

**A**  
**Mini Project Report**  
**on**  
**CareConnent - health care management system**  
Submitted in partial fulfillment of the requirements for the  
degree  
**Second Year Engineering – Computer Science Engineering (Data Science)**

by

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## CERTIFICATE

This to certify that the Mini Project report on **CareConnenct - health care management system** has been submitted by Richa Tiwari(23107042), Srushti Khedekar (23107040), Sanskruti Hande (23107039) and Ranjana Yadav (23107059) who are bonafide students of A. P. Shah Institute of Technology, Thane as a partial fulfillment of the requirement for the degree in **Computer Science Engineering (Data Science)**, during the academic year **2024-2025** in the satisfactory manner as per the curriculum laid down by University of Mumbai.

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# Chapter 1

## Introduction

The CareConnect Health Care Management System is a modern tool designed to make managing healthcare easier and more efficient. It brings together important functions like managing patient records, scheduling appointments, and tracking treatments into one easy-to-use system. By using up-to-date technology, CareConnect helps healthcare professionals access information quickly and work together better, which can lead to better care for patients.

### Aim of the Project

The aim of this project is to create and test the CareConnect Health Care Management System. Our goal is to:

- **Build a User-Friendly System:** Develop a system that is easy to use for managing patient records, scheduling appointments, and tracking treatments.
- **Make Work Easier:** Combine important tasks into one system to make the workflow smoother, save time, and reduce errors.
- **Improve Patient Care:** Help healthcare professionals access and share patient information quickly, which leads to better care for patients.
- **Handle Extra Services:** Include features to manage other services like room availability and making overall facility management

more efficient.

### 1.1. Purpose:

CareConnect is designed to improve the way healthcare is managed by bringing all of a patient's health information into one easy-to-access place. This means that instead of having medical records

spread out across different doctors, hospitals, or clinics, everything is stored in a single system.

This makes it much easier for doctors to quickly find and review a patient's complete health history, leading to better and more informed care. Additionally, CareConnect simplifies the process of booking appointments and handling payments, reducing the hassle for both patients and healthcare providers. By making communication between patients and their healthcare team more straightforward, and ensuring that everyone involved in a patient's care can coordinate effectively, CareConnect aims to create a smoother, more efficient healthcare experience for everyone.

## **1.2. Problem Statement:**

1. Patient Registration: Simplifying the onboarding process and maintaining comprehensive health records.
2. Appointment Management: Facilitating easy booking, rescheduling, and cancellations.
3. Secure Record Access: Allowing patients and providers to access health records efficiently.

## **1.3. Objectives:**

1. User authentication and authorization, including roles for receptionists, nurses, doctors, and administrators.
2. To manage room availability including admission and discharge processes.

This includes viewing room status, types, and prices.

3. Allow patients to make, view, and cancel appointments. Include search

functionality to find available slots based on criteria like dates and doctor specialties

4. Allow management of additional services such as meal service, laundry, and medical tests or procedures

#### **1.4. Scope:**

- The system will be designed to manage patient records, appointments, billing, and communication between patients and providers.
- Bringing Patient Information Together: Gathering all patient data in one place so that doctors and nurses can access complete and up-to-date information quickly.
- Appointments and Payments: Making it simpler to book appointments and handle payments, which helps both patients and healthcare facilities save time and reduce hassle.
- Improving Communication: Giving patients better ways to access their health information, schedule visits, and communicate with their healthcare providers more easily.

## Chapter 2

### Proposed System

CareConnect is an intuitive healthcare management system designed to streamline appointment scheduling and enhance patient care. The platform provides secure user login and registration, allowing both patients and providers to access their accounts effortlessly. Patients can conveniently book and view upcoming appointments while accessing detailed profiles of healthcare providers. Real-time room availability, pharmacy services, and discharge instructions ensure a seamless healthcare experience. Additional features include managing prescriptions, easy access to facilities information, and a secure logout process to safeguard user data.

