

# Smart Dashboard for Managing the Hostel Activities

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## ABSTRACT

As the name specifies "HOSTEL MANAGEMENT SYSTEM" is a software developed for managing various activities in the hostel. For the past few years the number of educational institutions is increasing rapidly. Thereby the number of hostels are also increasing for the accommodation of the students studying in this institution. And hence there is a lot of strain on the person who is running the hotel and software is not usually used in this context. This particular project deals with the problems of 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 a computerized system that will be compatible with the existing system with the system which is more user friendly and more GUI oriented. We can improve the efficiency of the system, thus overcoming the drawbacks of the existing system.

- 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
- Backup data can be easily generated

## Keywords

: Hostel, System, Data, Management, Activities, Mess, Student, Admin.

## I. INTRODUCTION

This project is a customized and user friendly software for hostel activities. It helps to manage the hostel activities and to automate the pen and paper work of the hostel. This system is designed in favour of the hostel which helps them for manual work. This particular project deals with the problem of managing the hostel and avoiding

the problems which occur when carried out manually. The Smart Dashboard for Hostel Managing Activities System is an online site developed for managing different activities in the hostel. It is very easy to use with a user-friendly GUI to automate, arrange and handle all the procedures of managing hostel offices. This is an online site which is developed using HTML and CSS for front end and Python for backend. The site will be a great relief to the workers. It is very helpful especially in large institutional organizations with a huge number of hostels. Using this website takes care of all the procedures carried in managing hostels. Developing this website required languages which are:

**HTML:** HTML is the abbreviation of Hyper Text Markup Language which is a standard markup language used for creating web pages and other information that can be displayed in a web browser. It also consists of various tags used for different purposes.

**CSS:** CSS is the abbreviation of Cascading Style Sheet which is a simple mechanism for adding styles to the web pages. It is designed basically to enable the separation of document content from document presentation, including elements such as layout, colors and fonts.

## II. PROBLEM STATEMENT

We have 3 hostels in the college, which comprises 2 boys hostel, one girl hostel and dormitories. Everyone of these hostels are handled through manual operation by the hostel office. All these hostels at present are managed manually by the hostel office. The Registration form verification to the different data processing are done manually. Thus there are a lot of repetitions which can be easily avoided. And hence there is a lot of strain on the person who is 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 a computerized system that will be compatible with the existing system with the system which is more user friendly and more GUI oriented. We can improve the efficiency of the system, thus overcoming the drawbacks of the existing system.

### III. LITERATURE SURVEY

We have created source code which would help in building up the Online Smart Dashboard for Hostel Management Activities. It diminishes the efforts made by the hostel chief/warden and hostel proprietor while managing the hostel. It removes the pen and paper idea which has been utilized by us from before. The created framework gives solutions for manual hostel administration issues and furthermore gives data for example hostel data, hostel room data, and hostel accounts data etc. It is an online programming site so anybody can get to it from anyplace with no unpredictability with the assistance of a working web association. E-registrations outlined were anything but difficult to streamline the student' undertakings/doormen's activity. The stages required with the registration procedure must be reduced to the closest possible if the system needs to be fast and more efficient and convenient. Paper-based procedures of registration are tedious and costly. E-registration for hostel facilities played a major part in the change and thus helped to achieve the following: Reduced the paper work and redundancy thereby improving productivity and lowering cost of printing and purchasing registration materials annually. Aid the hostel in data management and integration of students profiles. Provided the hostel's statistics on the needs of students (e.g. tables, chairs, beds etc.). The author talks about how security in this day is one of the major difficulties that individuals are confronting everywhere throughout the world in each part of their lives. Information to any association is a most valuable property. Security of sensitive information is dependably a major test for an association at any level. In the present technological world, databases are helpless against hosts of assaults. In this study, significant security issues confronting databases are recognized and

