HOSTEL MANAGEMENT SYSTEM

Software Requirements Specification

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1.Introduction

This system is designed in favor of the hostel management which helps to save the records of the students about their rooms and other things. It helps them from the manual work from which it is very difficult to find the record of the students and the mess bills of the students, and the information of about the ones who had left the hostel.

We design this system on the request of the hostel management, through this they cannot require a person to handle and calculate the things. This system automatically calculates all the bills and issued the notifications for those students who are against some rules.

1.1. Purpose

The aim of this document is to specify complete description about the Hostel Management System. Through this document, the workload needed for analyzing, validation and verification will be ease. To be specific, this document is going to describe the functionality, external interfaces, performance, attributes and the design constraints of the system which is going to be developed. Therefore, the intended reader groups for this software requirement specification are students, management and hostel wardens.

1.2. Scope

Hostel Management System is designed mainly for the students who are staying at college hostel. In this, it provides the information about the facilities of hostel, mess, rules and regulations etc. Hostel management system is designed to manage all hostel activities like hostel admissions, fees, room, mess allotment, hostel stores and generates related reports for smooth transactions. It is also used to manage academic hostel fees, room number, course, registration number, branch etc. of the students. In case a student faces problem related to electrical works in the room, a notification will be sent to the hostel website. The students can also give mess feedback and suggestions via an appropriate form.

The software is able to perform the following operations:

- **Take/accept requests:** It must be able to take/accept the requests from the students in the hostel about the type of work required. i.e., plumbing, room cleaning, repairs etc.
- **Take feedback:** It must be able to take the feedback from the students.
- **Notify Mess Manager:** It must be able to take students feedback about the mess via form which will include the questions related to taste, hygiene etc. It should also be able to take suggestions from the students on how to improve the mess food and menu. After solving the problem by the mess-manager it should send the updated menu to the students.

1.3.Overview

The wardens can verify room availability and assign rooms based on the requested category by the students using the hostel management system. Along with producing detailed reports, it also generates gate passes for guests who check out at particular times. The Hostel Management system was designed to provide a computerized process that is stress free, reliable and quick through the use of PHP computer programming language and MySQL database application to both the students and the staff in-charge of the registration and hostel management processes. This is a working document and, as such, is subject to change. The requirements for the website may be modified and the additional requirements maybe added.

1.4. References

- academia.edu
- Hostel Management System slideshare.net

2. Overall Description

2.1.Product Perspective

The aim of the Hostel Management System is to provide a online website for proper allocation of rooms, maintenance of hostel based on the preferences over a conventional room allotment process held in University. This is a replacement for the existing paper-pen approach.

We will create a well-integrated portal for the management of hostel and mess. Since, the incumbent hostel system lacks enough interaction between students and the management, our priority will be to increase the interaction between all the stakeholders of the project. In our project, student can make request to clean the room at a particular time, and to send request regarding the problems of electricity and carpentry. If the task is not completed in the scheduled time, the task will be added in the pending list and will be done on priority. Once the task is initiated by the students is completed, the students will be asked to give the feedback about the work done by the staff and make any complaint if there is any.

2.1.1. System Interface

Apache will be used as web server. The user inputs data via the web server using HTML forms. The actual program that will perform the operations is written in PHP.

2.1.2.User interface

- Administration Interface
- Student Interface

- Database Manager interface

- **Administrator:**
  An administrator is the one who monitors and maintains the data of every student profile in database. Admin haves the complete information related to every student database and all the information related to the students. All data is maintained at the admin level.
- **Student:**
  Every student who have a room in hostel have a database and a student account to access his data at any time. For the accessing of data, the students gets the permission from the administrator. Student can check his data and also can check the monthly reports of their fines, complaints etc. The student can give the complaint in the complaint box.
- **Database manager:**
  Database manager is a user who have the administrator permissions to access and modify or update the entire database. In this project, the database manager has the permission to update or modify the student update emails, phone numbers, room numbers, student attendance details, fees details and mess details.

2.1.3. Hardware Interfaces

Hardware Interfaces exist in computer systems between many of the components such as various storage devices, other i/o devices.

I. Computer: A computer will be required to open the website and use the software.
II. Smartphone: When the computer is not available to open the website at that time the smartphone is required.
III. Internet: To access the website a good internet is required.

2.1.4.Software Interfaces

I. A SQL Database Server will require to store and manage the data.
II. A web browser is requires to open the website.

2.1.5. Communication Interfaces

The HTTP or HTTPS protocol(s) will be used to facilitate communication between the server and the client.

2.2. Product Function:

The system enables to perform the many functions. It asks the students to register for the hostel allotment with the details of the fee and deadline to pay it.