**2.1. Features and Functionality:** CareConnect is designed to simplify the management of appointments in a healthcare setting. Here's a clear overview of what the system will include:

1. User Login and Registration
  - Secure Login: Users can log in to their accounts with secure credentials.
  - New User Registration: A simple registration process for new patients and providers to create their accounts.
2. Appointment Management
  - Book Appointments: Patients can easily schedule appointments with available healthcare providers.
  - View Upcoming Appointments: Users can see a list of their upcoming appointments for better planning.
3. Doctor Information
  - Provider Profiles: Access detailed information about healthcare providers, including specialties, experience, and patient reviews.
  - Contact Information: Easy access to contact details for each provider.
4. Room Availability
  - Real-Time Room Status: View which treatment rooms are available for appointments.
  - Booking Alerts: Notifications if a desired room becomes available for a specific time.



## 5. Facilities Information

- Facility Details: Information about the different services like Laundry ,Mess , Bell Services and House Keeping.

## 6. Discharge Process

- Easy Access to Instructions: Patients can view their discharge instructions and any follow-up care they need.
- Download Summary: Patients can download a summary of their visit and discharge instructions for easy reference later.

## 7. Pharmacy Services

- Manage Prescriptions: Patients can view and handle their prescriptions, including refills and details on picking them up.

## 8. User Logout

- Secure Logout: Users can securely log out of their accounts to protect their information.

## **Chapter 3**

### **Project Outcome**

This healthcare management system is designed to enhance efficiency and security in medical facilities. It streamlines patient registration, manages doctor availability in real-time, and ensures seamless digital record-keeping for easy access to patient data. The system also supports emergency handling by providing crucial pre-medical history and ensures data security with user authentication. By simplifying administrative tasks, healthcare providers can focus more on delivering quality patient care, all while complying with industry standards for record management.

1. **Efficient Patient Registration:** - The system enables quick and easy registration of new patients with their medical history and emergency contact details.
2. **Improved Doctor Availability Management:** - Doctors' schedules and availability are managed in real-time, ensuring patients can access medical care when needed.
3. **Seamless Record Keeping:-** All patient records, including personal, medical history, and visit details, are stored digitally for ease of access and updating.
4. **Emergency Handling:-** The system helps manage emergency cases by providing vital patient information, such as pre-medical history, ensuring better preparation for doctors.
5. **Database Management:** - A centralized database ensures that patient and doctor information is stored securely, retrievable, and editable by authorized personnel only.

6. User Authentication and Data Security: - Secure login functionality for administrators ensures that the system is accessible only by authorized personnel, thus protecting sensitive patient data
7. Enhanced Patient Care:By - making administrative tasks easier and giving healthcare providers instant access to patient information, the system helps them spend more time focusing on taking care of patients.



# **Chapter 4**

## **Software Requirements**

This system is designed to provide a smooth user experience with essential healthcare functions. Users can register, log in securely, manage appointments, and view doctor profiles and room availability in real-time. It also offers access to facility services, discharge instructions, and pharmacy management. Secure user logout is ensured for data protection. On the technical side, the front end is developed using Java, with MySQL managing the back-end database to store user and appointment data efficiently.

### **1. Functional Requirements**

#### **1.1 User Registration and Login**

- Users can create new accounts with their personal information.
- Users can log in with their username and password.
- There will be options to recover or reset passwords.

#### **1.2 Appointment Management**

- Users can schedule and view appointments.
- The system shows available time slots for doctors.

#### **1.3 Doctor Information**

- Users can see detailed profiles of healthcare providers.
- Users can search for doctors by name or specialty.

#### **1.4 Room Availability**

- Users can check which treatment rooms are available in real time.

#### **1.5 Facilities Information**

- Users can access information about services and amenities at the facility.

### 1.6 Discharge Process

- Patients can view their discharge instructions and follow-up care details.
- The system allows patients to download a summary of their visit.

### 1.7 Pharmacy Services

- Users can manage their prescriptions and view details about them.

### 1.8 User Logout

- Users can securely log out of their accounts.

## 2. Technical Requirements

### 2.1 Programming Languages\*\*

- The front end should use Java.
- The back end should use a MySQL..

### 2.2 Database Management

- The system should use a database (like MySQL) to store user and appointment information.