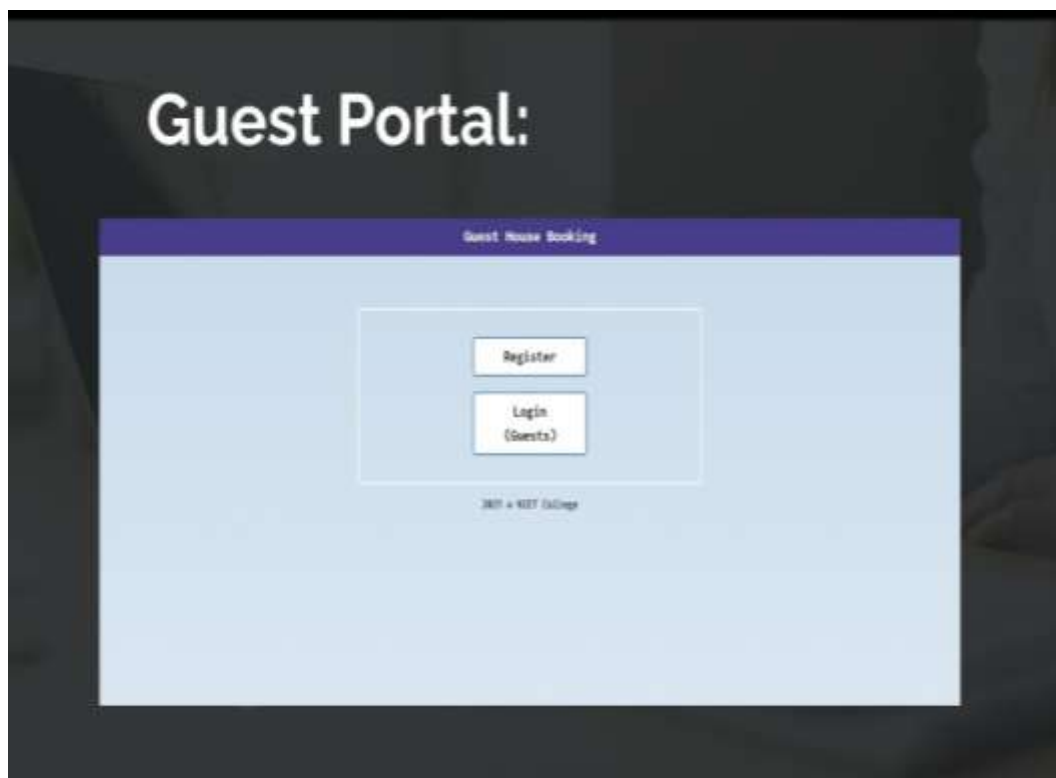
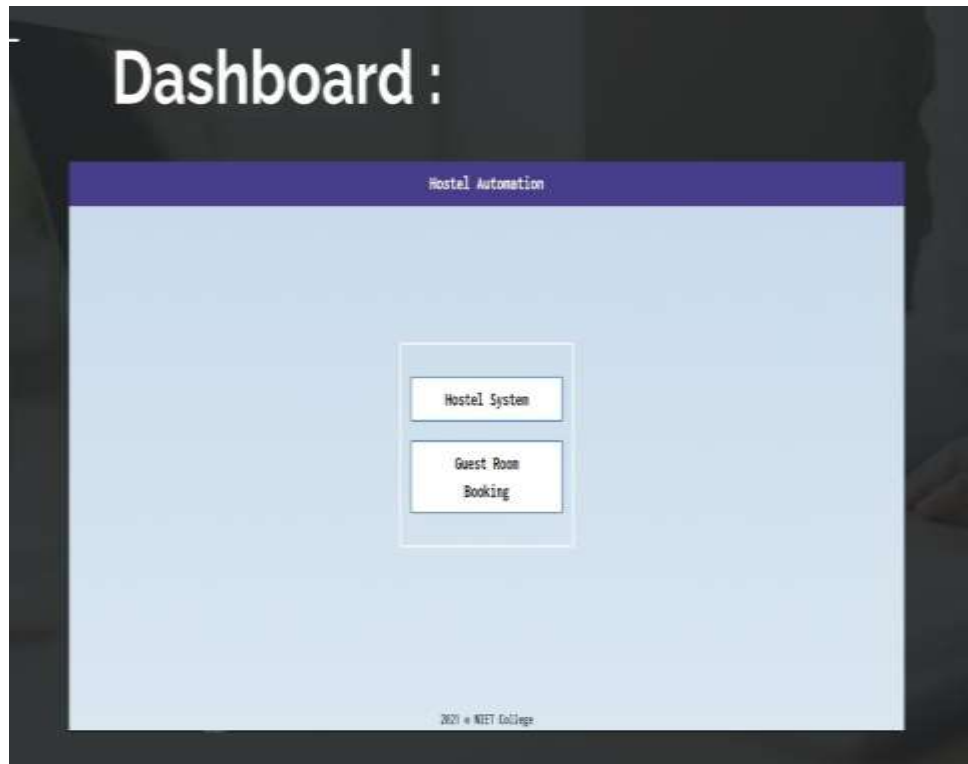
some encryption strategies are talked about that can remove the assaults hazards and ensure the delicate information. To wipe out the security dangers each association must define a security approach and that security approach ought to be strictly enforced. A strong security strategy must contain very much characterized security features, access control, Inference Policy, User Identification/Authentication and Encryption.

