

Business Process Management in Healthcare

A Cloud-Based Solution

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2021IMG-008

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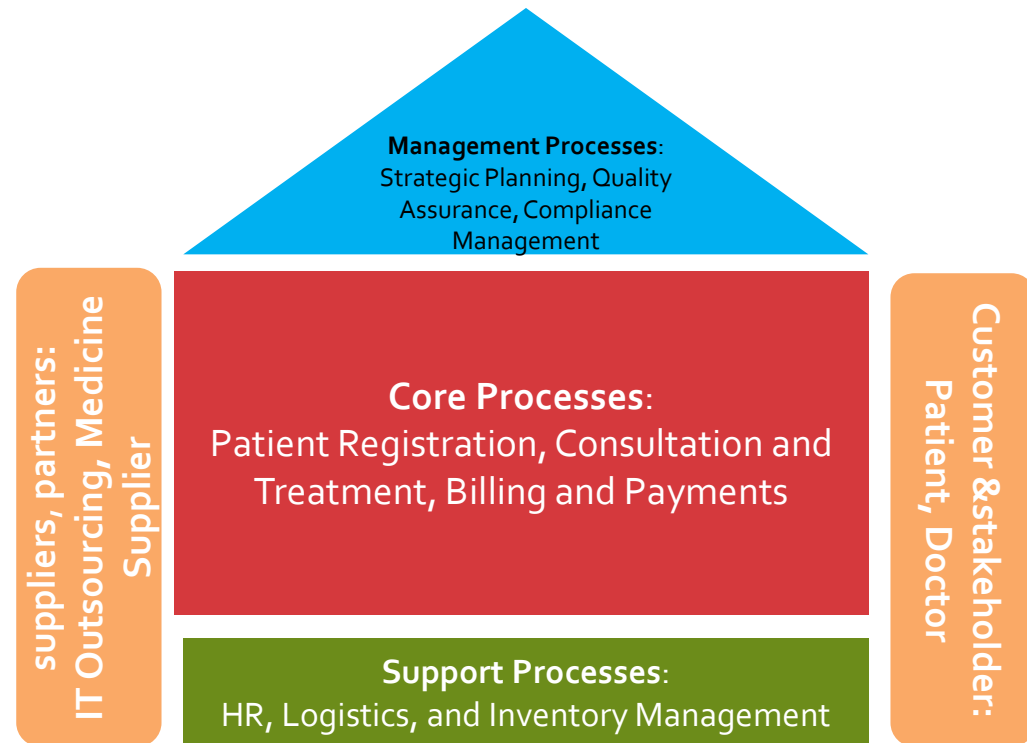
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Introduction

- **Objective:** Transform traditional healthcare into a cloud-based, automated
- **Aim:** Enhance efficiency and patient satisfaction.
- **Focus:** Process improvement through the BPM life cycle.