## Chapter 5

### Project Design

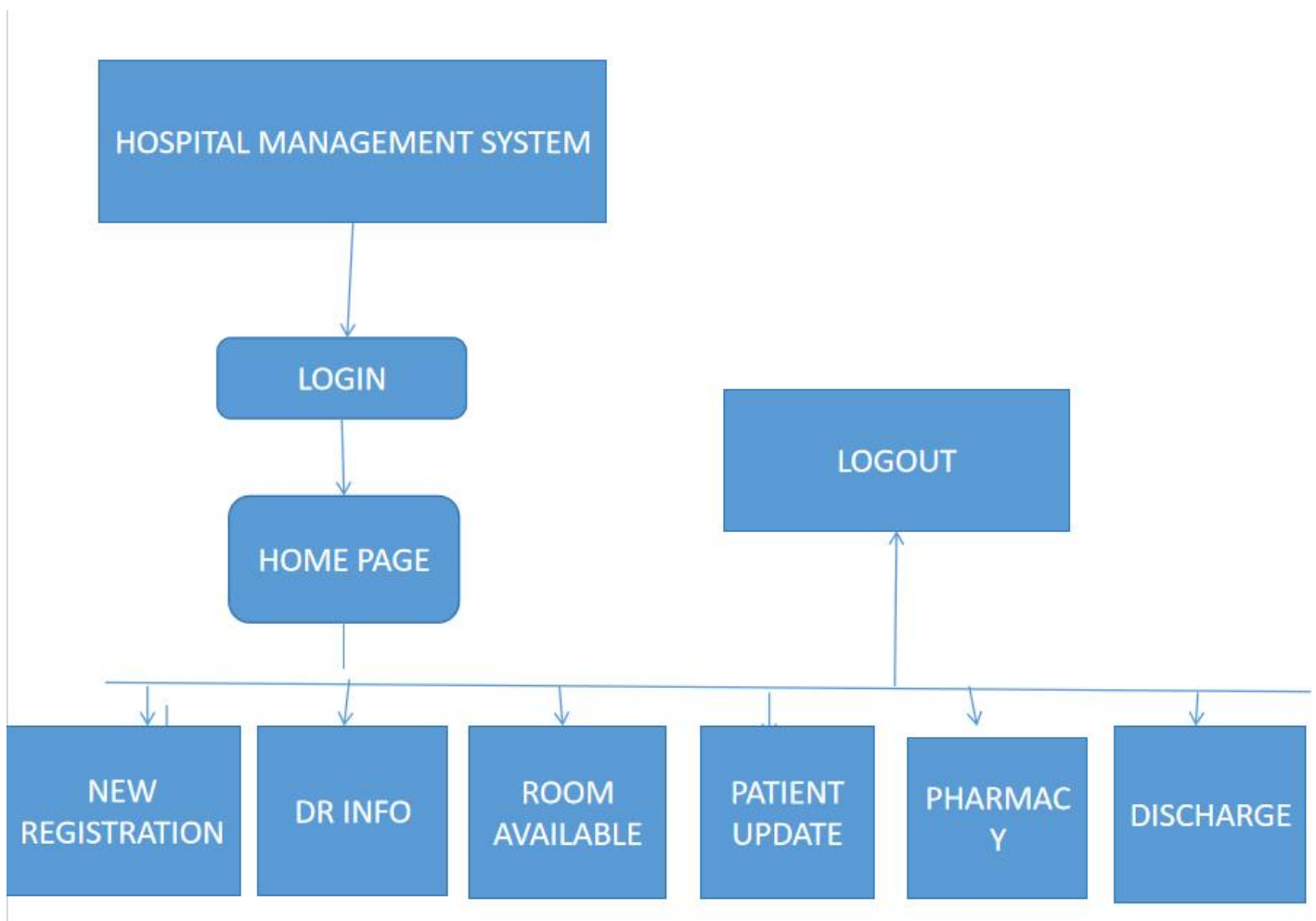
This project aims to create a unified healthcare management platform that integrates patient records, appointment scheduling, and treatment tracking. The key objectives are to centralize data management,

user-friendly interface, enable real-time collaboration among healthcare providers, and ensure robust data security. Designed with scalability in mind, the platform will cater to doctors, nurses, administrative staff, patients, and health system administrators, streamlining healthcare operations for all users.

