
Online Hostel Management System

Bikash Choudhury

B. Tech.

Electronics & Communication Engineering,
Gandhi Institute of Engineering & Technology,
Gunupur, Rayagada, India

Deepak Kumar*

B. Tech.

Electronics & Communication Engineering,
Gandhi Institute of Engineering & Technology,
Gunupur, Rayagada, India

Deepika Priyadarshani Khatua

B. Tech.

Electronics & Communication Engineering,
Gandhi Institute of Engineering & Technology,
Gunupur, Rayagada, India

Ajit Kumar Patro

Professor

Electronics & Communication Engineering,
Gandhi Institute of Engineering & Technology,
Gunupur, Rayagada, India

Abstract

“Online Hostel Management System” is 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 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 website oriented. We can improve the efficiency of the system, thus overcome the drawbacks of the existing system.

Keywords: *Online Hostel Management, Web Application, Database Management.*

***Author for correspondence** deepakkumar10ece@gmail.com

1. Introduction

The fundamental theories of economics assert that the success of an organization is a function of how well it harnesses and optimizes the available resources (factors of production) towards achieving its organizational objectives. By resources, we mean the physical resources and conceptual resources. The physical resources are land, labor/ machine, capital and entrepreneurship while the conceptual resource is information. No matter the volume of funds that might have gone into an investment, if there is no effective coordination of efforts/ resources, the whole investment will end up as a colossal waste and the vision behind the efforts will not be achieved. Thus management is a major factor that determines the index of success achievable by an organization in its quest towards realizing its corporate objectives.

Research has also further revealed that it is the quality of initiative applied in management that matter. However, most of these hostel facilities especially in institutions in developing countries are managed with conventional manual methods and this has been impacting negatively on the effective resource utilization and overall efficiency of these academic institutions. The manual method of managing and administering hostels in institutions is obviously not effective as it is attributed to the following challenges:

- Difficulties in record management: data redundancy, difficulty in data update; difficulty in data recovery; difficulties in generating information about those students who had left the hostel, vulnerability to manipulations/human error.
- Difficulty in tracking the history of a facility: a room or chalet or building; registration for hostel allocation is done manually, thus over time, handling of the paper files becomes cumbersome and untidy as the population of student increases.

The hostel facility management software is user-friendly application package specifically designed to automate, coordinate and look after all the processes of managing hostel facility. It is useful especially in large educational institutions with college hostels, school hostels, and organizations like military, large corporations and establishments with working employees' hostels. All the functions that hostel management entails can easily be managed by hostel management software. There are three types of languages are used in developing the Hostel Management System. The languages are:

- a) HTML: HTML stands for Hyper Text Markup Language. It is used to describe the webpage. It consists of many markup tags. Each tag is used for different purpose. We use HTML to put our data on webpage. It is used to put any type of text on webpage.
- b) CSS: CSS stands for Cascading Style Sheet. It is used to change the appearance of the content of the webpage. CSS is a style sheet language used for describing the presentation of a document written in a markup language like HTML. There are three types of CSS:
 - i. Inline: Inline is used by style attribute within the HTML tag. We can use this type of CSS on any HTML tag just by using the style attribute. If we want to apply the CSS on a smart part or on a specific tag then we prefer this type of CSS.
 - ii. Internal: Internal is used by using by typing the CSS code inside the head part of the HTML tag within the style tag. To access any HTML tag in internal CSS we can use some selectors like id, class.
 - iii. External: External is used when we want to type the code in separate file to reduce the complexity of the code. We can easily link that external file by giving the reference or address of the file in the head part using style tag.
- c) JavaScript: It is client side scripting language. When we want to run any script on the browser then we use JavaScript as a medium. It is also used for applying the validations over the webpage like checking that a field is blank or not. It is also used for interacting with the user like inputting a value from the user. It is also used for accessing the properties of various elements of the webpage as well as the browser. To use JavaScript we have to write the code in head part of the HTML section inside the script tag. We can access the properties of various elements of webpage by their name or by their ids.

2. Need of Project

In current scenario all the details related to people living in hostels are managed by humans manually and by the help of pen and paper. Everything is so complex because it is not easy to handle all the information of the various people living in a hostel by the help of registers. If the owner needs any type of information regarding any person who is currently living in his hostel then he have to check and open various registers and then also it is not completely sure that he can get the information in the mean time. And if the required information is regarding the person who left the hostel then it is completely a very complex task because the registers containing the information of the person who left the hostel can be sold. Or if there quantity increases they can be destroyed. So to reduce this complexity and manage the hostel without any complexity we have to use this project. By using this project we can easily manage all the data without any extra manual effort. This project is automatic. We have to register the person who is coming to stay in our hostel and rest of the work is done by the system itself. We can add new entry easily in a pre-structured way. We can maintain the room number and floor number easily without any problem and can maintain the information regarding the fees and the date at which the student registered and when he leaves the hostel. He can also manage its own details so this will also reduce the burden from the mind of the manager of the owner that is he can also free from the responsibility of maintaining and updating the information regarding the person who is living there. In all the aspects this project is totally beneficial for the owner of the hostel as well as the persons who are staying there.