Process Identification

Business Process Architecture



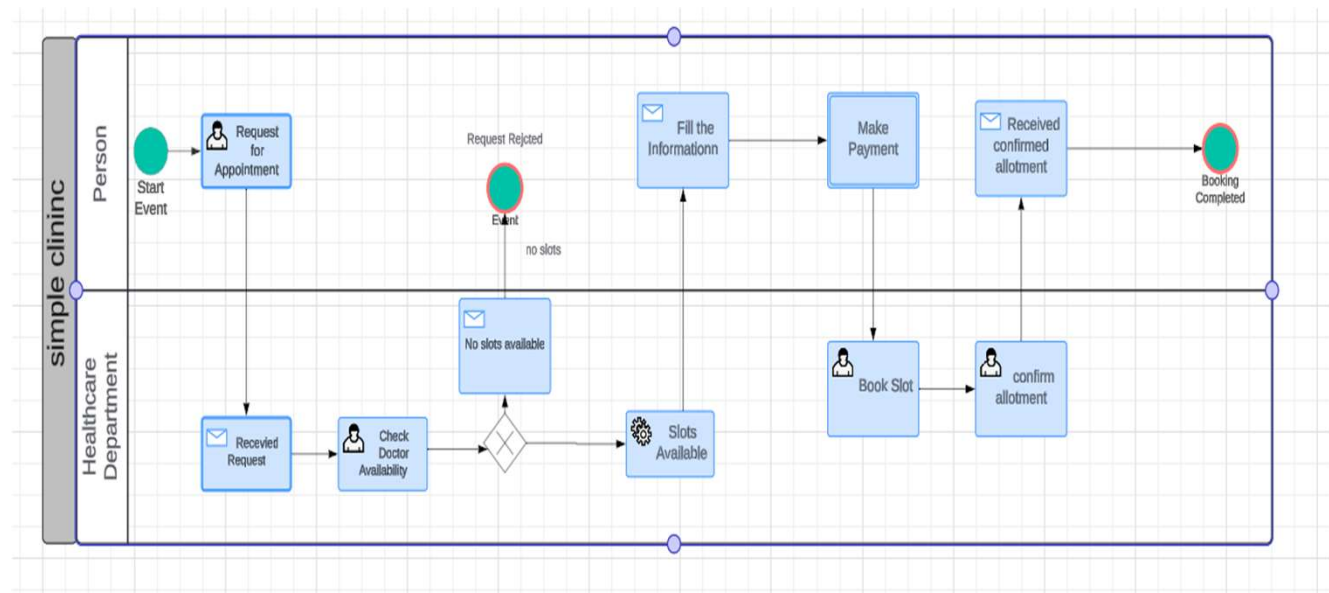
Process Identification

Healthcare Value Chain Overview

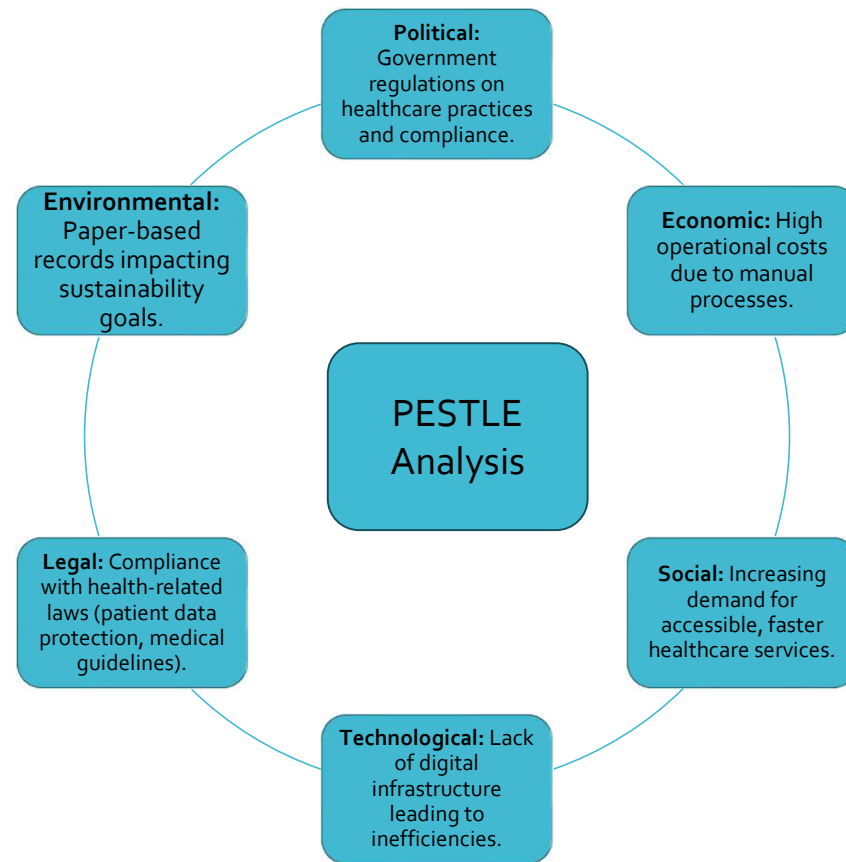


Process Discovery

The current manual process of Patient registration in the healthcare system. (As-Is Process)



Process Analysis



Process Analysis

Process Value Analysis of Existing System



Patient Satisfaction:
Limited due to long wait times and accessibility issues.



Operational Efficiency:
Inefficiencies in appointment scheduling and management.



Cost Management:
High operational costs due to manual processes.



Service Quality:
Variability in service delivery affecting patient care.

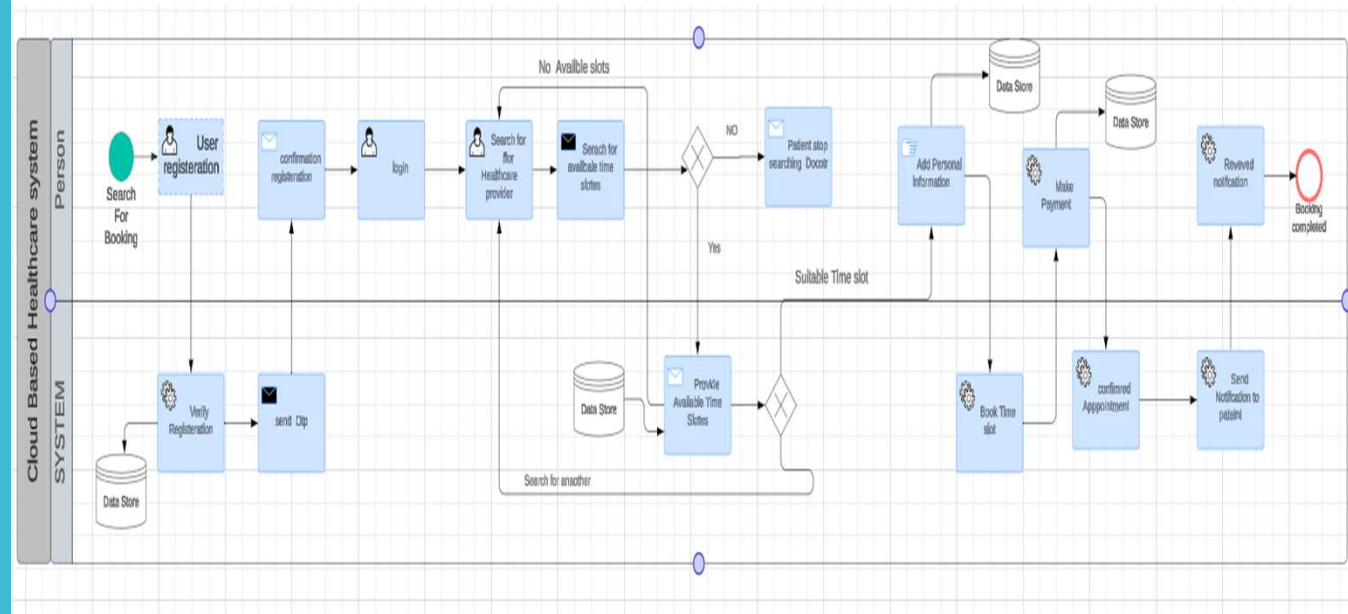


Data Management:
Challenges in maintaining accurate and secure patient records.



Process Redesign

Appointment Booking By user using the web portal (To-be process)



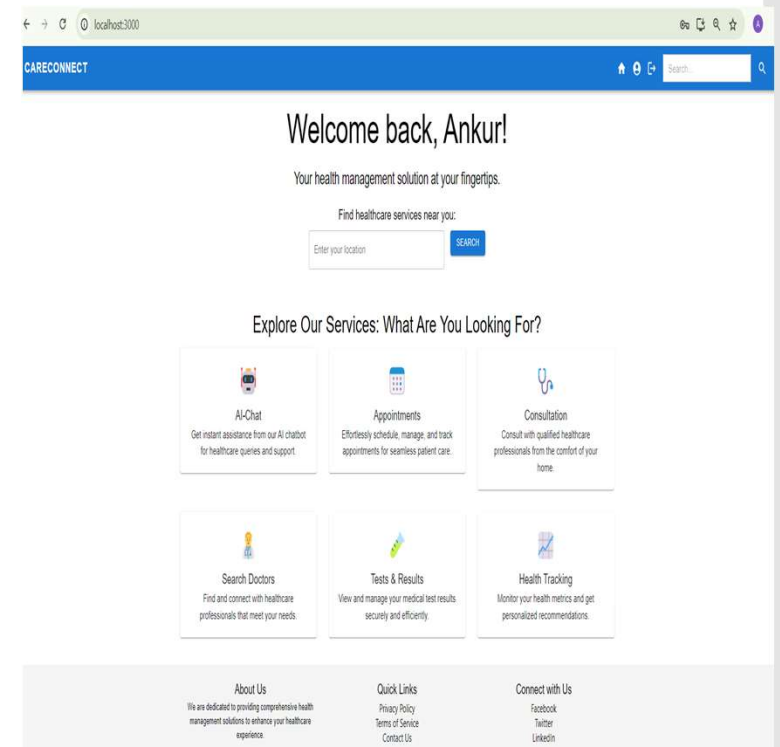
Implementation

Home Page

- **Tack stack Used :**
- Fronted – React (Material –Ui), JavaScript, CSS
- Backend – Nodejs, Expressjs.
- Database – MongoDB(NoSql)

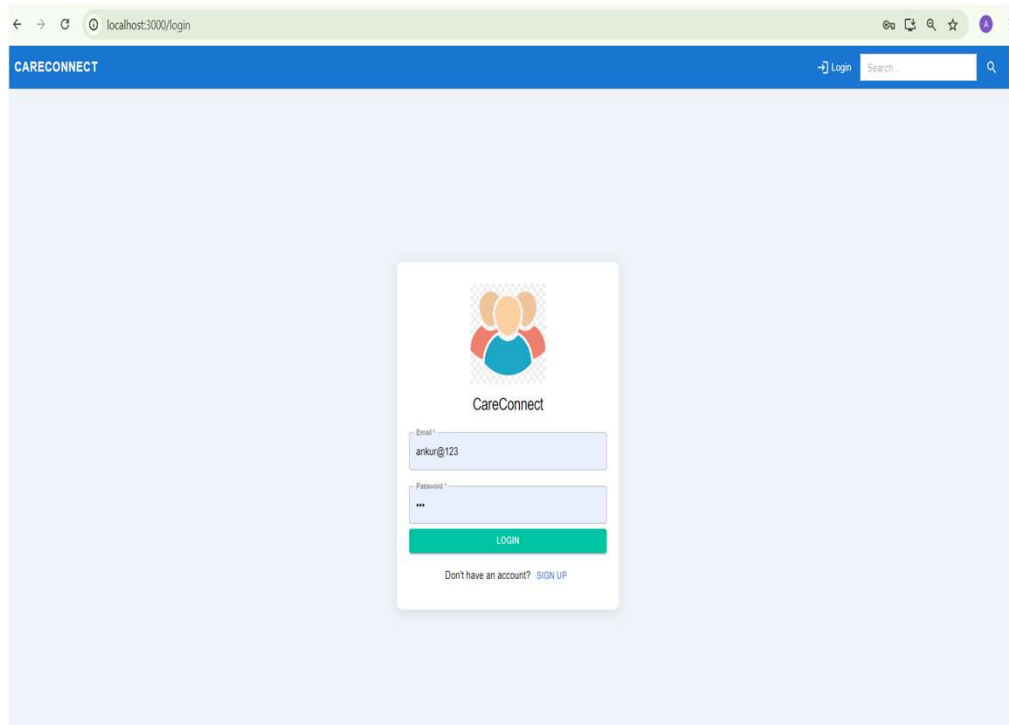
With features included in our web portal are :

- **Appointment Scheduling**
- **Video Consultation**
- **Health Tracking**
- **Access to Medical Records**
- **Doctor Search**
- **AI-Assitance**



Implementation

Login Page for user Authentication



The screenshot shows a web browser window with the address bar displaying "localhost:3000/login". The page has a blue header with the text "CARECONNECT" on the left and a "Login" button with a search icon on the right. The main content area is light blue and features a white login form in the center. The form includes a logo of three stylized people (two orange, one blue) above the text "CareConnect". Below the logo are two input fields: "Email" with the value "ankur@123" and "Password" with masked characters "***". A green "LOGIN" button is positioned below the password field. At the bottom of the form, there is a link that says "Don't have an account? SIGN UP".

Implementation

First Time User Registration On the web portal

localhost:3000/register

CARECONNECT Login Search

Register

Name *
Ankur

Email *
ankur@123

Password *

Age *
22

Address *
India

Gender *
Male

Date of Birth *
dd-mm-yyyy

REGISTER

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Implementation

Booking Appointment Process :

The screenshot shows the CARECONNECT homepage. At the top is a blue header with the logo and a search bar. Below the header, a central box titled 'Find a Doctor and Book an Appointment' contains the text: 'We are a team of expert doctors with 24/7 service. Choose your doctor and book an appointment.' Below this text are three doctor profiles, each with a circular profile picture, name, specialization, and a 'BOOK APPOINTMENT' button.

Doctor Name	Specialization	Action
Dr. John Doe	Cardiologist	BOOK APPOINTMENT
Dr. Jane Smith	Pediatrician	BOOK APPOINTMENT
Dr. Alan Parker	Dermatologist	BOOK APPOINTMENT

The screenshot shows the 'Book Appointment with Dr.' form. It includes input fields for Name, Address, Age, Gender, Phone Number, Email, Appointment Date, and Appointment Time. A 'CONFIRM APPOINTMENT' button is at the bottom.

Book Appointment with Dr.

Name:

Address:

Age:

Gender:

Phone Number:

Email:

Appointment Date:

Appointment Time:

The screenshot shows the 'Appointment Details' confirmation page. It features a large calendar icon with a checkmark. Below the icon, the appointment details are listed: Doctor Name, Appointment Time, and Payment Status.

