Software Requirements Specification

for

<Hall Management System>

Version 1.0

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Table of Contents

Revision History **3**
1. Introduction **4**
1.1 Purpose *4*
1.2 Document Conventions *4*
1.3 Intended Audience and Reading Suggestions *4*
1.4 Product Scope *4*
1.5 References *4*
2. Overall Description **5**
2.1 Product Perspective *5*
2.2 Product Functions *5*
2.3 User Classes and Characteristics *5*
2.4 Operating Environment *6*
2.5 Design and Implementation Constraints *6*
2.6 Assumptions and Dependencies *6*
3. External Interface Requirements **6**
3.1 User Interfaces *6*
3.2 Hardware Interfaces *7*
3.3 Software Interfaces *7*
3.4 Communications Interfaces *7*
4. System Features **8**
4.1 Remote Application *8*
4.1.1 Description and Priority 8
4.1.2 Stimulus/Response Sequences 8
4.1.3 Functional Requirements 8
4.2 Meal management *9*
4.2.1 Description and Priority 9
4.2.2 Stimulus/Response Sequences 9
4.2.3 Functional Requirements 9
4.3 Online Payment *9*
4.3.1 Description and Priority 9
4.3.2 Stimulus/Response Sequences 10
4.3.3 Functional Requirements 10
5. Other Nonfunctional Requirements **10**
5.1 Performance Requirements *10*
5.2 Safety Requirements *10*
5.3 Security Requirements *10*

5.4 Software Quality Attributes.....11
6. Other Requirements.....11
Appendix A: Glossary.....11
Appendix B: Analysis Models 11
Appendix C: To Be Determined List 11

Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1 Purpose

The purpose of this document is to describe the Hall Management System.

1.2 Document Conventions

Scope of Hall Management System is basically creating the manual hall system into an internet-based application.
The project is specifically designed for the use of students residing in the hall and the hall administrators.

1.3 Intended Audience and Reading Suggestions

This Software Requirements document is intended for:

- Developers who can review project's capabilities and more easily understand where their efforts should be targeted to improve or add more features to it (design and code the application – it sets the guidelines for future development).

- Project testers can use this document as a base for their testing strategy as some bugs are easier to find using a requirements document. This way testing becomes more methodically organized.

- End users of this application who wish to read about what this project can do.

1.4 Product Scope

The purpose of the hall management system is to ease management of meal, cost & billing, and allotment to create a convenient and easy-to-use application for both the students and the administrators. The system is based on a relational database with meal entry of the allotted students and total bill viewing. For the administrators, they get to view everyday shopping cost and student bills. We will have a database server supporting all the hall buildings. Above all, we hope to provide a comfortable user experience along with the best pricing available.

1.5 References

[1] "SRS Hostel Management System HMS - PDF Free Download." https://qdoc.tips/srs-hostel-management-system-hms-pdf-free.html (accessed Aug. 17, 2022).

[2] "Software Requirements Specification document with example - Krazytech." https://krazytech.com/projects/sample-software-requirements-specificationsrs-report-airline-database (accessed Aug. 17, 2022).

[3] "Software Requirements Specification For SDMS," Accessed: Aug. 17, 2022. [Online]. Available: http://www.utdallas.edu/~vxs063000/.

2. Overall Description

2.1 Product Perspective

BUP Hall Management System Web Application is an advantageous system for the students who are residing in the BUP Hall. With the help of this application the students could easily do their Allotment & Meal management. This outstanding application also helps the students with their hassle of payment, with the help of Mobile Banking System.

The system is not only confined to the students, it has also administration part. With the help of this section the administrative people can easily manage all the Meal System, Seat & accommodation facilities of the students. From the Admin part administrative people can control every detail and there are many convenient parts for them to control the whole student accommodation system.

2.2 Product Functions

BUP Hall Management web application has some advantageous functions for helping the students & the authority.

The Functions are-

i. Apply For a seat
ii. Seat Booking Guidelines
iii. Hall Fees
iv. Seat Cancellation
v. Daily Meal Management
vi. Daily Meal Bill Management
vii. Payment through Mobile Banking

There will be two modules for the functions:
i . Administration Module
ii. Student Module

Both parties will have different accessibility. Administrators will have access to all kinds of data. On the other hand, students will have access to only self-repository.

2.3 User Classes and Characteristics

- ❒ Users of this system are BUP students who reside in the BUP Hall; Administrative members (Provost, Co-Provost, President, and other bodies).

- Students can only use the system for their own and administration has the power to control & manage the system.
- Administrators should have knowledge of internal modules of the system. They should be able to rectify small inner problems as they are the handlers of it.

2.4 Operating Environment

BUP Student Hall Management System is an application; it will operate in all the famous browsers like **Google Chrome**, **Mozilla Firefox**, **Microsoft Edge**, **Bing**, **Opera**, **Brave** etc.

2.5 Design and Implementation Constraints

- All the information will be stored in a database that is accessible by the application.
- Microsoft SQL Server will be used as SQL engine and database.
- The system will run 24/7
- Users will be able access from any computer that has internet access.
- Administrators will have access to many more features than students.
- Users must put their necessary information(Name, ID, Password) to enter respective handles.

2.6 Assumptions and Dependencies

This application will need some third-party products to run in the future track.

- Microsoft SQL Server to store the database
- Django & Laravel to develop the product.