- **Project Overview:** Develop a unified platform to streamline healthcare management, integrating patient records, appointments, and treatment tracking.
- **Objectives:** Centralize data management, create a user-friendly interface, enable real-time collaboration, ensure data security, and allow for scalability.
- **Target Users:** Healthcare providers (doctors, nurses, admin staff), patients, and health system administrators.
- **Key Features:**
  - **Patient Management:** Electronic Health Records (EHR) and patient portals.
  - **Appointment Scheduling:** Interactive calendars and automated reminders.
  - **Treatment Tracking:** Management and monitoring of treatment plans.
  - **Reporting and Analytics:** Data analytics tools and custom reports.
  - **Communication Tools:** Secure messaging and notifications.
- **Technical Architecture:**
  - **Frontend:** React.js or Angular for a responsive user interface.

- Backend: Node.js or Django for server-side operations.
- Database: PostgreSQL or MongoDB for data storage.
- Security Measures: Implement OAuth 2.0 for authentication and use SSL/TLS for secure data transmission.
- Development Plan:
  - Phases: Requirement gathering, design, development, testing, and deployment.
  - Timeline: Approximately 20 weeks from start to deployment.
  - Budget Estimate: Include costs for personnel, technology (software licenses and hosting), and training for users.
- Testing Strategy: Conduct comprehensive testing for functionality, security, and usability to ensure a robust system.



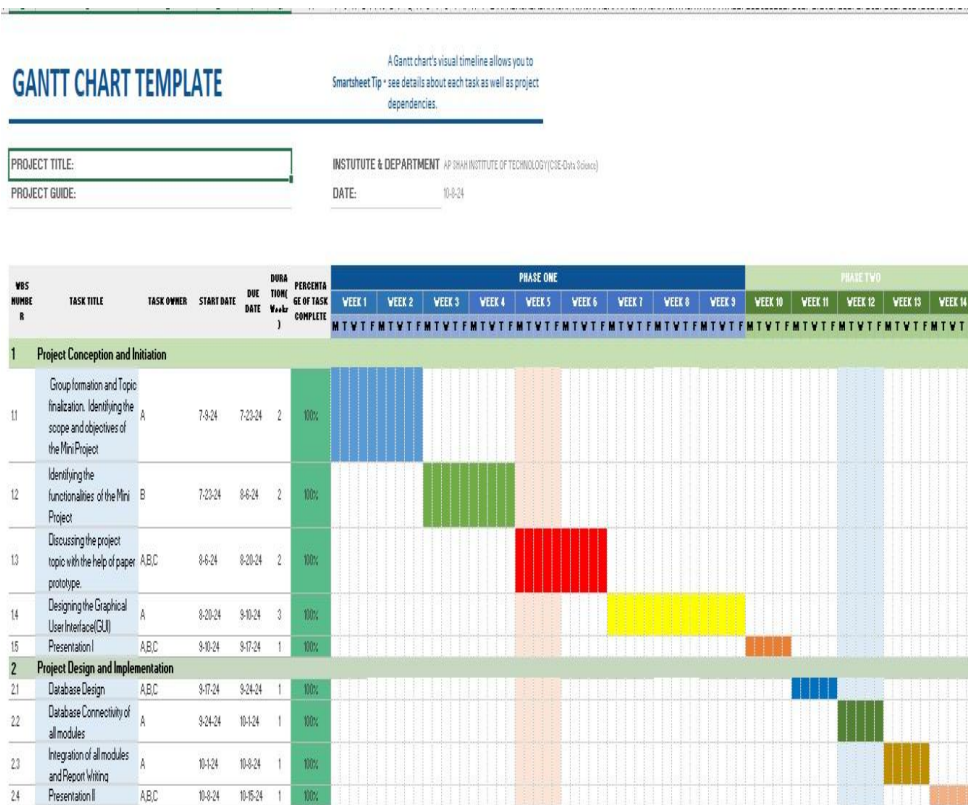


CareConnect will enhance patient care and streamline healthcare operations, providing a modern solution to healthcare management challenges.

# Chapter 6

## Project Scheduling

The Gantt chart shown provides a structured visual timeline for a project being conducted at AP Shah Institute of Technology (CSE (Ds)Dept.). It outlines the various tasks involved in the project, spanning across two key phases: Project Conception and Initiation, and Project Design and Implementation. Each task is assigned a timeline over several weeks, tracking progress, start and end dates, and percentage of completion. The color-coded bars represent the duration and overlap of tasks, helping the team monitor milestones and dependencies to ensure a smooth workflow.



## **Chapter 7**

### **Results**

#### **The CareConnect Health Care Management System achieved the following:**

1. User-Friendly Interface: The system is easy to use, making it simple for patients and healthcare providers to navigate.
2. Better Appointment Management: Patients can easily book appointments, leading to more efficient scheduling for providers
3. User-Friendly Interface: The system is easy to use, making it simple for patients and healthcare providers to navigate.
4. Better Appointment Management: Patients can easily book appointments, leading to more efficient scheduling for providers
5. Secure Health Records: Health records are safely stored and can only be accessed by authorized users, ensuring privacy.
6. .Simplified Billing: The billing system streamlines payments, reducing the workload for both patients and staff.

## 1)Login :



The login form is overlaid on a faint background illustration of a person's head and neck. The form includes a target icon on the left, followed by labels for 'USERNAME :' and 'PASSWORD :'. The username field contains the text 'rich' and the password field contains seven asterisks. Below these fields are 'LOGIN' and 'CANCEL' buttons. To the right of the form is the 'CareConnect' logo, which features a blue cross with a flame-like shape on its right side, and the text 'CareConnect' in blue, with a yellow curved arrow pointing upwards below it.

USERNAME :

PASSWORD :

  
**CareConnect**

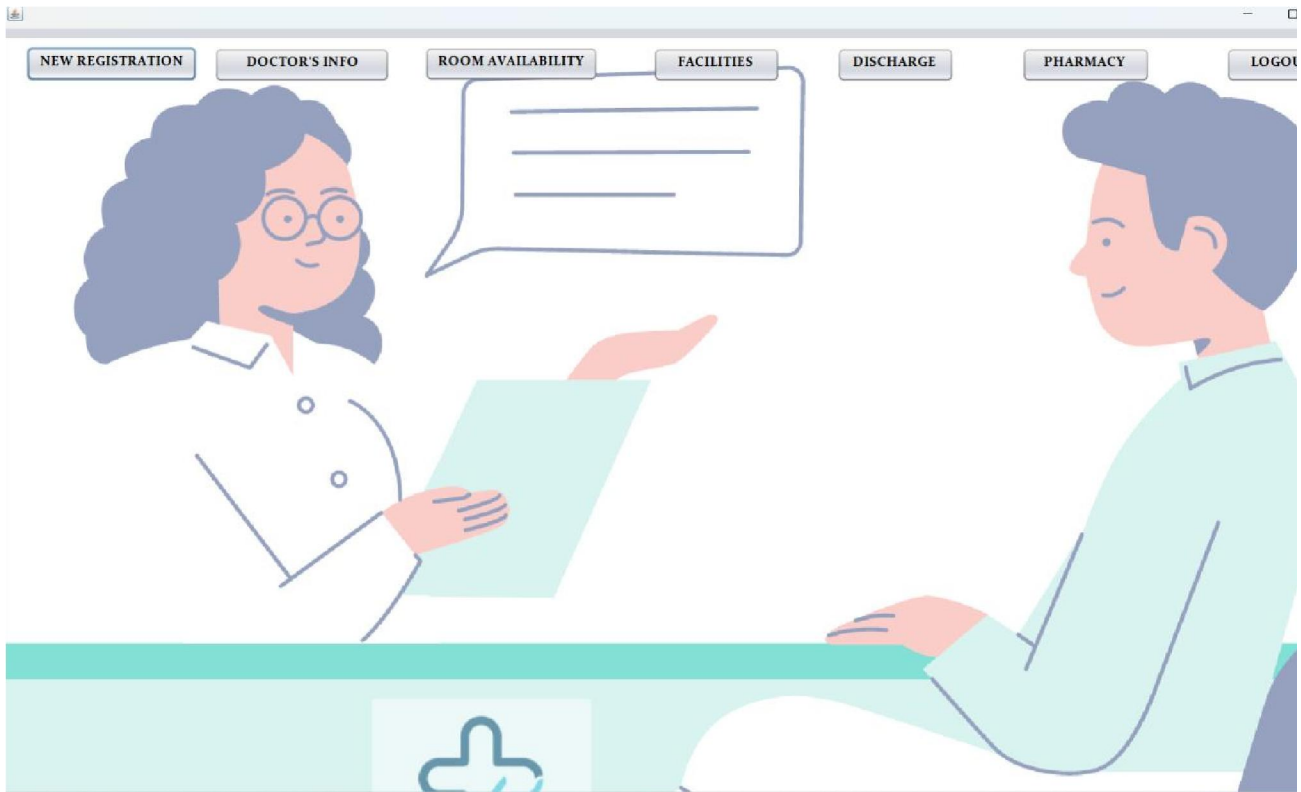
**Figure7.1.1:- Login**



**Figure7.1.2:- Login**

On the login page of CareConnect, users will enter their credentials—username and password—to securely access their accounts. Once logged in, they can manage health care information, appointments, and services within the system.

## 2) Homepage:



**Figure 7.2:- Homepage**

Welcome to CareConnect! From this homepage, you can:

- New Registration: Create a new account to start managing your health care.
- Room Availability: Check for available rooms for your stay.
- Appointments: Schedule, view, or modify your appointments with ease.
- Doctors Info: Access detailed information about our medical professionals.
