Software Requirements Specification

for

HOSTEL ROOM ALLOCATION AND MAINTENANCE SYSTEM

Version: 1.0

Prepared by

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1.Introduction

1.1 Document Purpose

The Software Requirements Specification (SRS) provides a complete description of the requirements needed for the Hostel Management System (HMS) Project. It provides an understanding into the framework of the Hostel Management System. This SRS is the basic foundation for the project. It is used by the project team for the future stages of the project. Also the end users can know whether this project is going to build a system that fulfills their requirements.

1.2 Product Scope

The Hostel Management System software will automate the current working of the hostels in NITC. It allows the students to enrol and reserve their rooms. The hostel administrators can allot rooms to the eligible students. The students can inform the hostel authorities about any complaints regarding the hostel.The end users for the system are hostel administrators and students.The administrators can have access to all

system functionalities without any restrictions.The students will access the system with limited restriction. To keep restrictions for different end user levels, HMS will create different login functions.

1.3 Objective

The main objective of the HMS is to simplify the day to day processes of the hostels.It reduces data redundancy and human error to some extend.The software can provide a solution for the large amount of file handling happening in the hostels.Safety, easiness of using and most importantly the efficiency of information retrieval are some benefits that the project team puts forward with this system. The system will be user appropriate, easy to use and have an overall end user high subjective satisfaction.

1.4 Document Conventions

The document is prepared using Google docs and has used the font type 'Arial'. The fixed font size that has been used to type this document is 14pt with 1.5 line spacing. It has used the bold property to set the headings of the document. Standard IEEE template is the template used to organize the appearance of the document and its flow.

2. Overall Description

2.1 Project Overview

Hostel Management System is a web application which mainly aims for automating the hostel room allocation and also provides other features such as informing hostel authorities about any complaints. Currently our students are filling up forms and submitting in the respective hostel offices which involves a lot of paperwork and is less efficient.

2.2 Product Functionality

The Web Application has two main parts :

1. Administrators.
2. Hostel Managers.
3. Students.

Students can select their room from the allocated hostel for each batch and the hostel Manager will verify and approve their request. Hostel managers are appointed by the Administrator.

3. Use Case Model

3.1 Appoint Manager

Brief description

This use case demonstrates the appointment of a hostel manager

Precondition

The appointed manager should not be in charge of any other hostel.

End-User

Administrator

3.2 Remove Manager

Brief description

This use case deals with removing a previously appointed manager.

Precondition

The manager that is being removed should be previously appointed.

End-user

Administrator

3.3 View Students

Brief description

This use case show that the End-User can view all the allotted students

Precondition

No specific precondition

End-User

Administrator

3.4 Allot students

Brief description

This use case deals with the allotment of students to different hostels as specified by the end-user.

Precondition

Students should be of that specific Institute

End-User

Hostel Manager

3.5 Vacate rooms

Brief description

This use case deals with vacating the students from the hostel as specified by the end-user.

Precondition

Students should be initially allocated in any one of the hostels.

End-User

Administrator

3.6 Edit Records of student

Brief description

This use case deals with the provision to edit and modify the details of students.

Precondition

Students should be initially allocated in any one of the hostels.

End-User

Administrator

3.7 Submission of application

Brief description

This use case deals with the provision that allows the end-user to submit the hostel allocation application.

Precondition

Students should be initially allocated in any one of the hostels.

End-User

User

3.8 Viewing of Notice Board

Brief description

This use case deals with the provision that allows the user to view the notice board of the corresponding hostel.

Precondition

Students should be initially allocated in the respective hostel.

End-User

User

3.9 Submission of Vacating form

Brief description

This use case deals with the provision that allows users to submit the Vacating form.

Precondition

Students should be initially allocated in any one of the hostels.

End-User

User

4. System Requirement Specification

4.1 Functional System Requirement

This section gives the functional requirements that are applicable to the HMS. These are sub modules in this phase.

4.1.1 Administrator module:

The administrator can:

1.Appoint the Hostel Manager

2.Remove a Hostel Manager.

3.View the details of the student.

4.1.2 Hostel Manager module:

The Hostel Manager can :

1. Allot different students to the different hostels.
2. Vacate the students from the hostels.
3. Edit the details of the students & modify the student records.

4.1.3 Student module:

The options given to the student are:

1. Submission of the application form.
2. Viewing the notice board.
3. Submission of the vacating form.

4.1.4 Application module:

This section provides an application form which can be filled by the students and can take a print out. It is submitted to the hostel authorities which will be verified by them and allot rooms.

4.2 Non-Functional System Requirements:

4.2.1 Performance Requirements

Some performance requirements needed are listed below:

- The database should be capable of storing around more than 6000 records.
- The software should support multiple users at a time.

4.2.2 Safety Requirements

There are chances of crashes in a database at any time due to malware attacks or system failure. So it is necessary to backup the database.

4.2.3 Security Requirements

Some of the factors that are identified to protect the software from accidental or malicious access, use, modification, destruction, or disclosure are described below.

1. Assign certain functions to different modules

2. Restrict communications between some areas of the program

3. Check data integrity for critical variables

4. Later version of the software will incorporate encryption

5. Techniques in the user/license authentication process.

6. Keep specific log or history data sets.

4.2.4 Software Quality Attributes

- Less human error.
- Strength and strain of manual labour can be reduced.

- High security.
- Data redundancy can be avoided to some extent.
- Data consistency.
- Easy to handle.
- Easy data updating.
- Easy record keeping.

5. Hardware Requirements

- Processor : 1GHz
- RAM : 512 MB
- Storage: 1 GB