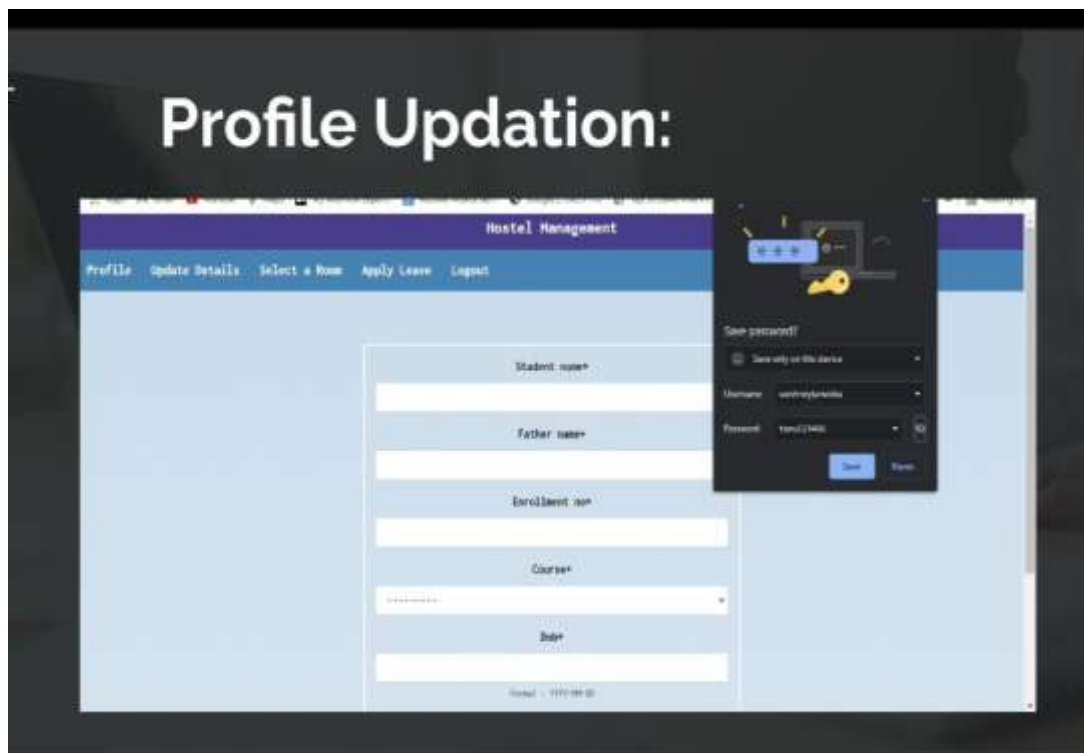
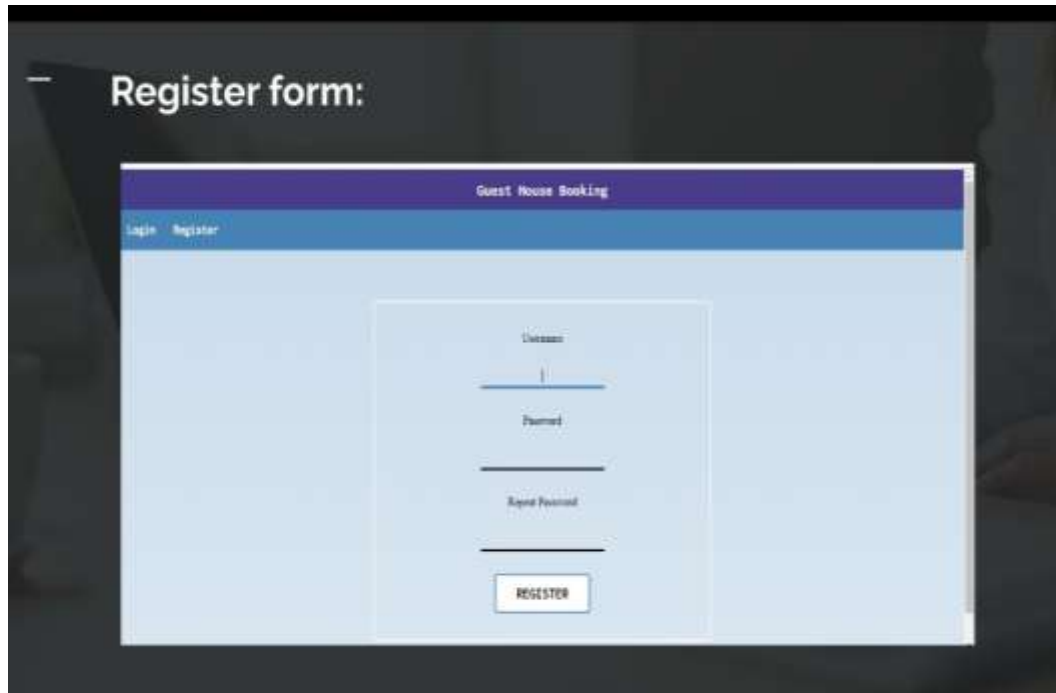
### IV. SYSTEM ANALYSIS AND DESIGN