I. It must be able to authenticate the login id and be able to create new login id for the students who are residing in the hostels.
II. It must be able to take/accept the request from the students.
III. It must also be able to take the feedback from the students.

The following general features are also provided:

- Student's name
- Student's father name
- Student's mother name
- Student's year of study
- Room number

Full information is provided by the administrator:

- Student details
- Room details
- Attendance details
- Mess details
- Weekly buffets

2.3.Objectives:

This website comprise of the following activities:

1.Admin can send the approval notice to the students through mail system.

2. Insert the student's details and records.

3. Students can enroll their complaints in complaints page.

4. Hostelers can check their hostel fees status.

5. Room allocated to the hostelers.

6. Display daily mess schedule by the admin.

7. Providing simultaneous access to the site.

3. Specific Requirements:

3.1. External Interface Requirements

3.1.1.Web Server

- Apache will be used as a web server.

3.1.2. PHP Application

The code that performs the website is written in PHP.

3.1.3. MySQL Database

The MySQL database is an open source SQL database is used to store all the

Data regarding the students, caretakers, mess.

3.2.Functional requirements

I. Provides the student to give a complaint about an issue in the room.
Through our website, students have the right to register a complaint regarding different issues in the room related to maintenance or cleaning. The residents just need to select the type of complaint from a list of complaints including AC repairs, other electrical complaints, plumbing problems or if they want their room to be cleaned. This will save their time of going to warden or hostel in-charge to register a complaint.

II. Provides the student to give a complaint about mess food and hygiene.
Students cannot give complaint to the mess manager about the quality and taste of food directly. They have to register a complaint in the register which was maintained by the warden or hostel in-charge. Through our website they can give complaint in the complaint box about the food quality and taste of food which can see by the mess manager directly.

III. Provide contact numbers of maintenance workers.
Once a student registered a complaint through our web portal, the resident will get the details of the worker assigned to get the issue solved. For example, if a student register a complain for cleaning the room, after registering to get the room cleaned, they will get the details of the worker assigned to that particular work.

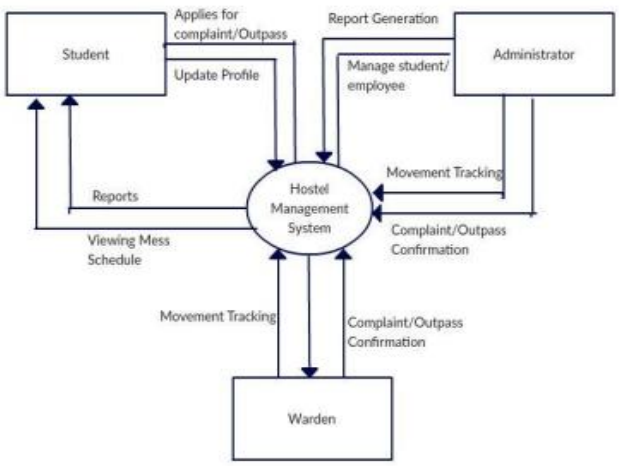
IV. Provide the accessibility to the mess manager to view the complaints and feedback given by the student.

Here, in our website the students who are residing in the college hostel can make and cancel a request to the caretaker about the complaints. After completion of work the students can give rating about the completed work. And also the students can register a complaint to the mess manager about taste of food and the quality of food.

3.3.System Modules:

The proposed framework consists of three different modules:

1. Administrator
2. Warden
3. Student



System Architecture

3.3.1. Administrator Module: This module consists of following functionalities:

- **Login to administrator module:** user is allowed to access the information to the website once he/she verifies themselves by providing user account and password.
- **Profile:** User can view and update their profile to make any changes. They can also change their password which requires old password.
- **Rooms:** This page has many functionalities. Here user can add rooms, allot rooms to the students, view room allotment and change or remove the rooms.
- **Students:** This page allow students. User can add students, update their details, add mess card for the students. Also, they can track movement of the student using RFID device.
- **Employee:** Only administrator has the authority to add and manage employee.
- **Reports:** In reports user can approve or reject the applications of the students regarding the complaints, out-pass. Also, they can generate reports on mess bill, mess cards, hostel bills.
- **Mess Schedule:** In this page user can update daily mess routine which will be updated in the student profile.

3.3.2.Warden Module: This module will contain the following functionalities:

- **Login to Warden module:** Only authorized user is allowed to access the information to the website once he/she verifies themselves by providing user account and password.
- **Profile:** User can view and update their profile to make any changes. They can also change their password which requires old password.
- **Rooms:** This page has many functionalities. Here user can add rooms, allot rooms to the students, view room allotment and change or remove the rooms.
- **Students:** This page allows user to manage students. User can add students, update their details, add mess card for the students. Also, they can track movement of the student using RFID device.