- Discharge Pharmacy: Manage your prescriptions and discharge medications.
- Log Out: Securely log out of your account when you're finished.

Navigate these options to streamline your health care experience!

### 3) New registration:



The image shows a 'New Registration' form for 'CareConnect'. The form is set against a light blue background with a large, faint 'CareConnect' logo. The form fields are arranged in two columns. The left column contains labels for 'NAME', 'PATIENT I'D', 'CONTACT NO.', 'AGE', 'GENDER', 'BLOOD GROUP', 'ADDRESS', and 'SYMPTOMS'. The right column contains corresponding input fields: a text box for 'NAME', text boxes for 'PATIENT I'D' and 'CONTACT NO.', a text box for 'AGE' and a 'DATE OF ADMISSION' label with a text box for the date, a dropdown menu for 'GENDER' (currently showing 'MALE'), text boxes for 'BLOOD GROUP', 'ADDRESS', and 'SYMPTOMS'. Below the input fields is a 'SAVE' button. In the bottom right corner of the form area is a 'CLOSE' button.

NAME	<input type="text"/>		
PATIENT I'D	<input type="text"/>		
CONTACT NO.	<input type="text"/>		
AGE	<input type="text"/>	DATE OF ADMISSION	<input type="text"/>
GENDER	<input type="text" value="MALE"/>		
BLOOD GROUP	<input type="text"/>		
ADDRESS	<input type="text"/>		
SYMPTOMS	<input type="text"/>		

**Figure 7.3:- New Registration**

To get started with CareConnect, simply fill out the new registration form. Once you create your account, you'll have access to all our health care management features!

## 4) Doctor's Info:

### DOCTOR & DEPARTMENTAL INFORMATION

ORTHOPEDIST	Dr. AS AGARWAL - 9807980000 - 10:30 - 12:30
NEUROLOGIST	Dr. VVS LAKSHAN - 7890656473 - 11:00 - 12:00
CARDIOLOGIST	Dr. R SINGH - 9080078960 - 9:30 - 1:30
GASTROENTEROLOGIST	Dr. U THAKUR - 890768956 - 1:30 - 3:00
GYNECOLOGIST	Dr. R. BEHERA - 9870098765 - 11:30 - 1:30

CareConnect

CLOSE

Figure 7.4:- Doctor's Info

In the Doctor's Info section, you can find detailed profiles of our medical professionals, including their specialties, qualifications, and availability. This helps you choose the right doctor for your health needs and schedule appointments easily!



## 5) Room availability:



**Figure7.5.1:- Room Availability**

---

### ROOM UPDATE

ROOM NO.

