

*A Mini Project Report on*

## **Genesis: A Learning Platform**

**S.E. I.T Engineering.**

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**Academic Year – 2021-22**

## **CERTIFICATE**

This to certify that the **Mini Project report on Genesis: A Learning Platform** has been submitted by **Devanshu Mahapatra** (20104036), **Subhashish Mahapatra** (20104049), **Nishank Jain** (20104046) and **Athul Nair** (2104048), who are a Bonafide students of A. P. Shah Institute of Technology, Thane, Mumbai, as a partial fulfilment of the requirement for the degree in Information Technology, during the academic year 2021-2022 in the satisfactory manner as per the curriculum laid down by University of Mumbai.

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## **ACKNOWLEDGEMENT**

This project would not have come to fruition without the invaluable help of our guide Mr. **Vishal Badgujar**. Expressing gratitude towards our HoD, **Prof. Kiran Deshpande**, and the Department of Information Technology for providing us with the opportunity as well as the support required to pursue this project. And also, for giving us his valuable suggestions and ideas when we were in need of them. We would also like to thank our peers for their helpful suggestions.

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# **Chapter 1**

## **Introduction**

The main objective of is to automate all functionalities of a college or university. Using this system we can manage all college work like managing Student and Faculty data, issue Books and even download E-book. Using this, we can view or update data and information about students and staff easily. This system also helps in managing the various activity like student admission/registration, faculty admission/registration and all tasks regarding Library Management.

Using this system, we can register new student and their course details. We can also add new faculty in the system and can check details of these employee easily. Student can also check course detail online from this system. All Users can view the Library, issue books and download E-Books.

Our project can store and manage all data of the various departments of a college like Administration, Staff details, Library details etc. Using this system user can retrieve any information related to student and teacher. College administration can also manage college work easily. The library module is used for the book accessing for students and staffs.

### **1.1 Purpose:**

The purpose of our project is to automate the existing manual system by the help of computerized equipment's and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same. The required software and hardware are easily available and easy to work with.

As described above, can lead to error free, secure, reliable and fast management system. Thus, it will help organization in better utilization of resources. The organization can maintain computerized records without redundant entries. That means that one need not be distracted by information that is not relevant, while being able to reach the information. The application provides security to the data as only admin or the faculty can modify the data. The target audience are the students, faculty and the administration. Basically, the project describes how to manage for good performance and better services for the clients.

## **1.2 Objectives:**

The main objective of the Project on Genesis: A Learning Platform is for the management of College including details Student, Faculty and Library. The project is built at user end and thus, the administrator, faculty and student are guaranteed access. The purpose of the project is to build an application program to reduce the manual work for managing the College

- To manages all the information of Student, Faculty, Library etc.
- To increase efficiency of Academic Management.
- To Integrate all records of Student, Faculty and a well-defined library.

## **1.3 Scope**

It may help collecting perfect management in details. It will help a person to know the management of previous year perfectly and vividly. It will also reduce the cost of collecting the management & collection procedure will go on smoothly.

Our project aims at Administration process automation, i.e., we have tried to computerize various processes of our project.

- In computer system, it is not necessary to create the manifest but we can directly view it, which saves our time.
- Can be applied in Coaching Institute, Industries, Colleges, Schools etc.
- To utilize resources in an efficient manner by increasing their productivity through automation.
- The system generates types of information that can be used for various purposes.
- It satisfies the user requirement
- Be easy to understand by the user and operator
- Have a good user interface
- Be expandable

## Chapter 2

### Problem Definition

- The existing system which we use in our college is traditional process i.e. a complete manual process.
- Now-a-days, education is playing very significant role in the society. Day-by-day, the percentage of illiterate person are decreasing and the percentage of literates is increasing.
- Education will change the society in all the aspects and everyone wants to study higher professional degrees.
- Admissions are increasing day by day so there by ratio of establishment new colleges and schools are also increasing.
- But the actual challenge is starting from now. Most of the schools and colleges are maintain student information in records.
- When the number of records increased, it is difficult to maintain the information of each student in the old manual system.
- Maintaining the records manually leads to error prone and required more man power and it consumes more time for processing the records
- As the number of admission increases, so does the need of a proper Management System with a dedicated library for student's use.

## **Chapter 3**

### **3.1 Proposed System:**

We resolve all the disadvantages of existing system in our proposed system. Time will be saved with no chance of getting error.

- System needs to store information about new entry of student, hostel, library and faculty.
- System need to store library books and download e books in a dedicated manner
- System needs to help the internal staff to keep information of Student and find them as per various queries.
- System needs to maintain quantity record.
- System needs to update and delete the record.
- It also needs a security system to prevent data.

### **3.2 Features and Functionality:**

- Creating & Changing records at ease
- Admin Accounts to control the access and maintain security
- Simple Status & Resolutions
- It contains better storage capacity for eBooks.
- Accuracy in work.
- Easy & fast retrieval of information.
- Well-designed Layout.
- Decrease the load of the person involve in existing manual system.
- Access of any information individually.



## Chapter 4

### **Project Outcome:**

- To gain access to the system in a safe way.
- To add, update or delete details of Students and Faculty. User will be able to login & Signup and if the user forget their password then they can change their password too.
- To keep an update on academics related stuff.
- To provide the searching facilities based on various factors. Such as Student Detail, Faculty Detail, Library E-Books, etc
- To manage the Record details for enrolment details, dedicated library and various other academics tools.
- To manage the information of College Database.
- To manage the efficiency of storing Library books.
- To Edit, add and update the records in an improved manner which results in proper resource management of College data.
- To download E – Books from the library in .zip format for easy portability.

## Chapter 5

### Software Stack:

- Development Eclipse IDE 2021-09 (4.21.0)

Eclipse is an integrated development environment (IDE) used in computer programming. It contains a base workspace and an extensible plug-in system for customizing the environment. Eclipse is written mostly in Java and its primary use is for developing Java applications. Eclipse software development kit (SDK) is free and open-source software, released under the terms of the Eclipse Public License, although it is incompatible with the GNU General Public License.

- Frontend: JAVA Swing

Swing is a GUI widget toolkit for Java. It is part of Oracle's Java Foundation Classes (JFC) – an API for providing a graphical user interface (GUI) for Java programs. Swing was developed to provide a more sophisticated set of GUI components than the earlier Abstract Window Toolkit (AWT). Swing provides a look and feel that emulates the look and feel of several platforms, and also supports a pluggable look and feel that allows applications to have a look and feel unrelated to the underlying platform. It has more powerful and flexible components than AWT. In addition to familiar components such as buttons, check boxes and labels, Swing provides several advanced components such as tabbed panel, scroll panes, trees, tables, and lists.

- Backend: MySQL 8.0.26

MySQL is an Oracle-backed open source relational database management system (RDBMS) based on Structured Query Language (SQL). MySQL runs on virtually all platforms, including Linux, UNIX and Windows. Although it can be used in a wide range of applications, MySQL is most often associated with web applications and online publishing.

## **5.1 Software Requirements:**

- Operating System: - Mac OS X and above , Windows 7 and above.
- Language: - Java 16
- Database:- MySQL Server
- Software Development Kit: - Java JDK 1.8 or above
- Database JDBC Driver : - MySQL / J Connector

## **Hardware Requirement: -**

- Ram:- 200 Mb and above
- Hard Disk: - 20GB
- Processor :- Intel i3 and above / M1 and above

## Chapter 6

### Project Design :

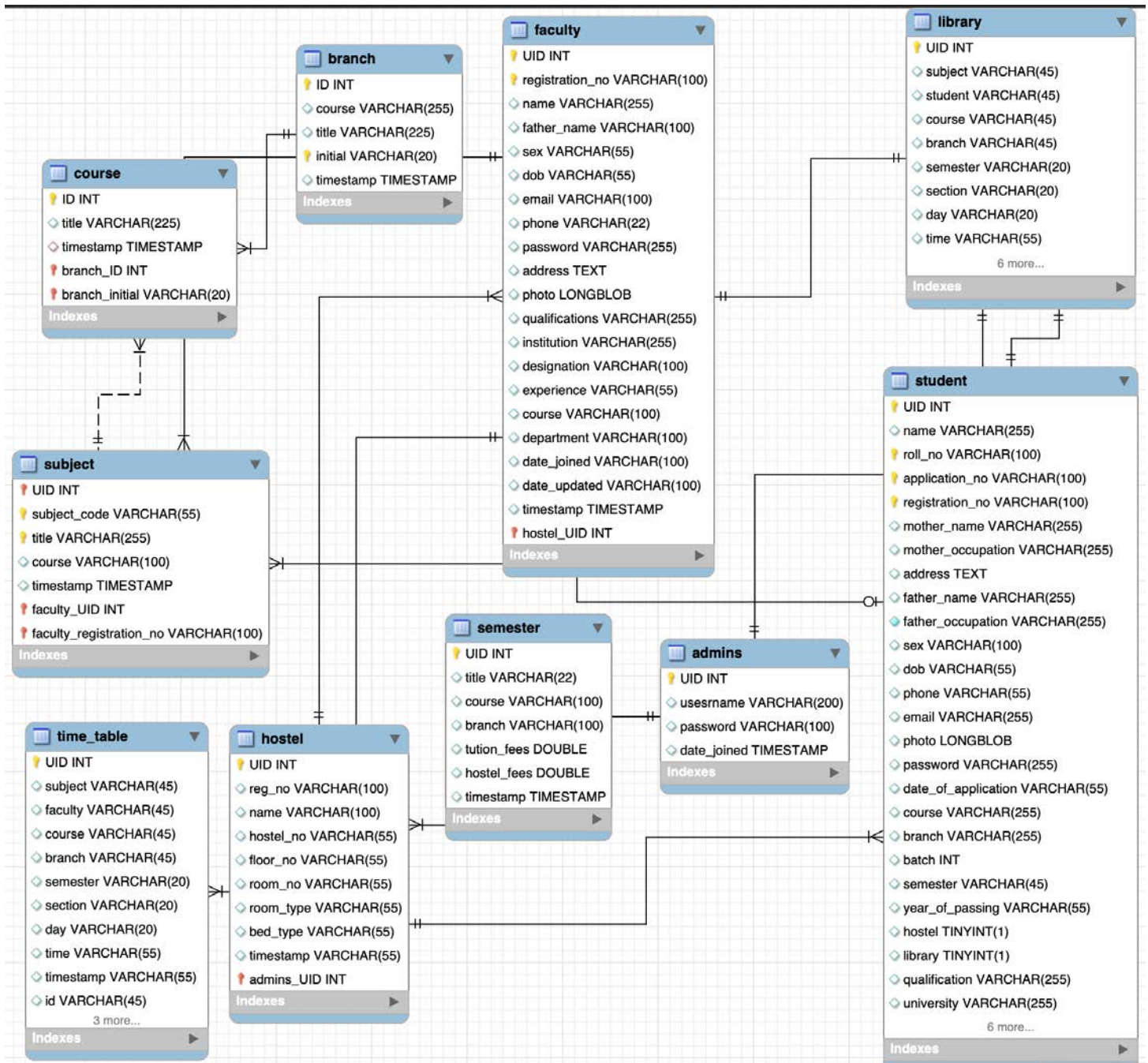
In this phase, a logical system is built which fulfils the given requirements. Design phase of software development deals with transforming the client's requirements into a logically working system. Normally, design is performed in the following in the following two steps:

1. **Primary Design Phase:** In this phase, the system is designed at block level. The blocks are created on the basis of analysis done in the problem identification phase. Different blocks are created for different functions emphasis is put on minimising the information flow between blocks. Thus, all activities which require more interaction are kept in one block.
2. **Secondary Design Phase:** In the secondary phase the detailed design of every block is performed.

