

# Dormitory World

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## ABSTRACT

A Dorm World is developed to deliver a stress-free, dependable, and efficient automated approach. This dormitory world can be used by both students and employees in charge of the registration and Dorm administration procedures. The back-end would be Firebase, which would handle data storage and authentication, and the front-end would be HTML, providing the user with a graphical user interface. The standard forms and methods used for university student registration and housing in dorms were assessed for effectiveness, economy, and time management. The current method was created to be manually executed. This is connected to shortcomings because it frequently necessitates additional personnel and takes a long time. The number of educational institutions developed worldwide has skyrocketed in recent decades, especially in the last four decades. This advancement has brought education to the people's doorstep. The created system addresses the shortcomings of traditional dormitory administration systems by being more user-friendly, graphical-user-interface oriented, reliable, efficient, and secure with access control mechanisms.

*Keywords—Dorm Boarders; Dorm Manager; Admin; Security Guard;*

## INTRODUCTION

The number of educational institutions has increased significantly during the past 40 years. This development has made education more widely available to everyone. As a result, it has improved information access and contributed to the growth of a population of informed people who can readily uphold the principles of enlightened society. Many recently established educational institutions continue to manage all records and, in particular, dormitory facilities, according to the outdated standards. As a result, this antiquated method of document handling reduces the effectiveness of the institution. The proposed framework is more user-friendly and graphical-UI focused, and it addresses the disadvantages of the current dormitory management systems.

The Dormitory Management System is an internet portal and application that was created to help manage various activities in the hostel. It's simple to use, with a user-friendly interface for automating, organizing, and controlling all aspects of dormitory office management. This is an online site built with HTML, CSS, and Bootstrap on the front end, Google Script and JavaScript on the backend, and Firebase for the database. Users will appreciate the site. It's incredibly beneficial at large institutions with a high number of dormitories. This website and application administer all of the procedures involved in dorm management.[1]

## RELATED WORK

The effectiveness of an organization or any institution, according to basic economic theories, is determined by how successfully it optimizes available resources (factors of production) toward attaining its organizational goals. Physical and conceptual resources are examples of resources. Land, labor/machine, capital, and entrepreneurship are physical resources, whereas information is a mental resource.

Management is a key aspect in determining an organization's success index.

Dorm facilities in developing countries are administered using traditional manual techniques, which has a negative impact on effective resource usage and overall institute efficiency. Managing the application procedure for dorm boarders' housing at any institute or organization is a difficult and time-consuming undertaking.

Complete Dormitory Management System is a full-featured dorm, hostel, and PG management system for both tenants and owners.

The dormitory management system is an information system that may be used to replace the manual process of transactions and monitoring of students in the dormitory, thereby avoiding the problems that can arise when these processes are performed manually.[3]

## **LITERATURE SURVEY**

A. The study by Tanmay Nandanwar, Priyanka Bahutule, and Raviteja Buddala[6] discusses the common issues that Dorm boarders encounter during the room assignment procedure at large universities or colleges. The traditional room assignment procedure has a number of flaws. They take extra time and do not provide adequate room selection on time, among other aspects. The current study project attempts to address general issues and depicts implementation making use of a digital platform.

The goal of this project is to create an online room over a traditional room allocation process held in numerous locations. The current work demonstrates the concept and digitalized/online room allocation web portal for dorms., which Dorm boarders can use to solve these issues and make the room assignment procedure easier. Paper [6] makes no mention of the security measures in place for students staying in the separate residences.

B. Hostel Management is a web-based programmed for Dorms for individuals in Paper [7]. This will reduce manual work and make hostel assignment considerably easier for both students and administrators. Data in databases is handled and accessed as needed. Its designed system is considered to be more user-friendly, GUI-oriented, reliable, efficient, and secure with access control mechanisms, and it addresses the disadvantages of manual hostel management. Bootstrap and other technologies will be employed. A web app will be built that will work on both IOS and Android, taking into account all of the requirements for the dormitory. Here [7] There are no login credentials provided, and because the application is open source, anyone can use it.

C. There will always be limitations on which features you can integrate while designing a mobile application, as Vishwas explained in Paper [8]. As a result, a trade-off is made based on the app's requirements. Even with all of the trade-offs, there should be some minimal criteria that must be met in order for the application to run well; here is where the NFR comes into play. A few NFRs must be taken into account while creating a software programme, as was previously stated. Select carefully because not all requirements can be addressed in terms of implementation. Additionally, I mentioned handoff early on, so be sure you understand what must be compromised and what cannot.