- **Reports:** In reports user can approve or reject the applications of the students regarding the complaints, out-pass. Also, they can generate reports on mess bill, mess cards, hostel bills.
- **Mess Schedule:** In this page user can update daily mess routine which will be updated in the student profile.

3.3.3. Student Module: This module will contain the following functionalities:

- **Login to Student Profile:** Only authorized students are allowed to access the information to the website once he/she verifies themselves by providing user account and password.
- **View Profile:** Students can only view their profile and are not allowed to make any changes. If any changes they want to make, they must approach to administrator or warden.
- **Change Password:** Students can change or update their password by entering old and new password.
- **Complaint Registration:** Students can make register complaints regarding various hostel facilities like furniture, electrical, plumbing, others. Once confirmed student will get a mail notification from warden or administrator.
- **Out-pass Application:** Students can also apply for out-pass required to go for outing from the college. Once confirmed student will get a mail notification from warden or administrator.
- **Out-pass Log:** In this function student can view their logs regarding out-pass status.
- **Complaint Log:** In this page student can view their logs regarding complaint status.
- **Movement Log:** This page provides student details with number of times they went outside and came inside the hostel with time and date.
- **View Mess Schedule:** Student can view daily mess schedule through this page.

4.Other Non-Functional Requirements:

Non-Functional requirements are the constraints that must be adhered during development. The various non-functional requirements are:

1. Provide rating after the completion of the work.
2. Select available time slot for response to issue.
3. Get predefined fields of questions for better characterizing the main problem area.

5.Constraints

The following constraints are required during the development of Centurion Hostel Management System website:

5.1. Hardware requirements

- Processor: i3
- Hard Disk: 512GB space required

- RAM: Minimum 4GB is required

5.2. Software requirements

- XAMPP web server
- Drupal

5.3. Platform

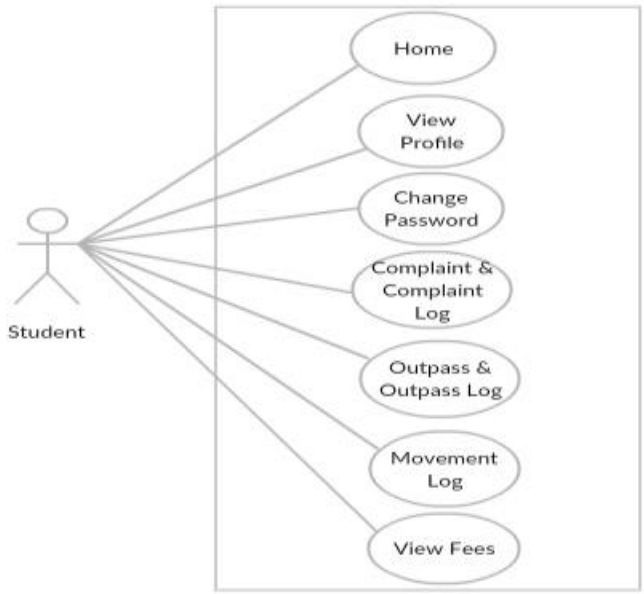
- Windows XP
- Windows 7 or Other Latest Platform

5.3. Programming languages

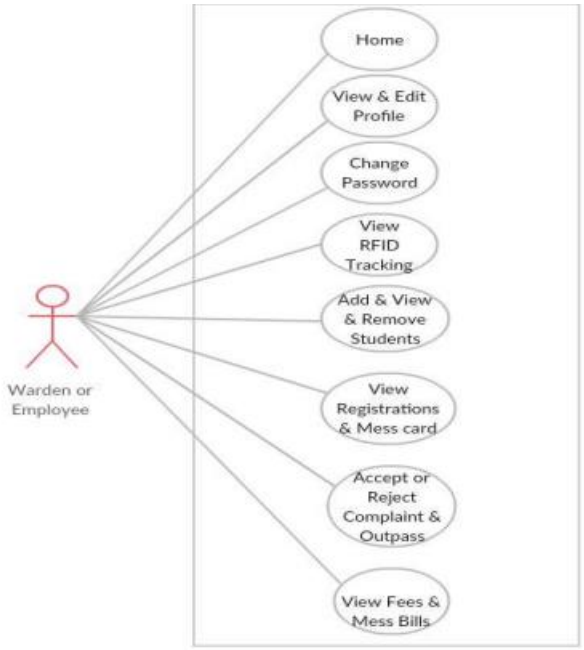
- HTML
- CSS
- JavaScript
- PHP

5.Use Case Diagram:

5.1. Student Use Case Diagram



5.2. Warden Use Case Diagram



5.3. Admin Use Case Diagram