The general tasks involved in the design process are the following:

1. Design various blocks for overall system processes.
2. Design smaller, compact and workable modules in each block.
3. Design various database structures.
4. Specify details of programs to achieve desired functionality.
5. Design the form of inputs, and outputs of the system.
6. Perform documentation of the design.
7. System reviews.

# Database Design: ER Model



## 6.1 Implementation:

### User Interface Design

User Interface Design is concerned with the dialogue between a user and the computer. It is concerned with everything from starting the system or logging into the system to the eventually presentation of desired inputs and outputs. The overall flow of screens and messages is called a dialogue.

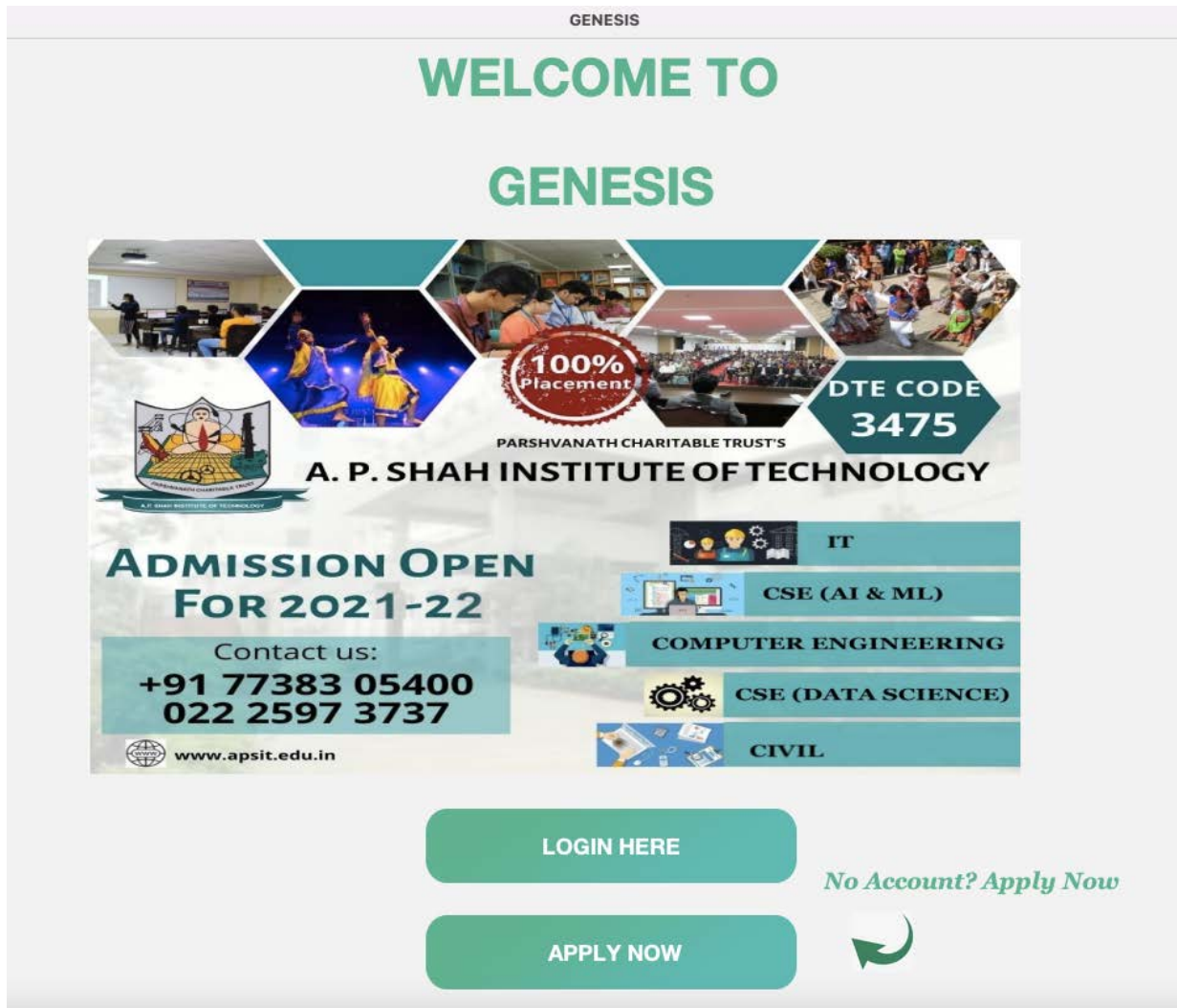
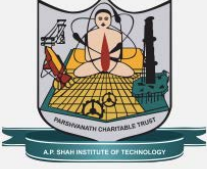


