Business Process Management in Healthcare
A Cloud-Based Solution

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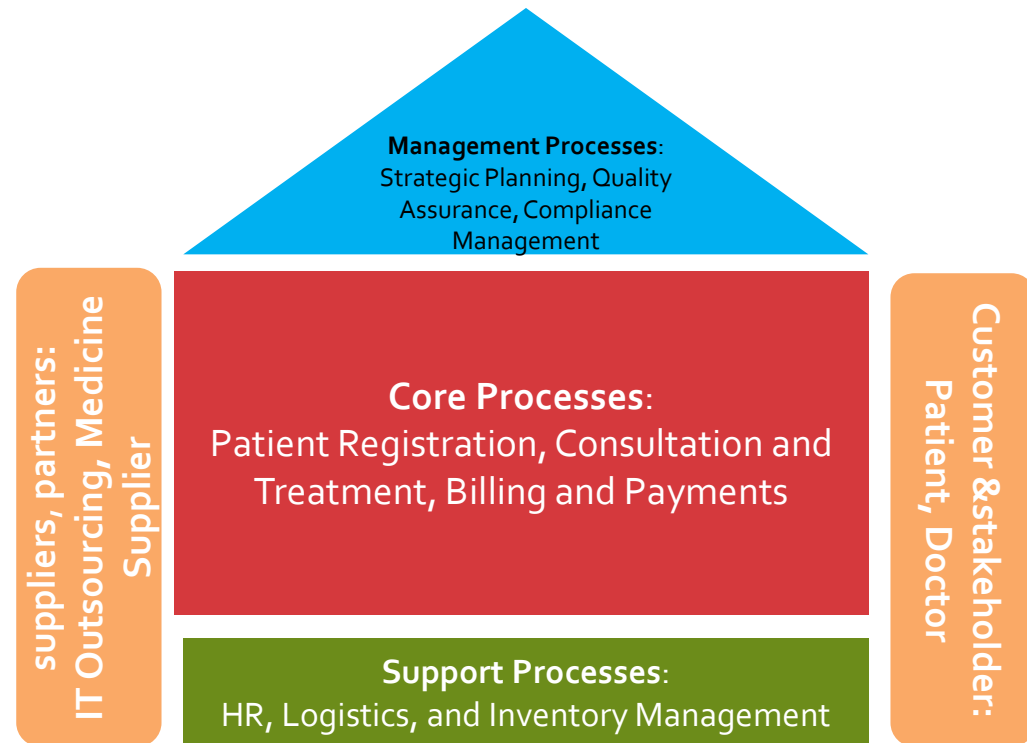
Priyanshu Katiyar   2021IMG-042