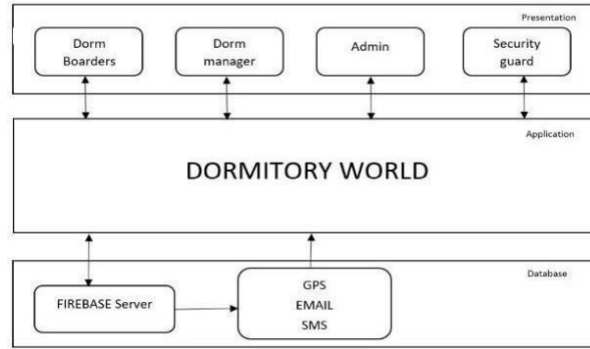
D. The address paper[9] by Syarifah Hasanah, Syed Arabi I did, Aizul Nahar Harun, and Mohammad Ali Tareq uses a conceptual approach to better understand how uncertainty avoidance culture affects student satisfaction in university housing. Expectancy Disconfirmation Theory, according to most experts, is the best method for determining consumer happiness. The key concern for improving the performance of the services supplied by student housing is to focus on the issue of student accommodation satisfaction. This study is based on the Expectancy Disconfirmation Theory, with the findings that culture plays a role in determining student contentment. There were no operations made on the admin side in the paper[9].

## **PROPOSED WORK**

### **Architectural Setup**

Architectural Illustration gives a view of the tangible deployment of the software system. A system diagram known as an architecture diagram isolates the connections, constraints, and boundaries between the components of a software system as well as its overall structure.

It is a crucial tool since it provides a thorough image of the software system's actual deployment as well as its development strategy. We've specified it here. Layered architecture abstracts the overall picture of the system while giving sufficient information to comprehend their responsibilities of individual levels and the interactions between them. Changes made in one layer of the architecture usually have no effect on components in other layers; the change is isolated to the components in that layer.



The Dorm boarder can build a profile by registering on the application and waiting for the admin to evaluate it. Admins may see dorm boarders, add and manage dorm managers, and manage security guards, among other things. They can change or add new dorm boarders, managers, and security guards to their profile.

Dorm boarders can login to the application and update or amend their profiles, and view their assigned rooms. Dorm boarders may examine rules and regulations, as well as their current monthly mess bill charge, apply for leave more easily, use the emergency feature, and provide important comments about the dormitory.

Dorm boarders can view the status of their mess bill. The dorm boarder can check their details and learn about the mess bill after logging in successfully, and the dorm manager can update and change the information of the dorm boarder. The data is stored and retrieved using a firebase database. The status of each dorm boarder's mess bill will be updated.

Dorm managers should use legitimate login credentials to see complaints and feedback from dorm boarders, monitor emergency circumstances, approve or refuse leave requests through email, manage dorm boarder information, and manage the room allocation that has already been assigned by the admin.

With appropriate access credentials, the Security guard may examine the hostel boarders' log entries and follow their whereabouts using the GPS tracker.

GPS or global positioning system, is a tracking technology that allows security guards to check on the status or location of hostel boarders if they have not returned to their dormitory by the specified time. The dorm boarders will sign up with their unique credentials and then grant authorization for the system to track them. The GPS tracking ensures that dorm boarders arrive at the hostel on schedule and in safety.

Using E-mail API helps the dorm boarders save time by reducing the paperwork required to apply for leave and the time it takes to get their leave approved. This system manages and approves dorm boarders leave. A unique user id and password are assigned to each dorm boarder.[4]

### **Scope**

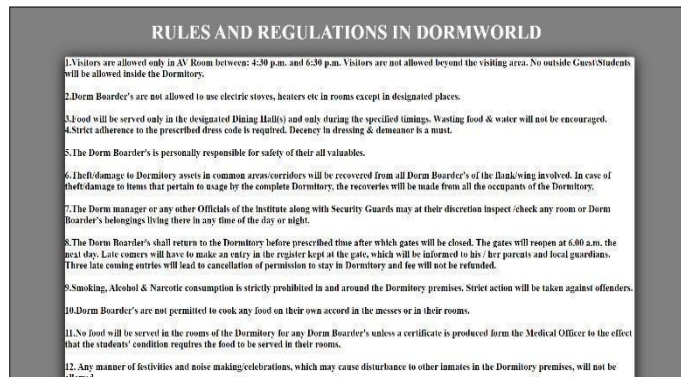
The Dormitory World must be created by the dormitory administration in order to arrange the rooms, mess, dorm boarder's record, and other information about the dorm boarders. How many dorm boarders can dwell in a room, and how the dormitory's dorm boarders can be identified by their dormitory ID number. Various management functions will be automated and integrated. Any sort of inquiry or complaint to a higher authority will be done online, and keeping track of all actions performed by the hostel will be more efficient and accurate. The arrival and departure times of dorm boarders will be kept track of. All dorm boarders who are skipping college can be identified.[3]

