**SOFTWARE Engineering** **(**project**)**

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**hostel management system**

**ABSTRACT:**

This is a design and implementation of an online Hostel Management System. “ONLINE HOSTEL MANAGEMENT SYSTEM” is software developed for managing various activities in the hostel. For the past few year

the number of educational institutions is increasing rapidly. Thereby the number of hostels is also increasing for the accommodation of the students studying in this institution. And hence there is a lot of strain on the person who are running the hostel and software’s are not usually used in this context. This particular project deals with the problems on managing a hostel and avoids the problems which occur when carried manually. Identification of the drawbacks of the existing system leads to the designing of computerized system that will be compatible to the existing system with the system which is more user friendly and more GUI oriented. We can improve the efficiency of the system, thus overcome the drawbacks of the existing system.

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**Introduction:**

**Scope of the project:** The Hostel Management System aims to automate various administrative tasks related to hostel operations, including room allocation, student registration, and fee management. By integrating a user-friendly interface and database management, the system will enhance efficiency, reduce manual errors, and provide real-time insights into hostel activities for improved decision-making.

**Problem definition:** There are a lot of drawbacks in keeping and maintaining a hostel. Especially with a manual system. Since most hostels are being run by only one hostel manager, the number of students in a room are sometimes not known. He has to go room by room to ensure that a room is occupied or not. Room allocation also becomes a problem as the officer might not know which rooms are available or not. And some hostels have a lot of rooms and it would be very tedious to go through all storeys in search of a free room for a new applicant. The managing staff might not know the number of students in a room or if a room is fully occupied or not.

**Objective of the project**: The main objective of the project is to build an application program to reduce the manual work for managing the Rent, students, Beds, rooms. It tracks all the details about the Hostel, Rooms, Payments.

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**system specification:**

* **Hardware Specification:**
* Users Processor: Pentium IV and above Processor speed: 1.4 GHz Onwards.
* System Memory: 128 MB minimum (256 MB recommended) Cache size: 512 KB.
* RAM: 512 MB (Minimum).
* Hard disk: 80 GB (Minimum).
* **Software Specification:**
* **Frontend:** Microsoft Windows Form Design.
* **Backend: ASP.NET framework (VB.NET).**
* **Database Management:** **Microsoft SQL Server.**

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**System study:**

* **Existing System:** The existing system is manual based and need lot of efforts and consume enough time. In the existing system we can apply for the hostels online but the allotment processes are done manually.

**Disadvantages of existing system:**

* More human Power
* More strength and strain of manual labor needed
* Repetition of the same procedures.
* Low security
* Data redundancy
* Difficult to handle
* Difficult to update data
* Record keeping is difficult
* Backup data cannot be easily generated.
* **Feasibility Study:**
* **Operational Feasibility**: Ensuring smooth integration with existing hostel processes, the Hostel Management System aims to enhance operational efficiency by evaluating user adaptability and minimizing disruptions to daily activities.
* **Technical Feasibility**: To determine its technical viability, the Hostel Management System assesses compatibility with the college's infrastructure and the availability of requisite expertise, aiming to build a technically robust solution aligned with current IT capabilities.
* **Economic Feasibility**: The Hostel Management System's economic feasibility is evaluated by estimating project costs, analyzing return on investment, and ensuring alignment with the college's budget constraints, aiming for a financially sound investment with tangible benefits.
* **Proposed System:**

Hostel Management System (HMS) is web-based system for managing various activities in the hostel thought online. It helps in avoiding the problems which occur when carried out manually. It improves the efficiency of the system. Ability to manage application, admission, Allotting room and mess bill & hostel bill, student vacation and report generation

* Less human error
* Strength and strain of manual labor can be reduced
* High security
* Data redundancy can be avoided to some extent
* Data consistency
* Easy to handle
* Easy data updating
* Easy record keeping
* Backup data can be easily generated

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**System design:**

**Data Flow Diagram**

**DFD level 0:**

Hostel Management System

Login Request

Admin/User

Manage &

View DataResponse

**DFD level 1 (Admin):** fetch details

Admin

Login table

reply

Store data

Room table

reply

Store data

Student table

reply

fetch details

Room table

reply

fetch details

Student table

reply

fetch details

emp table

**DFD Level 2 (user):**

Login table

User

Fetch details reply fetch details reply post reply

Feedback table

Student table

**Use Case Diagram**

Admin

User

**Table Design**

|  |  |
| --- | --- |
| Employee Table |  |
| emp\_ID | Primary key |
| emp\_Name |  |
| emp\_Mobile\_no |  |
| emp\_Gender |  |
| emp\_Email\_id |  |

|  |  |
| --- | --- |
| Room Table |  |
| Room\_no | Primary key |
| Room\_type |  |
| Bed\_type |  |
| Price  Checkout |  |

|  |  |
| --- | --- |
| Student Table |  |
| S\_ID | Primary key |
| S\_Name  S\_Mobile\_no |  |
| S\_Nationality |  |
| S\_Gender |  |
| S\_DOB |  |
| S\_IDproff |  |
| Room\_no | Foreign key |

|  |  |
| --- | --- |
| S\_login Table |  |
| S\_ID | Foreign key |
| S\_Username |  |
| S\_Password |  |

|  |  |  |
| --- | --- | --- |
| emp\_login Table | |  |
| emp\_ID | Foreign key | |
| emp\_Username |  | |
| emp\_Password |  | |

**ER Diagram**

Views

Enrolls

Room

S\_Login

Student

Employee

Emp\_login