
Software Requirements Specification

for

<HostelHub>

Version 1.0 approved

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Revision History

Name	Date	Reason For Changes	Version

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1. Introduction

1.1 Purpose

1.2 Document Conventions

The purpose of the Software Requirements Specification (SRS) for the Hostel Management System is to provide a detailed overview of the system requirements for managing student records through an online portal. The system aims to simplify administrative tasks and improve communication between the warden and students, resulting in a more efficient and effective hostel management system.

1.3 Intended Audience and Reading Suggestions

The Software Requirements Specification (SRS) for the Hostel Management System is intended for the course instructor, instructor's assistant, and students enrolled in the course. It provides a comprehensive overview of the project's requirements, features, and functionalities, serving as a roadmap for the development team. The course instructor and assistant can use the SRS to monitor the progress of the project and provide feedback, while the students can use it to gain insight into software requirements specifications and develop their own software projects.

1.4 Product Scope

This system can be used by students to enhance their knowledge about how management systems work in practical life. Also, it can be used by the actual hostel owners to design and perform their management using our system.

1.5 References

No references taken specifically, just used a few YouTube video tutorials to understand a few things.

2. Overall Description

2.1 Product Perspective

The Hostel Management System is a standalone system designed to simplify the management of student records in a hostel. It provides an online portal for the warden and students to access and manage relevant information, such as fee payment status, complaints, maintenance requests, and other necessary data. The system operates on a web-based platform, using a centralized database to store and manage information. It interfaces with existing systems, such as payment gateways, to provide a seamless user experience. The Hostel Management System is developed with a modular and scalable approach, enabling future enhancements and updates to be easily implemented.

2.2 Product Functions

The major functions of the Hostel Management System are as follows:

For the Warden:

- Add and remove students from the hostel
- Manage student records, including their personal information and room assignments
- View complaints submitted by students and take necessary actions to resolve them
- Check rent payment status and issue reminders to students if necessary
- Manage hostel facilities, including adding and removing facilities

For the Students:

- Pay rent using Stripe Pay API
- Submit complaints regarding hostel facilities or services
- View their personal information and room assignments

2.3 User Classes and Characteristics

The Hostel Management System is designed to be used by two primary user classes: the warden and the students.

The warden is the primary administrator of the system and is responsible for managing the overall operation of the hostel. The warden will have privileged access to all aspects of the system and will be able to add and remove students from the hostel, manage student records, view complaints, and manage hostel facilities.

The students are the primary users of the system and will use the online portal to pay rent, submit complaints, and view their personal information and room assignments. The students will have limited access to the system and will not have access to the administrative functions of the system.

It is important to distinguish between the two user classes, as certain requirements may pertain only to certain user classes. For example, the warden will need to be able to add and remove students from the hostel, while the students will need to be able to pay rent using the Stripe Pay API.

2.4 Operating Environment

The Hostel Management System is a web-based application that will operate on a variety of hardware platforms, including desktops and laptops. The system will be accessible through a web browser such as Google Chrome, Mozilla Firefox, or Safari once it will be hosted. The system will be hosted on a server that is compatible with a Linux operating system and Apache web server. The system will interact with external systems, such as payment gateway, through APIs to ensure seamless integration.

2.5 Design and Implementation Constraints

There are several design and implementation constraints that developers of the Hostel Management System must consider. These include:

- Technology constraints: The system must be built using web-based technologies and hosted on a server that supports a Linux operating system and Apache web server. Additionally, the system must integrate with external systems, such as payment gateways and email systems, through APIs.
- Time constraints: The system must be completed within a specified timeframe, which may limit the available options for the developers.
- Security considerations: The system will store sensitive information about students, such as personal information and payment details, and must therefore incorporate robust security measures to ensure the protection of this data.
- Regulatory policies: The system must comply with relevant regulatory policies, such as data protection and privacy laws, which may limit the available options for the developers.
- Maintenance and support considerations: The system must be designed and implemented with maintenance and support in mind, as the customer's organization will be responsible for maintaining the delivered software. This may include adherence to specific design conventions and programming standards.

2.6 User Documentation

The Hostel Management System will be accompanied by user documentation components, including user manuals and on-line help. The user manuals will be available in PDF format and will provide detailed instructions for using the system's features and functions. The on-line help will be integrated into the system and will provide contextual help for specific tasks and actions. No specific delivery standards or formats have been identified at this time.

2.7 Assumptions and Dependencies

The following assumptions and dependencies have been identified for the Hostel Management System:

- The system assumes that the users have access to a stable internet connection and a compatible web browser.
- The system assumes that the payment gateway API and email system API will remain functional and compatible with the system.
- The development of the system is dependent on the availability of developers with the necessary skills and experience to build and maintain a web-based system.
- The system may be dependent on the availability and compatibility of third-party or commercial components, such as software libraries or frameworks, which could affect the system's development and functionality.
- The system may be impacted by changes to regulatory policies or other external factors that could affect the system's development and functionality.

3. External Interface Requirements

3.1 User Interfaces

The Hostel Management System will have two main user interfaces: one for the warden and one for the students. The user interfaces will be designed to be intuitive and easy to use, with clear navigation and access to all necessary functions and features. The specific design details of the user interfaces will be documented in a separate user interface specification.

3.2 Hardware Interfaces

The Hostel Management System will be a web-based application and will not have any direct hardware interfaces. The system will be accessed through a web browser on a variety of devices, including desktop and laptop computers. The system will be designed to be compatible with a range of web browsers and operating systems.

3.3 Software Interfaces

The Hostel Management System will require a database management system (DBMS) to store and manage data. The system will also require a web server to host the application and serve pages to users. The application will be developed using web technologies such as HTML, CSS, Bootstrap and JavaScript, and will communicate with the database using a server-side programming language using PHP.

4. System Features

4.1 System Feature 1

For Warden:

- Registration
- Login
- Add students
- Add facilities to hostel
- Check student rent status

4.2 System Feature 2

For Students:

- Login
- Avail Facility
- Delete facility
- Pay rent
- check rent status
- file complaints

5. Other Nonfunctional Requirements

5.1 Performance Requirements

The system requires concurrency to manage both the requests of the student and the warden. In the system.

5.2 Safety Requirements

As it's a public hostel, the system requires us to ensure the safety of the users' data in our database. There should be complete confidentiality and no data leaks are affordable.

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5.4 Software Quality Attributes

For the Hostel Management System, the following quality attributes will be important:

- Usability: The system should be easy to use and intuitive for both wardens and students. The user interface should be consistent and conform to established design guidelines.
- Reliability: The system should be reliable, with minimal downtime or errors that could affect the functioning of the hostel.
- Maintainability: The system should be easily maintainable, with well-organized code and clear documentation.
- Security: The system should be secure, with appropriate measures in place to protect the privacy and confidentiality of student data.

5.5 Business Rules

Only registered users can book rooms in the hostel management system.

6. Other Requirements

Appendix A: Analysis Models

Class Diagram:



