



NATIONAL INSTITUTE OF TECHNOLOGY, PUDUCHERRY

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**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
KARAIKAL – 609 609.**

PROJECT PHASE – I

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ONLINE HOSTEL MANAGEMENT OF NITPY

SHIVAM KUMAR GIRI

CS15B1022

Sem VII

B Tech.

ROHIT KUMAR BARAIK

CS15B1018

Sem VII

B Tech.

BONAFIDE CERTIFICATE

This is to certify that the project work entitled “**ONLINE HOSTEL MANAGEMENT OF NITPY**” is a bonafide record of the work done by **SHIVAM KUMAR GIRI (CS15B1022)** and **ROHIT KUMAR BARAIK (CS15B1018)** in partial fulfillment of the requirements for the PROJECT PHASE – I for the award of the degree of **Bachelor of Technology in Computer Science and Engineering** of the **NATIONAL INSTITUTE OF TECHNOLOGY PUDUCHERRY** during the year 2018 - 2019.

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Dr. Narendran Rajagopalan

Assistant Professor, CSE

Project Guide

Dr. R. Dhanalakshmi

Head of the Department

CSE

Internal Examiner

External Examiner

ONLINE HOSTEL MANAGEMENT OF NITPY

AUTHOR 1 -SHIVAM KUMAR GIRI
-shivamgiri2015@gmail.com

AUTHOR 2 -ROHIT KUMAR BARAIK
-rohusachin192@gmail.com

An online hostel management system for accessing various services required within hostels, ease of accessibility of services, high efficiency and reducing inconsistency and data loss

MEAN Stack

- MongoDB
- Express.js
- Angular JS
- Node.js



 mongoDB

ABSTRACT

Today in the era of Digitalization, there is growing essence of reducing paper work, maintain security, highly efficient management via efficient user-friendly interface applications and centralized accessibility of the resources to avoid data redundancy, data inconsistency high cost over manual input, manual error and high wastage of papers. Large increase of strength of students enrolling every year lead to the rise in the accommodation further rises the issue of their management.

In the existing time, it is done manually leading to the inconsistency, redundancy and sometime loss of data and important information. The organized way of managing the Hostel may lead to reduction in inconsistency and ease in the way of access the data require for the management.

The “Online Hostel Management” system is web-based application to provide ease of managing student’s accommodation to the hostel efficiently. This project also keeps details of the hostellers and applied students. Students can register their complaints. It maintains the student list for allotment can see the notice and mess menu and can have different logins for warden/hotel assistant, student and chief warden/administration and overall reduction in human effort and inconsistency and increases the comfort level and serves as a step to the digital world

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1. INTRODUCTION

This web-based system on “Online Hostel Management System” provides efficient way to handle hostel tasks in National Institute of Technology, Puducherry. It provides a user-friendly interface, ease of accessibility for hostellers, wardens, chief warden, security and administrators, thereby reduces the inconsistency, redundancy and misplacing of data in the administration and efficiently handles the various issues like attendance, room allocations and mess feedback in an entire academic year.

The overall purpose is to develop website that provide an efficient pathway for managing the hostels, reduces inconsistency and redundancy in the data entries, provide ease of access to both student and warden/administration and security at its tip. It will provide the user-friendly interface for both student and administration and thereby provide an ease of access and reduction in the manual input, manual error and a way to reduce the wastage of paper. It serves as a step to the Digital World in this era of Digitalization.

2. OBJECTIVE

To digitize cumbersome, time-consuming and resource draining task of Academic feed- back, Attendance and examination marks management, and registration by reduce the paper work and computerize the labour-intensive tasks through an interactive and user-friendly web-based interface.

3. LITERATURE REVIEW

PHP is one of the leading web development languages, however, the development model of existing PHP organizes without a structure, which mixes the code of data access, the processing of business logic, and web presentation layer together, as a result, it brought about many problems in the web applications, meanwhile, it could not meet the rapid development of web apply any more. An implementation of PHP based on MVC design patterns is FDF framework was provided for PHP developers ^[3], which can offer a framework for web applications, separate the data, view and control of web applications, afford to achieve loose coupling, thereby enhanced the efficiency, reliability, maintainability and scalability of application development.

