



Your Health, Our Priority...

*An Integrated Hospital Healthcare
System*

Presented by

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Abstract

Objective

To build a user-friendly system for hospital administration, enabling efficient management of patient data, appointments, and services.

Key Features:

- *Patient Registration*
- *Appointment Management*
- *Prescription Management*
- *Data Viewing and Modification*
- *Integration with SQL database*

Outcome:

A centralized platform for administrators to handle day-to-day hospital operations effectively.



Introduction

Problem Statement:

Challenges in current Systems:

Many hospitals rely on outdated, fragmented processes that lead to inefficiencies, increased workload for staff, and a higher risk of errors. To meet the growing expectations for seamless healthcare delivery and to keep pace with technological advancements, there is a pressing need for a modernization.

Need for Automation:

- *Reduces manual errors.*
- *Improves accessibility and scalability of patient data.*

Solution:

Care Connect provides a digital solution, automating tasks and offering accessibility.



Objectives:

- *To provide enhanced data accessibility.*
- *To minimize errors in data entry and retrieval.*
- *To create a user-friendly interface for hospital staff.*
- *To ensure scalability for handling increased data.*
- *To manage data efficiently in a centralized system.*
- *To save time by automating administrative tasks.*
- *To store patient and appointment data in a single location.*
- *To ensure quick access to data during emergencies.*
- *To implement a modular design for easier maintenance.*
- *To secure patient data with controlled access.*
- *To standardize data formats for consistency.*
- *To enable future expandability with advanced features.*

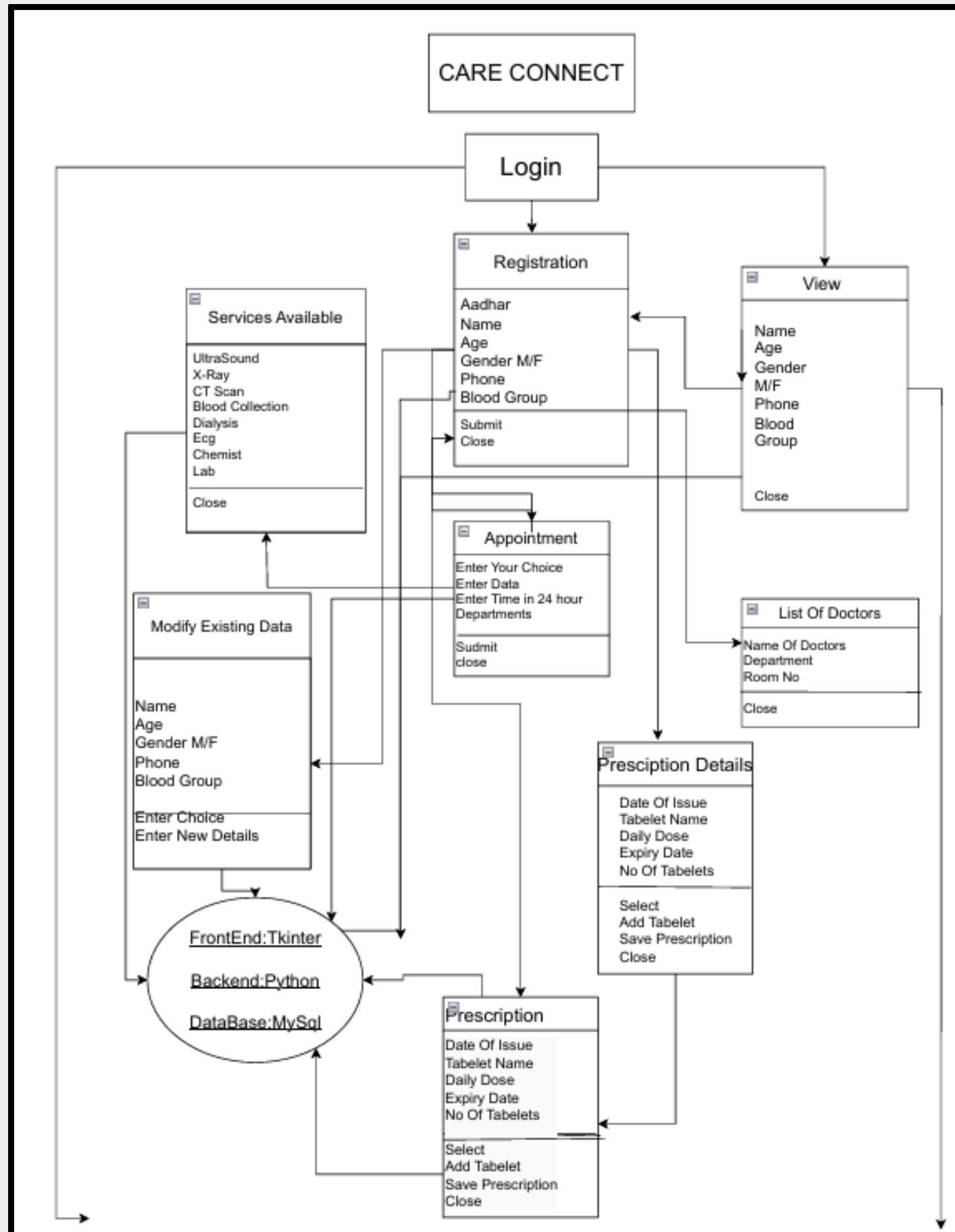


Features

- *User Authentication:*
 - Secure entry into the application with user id and password
- *Registration Module:*
 - Input patient details such as Aadhaar, phone, age, and gender.
 - Validates Aadhaar (12 digits) and phone numbers (10 digits) to prevent invalid entries.
- *Appointment Management:*
 - Assigns doctors based on departments.
 - Schedules appointments with date and time validation.
- *Prescription Management:*
 - Records details like tablet name, dose, expiry date, and no. of tablets.
 - Allows staff to view and update prescriptions in emergencies.
- *Data Viewing and Modification:*
 - Enables hospital staff to retrieve and edit patient and appointment records.



System Design



Flow Diagram details

1. User interacts with a Tkinter-based GUI.
2. Validated inputs are processed and synchronized with the SQL database.
3. Modules for Registration, Appointment Management, and Prescription Management operate independently but share the same database.

Components

Frontend: Tkinter for user interaction

Database: MySQL database for secure and efficient data storage.

Backend: Python for all the modular codebase.