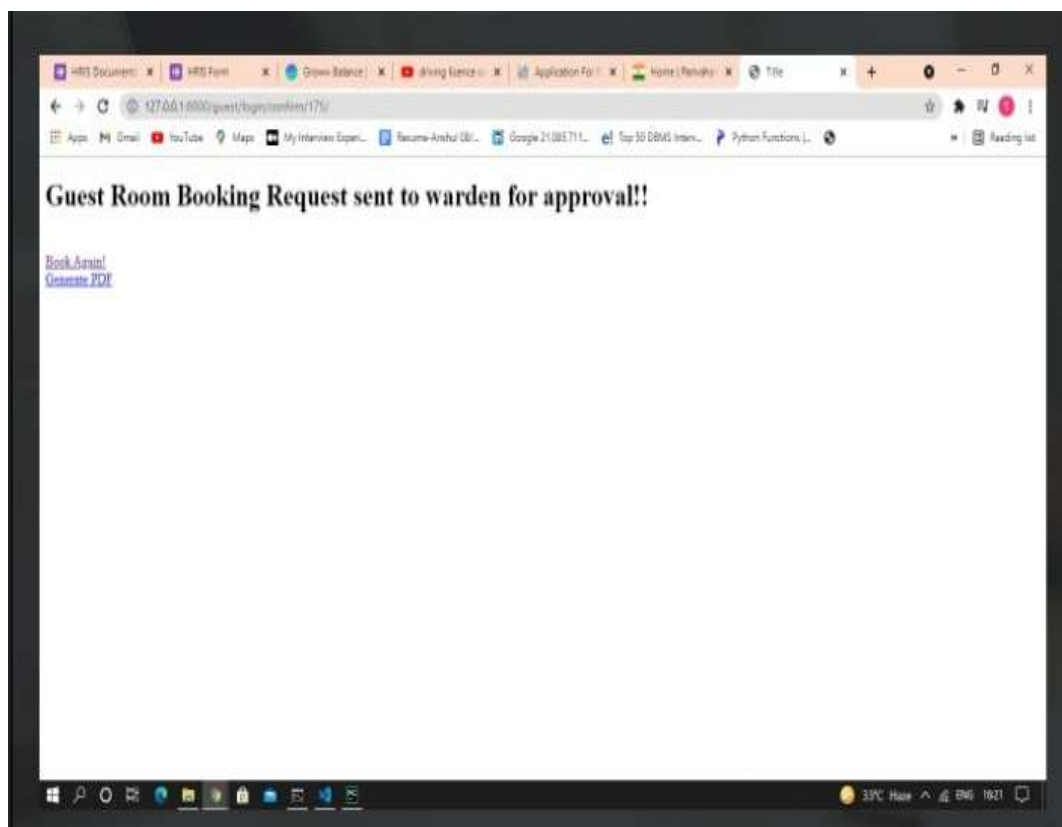
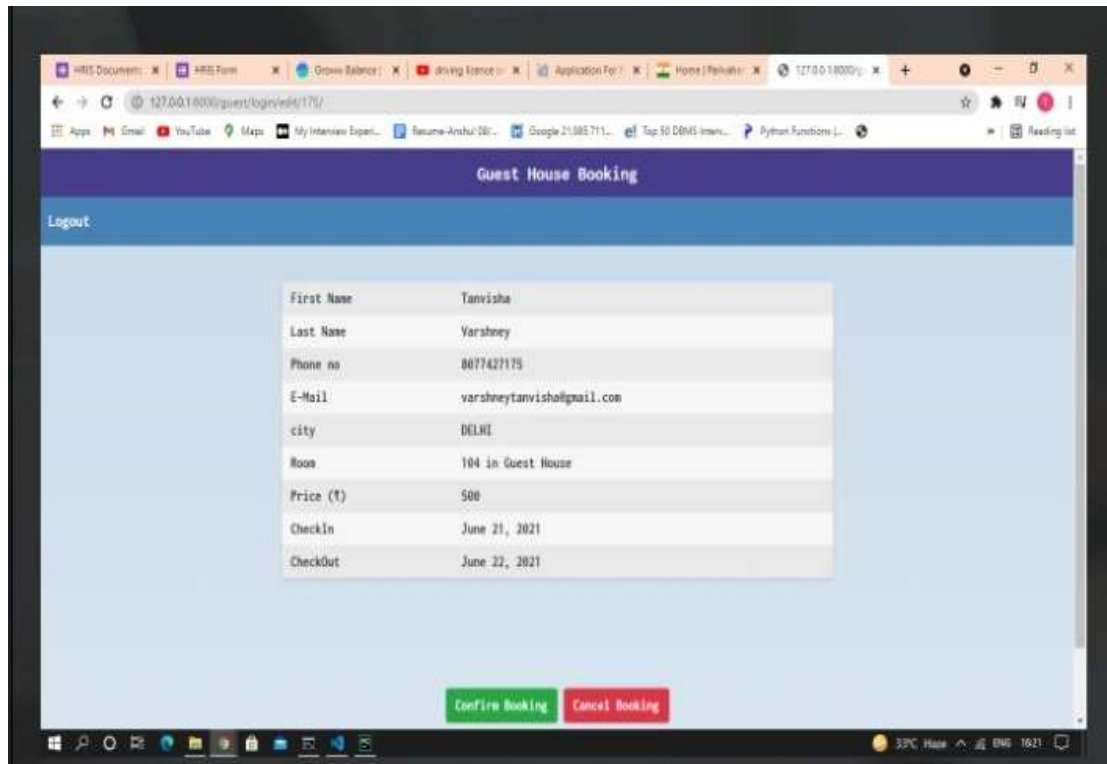
Systems analysis is a process of collecting factual data, understanding the processes involved, identifying problems and recommending feasible suggestions for improving the functionality of the system. This involves studying the business processes, entity relationships, gathering operational data, understanding the information flow, finding out bottlenecks and evolving solutions for overcoming the weaknesses of the system so as to achieve the organizational goals. System Analysis also includes decoupling of complex processes that make up the entire system, identification of data stores and manual processes.