One of the more interesting developments recently gaining popularity in the server-side JavaScript space is Node.js. It's a framework for developing high-performance, concurrent programs that don't rely on the mainstream multithreading approach but use asynchronous I/O with an event-driven programming model ^[2]. Node.js is typically a viable option in the present world for web development due to its highly scalability, efficiency, flexible and concurrency ^[1].

4. FEATURES

*The web-based development module on Online Hostel Management System focuses on five perspectives - **hostellers, wardens, Chief Wardens, Security and administration**. There are 10 features will be illustrated by our system:*

4.1 System Feature 1: Allocation of Students

4.1.1 Description and Priority

Students are allotted based on the availability of Room and allotted student can again can be re-allotted in the hostel after a semester or two. The room allocation data can also contain the information about the room accessories like cots, tables, chairs etc.

Priority: ☆ ☆ ☆ ☆ ☆

4.2 System Feature 2: Accessing Sick room/Common rooms

4.2.1 Description and Priority

Student can access the sick room/common room by registering online along with the durations which will0 again be verified by security while providing key of the rooms.

Priority: ☆ ☆ ☆

4.3 System Feature 3: Separate Login for Warden, hostellers, Chief Warden, Security and administration

4.9.1 Description and Priority

Separate the list of User into three categories: student, faculties and administration each having separate area of concern. Each of them must have the separate accessibility based on their Responsibilities.

Priority: ☆ ☆ ☆ ☆ ☆

4.4 System Feature 4: Accessing Visitor Room

4.4.1 Description and Priority

Visitor Room can be accessed by student in case of any visitor visits or can be accessed by warden/chief warden for any chief visitor visiting the hostel.

Priority: ☆ ☆ ☆

4.5 System Feature 5: Giving Mess feedback

4.5.1 Description and Priority

Mess feedback system is for giving the feedback to the mess based on various Criteria

and then taking the cumulative average of the responses and display it to the wardens/ chief warden for further actions

Priority: ☆ ☆ ☆ ☆

4.6 System Feature 6: Accessing Mess Menu

4.6.1 Description and Priority

Students can see the mess menu and any changes of mess menu can be displayed immediately

Priority: ☆ ☆ ☆

4.7 System Feature 7: Displaying the Notices

4.7.1 Description and Priority

Wardens/Chief wardens draft the notice which can be displayed to all users/hostellers/ particular user via this module.

Priority: ☆ ☆ ☆ ☆

4.8 System Feature 8: Accessing Medicine and Sport accessories

4.3.1 Description and Priority

Student gets the details of the medicines available and sport accessories that are accessible and available and can register if required.

Priority: ☆ ☆ ☆

4.9 System Feature 9: Collecting of Grievance and complaint

4.8.1 Description and Priority

Student fill the grievance form and submitted form will be displayed to warden/Chief warden for further actions.