Technology Used:

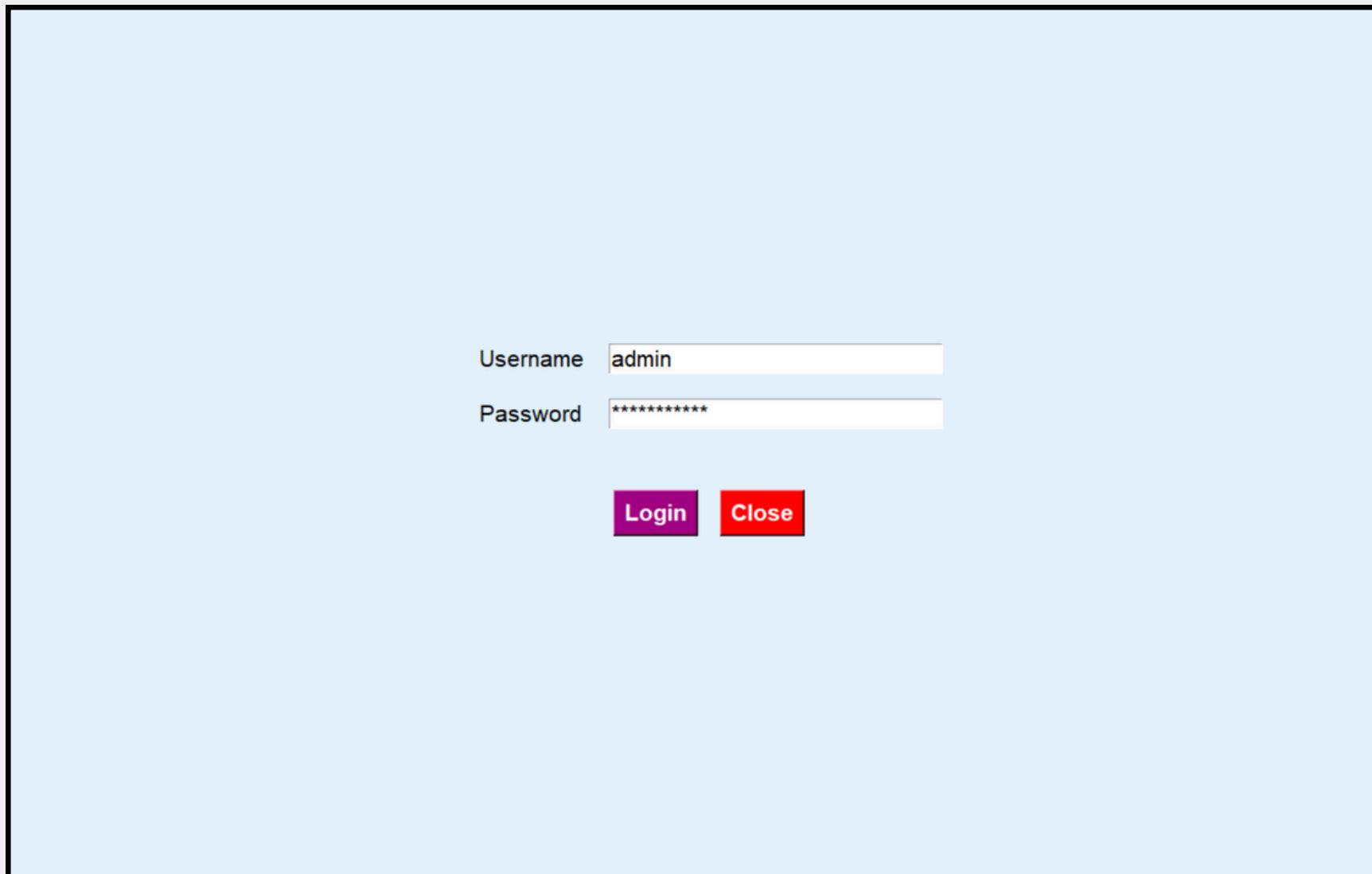
Tools and Technologies:

- *Programming Language:* Python
- *GUI Framework:* Tkinter
- *Database:* MySQL for storing and retrieving records.
- *Supporting Libraries:*
 - mysql.connector for database connectivity.
 - tkcalendar for date selection in the appointment module.
 - ttk for enhanced GUI components like dropdowns.
- *Development Environment:* VS Code or PyCharm for code management and debugging.



Project Outputs:

User Authentication:



A screenshot of a user authentication interface. It features two input fields: 'Username' containing 'admin' and 'Password' containing a series of asterisks. Below the password field is a note indicating it is a required field. At the bottom are two buttons: a purple 'Login' button and a red 'Close' button.

Main Window:



Project Outputs:

Register Window:

REGISTER YOURSELF

AADHAR CARD NO.

NAME

AGE

GENDER Male Female Other

PHONE

BLOOD GROUP

SUBMIT **CLOSE**

Registration Details:

REGISTER YOURSELF

AADHAR CARD NO.

NAME

AGE

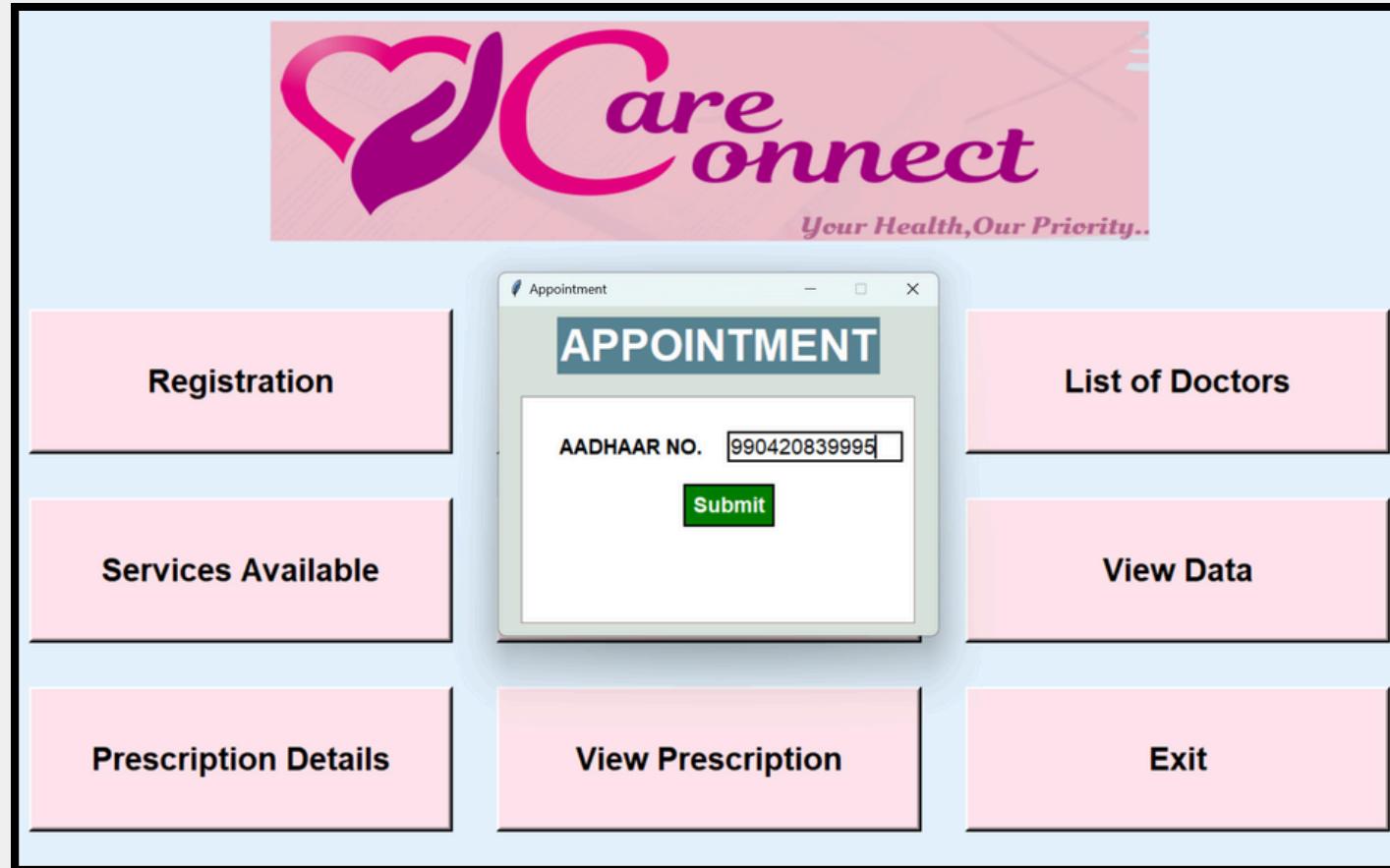
GENDER Male Female Other

PHONE

BLOOD GROUP

SUBMIT **CLOSE**

Appointment Window:



Appointment Details:

APPOINTMENT DETAILS

Enter your choice

WELCOME Mrs/Ms. Maya Choose date Select Date

Enter time (24-hour format)

AGE: 19
PHONE: 7899234589
BLOOD GROUP: B-

DEPARTMENTS

- 1. Orthopaedic Surgeon
- 2. Physician
- 3. Nephrologist
- 4. Neurologist
- 5. Gynaecologist
- 6. Cardiologist
- 7. ENT Specialist

Appointment Confirmation Details:



List of Doctors:

| NAME OF DOCTORS | DEPARTMENT | ROOM NO |
|-----------------|---------------------|---------|
| Dr. Sharma | Orthopaedic surgeon | 10 |
| Dr. Verma | Orthopaedic surgeon | 11 |
| Dr. Kumar | Nephrologist | 12 |
| Dr. Khan | Nephrologist | 13 |
| Dr. Anusha | Gynaecologist | 14 |
| Dr. Singh | Gynaecologist | 15 |
| Dr. Siddharth | Physician | 16 |
| Dr. Yuv | Physician | 17 |
| Dr. Virat | Neurologist | 18 |
| Dr. Leo | Neurologist | 19 |
| Dr. Irfan | Cardiologist | 20 |
| Dr. Srividya | Cardiologist | 21 |
| Dr. Anjali | ENT Specialist | 22 |
| Dr. Eesha | ENT Specialist | 23 |

Close

List of Services:

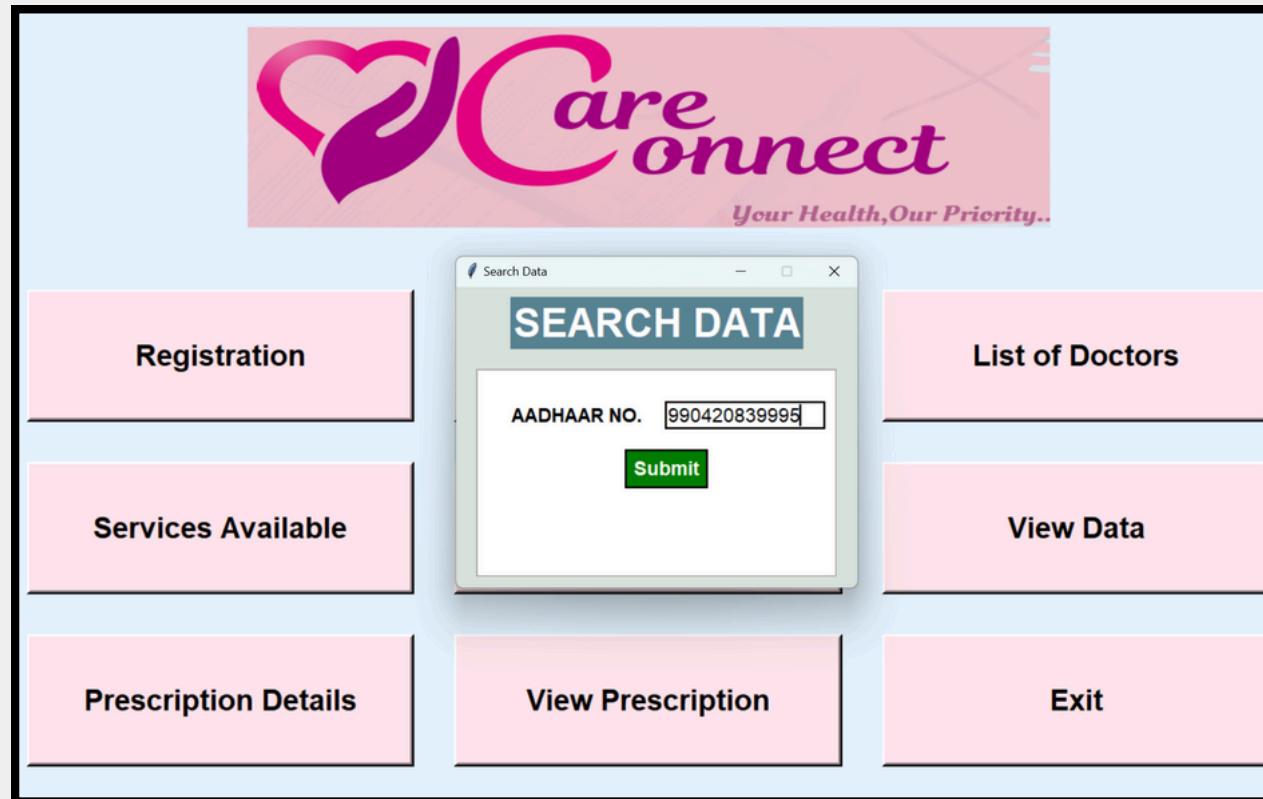
SERVICES AVAILABLE

| | |
|------------------|---|
| ULTRASOUND | 1 |
| X-RAY | 2 |
| CT Scan | 3 |
| MRI | 4 |
| BLOOD COLLECTION | 5 |
| DIALYSIS | 6 |
| ECG | 7 |
| CHEMIST | 8 |
| LAB | 9 |