Introduction

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

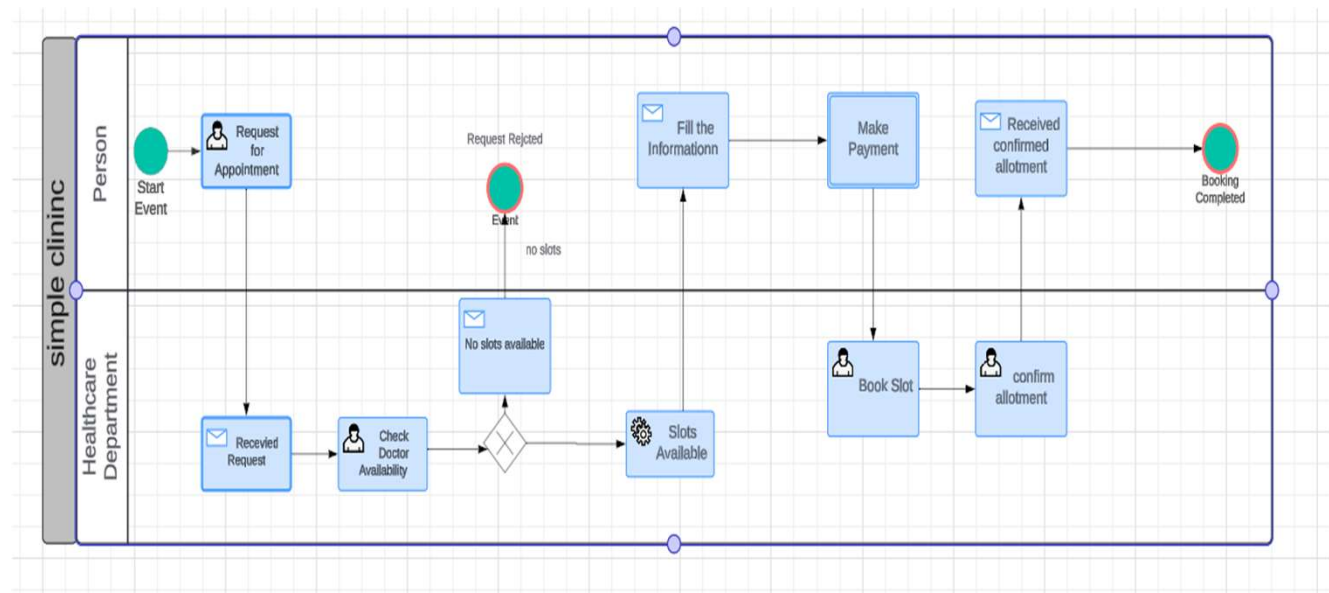**Process Identification**

Business Process Architecture

Management Processes: Strategic Planning, Quality Assurance, Compliance Management

suppliers, partners: IT Outsourcing, Medicine Supplier

Core Processes: Patient Registration, Consultation and Treatment, Billing and Payments

Customer &stakeholder: Patient, Doctor

Support Processes: HR, Logistics, and Inventory Management

Process Identification

Healthcare Value Chain Overview

Process Discovery

Process Analysis

Political: Government regulations on healthcare practices and compliance.

Economic: High operational costs due to manual processes.

Social: Increasing demand for accessible, faster healthcare services.

Technological: Lack of digital infrastructure leading to inefficiencies.

Legal: Compliance with health-related laws (patient data protection, medical guidelines).

Environmental: Paper-based records impacting sustainability goals.