3. Working

The whole project is based on internet. Anyone can access this project if he has working internet connection. This project is hosted online and by typing the address of this website anyone can access the website. In this project the admin of the hostel can able to login in the website and can enter the details of the person who is willing to stay in the hostel. When he logged in then he have to click on enter data and then all the data o f the person like name , email, contact number and all other required data will be filled from the form which will he get from the person who is came to stay in the hostel. After entering all the information the data is send to database server from client machine over the internet. If the admin left any field blank or enter any wrong entry like e-mail in different format then an error message will be prompt by the browser. And if all the data is in correct format then the data will be saved on the database server.

Database

For better maintenance of database we have created 3 different databases and generalized them to several entities the 5 different basic entities are Warden Login, SWO Login, Student Login, Student and Hostel. In which the Login Specified entities are used for keeping the ID and password of certain person for login to the page with some certain, Student table & Staff table is used for keeping the student information and Staff information respectively.

Security

For backend security we have taken care of several things to prevent hacking.

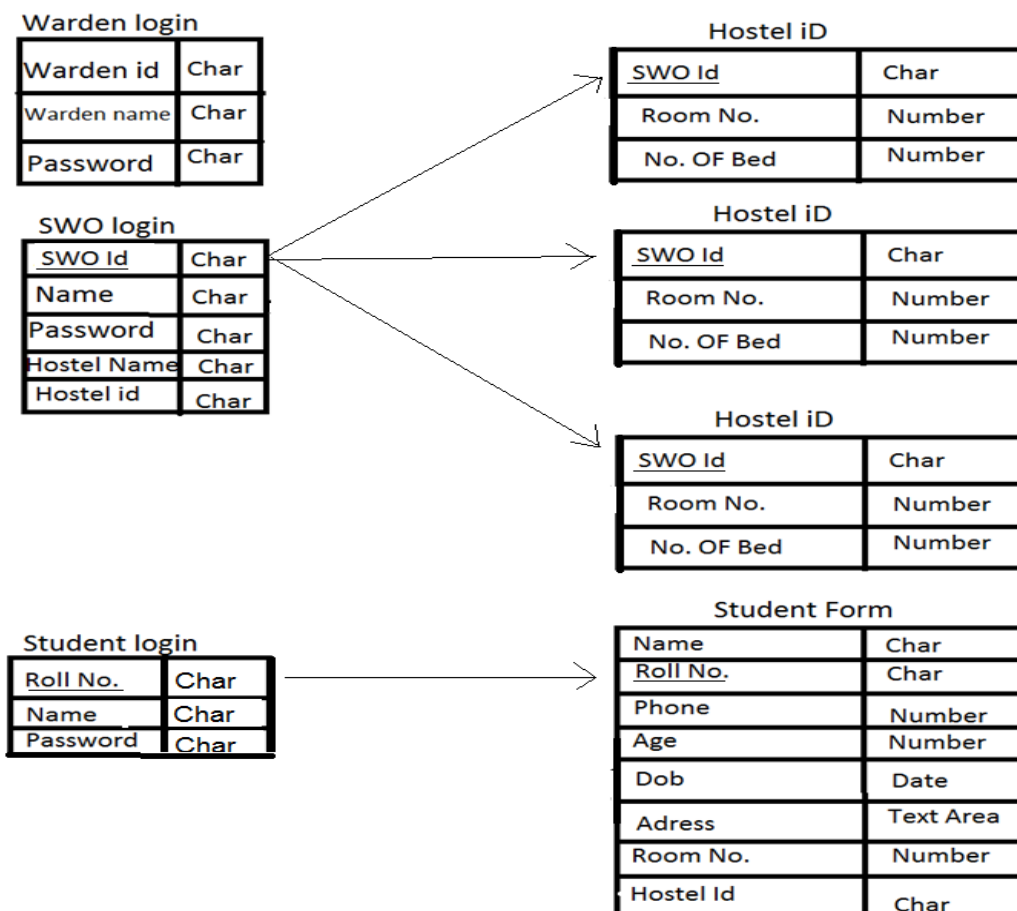
- a) *SQL Injection (Attack to the database)*: SQL Injection works by the attacker finding an area on a web site that allows for user input that is not filtered for escape characters. User login areas are often targeted because they have a direct link to the database since credentials are often checked against a user table of some sort. By injecting a SQL statement, like ') OR