Appointment Details

Doctor Name: Dr. Jane Smith
Appointment Time: 10:30
Payment Status: Successful

The screenshot shows the 'Payment Information' page. A yellow success message box at the top states: 'Payment Successful! Your appointment is confirmed.' Below this, the 'Payment Information' section shows the amount (₹500) and a form to select a payment method (Debit Card, UPI, or NEFT/RTGS). A 'CONFIRM PAYMENT' button is at the bottom.

Payment Successful! Your appointment is confirmed.

Payment Information

Amount: ₹500

Select Payment Method:

☐ Debit Card

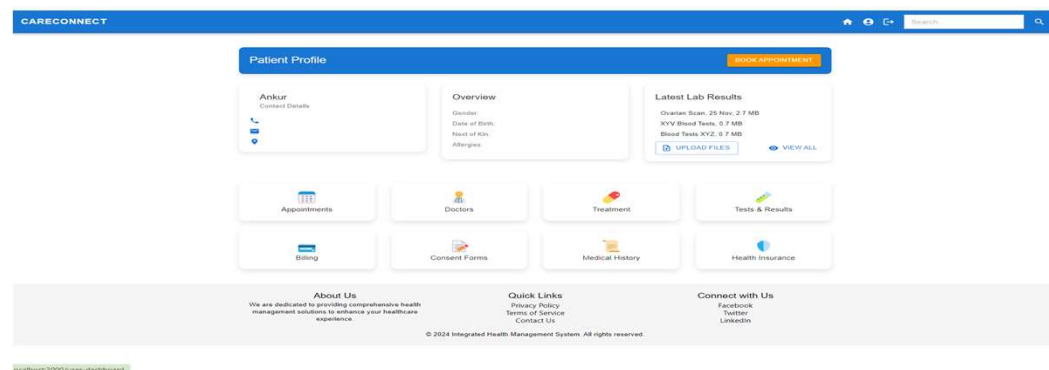
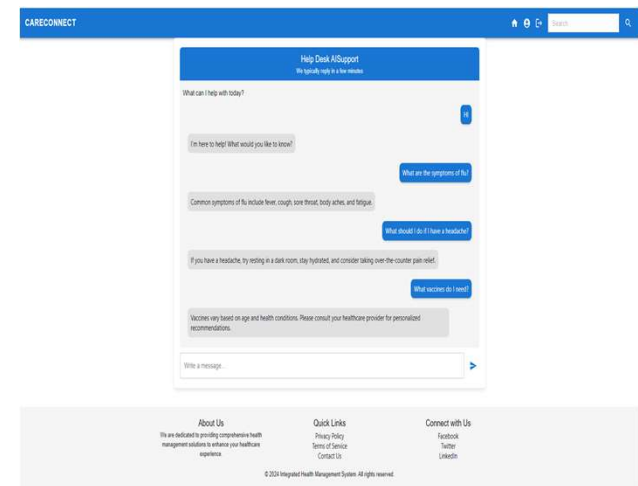
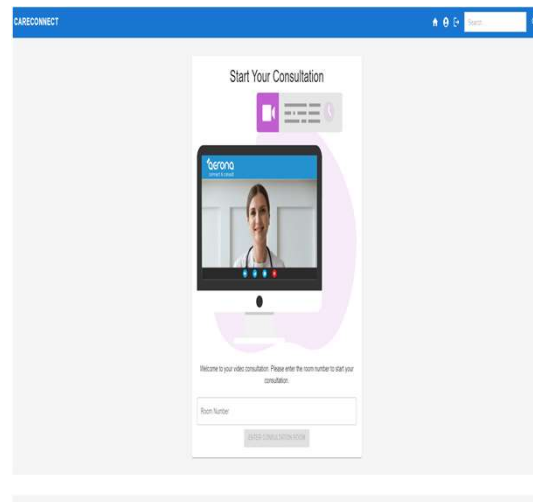
☒ UPI

UPI ID:

NEFT/RTGS:

Implementation

Other Features:- User Dashboard, AI assistance, video consultation.



localhost:3000/user-dashboard

Monitoring and Control (KPI)

Patient Satisfaction Rate: Measure through surveys and feedback.

Appointment No-Show Rate: Track percentage of missed appointments.

Response Time for Telemedicine Queries: Time taken to respond to patient inquiries.

System Downtime: Monitor uptime of the application for reliability.

User Engagement Metrics: Analyze frequency and duration of user interactions with the platform.

Conclusion

- Our solution enhances the patient experience with seamless access to healthcare services and information.
- This project also lays the groundwork for future enhancements, including telemedicine features and AI-driven health insights, to improve overall patient outcomes.