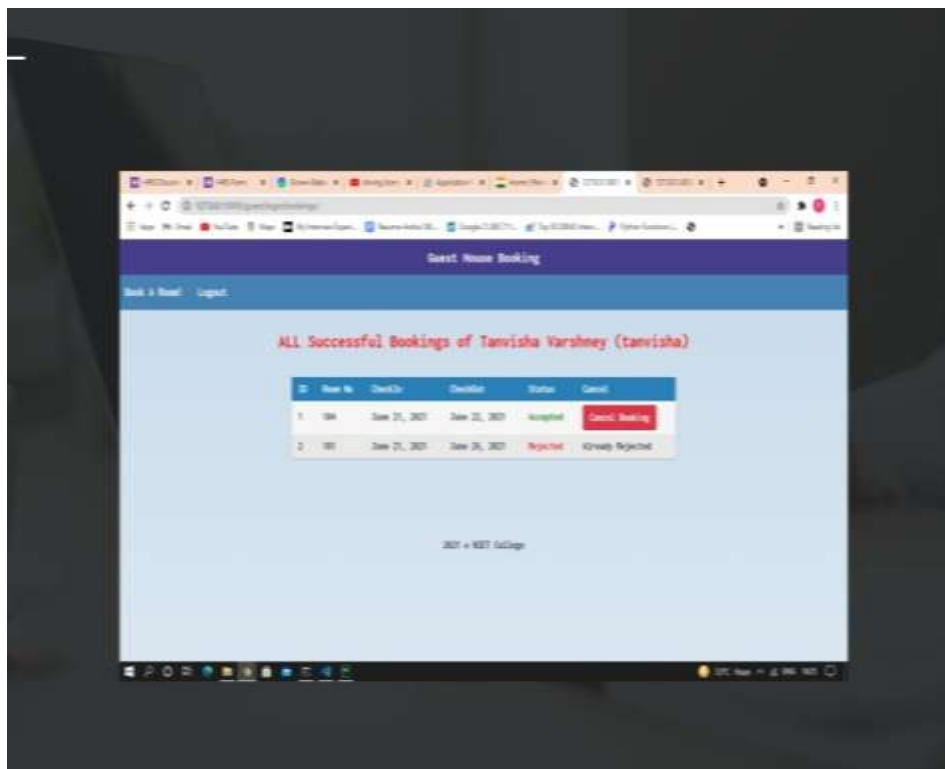
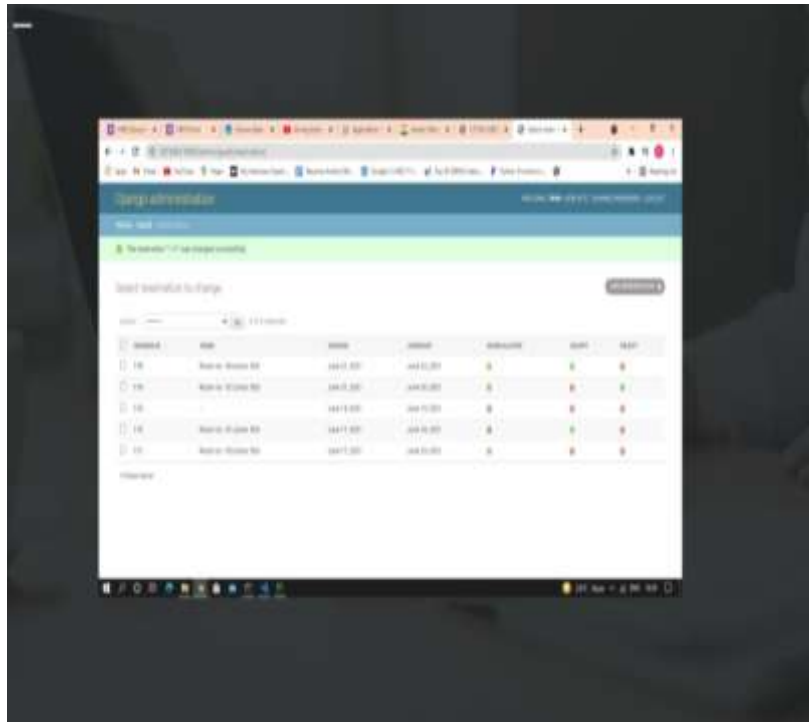
System design is an attempt towards creation of a new system. This phase focuses on the detailed implementation of the system. System design has two phases: logical design and physical design. During the logical design phase, the analyst describes inputs (sources), outputs (destinations), databases (data stores) and procedures (data flows) all in a format that meets the user's requirements. The analyst also specifies the user needs and at a level that virtually determines the information flow into and out of the system and the data resources. Hence, the logical design is done through data flow diagrams and database design.