SEARCH

CHECK IN

CHECK OUT

UPDATE

CareConnect

CLOSE

Figure 7.5.2:- Room Availability

### APPOINTMENT

PATIENT I'D

NAME

REASON TO VISIT

CHECK DOCTOR

APPOINTMENT TIME

APPOINTMENT DATE

FREEZE

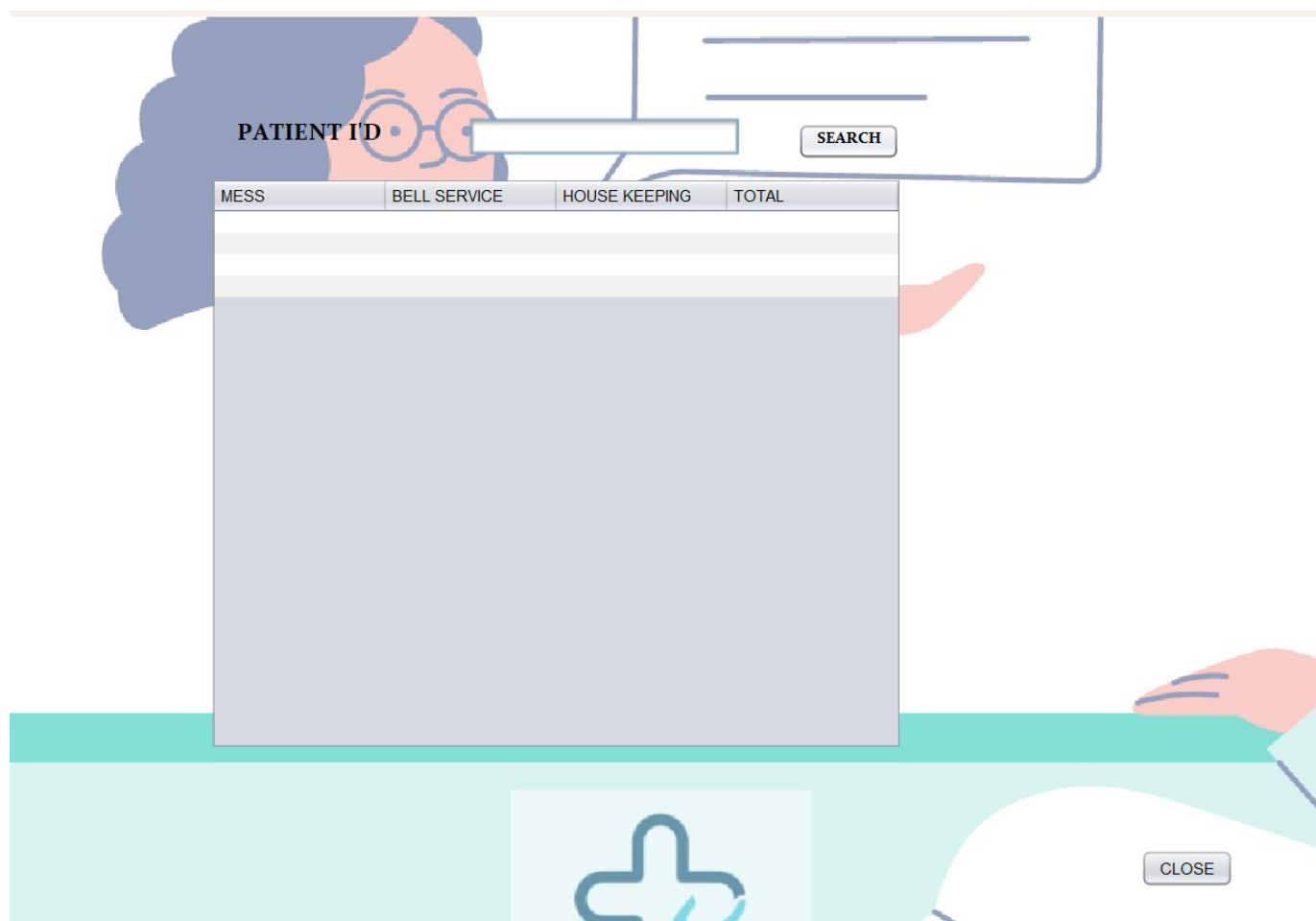
CareConnect

CLOSE

Figure 7.5.3:- Room Availability

In the Room Availability section, you can check in and check out of rooms for patients. View the status of available rooms, update your check-in and check-out dates, and ensure a smooth transition during your stay!

## 6) Facilities:



**Figure 7.6:Facilities**

The CareConnect Health Care Management System offers important facilities like laundry services and an easy way for patients to ask for help. It also helps keep the environment clean and safe for everyone.