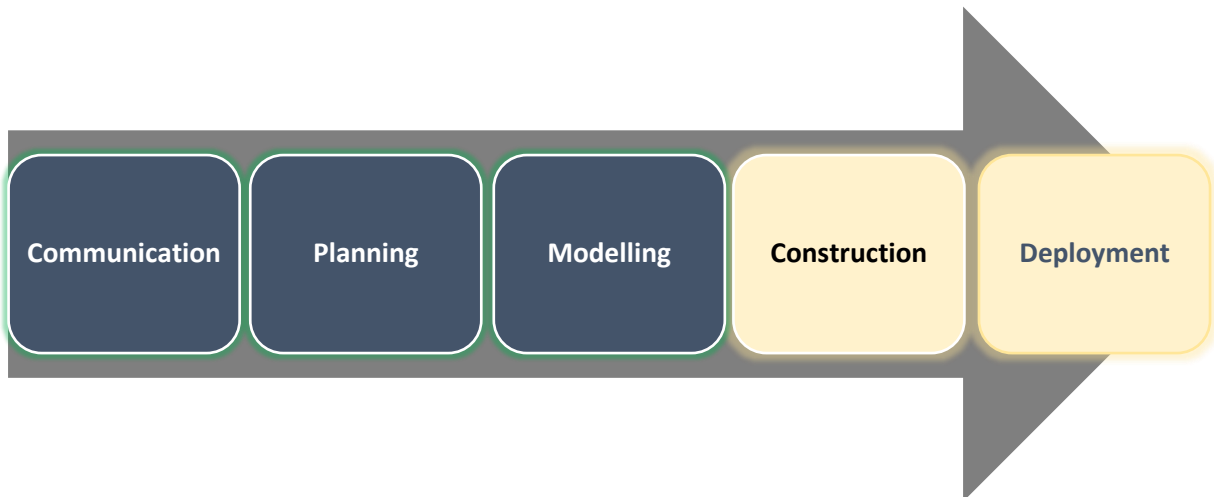
Priority: ☆ ☆ ☆ ☆

4.10 System Feature 10: Attendance, Entry and Exit System

4.10.1 Description and Priority

On each entry and exit of the hostel the response would be recorded and attendance will be calculated leading to spontaneous attendance of students. The entry and exit will be verified by wardens and security staffs
Priority: ☆ ☆ ☆ ☆

5. WORK PROGRESS



Our Project Can Be stated as follows:

- Completion of Requirement Gathering from various sources.
- Completion of making of a Specification Report based on the finalized Requirement.
- Completion of the Use-case and other blueprints.
- Completion of Dataflow diagram and choosing the development environment based on requirement.
- Development of Basic UI
- Completion of User Repository System

6. CHALLENGES

6.1 Challenge of Performance

*The demand of highly **Flexible, Responsive** and **Scalable** website is the need of the need today. With emerging number of hosteller and expectation of increasing the number of students in the mere future leads to an alarming need of a scalable website with high performance. For cross-platform client supportability a highly responsive website is required leading to a high need of performance in the Real-time.*