The logical design is followed by physical design or coding. Physical design produces the working system by defining the design specifications, which tell the programmers exactly what the candidate system must do. The programmers write the necessary programs that accept input from the user, perform necessary processing on accepted data through call and produce the required report on a hard copy or display it on the screen.









## V. SECURITY AND MAINTENANCE

Maintenance means restoring something to its original condition. Maintenance follows conversion to the extent that changes are necessary to maintain satisfactory operations relative to

changes in the user's environment. Maintenance often includes minor enhancements or corrections to problems that surface in the system's operation. Maintenance is also done by fixing the problems reported, changing the interface with other software

or hardware, thus enhancing the software. Any system developed should be secured and protected against possible hazards.

Security measures are provided to prevent unauthorized access of the database at various levels. An uninterrupted power supply should be available so that the power failure or voltage fluctuations will not erase the data in the files. Password protection and simple procedures to prevent unauthorized access are provided to the users. The system allows the user to enter the system only through appropriate username and password.

## VI. EXISTING SYSTEM

Current situation of the hostel administration framework is that all the work is done physically. Various information or record copies of the hostel and student data are kept in various divisions. Room is distributed by the room necessities and as per requested by the student. Hostel offices and other data are altogether kept in a booklet or are shown on the notice board. Student's data, staff data, student registration, room status, complaints, occasions news, outpass application are kept in registers and require manual entry.

## VII. PROPOSED SYSTEM

To overcome all the limitations of the existing system, a framework called hostel management is proposed which is a web application. This framework automates all the activities occurring in the hostel. The proposed system provides data security and integration which is a major drawback in the current scenario and also provides smooth operation in retrieving data in a more systematic way hence saving a lot of human effort and time. The proposed system being a website runs on a server with robust database which eliminates the problem of data redundancy and helps to store information of students and other hence ensures data integrity and interconnects all those students and management process involved. This framework allows students and employees to manage various activities in a computerized manner.

### 7.1 Benefits of the Proposed System

- Automates all the activities involved in maintaining hostel administrations.
- The utilization of the database will help in simple retrieval of data and control information concurrency.
- It is cost effective as information is stored online and can be accessed remotely hence eliminating

record keepings.

- Mail notification for every event, notice and approval status of various activities( outpass ,complaints, etc).

### 7.2 Limitations of Proposed System

The above proposed system has some of the challenges listed below which can be addressed.

- Both buyers and sellers should be mobile friendly. If the user doesn't know how to use mobile it will be difficult for the user to use the application.
- As it is an online process, the users must be connected to the internet to access the auction and to buy/sell the product.
- Required product might not be available on time as it depends upon the seller to which product he/she wants to sell.
- Delivering the product might take some time depending upon the address of the buyer.

### Hardware and Software Tools

1. CPU: Intel or AMD processor with 64-bit support , 2.8Ghz or faster processor.
2. Memory: Min 4GB of RAM.
3. Storage : 1TB Hard Disk or 500 SSD
4. Platform: VS Code
5. Programming Language: Python with Django, HTML, CSS, MYSQL

## CONCLUSION

In the conclusion of this project , following will be the benefits-

- Students can register their complaints which directly reach to management at the same time.
- Creation of guest profile and recording of guest details.
- Maintain and manage the hostel information easily.
- To avoid the complexity and to reduce time in data processing.

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