## 7)Discharge:

**BILLING DISCHARGE**

**PATIENT I'D**

**NAME**

CareConnect

**Figure 7.7:- Discharge**

The discharge page in the CareConnect Health Care Management System provides patients with billing details, discharge instructions, and medication information.

## 8) Pharmacy:

PHARMACY

PATIENTS I'D

NAME

PRESCRIBED MEDICINES

MEDICINE	TO BE EATEN	MRP COST	DISCOUNTED COST

UPDATE

**Figure 7.8:- Pharmacy**

The pharmacy section of the CareConnect Health Care Management System displays a table for patients that includes their ID, name, and details about their medications. The table lists each medicine along with its maximum retail price (MRP), cost, and any applicable discounts. This organized format helps patients easily track their prescriptions and understand their costs.



## 8) Pharmacy:

# PHARMACY

PATIENTS I'D

NAME

PRESCRIBED MEDICINES

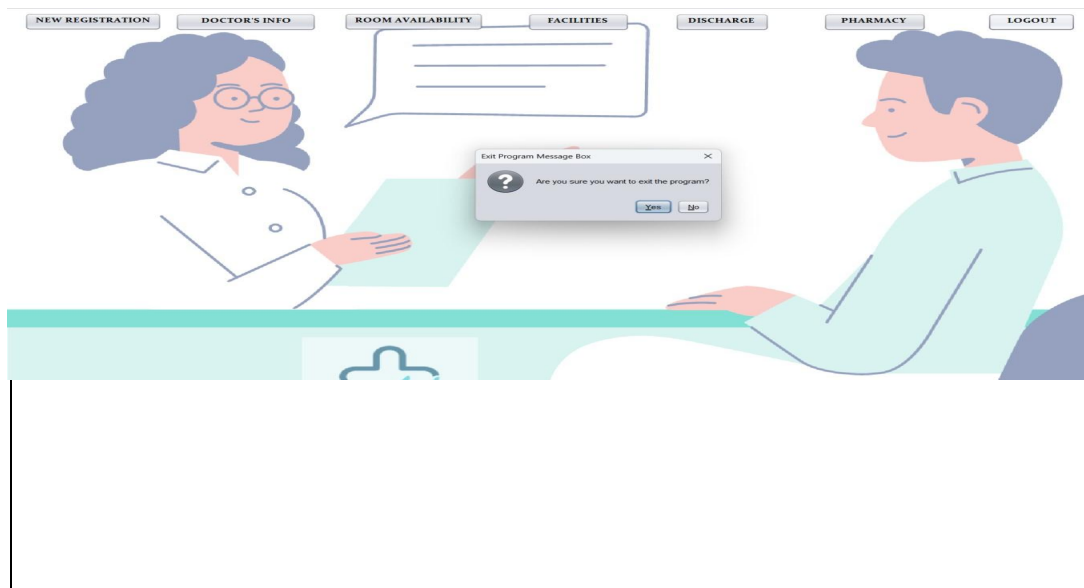
MEDICINE	TO BE EATEN	MRP COST	DISCOUNTED COST

UPDATE

**Figure 7.8:- Pharmacy**

The pharmacy section of the CareConnect Health Care Management System displays a table for patients that includes their ID, name, and details about their medications. The table lists each medicine along with its maximum retail price (MRP), cost, and any applicable discounts. This organized format helps patients easily track their prescriptions and understand their costs.

## 9) Logout:



**Figure7.9:- Logout**

The log-out page of the CareConnect Health Care Management System provides a simple and secure way for users to end their session. It confirms that the user is logged out and reminds them to close the browser for added security.



## **Chapter 8**

### **Conclusion**

In conclusion, the CareConnect Health Care Management System is a major step forward in how healthcare is provided and managed. It uses technology to make processes smoother, improve communication among healthcare providers, and enhance patient care. With its easy-to-use features for scheduling, managing patient records, and handling billing, it creates a better experience for everyone involved.

As healthcare continues to change, systems like CareConnect will be essential in tackling new challenges. Regular updates will help keep the system effective and responsive to the needs of both healthcare workers and patients. By adopting these innovations, we can improve healthcare access and make it more efficient and patient-friendly. Overall, CareConnect has the potential to significantly improve healthcare management for everyone.

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