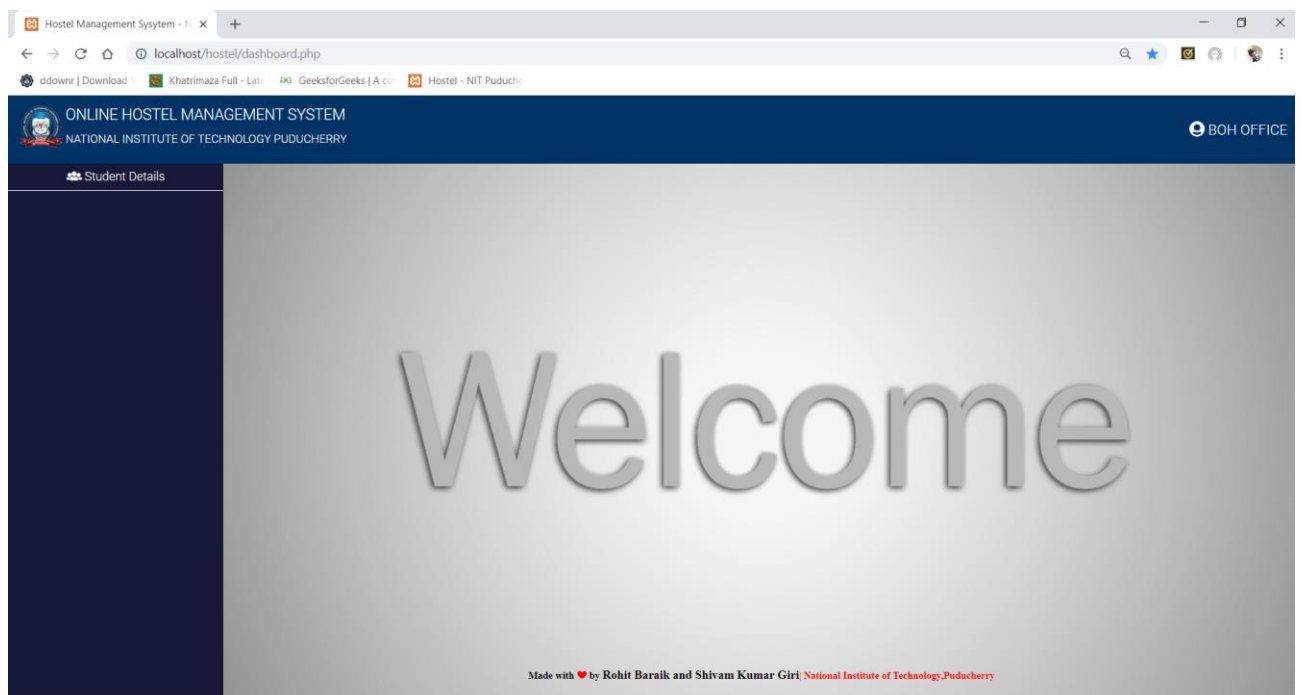
6.2 Challenge of Security

Security is the protection of computer systems and the data accessed or stored in it from theft or damage to their hardware, software or electronic data, as well as from disruption or misdirection of the services they provide. In today's World, there is an alarming need of Security. Security of data now being a major concern around the world. The information of each of the students, faculties and admin are stored in the database are need to be preserved form the crackers and hackers for the misuse of data and creating the inconsistency of functionalities basically intended to derive from the module.

6.3 Challenge of Quality

Main purpose of developing web-based module is to improve the **portability** of software development process. To improve portability, software should run on variety of platforms and variety of connection speeds. The written code must be **Reusable**, if incase addition of functionalities or use-cases, if required in the future. The code must be refactored and optimized for better performance in the real-time execution. The code must support the required functionalities, reliability and maintainability for better Quality which is a major challenge.

7. OUTPUT-SCREEN SHOT



Hostel Management System - NIT Puducherry

localhost/hostel/dashboard.php

ddownr | Download | Khatrimaza Full - Lat | GeeksforGeeks | A co | Hostel - NIT Puducherry

ONLINE HOSTEL MANAGEMENT SYSTEM
NATIONAL INSTITUTE OF TECHNOLOGY PUDUCHERRY

BOH OFFICE

Student Details

Search Student

Insert Student

Allocation Room

Reallocate Room

PERSONAL INFORMATION

GENERAL INFORMATION

Registration Number

Student Name

Date of Joining

dd/mm/yyyy

PERMANENT ADDRESS

Street Name

Area

City

State

Country

Hostel Management System - NIT Puducherry

localhost/hostel/dashboard.php

ddownr | Download | Khatrimaza Full - Lat | GeeksforGeeks | A co | Hostel - NIT Puducherry

ONLINE HOSTEL MANAGEMENT SYSTEM
NATIONAL INSTITUTE OF TECHNOLOGY PUDUCHERRY

BOH OFFICE

Student Details

Search Student

Insert Student

Allocation Room

Reallocate Room

Do you want to reallocate rooms for all students?

Re-Allocate Rooms

Cancel

Hostel Management System - NIT Puducherry

localhost/hostel/dashboard.php

ddownr | Download | Khatrimaza Full - Lat | GeeksforGeeks | A co | Hostel - NIT Puducherry

ONLINE HOSTEL MANAGEMENT SYSTEM
NATIONAL INSTITUTE OF TECHNOLOGY PUDUCHERRY

BOH OFFICE

Student Details

Search Student

Insert Student

Allocation Room

Reallocate Room

Enter Room No.

Enter Room Number like 'S-26'

Select Registration Number

CS15B1022

Select Hostel

Boys Hostel

Allocate Room

Robo 3T - 1.2

File View Options Window Help

New Connection (4)

System

config

hostel

Collections (1)

users

Functions

Users

Welcome x db.getCollection('users').find() x

New Connection localhost:27017 hostel

db.getCollection('users').find()

users 0.002 sec.