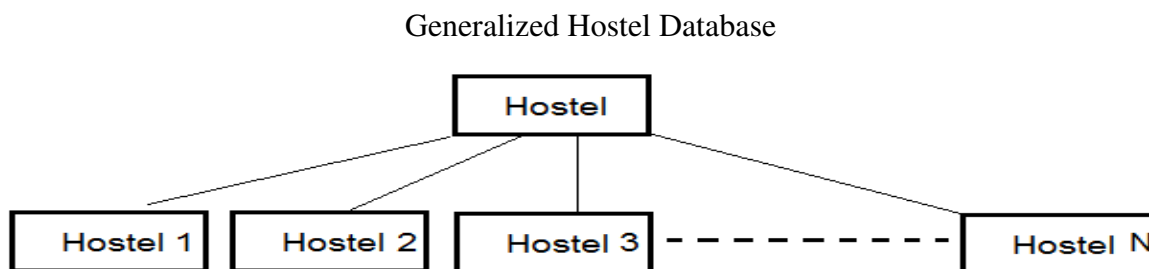
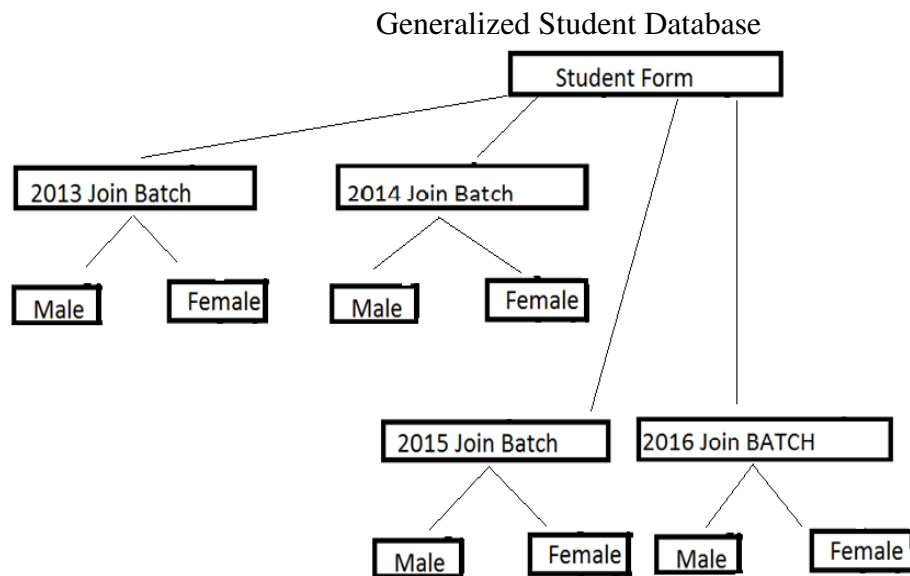
1=1--, the attacker can access information stored in the web site's database. Of course, the example used above represents a relatively simple SQL statement. Ones used by attackers are often much more sophisticated if they know what the tables in the database are since these complex statements can generally produce better results.

- b) *XSS (Cross Site Scripting)*: This attack occurs when an attacker is able to inject a malicious client-side script into a vulnerable web page. When these scripts are run, they can be used to install malicious software on the visitor's computer, steal a visitor's cookie, or hijack a visitor's session.
- c) *Remote Command Execution*: Remote Command Execution vulnerabilities allow attackers to pass arbitrary commands to other applications. In severe cases, the attacker can obtain system level privileges allowing them to attack the servers from a remote location and execute whatever commands they need for their attack to be successful.
- d) *Path Traversal*: Path Traversal vulnerabilities give the attacker access to files, directories, and commands that generally are not accessible because they reside outside the normal realm of the web document root directory. Unlike the other vulnerabilities discussed, Path Traversal exploits exist due to a security design error - not a coding error.