PESTLE Analysis
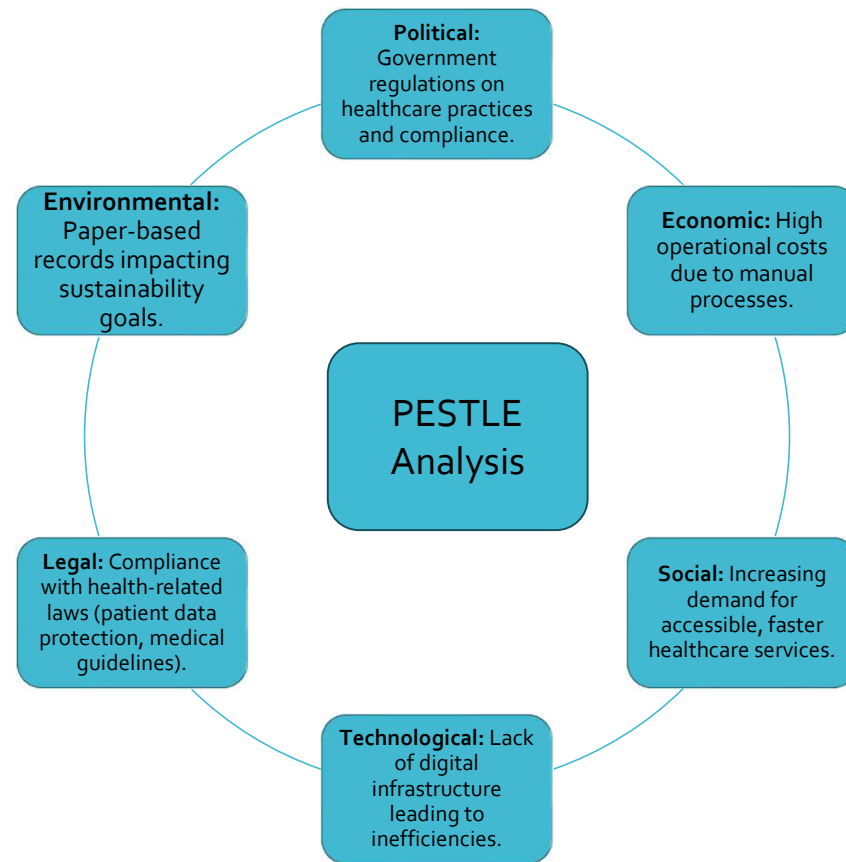
Process Analysis

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)
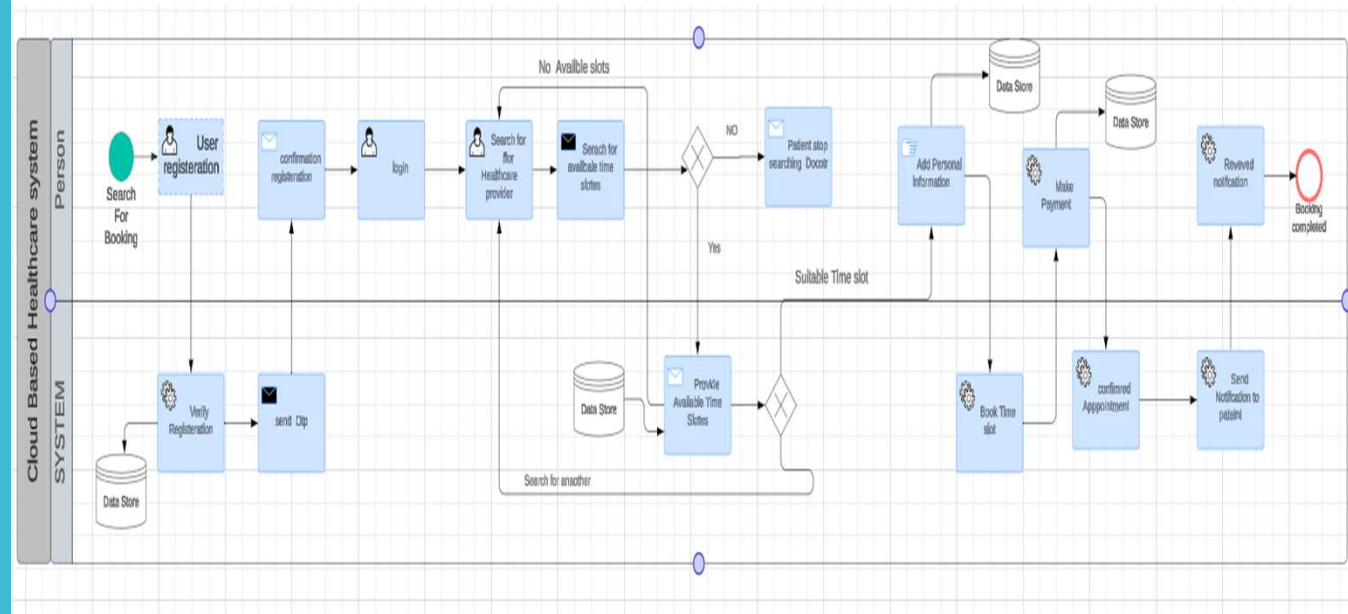
Implementation

Home Page

•**Tack stack Used :**

•Fronted – React (Material –Ui), JavaScript, CSS

•Backend – Nodejs, Expressjs.

•Database – MongoDB(NoSql)
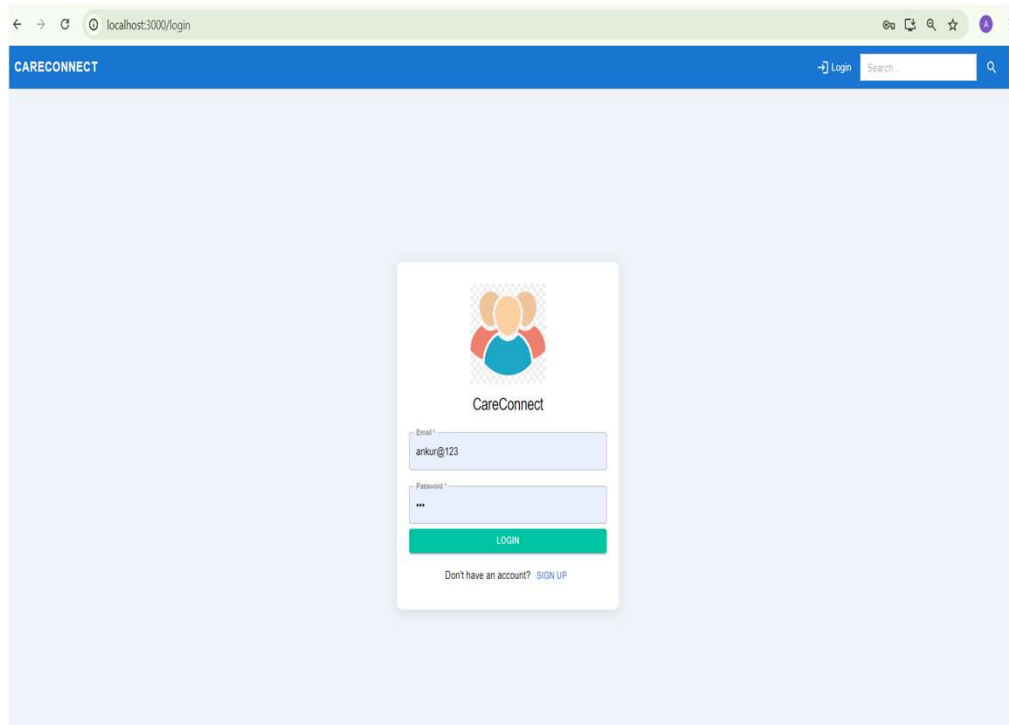
With features included in our web portal are :