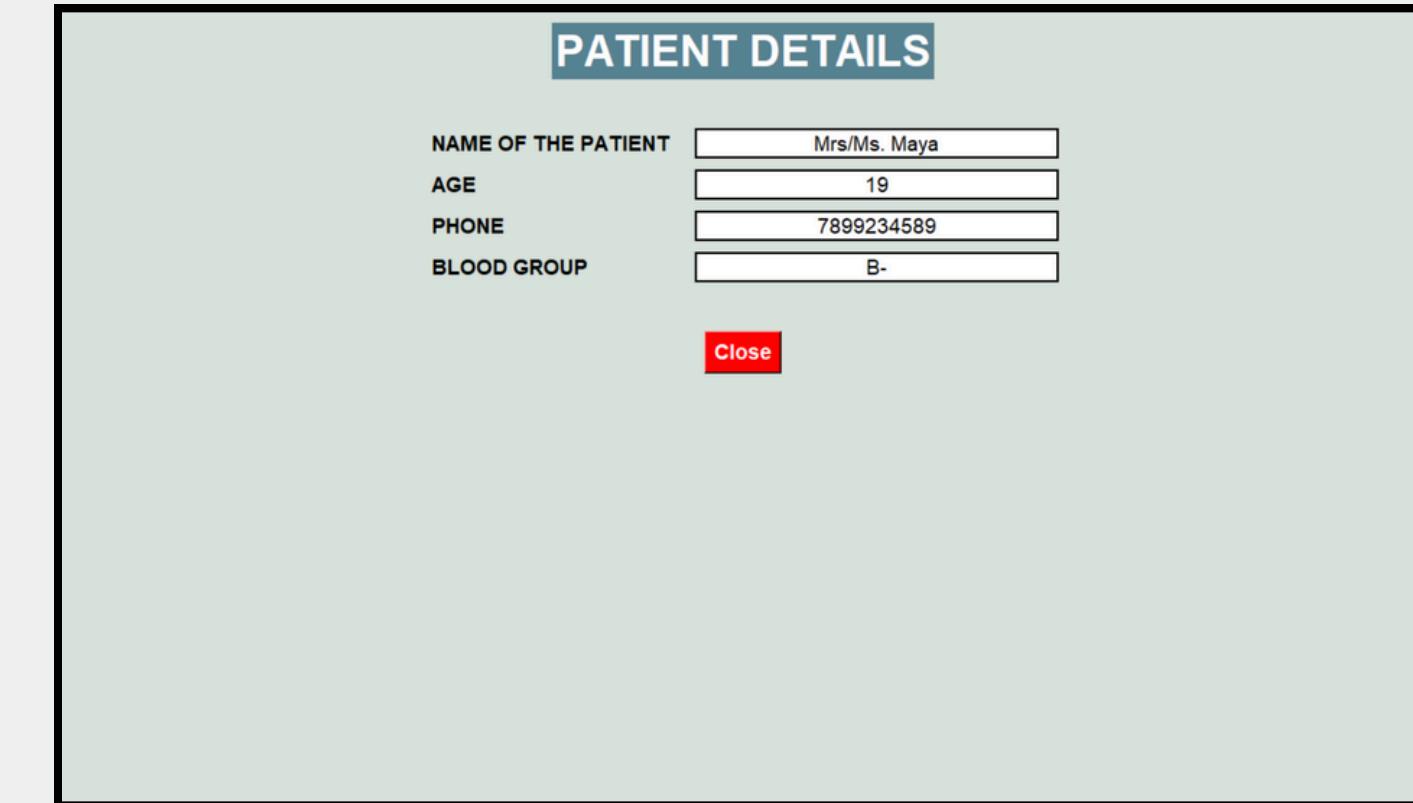
To avail any of these please contact on our no.: - 7042***55

Close

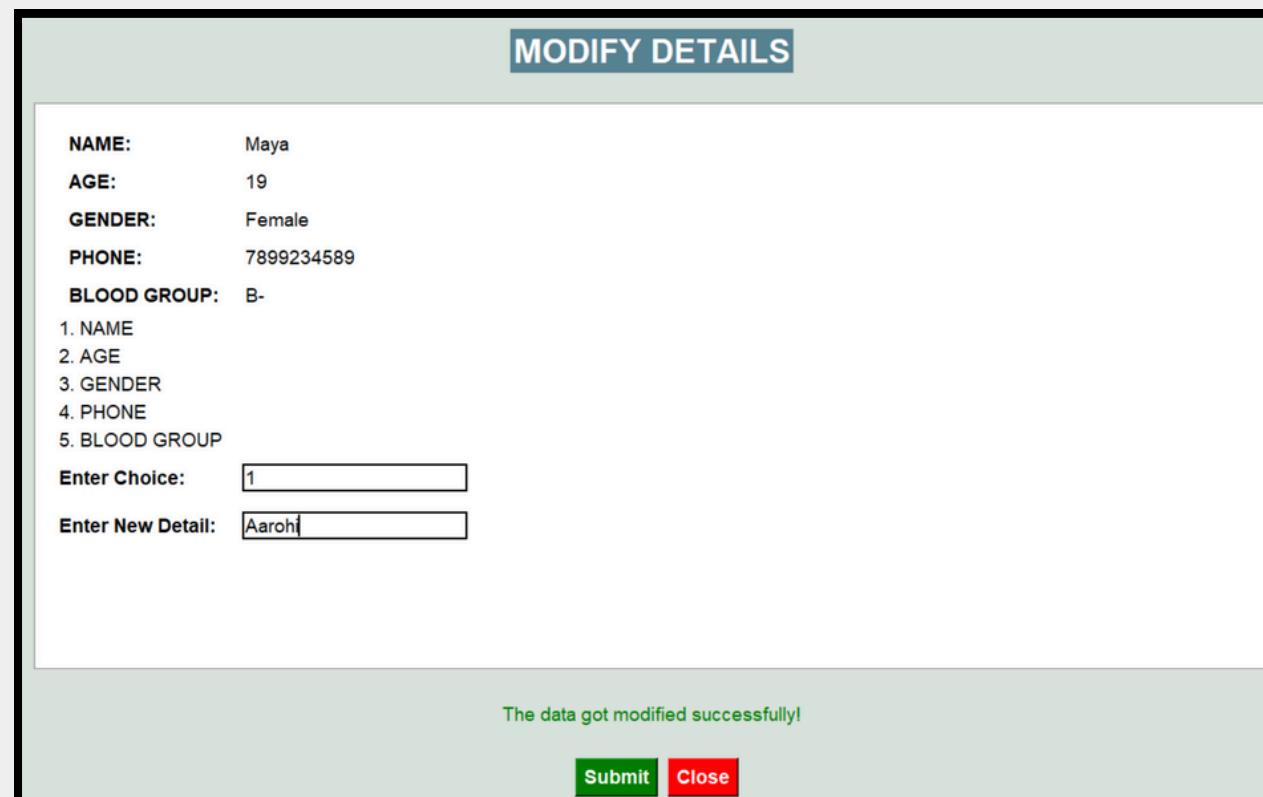
View Data Aadhar Window:



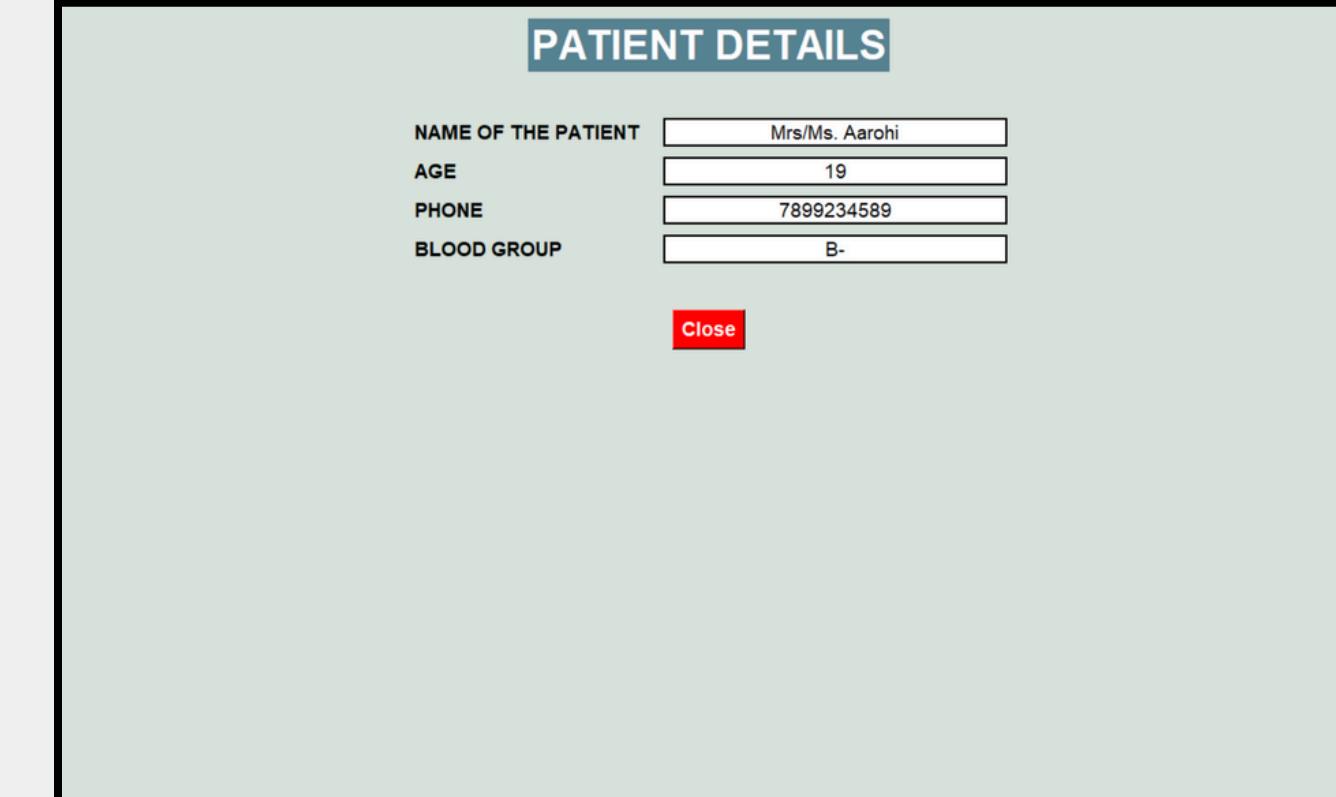
View Data:



Modify Data:



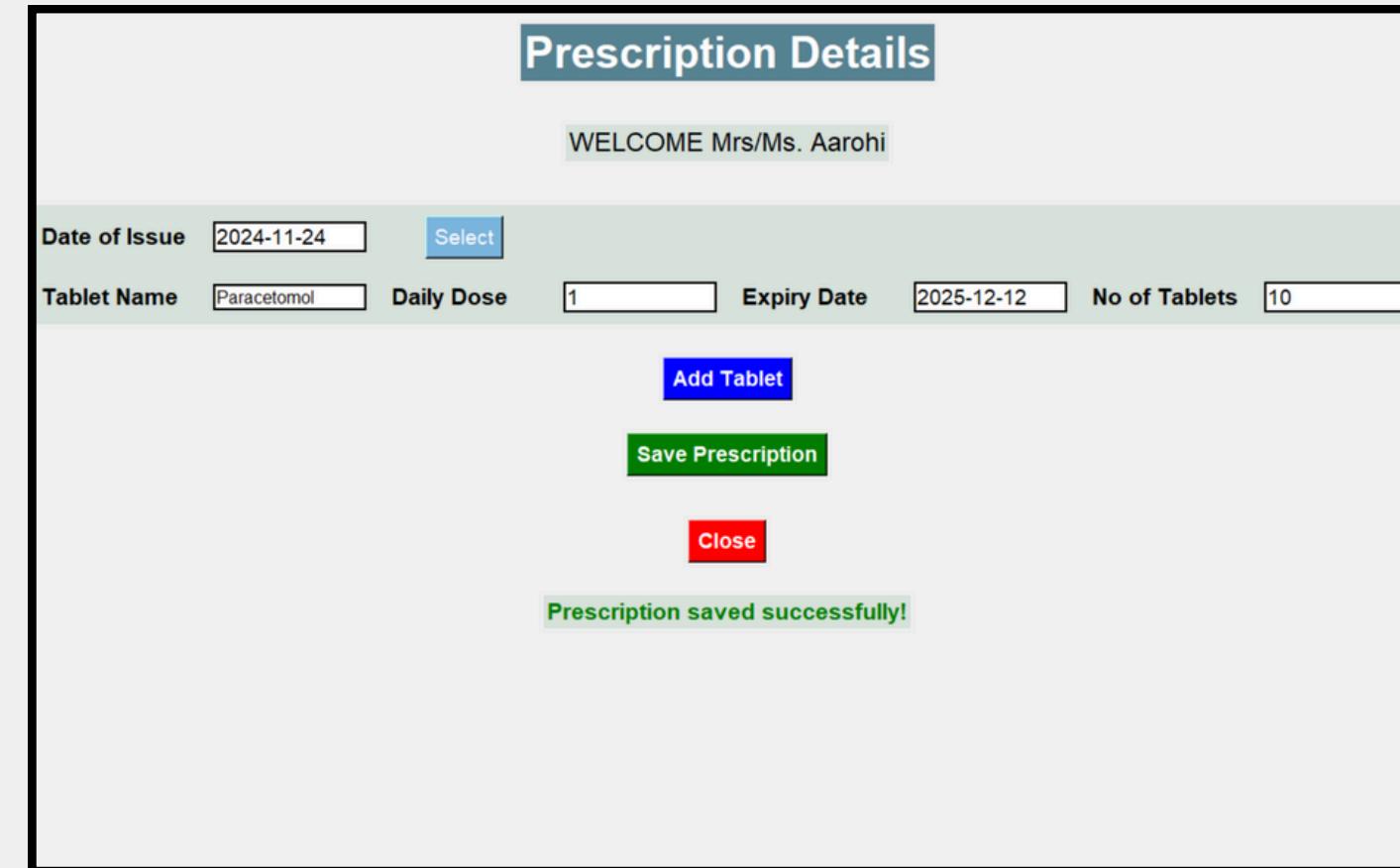
View Modified Data:



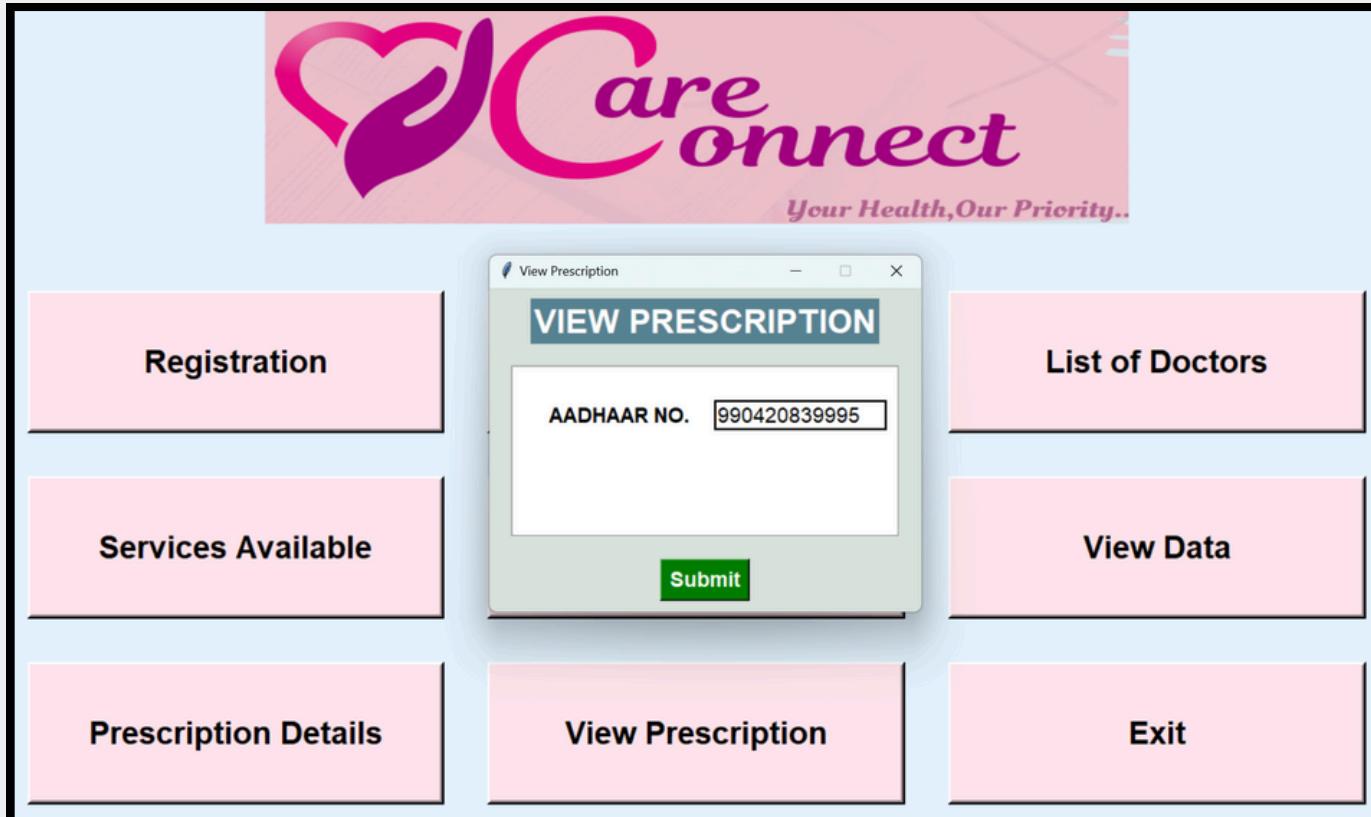
Prescription Aadhar window:



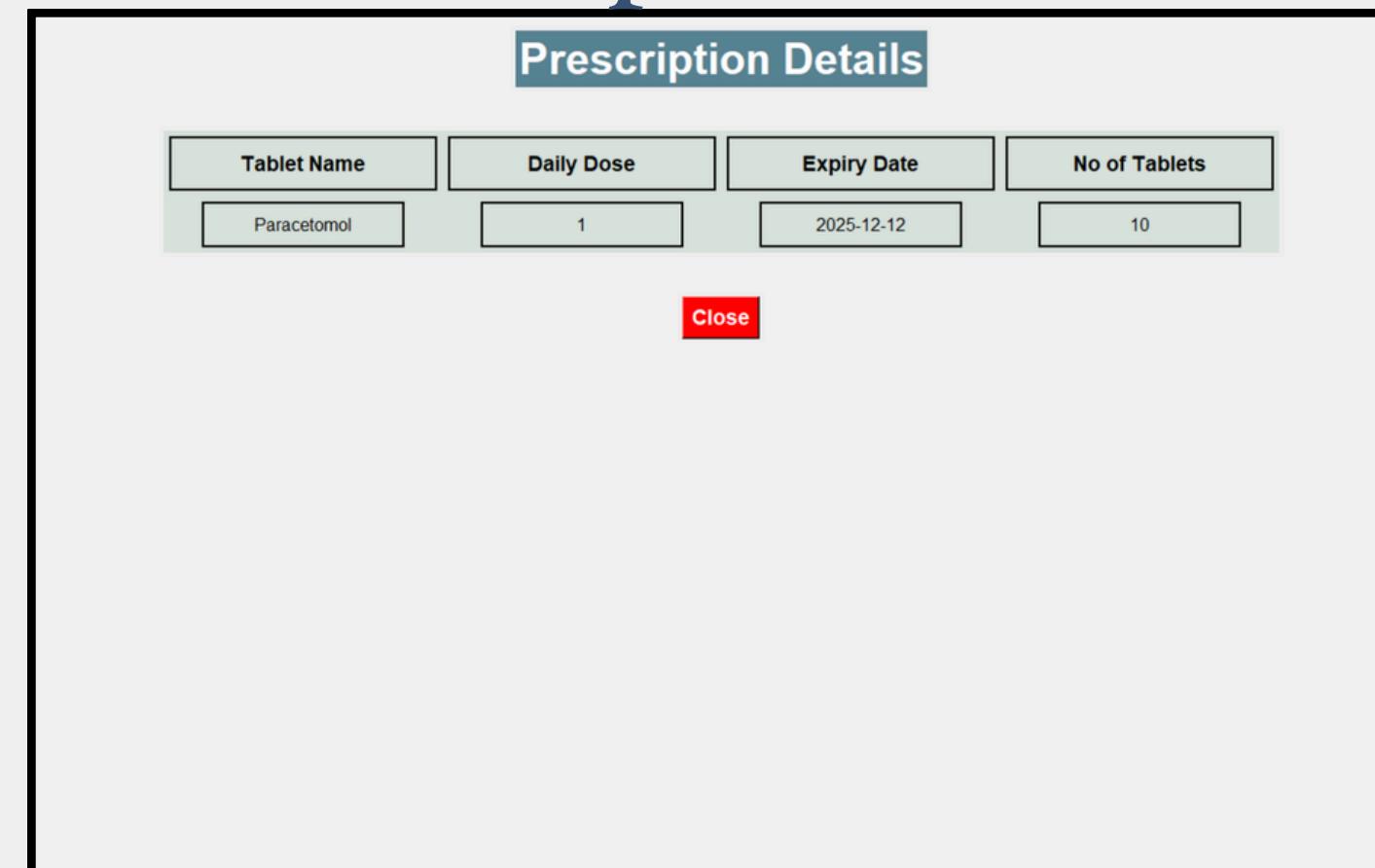
Prescription Details window:



View Prescription Aadhar window:



View Prescription:



Error Messages:

Invalid Login:

A screenshot of a login interface. It has two input fields: 'Username' containing 'admin' and 'Password' containing '*****'. Below the password field is a red error message: 'Invalid username or password!'. At the bottom are two buttons: 'Login' (purple) and 'Close' (red).

Duplicate Aadhar:

A registration form titled 'REGISTER YOURSELF'. It includes fields for 'AADHAR CARD NO.' (990420839995), 'NAME' (Tanvi), 'AGE' (19), 'GENDER' (Male), 'PHONE' (7893458962), and 'BLOOD GROUP' (A-). At the bottom, there are 'SUBMIT' and 'CLOSE' buttons. A red error message at the bottom states: 'Error: 1062 (23000): Duplicate entry '990420839995' for key 'appointment.PRIMARY''.

Invalid Phone Number:

A registration form titled 'REGISTER YOURSELF'. It includes fields for 'AADHAR CARD NO.' (990420839996), 'NAME' (Tanvi), 'AGE' (19), 'GENDER' (Male), 'PHONE' (789345896), and 'BLOOD GROUP' (A-). At the bottom, there are 'SUBMIT' and 'CLOSE' buttons. A red error message at the bottom states: 'Error: Phone number must be 10 digits!'.

Searching non-registered Aadhar:

A screenshot of a search interface. A modal window titled 'ERROR' displays a yellow warning icon and the text 'NO DATA FOUND!!'. At the bottom is an 'OK' button. Below the modal, the text 'Modify Existing Data' is visible.

Empty boxes in Prescription:

A prescription form titled 'Prescription Details'. It shows a welcome message 'WELCOME Mrs/Ms. Aarohi'. Below it are fields for 'Date of Issue' (2024-11-21), 'Tablet Name', 'Daily Dose', 'Expiry Date', and 'No of Tablets'. There are also 'Add Tablet', 'Save Prescription', and 'Close' buttons.

Error for empty boxes:

The main interface of the 'Care Connect' application. It features a logo with a heart and the text 'Your Health, Our Priority..'. Below the logo are several buttons: 'Registration', 'List of Doctors', 'Services Available', 'Modify Existing Data', 'View Data', 'Prescription Details', 'View Prescription', and 'Exit'. A small error message box in the center says 'Input Error' and 'Please fill in all fields for each tablet.' with an 'OK' button.