Fig. 6.1.1 Main Screen

COLLEGE MANAGEMENT SYSTEM

# LOGIN

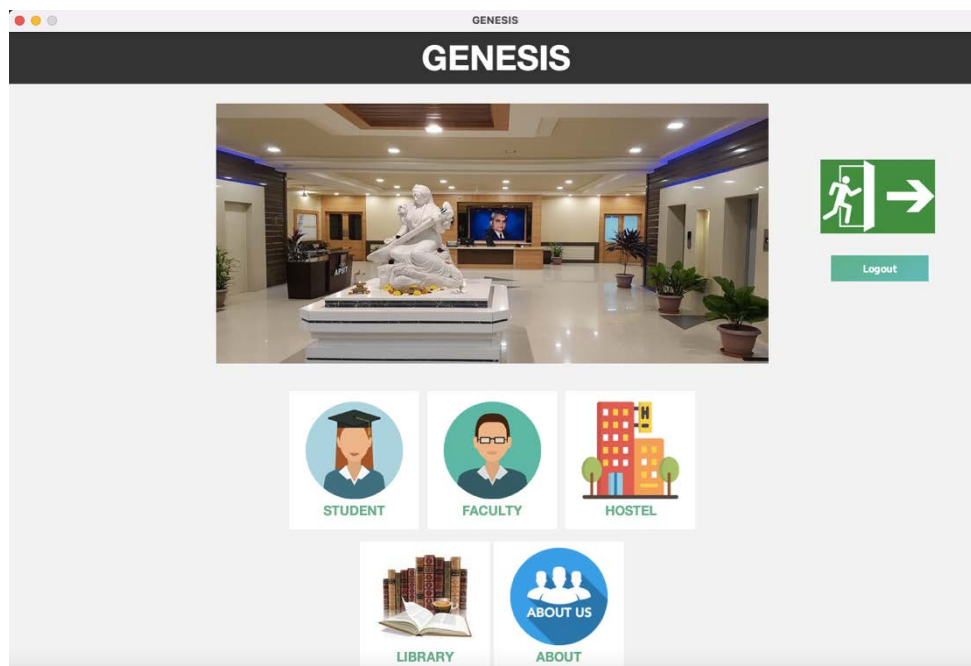


USERNAME

PASSWORD

ROLE

**Fig. 6.1.2 Login Screen**



**Fig. 6.1.3 Home Screen**

GENESIS

STUDENT PORTAL

Entry Form

Application Form

View Applications

Refresh

Search
Search

Reg. No.	Roll No.	Name	Father's Name	Course	Branch	Semester
STUDENT8938	21052	DM	aadadaa	ENGINEERING	CS	3
STUDENT2724	2159527	XXAXA	XSXSXAA	ENGINEERING	IT	2
STUDENT0798	21313	asasa	dadad	ENGINEERING	IT	3
STUDENT2386	2017734	WORDD	WAWAS	ENGINEERING	IT	1

Fig. 6.1.3 Student Portal

GENESIS

FACULTY PORTAL

Add Faculty

Subject Issuing

Refresh

Search
Search

Reg No.	Name	Qualification	Designation	Department	Experience	DOJ
FACULTY2223	sss	dcscs	Assistant Professor	IT	3	12-11-2021
FACULTY2223	sss	dcscs	Assistant Professor	IT	3	12-11-2021
FACULTY9270	sdscs	bikjkb	Head of Department	IT	0	26-11-2021
FACULTY8290	aacacacac	zcz	Associate Professor	IT	3	12-11-2021