### **EXPERIMENTATION AND RESULTS**

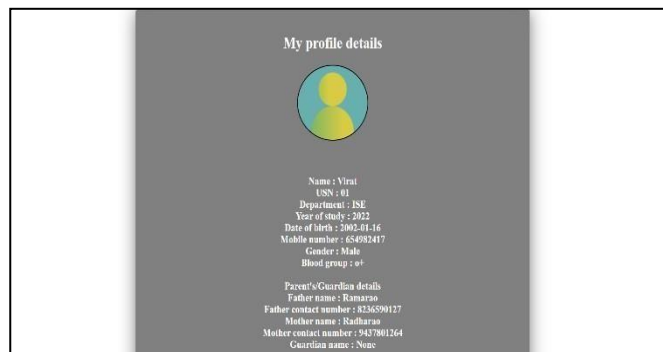
Proposed platform is both Website and App. Website was implemented using HTML, CSS, and Bootstrap at front end. JavaScript, Google Script for Backend development. Firebase is used for databases. Whereas Mobile App is developed using Java and XML languages. Tool used is Android Studio 3.4. Fig.1 shows the Signing page created for Dorm Boarders. Fig.2 shows the Rules and Regulations. Fig.3 shows the Profile page for Dorm Boarders, Fig.4 shows Registration form Dorm Boarder. Fig.5 shows Dorm Boarders profile updating page.



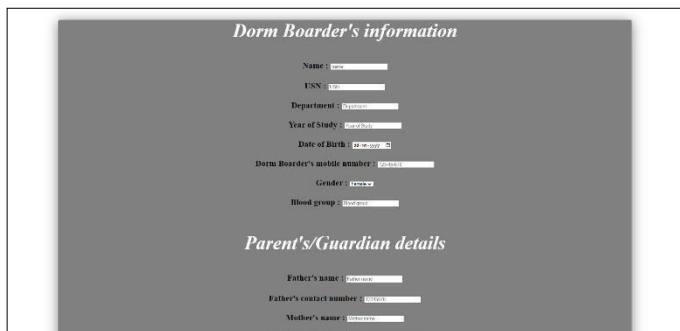
**Fig 1: Sign-in Page for Dorm Boarders.**



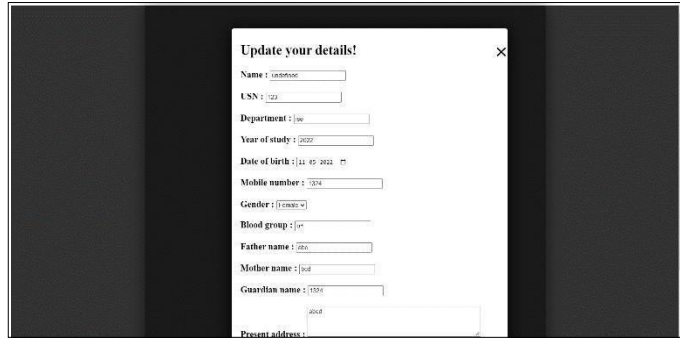
**Fig 2: Rules and Regulation.**



**Fig 3: Profile Page**



**Fig 4: Registration Form.**



The image shows a screenshot of a web application interface for updating profile details. The form is titled "Update your details!" and contains the following fields:

- Name: [text input]
- USN: [text input]
- Department: [text input]
- Year of study: [text input]
- Date of birth: [date picker]
- Mobile number: [text input]
- Gender: [dropdown menu]
- Blood group: [text input]
- Father name: [text input]
- Mother name: [text input]
- Guardian name: [text input]
- Present address: [text input]

**Fig 5: Update Profile Details.**

## CONCLUSION

In an essence, the suggested framework is a project developed in response to the user's specific requirements and current framework research, with flexibility for future improvement. The current programming's functioning necessitates a methodical approach to programming advancement. This website and application for dormitory administration is for those who need to administer the hostel's activities.

Since the previous several years, the number of colleges/universities has increased, as has the number of dorm boarders, necessitating an automated system that may decrease human work and make management easier and more sophisticated.

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