Database Tables:

Sql Appointment Table:

| idno | name | age | gender | phone | bg |
|--------------|-----------|-----|--------|------------|----|
| 567898543456 | Ramya | 13 | F | 6789456783 | B+ |
| 768908435678 | Ramya | 13 | F | 9897567345 | B+ |
| 863302359741 | Shrushti | 19 | F | 8909456780 | B+ |
| 863302359742 | Ananya | 21 | F | 9397412350 | B+ |
| 863302359744 | Harika | 19 | F | 9347730218 | B+ |
| 863302359746 | Divya | 34 | F | 8798234567 | B+ |
| 863302359747 | Aarohi | 19 | F | 7890234560 | B+ |
| 863302359748 | Nikitha | 17 | Female | 8902345678 | A- |
| 863302359749 | Amala | 15 | Female | 8902345678 | B+ |
| 86330239748 | Anjali | 18 | Female | 8902345679 | A- |
| 8902345678 | Urmila | 13 | Female | 8903455689 | A- |
| 898594102020 | Aarohi | 12 | Female | 8985941020 | B- |
| 899023456712 | Urmila | 12 | Female | 890483853 | B+ |
| 99042083990 | Varshini | 18 | Female | 8902345678 | O- |
| 990420839990 | V.Aksh... | 19 | Female | 8902345678 | A- |
| 990420839991 | Harini | 19 | Female | 8902345678 | B+ |
| 990420839992 | Aarna | 18 | Female | 8923354567 | B- |
| 990420839993 | Tanvi | 16 | Female | 8935369823 | A- |
| 990420839994 | Maya | 18 | Female | 8902345678 | B- |
| 990420839995 | Aarohi | 19 | Female | 7899234589 | B- |

Sql Appointment details Table:

| idno | doctor | date | time | appointment_no | department |
|------|--------------|----------|-------|----------------|------------|
| 1 | Dr. Sharma | 11/28/24 | 13:50 | NULL | 1 |
| 2 | Dr. Sharma | 11/28/24 | 13:50 | NULL | 1 |
| 3 | Dr. Verma | 11/28/24 | 13:30 | NULL | 1 |
| 4 | Dr. Verma | 11/28/24 | 13:50 | NULL | 1 |
| 5 | Dr. Sidharth | 11/28/24 | 14:20 | NULL | 2 |
| 6 | Dr. Verma | 11/23/24 | 14:30 | NULL | 1 |
| 7 | Dr. Sharma | 11/28/24 | 14:30 | NULL | 1 |
| 8 | Dr. Leo | 11/25/24 | 13:40 | NULL | 5 |
| 9 | Dr. Sharma | 11/27/24 | 14:50 | NULL | 1 |
| 10 | Dr. Sharma | 11/25/24 | 13:20 | NULL | 1 |
| 11 | Dr. Sharma | 11/23/24 | 14:20 | NULL | 1 |
| 12 | Dr. Verma | 11/23/24 | 14:20 | NULL | 1 |
| 13 | Dr. Verma | 11/23/24 | 14:20 | NULL | 1 |
| 14 | Dr. Verma | 11/23/24 | 14:20 | NULL | 1 |
| 15 | Dr. Sharma | 11/23/24 | 14:20 | NULL | 1 |
| 16 | Dr. Sharma | 11/24/24 | 13:50 | NULL | 1 |
| 17 | Dr. Verma | 11/24/24 | 14:20 | NULL | 1 |
| 18 | Dr. Sharma | 11/24/24 | 1:20 | NULL | 1 |
| NULL | NULL | NULL | NULL | NULL | NULL |

Sql Prescription Table:

| prescription_id | idno | tablet_name | daily_dose | expiry_date | no_of_tablets | date_of_issue | modification_da |
|-----------------|--------------|-------------|------------|-------------|---------------|---------------|---------------------|
| 1 | 863302359741 | Dolo | 2 | 2025-12-12 | 8 | 2024-11-20 | 2024-11-20 03:00:00 |
| 2 | 863302359741 | Dolo | 2 | 2025-12-12 | 8 | 2024-11-20 | 2024-11-20 03:00:00 |
| 3 | 863302359741 | Dolo | 2 | 2025-12-12 | 8 | 2024-11-20 | 2024-11-20 03:00:00 |
| 4 | 863302359741 | Dolo | 2 | 2025-12-12 | 8 | 2024-11-20 | 2024-11-20 03:00:00 |
| 5 | 863302359741 | Dolo | 2 | 2025-12-12 | 8 | 2024-11-20 | 2024-11-20 03:00:00 |
| 6 | 863302359741 | Dolo | 2 | 2025-12-12 | 8 | 2024-11-20 | 2024-11-20 03:00:00 |
| 7 | 863302359741 | Dolo | 2 | 2025-12-12 | 8 | 2024-11-20 | 2024-11-20 03:00:00 |
| 8 | 863302359741 | Dolo | 2 | 2025-12-12 | 5 | 2024-11-20 | 2024-11-20 03:00:00 |
| 9 | 863302359741 | Paracetomol | 2 | 2025-12-12 | 7 | 2024-11-23 | 2024-11-22 14:00:00 |
| 10 | 99042083990 | Paracetomol | 2 | 2025-12-12 | 10 | 2024-11-24 | 2024-11-23 10:00:00 |
| 11 | 99042083990 | Dolo | 2 | 2025-12-12 | 12 | 2024-11-24 | 2024-11-23 10:00:00 |
| 12 | 99042083990 | Vitamin-D3 | 1 | 2024-12-12 | 4 | 2024-11-24 | 2024-11-23 10:00:00 |
| 13 | 990420839991 | Paracetomol | 1 | 2025-12-12 | 6 | 2024-11-23 | 2024-11-23 10:00:00 |
| 14 | 990420839991 | Paracetomol | 1 | 2025-12-12 | 4 | 2024-12-22 | 2024-11-23 10:00:00 |
| 15 | 898594102020 | paracetamol | 1 | 2025-12-12 | 4 | 2024-11-23 | 2024-11-23 11:00:00 |
| 16 | 898594102020 | Dolo | 2 | 2025-11-11 | 3 | 2024-11-23 | 2024-11-23 11:00:00 |
| 17 | 990420839992 | Paracetomol | 1 | 2025-12-12 | 9 | 2024-11-23 | 2024-11-23 13:00:00 |
| 18 | 990420839992 | Dolo | 2 | 2025-12-12 | 3 | 2024-11-23 | 2024-11-23 13:00:00 |
| 19 | 990420839992 | Paracetomol | 2 | 2025-12-12 | 9 | 2024-11-23 | 2024-11-23 13:00:00 |
| 20 | 990420839992 | VitaminC | 1 | 2025-12-12 | 10 | 2024-11-23 | 2024-11-23 17:00:00 |
| 21 | 990420839992 | Paracetamol | 2 | 2025-12-12 | 10 | 2024-11-23 | 2024-11-23 17:00:00 |



Conclusion and Future Work:

Achievements:

- Successfully developed a modular hospital administration system.
- Automated patient registration, appointment booking, and prescription management.
- Enhanced efficiency with validated data entry and centralized record storage.

Future Enhancements:

- Add billing and payment tracking features.
- Integrate analytics for hospital performance monitoring.
- Implement secure user authentication for better data protection.
- Deploy as a web application for remote access.



*Thank
you*