sign in to the system.

Post conditions - The user will be able to use the system.

Actors – Student,Hostel manager,Admin

Extends – None

Flow of Events

1. Basic flow of events
    - User opens the app.
    - App prompts User to Sign Up or Sign In - User presses the sign in button.
    - App asks user to enter information - User enters their roll no/username,password.
2. Alternate flow of events
    - If one of the required fields (user name/roll no, password,I) in the sign in page do not meet the requirements, a warning message will be shown by the system to correct.
    - If all the required fields are properly filled, the system redirects the user to the homepage.

Includes - None

3.2.3 Use Case #3 (Sign out - U3)

Author - PUPALWAD GANESH ASHOKRAO

Purpose - Users may need to sign out of the site.

Requirements Traceability – F3

Priority - Medium

Preconditions - The user must be logged in to the system.

Post conditions - The user will be able to leave the system.

Actors – Student, Hostel manager, Admin

Extends – None

Flow of Events

1. Basic flow of events
    - User presse the sign out button on the site.
    - System logs out the user and loads the signup/sign in page

Includes - None

3.2.4 Use Case #4 (Submission of application form - U4)

Author - PUPALWAD GANESH ASHOKRAO

Purpose - Users wants to apply for hostel.

Requirements Traceability – F4, F5,F6

Priority - High

Preconditions - The user must be logged in to the system.

Post conditions - The user will be able to go to hostel.

Actors – Student

Extends – None

Flow of Events

1. Basic flow of events
    - User views the availability of hostels.
    - User selects a hostel.
    - System asks to enter the details of student.
    - System asks to enter the password.
3. Alternate flow of events
    - If all required details are filled properly the applilcation form is sent to the hostel manager.
    - If all the required fields are not filled properly then the system prompts the warning message to enter details again correctly.

Includes - None

3.2.5 Use Case #5 (Send and Receive messages - U5)

Author - GOPIKA VINOD

Purpose - Users can communicate with each other.

Requirements Traceability – F10

Priority - Medium

Preconditions - The user must be logged into the system.

Post conditions - The users will be able to communicate with eachother.

Actors – Student, Hostel Manager

Extends – None

Flow of Events

1. Basic flow of events
    - The message page will be loaded.
    - The user types the content of the message.
    - User presses the send button to send the message content.
    - The message content will be stored and viewed in the message panel.
    - The recipient views the message and replies if needed.

Includes - None

3.2.6 Use Case #6 (View Empty Rooms - U6)

Author - GOPIKA VINOD

Purpose - User needs to see the available rooms.

Requirements Traceability – F9

Priority - High

Preconditions - The user must be logged into the system.

Post conditions - The user will be able to view the available rooms.

Actors – Hostel Manager

Extends – None

Flow of Events

1. Basic flow of events
    - User clicks on empty rooms buttons
    - System displays the rooms that have vacency.

Includes - None

3.2.7 Use Case #7 (Room Allocation - U7)

Author - THADI UMESH CHANDRA REDDY

Purpose - Users need to sign up to use the app.

Requirements Traceability – F7

Priority - High

Preconditions - The user shall must be logged into the system.

Post conditions - The user allots the students.

Actors – Hostel Manager

Extends – None

Flow of Events

1. Basic flow of events
    - User recieves the application forms from students.
    - System shows whether there is vacancy in rooms.
    - User allocates the student in the case of vacancy in rooms.
    - User rejects and messages to choose another if the rooms are occupied.

Includes - None

3.2.8 Use Case #8 (Vacate rooms - U8)

Author - THADI UMESH CHANDRA REDDY

Purpose - User wants the students to vacate a room.

Requirements Traceability – F8

Priority - High

Preconditions - The user must be logged into the system .

Post conditions - The user successfully removes the students from room.

Actors – Hostel manager

Extends – None

Flow of Events

1. Basic flow of events
    - User selects the students from room to be vacated.
    - User confirms by clicking on vacate button.
    - System sends the request to students to vacate room.

Includes - None

3.2.9 Use Case #9 (Add Hostel Managers - U9)

Author - BATTHALA VINOD KUMAR

Purpose - Users needs to add extra hostel managers.

Requirements Traceability – F11

Priority - High

Preconditions - The user must be admin and logged into the system.

Post conditions - Extra hostel managers are added to the system.

Actors – Admin

Extends – None

Flow of Events

1. Basic flow of events
    - System asks for the details of new hostel manager to be added.
    - User fills all the required details like name,phone no,hostel number,mail.
    - User clicks on submit button.
2. Alternate flow of events
    - If one of the required fields (name,phone no,hostel number, e-mail) in the page do not meet the requirements, a warning message will be shown by the system to correct.
    - If all the required fields are properly filled, the system adds the manager and redirects the user to the homepage.

Includes - None

3.2.10 Use Case #10 (Remove hostel managers - U10)

Author - BATTHALA VINOD KUMAR

Purpose - Users wants to remove hostel managers who are extra or not needed anymore.

Requirements Traceability – F12

Priority - High

Preconditions - The user must be admin and logged into the system.

Post conditions - Hostel managers are removed from the system.

Actors – Admin

Extends – None

Flow of Events

1. Basic flow of events
    - System asks for the details of new hostel manager to be removed.
    - User fills all the required details like username,mail and admin password.
    - User clicks on submit button.
2. Alternate flow of events
    - If one of the required fields in the page do not meet the requirements, a warning message will be shown by the system to correct.
    - If all the required fields are properly filled, the system removes the manager and redirects the user to the homepage.

Includes - None

3.2.11 Use Case #11 (View student details - U11)

Author - BATTHALA VINOD KUMAR

Purpose - Users needs to view all the student details and their allocation status of room.

Requirements Traceability – F12

Priority - High

Preconditions - The user must be admin and logged into the system.

Post conditions - Student details are displayed to the user.

Actors – Admin

Extends – None

Flow of Events

1. Basic flow of events
    - User clicks on student information button.

- System displays all the students who are registered with system and their details including their room allocation status.

Includes - None

4 Other Non-functional Requirements

4.1 Performance Requirements

- The database shall be able to accommodate around thousand records to store.
- The software shall support use of multiple users at a time.
- The website would be functional for 24 hours a day to enable user interaction at any point of time.

4.2 Safety and Security Requirements

- There must be database backup because of possibilities of system crash due to virus or any system failure.
- The password of admin must be highly confidential.
- The password of users must be confidential.
- The database should be carefully maintained by the admin any loss may lead to chaos.

5 Hardware Requirements

- Processor : Pentium or higher
- RAM : 512MB
- Hard Disk : min 2GB(Depends on data)
- Keyboard
- Monitor

6 Software Requirements

- OS : Linux/Windows
- Database : SQL

Appendix A - Activity Log

CONTRIBUTIONS:

1. Introduction - Thadi Umesh Chandra Reddy
2. Overall Description - Thadi Umesh Chandra Reddy

3.1 Functional Requirements - Batthala Vinod Kumar
3.2 Use Case Model - Batthala Vinod Kumar
4.1 Performance Requirements - Batthala Vinod Kumar
4.2 Safety and Security Requirements - Gopika Vinod

5. Hardware Requirements - Adwin M
6. Software Requirements - Pupalwad Ganesh Ashokrao

High-Level Interface Diagram - Batthala Vinod Kumar
Use Case Diagram - Batthala Vinod Kumar

Use case Numbers	Team Member
9, 10, 11	BATTHALA VINOD KUMAR
7, 8	THADI UMESH CHANDRA REDDY
1, 2	ADWIN M
3, 4	PUPALWAD GANESH ASHOKRAO
5, 6	GOPIKA VINOD