Key	Value	Type
(1) ObjectId("5bf1828617b99978d4006f64")	{ 14 fields }	Object
_id	ObjectId("5bf1828617b99978d4006f64")	ObjectId
regno	CS15B1022	String
stdname	SHIVAM KUMAR GIRI	String
dof	2015-05-21	String
street	Nirani Sugars Limited, #166, Kulali Cross, Vijay Nagar	String
area	798	String
city	PORT BALUR	String
state	ANDAMAN & NICOBAR ISLANDS	String
country	INDIA	String
pincode	587313	String
mobile	7989747432	String
fname	SANIEEV	String
fpno	9531809590	String
femail	shivamgiri2015@gmail.com	String
(2) ObjectId("5bf182da17b99978d4006f65")	{ 14 fields }	Object
_id	ObjectId("5bf182da17b99978d4006f65")	ObjectId
regno	CS15B1025	String
stdname	SURAJ J UNNI	String
dof	2018-11-21	String
street	JOKER STREET	String
area	56	String
city	ITTAWA	String
state	HUKUSHINU	String
country	JAPAN	String
pincode	587313	String
mobile	7989747432	String
fname	SANIEEV	String
fpno	9531809590	String
femail	unnibhaisuraj015@gmail.com	String

ONLINE HOSTEL MANAGEMENT SYSTEM
NATIONAL INSTITUTE OF TECHNOLOGY PUDUCHERRY

BOH OFFICE

Student Details

Search Student

Insert Student

Allocation Room

Reallocate Room

Enter Registration Number

Enter Registration Number

Or

Enter Room No.

Enter Room Number

Or

Enter Floor No.

Or

Select Hostel

Search Student

Name of student	Roll Number	View Status
SHIVAM KUMAR GIRI	CS15B1022	View Details
SURAJ J UNNI	CS15B1025	View Details

8. TEST CASES AND FEEDBACK

We launched our one of the module of Online Hostel Management as planned that is hostel allocation module in the Boys-Hostel-1 of NIT Puducherry. It consists of following sub-modules:

Allocation, Reallocation, Student Information Entry and search query.

The various Positive Feedback were:

- Nice Formal Theme.
- Ease of allocation and reallocation.
- Ease of information Management

The various Negative Feedback and failure of Test Cases were:

- There Should be ease of Editing the Data.
- There should be ease of Entering Data as Entering room no. Can be Splitter to “R” and “26” instead of “R-26” or “R26” or “R 26” problems.
- The aesthetic look can be made much better.
- Some more fields required for student Entry.

Also new questions were confronted like

- ❖ How the online management carried out in case of Extreme power cut of Epidemic stations.
- ❖ Whether the system should be intranet or internet.

9. SCOPE

The 'Online Hostel Management System' is web development module that provide an efficient way to manage various tasks in the hostels of National Institute of Technology, Puducherry. It consists of eight modules- Student Allocation System, Mess Feedback System, Attendance and Entry/ Exit System, Notice Display System, Grievance/Complaint System, Medicine and sports Accessing System and Sick room/ Visitor room/Common room accessing system and along with hostellers and Wardens Repository.

10.CONCLUSION

The goal of this project is to develop a responsive, scalable, efficient and user- friendly website for managing all the hostels in National Institute of Technology, Puducherry. We went through the various recent technologies and recent trend in Web Development and chooses the best which meet the Requirement. Finally, we decided to develop the website with less overhead and scalable Website through MEAN Stack.

11. ACRONYMS

MEAN	Mongodb Express.js Angular.js Node.js
MVC	Model View Control
PHP	PHP Hypertext Preprocessor
FDF	Function Design Framework

12. REFERENCES

- [1] I. K. Chaniotis, K.-I. D. Kyriakou, and N. D. Tselikas, "Is Node.js a viable option for building modern web applications? A performance evaluation study," *Computing*, vol. 97, no. 10, pp. 1023–1044, Mar. 2014.
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- [3] W. Cui, L. Huang, L. Liang and J. Li, "The Research of PHP Development Framework Based on MVC Pattern," *2009 Fourth International Conference on Computer Sciences and Convergence Information Technology*, Seoul, 2009, pp. 947-949.doi: 10.1109/ICCIT.2009.130