Schema Diagrams

Entity-Relationship Diagram

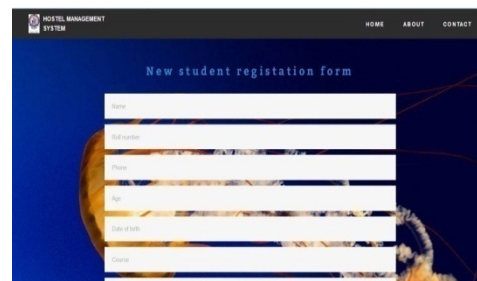




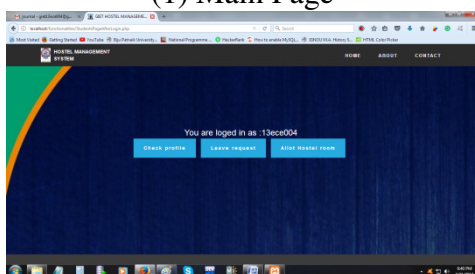
4. Results



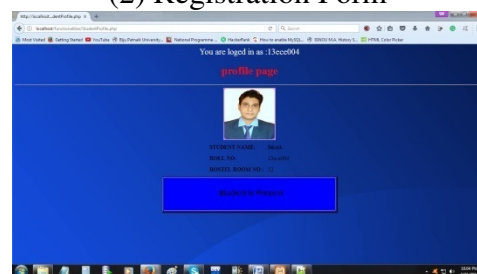
(1) Main Page



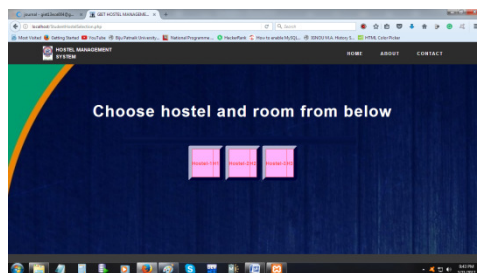
(2) Registration Form



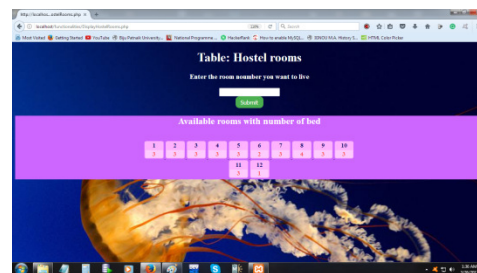
(3) Student Login



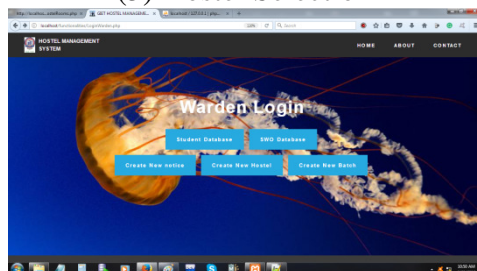
(4) Student Profile



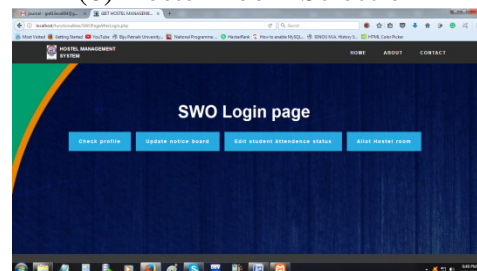
(5) Hostel Selection



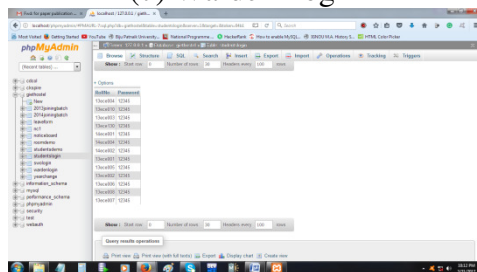
(6) Hostel Room Selection



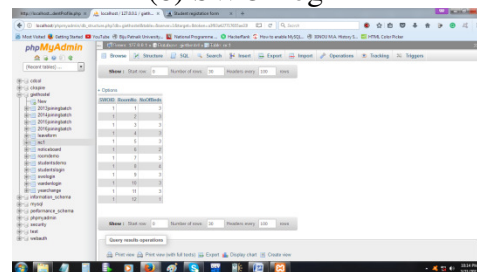
(7) Warden Login



(8) SWO Login



(9) Student Login Table for Password



(10) Hostel Table

5. Conclusion

Thus we have developed PHP-MySQL source code which would help in developing the Online Hostel Management System. It will reduce the effort made by the hostel manager and hostel owner while maintaining the hostel. It will remove the pen and paper concept which is being used by us from earlier times. The developed system provides solution to manual hostel management problems and also provides information such as hostel information, hostel room information, and hostel accounts information. It is online software/website so anyone can access it from anywhere without any complexity with the help of a working internet connection.

References

- [1] Online Hostel Management System. Reshmi Radhakrishnan, Rinsha P.A. Roopashree at Dspace.
- [2] Hostel Management System. Muhamad Shaker at Dspace.
- [3] <https://en.wikipedia.org/wiki/Hostel>
- [4] https://en.wikipedia.org/wiki/Hostelling_International
- [5] www.hostelsystem.com/
- [6] <https://sourceforge.net/projects/hostelmanagementsystemproject>
- [7] College Hostel Management Software. Initio (2010).
- [8] Loventis Booking System. Loventis Systems (2005).
- [9] Indocon Hostel Management Software. Indocon Micro Engineers Limited.