3. External Interface Requirements

3.1 User Interfaces

Login interface:

Both administrator and students have to login using their email and password. If any one of them is wrong, an error message will be shown.

Meal Menu:

Here, the meal menu will be given according to days and menu of each day will also be given on the notice section.

Meal Entry:

Students will have to make entry for the meals- breakfast, lunch, and supper. The admins can see how many students are taking meals, either one, or two, or all.

Bill View:

Students can see the everyday bill and the total bill of a month. Admins can view the same but also bills of 30 days together.

Cost Verification:

This is for the admin portal. Here, the verification is done upon costs for shopping the groceries.

Notice:

All users can view the notices. Only admin can update the notice board.

Admin Control:

The administrator has the authority to manipulate student data (insert, update, or delete).

3.2 Hardware Interfaces

- Basic computer system
- No specific hardware design needed for the software

3.3 Software Interfaces

- Any operating system
- Supportive web browsers (Brave, Mozilla Firefox, Microsoft Edge, etc.) for viewing web pages

3.4 Communications Interfaces

- Offline availability of features
- Internet connection

4. System Features

The system mainly has three features.

4.1 Remote Application

4.1.1 Description and Priority

This section provides a form to the students which can be filled by them, and a copy of the filled page can be taken in the printed form. This is later submitted to the Hostel authorities can be verified by them before allotting them to the respective hall rooms. Of course, this feature has a high priority because it is very difficult to get hall accommodation without prior application.

4.1.2 Stimulus/Response Sequences

- ❍ Search for “Admission”
- ❍ Displays a detailed list of Apply for a seat, Seat Booking guidelines, Hall Fees, and seat cancellation
- ❍ New students can apply for a seat
- ❍ Cancel an existing seat

4.1.3 Functional Requirements

This section gives a functional requirement of this feature that applicable to the HMS.

These are sub modules in this phase.

- ♦ Administrator module.
- ♦ Students Module

❒ Administrator module:

The Administrator can:

- Allot different students to the hostel rooms.
- Vacate the students for the hostels.
- Control the status of the fee payment.
- Edit the details of the students & modify the student records.

❒ Students Module:

- It allows the different users to access the registration forms.
- He can view the student administration division of the hostel and also view the notice boards.

4.2 Meal management

4.2.1 Description and Priority

This section provides a form to the students where they can ask for a meal or cancel a meal a day ago. The students will be able to see his daily life as well as the monthly cost for meals. Since without asking for meal no students can have a meal, this feature is highly prioritized.

4.2.2 Stimulus/Response Sequences

- ❒ Search for “Daily Meal”
- ❒ Displays a form where students can ask for meal or deny a meal
- ❒ Search for “My Bill”
- ❒ Shows a tabular list of his monthly meal information and the cost against it

4.2.3 Functional Requirements

Sub modules in this phase are-

- ❍ Administrator module.
- ❍ Students Module

❒ Administrator module:

- He can view the meal information of each student on daily as well as monthly basis
- The billings for a meal will be generated by the automated system
- For example, 20 students will have breakfast. The total cost involved in meal preparation will be divided by 20 (the number of students) . The divided amount will be added to each of these 20 students

❒ Students Module:

- Students will fill in a form to request a meal
- It allows the user to cancel a meal a day ago
- Students can view the number of meals taken and the cost associated with it per month

4.3 Online Payment

4.3.1 Description and Priority

This feature allows the students to pay the monthly hostel bill online or offline using a T-cash account. The authorities concerned can verify the transaction. This feature has a high priority.

4.3.2 Stimulus/Response Sequences

- ❒ Search for “My Bill”
- ❒ Displays an online T-cash payment form
- ❒ Pay the monthly bill
- ❒ If there is any payment due it will be added to the next month’s bill

4.3.3 Functional Requirements

The sub modules in this phase are-

- ❍ Administrator module
- ❍ Students Module

❒ Administrator module

- Admin can check the payment status of each student
- Admin will verify the transaction and change the payment status to ‘Paid’

❒ Students Module

- students can pay the hostel bills online as well as offline
- Students will submit an image of payment receipt for verification

5. Other Nonfunctional Requirements

5.1 Performance Requirements

The system will be able to handle hundreds of meal entries at a time. The billing of each individual will be accurate.

5.2 Safety Requirements

- ❖ Use of secured database
- ❖ Only administrators can insert, update, or delete i.e., modify student data
- ❖ All users shall have access constraints, but view will be different

5.3 Security Requirements

Security systems need database storage just like many other applications. However, the special requirement of the security is to ensure user friendliness.

5.4 Software Quality Attributes

Availability: The system should be available at the specified sessions as many students are making entries at a time.

Correctness: The administrators will have the authority to insert, update or delete any student information. Students must entry for next day's meal before session expiration. After session expired, if any student wants to have meal, talking to an administrative body, they can do the entry and have meal.

Maintainability: The administrators and students should maintain correct schedules for meals and cost & billing. Allotment will be done upon vacancies.

Usability: The system should satisfy a maximum number of students and administrator needs.

6. Other Requirements

Some additional requirements are mentioned here:-

- The active period of hall Presidents, Provosts, and so on.
- Sports facilities
- Complaint section

Appendix A: Glossary

- Django – high level Python web framework
- Laravel – PHP framework for web-based applications
- SQL – Structured Query Language, used for database

Appendix B: Analysis Models

Appendix C: To Be Determined List