Fig. 6.1.3 Faculty Portal



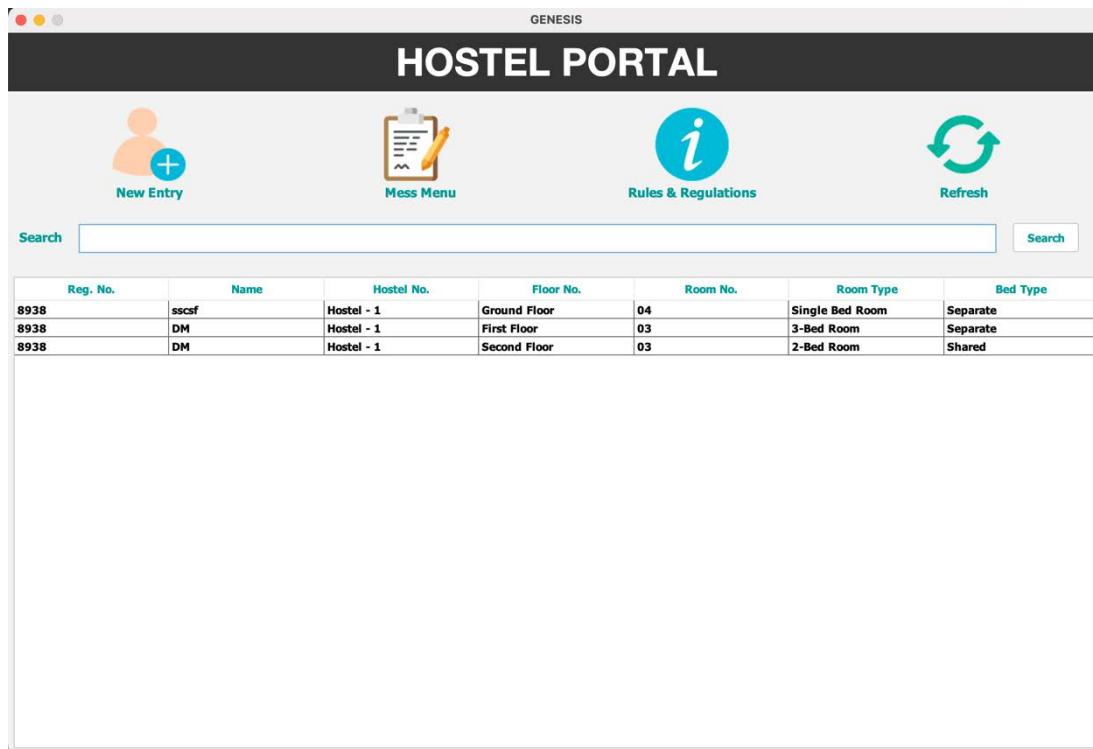


Fig. 6.1.3 Hostel Portal

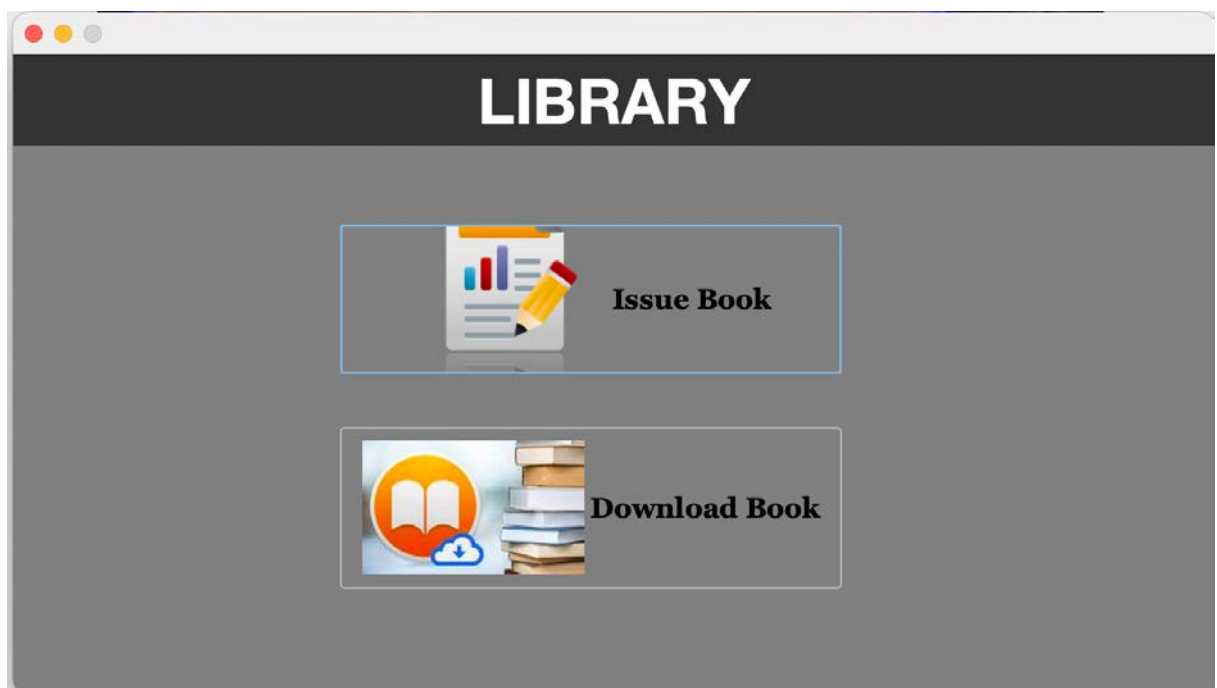


Fig. 6.1.3 Library Portal

## Chapter 7

### Project Scheduling Template

Group Member	Time duration	Work to be done
DEVANSHU MAHAPATRA SUBHASHISH MAHAPATRA ATHUL NAIR NISHANK JAIN	4 <sup>th</sup> week of September	Implementing 1 <sup>st</sup> module/ functionality  (Designing the main page and login page. User can login with security verification and will be able to enter to the main menu)
	1 <sup>st</sup> week of October	Testing 1 <sup>st</sup> module  (Main menu: This will consist of the main page where user will get the following options: <ul style="list-style-type: none"> <li>• Student Details</li> <li>• Faculty Details</li> <li>• Library</li> <li>• Hostel</li> <li>• About Us</li> </ul>
	2 <sup>nd</sup> week of October	Implementing 2nd module / Functionality  (Designing next page / functionality: Here information of Students, Hostel and Faculties, i.e. Issue Subject, Issue Hostel, student details, faculty details, Rules and regulation, etc are shown)
	2 <sup>nd</sup> week of November	Implementing 3rd module / Functionality  (Designing Final page / functionality: Here we added the Library and About Us Page. Also added the final touches to our UI and a “Forgot Password” implementation in the login page)

## Chapter 8

### **Conclusion:**

In our project, we are proposing a system that can store students, faculty, library and hostel details as well as allow us to issue and download the books. Thus, through this system maintaining academic details for life time becomes easier. This helps the educational institute to do regular activities significantly faster, accurately and reliably. Through this system, allotting hostels to the students becomes easier and books can be issued to the students by the faculty quickly. The records are maintained without any error. In this software, Users get their own ID and password, and depending upon their level of access, they can see, view or edit details. The efficiency of the work done would be improved and work satisfaction on the part of the Faculty after computerisation would definitely be on high. Also, we are trying to develop a system through which faculty can get overall details of student by filling some details related to student. Hence, we conclude that the present system would definitely help the user by saving time and effort by reducing the processing time and volume of errors.

## References

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- [4] [Java Connect to MySQL Database Step by Step \(YouTube\)](#)
- [5] [How to Create Student Record Management System in Java Eclipse - Full Tutorial](#)
- [6] <https://github.com/topics/college-management>