•**Appointment Scheduling**

•**Video Consultation**

•**Health Tracking**

•**Access to Medical Records**

•**Doctor Search**

•**AI-Assitance**
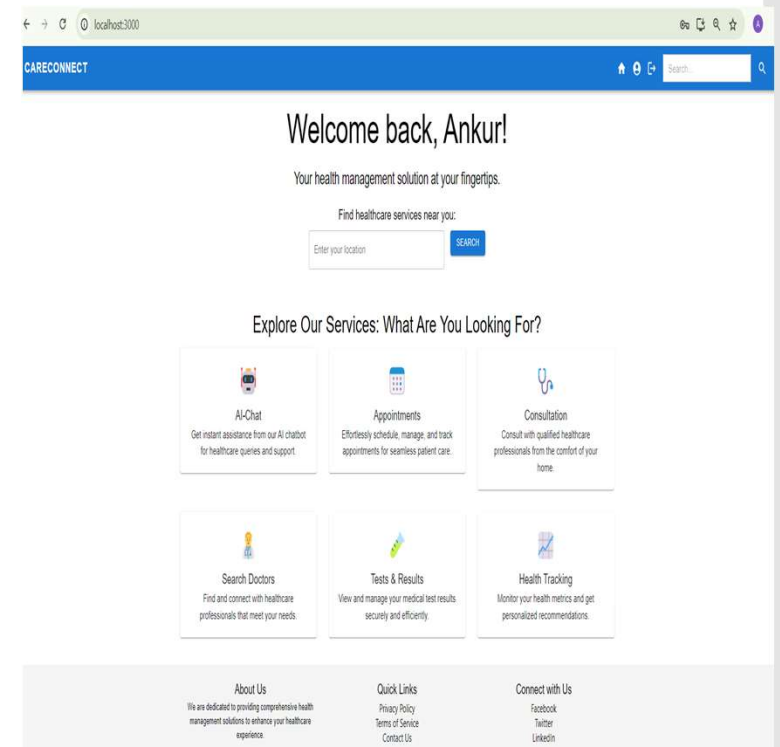
Implementation

Login Page for user Authentication

Implementation

First Time User Registration On the web portal

Implementation

Booking Appointment Process :

Implementation

Other Features:- User Dashboard, AI assistance, video consultation.
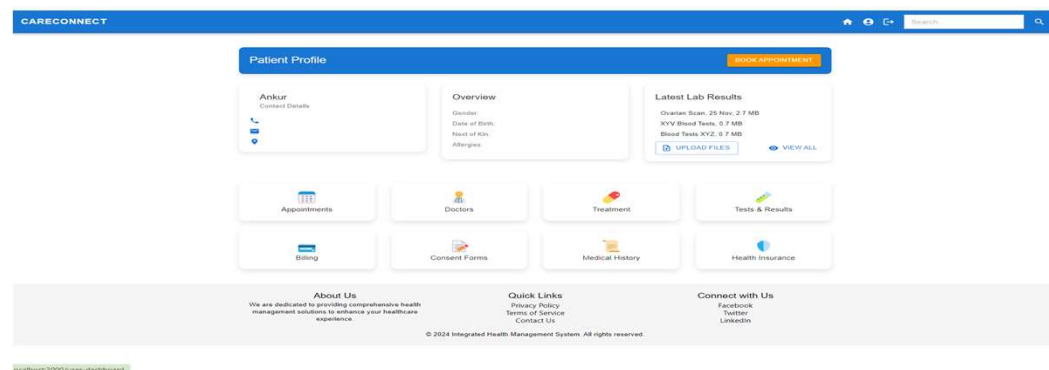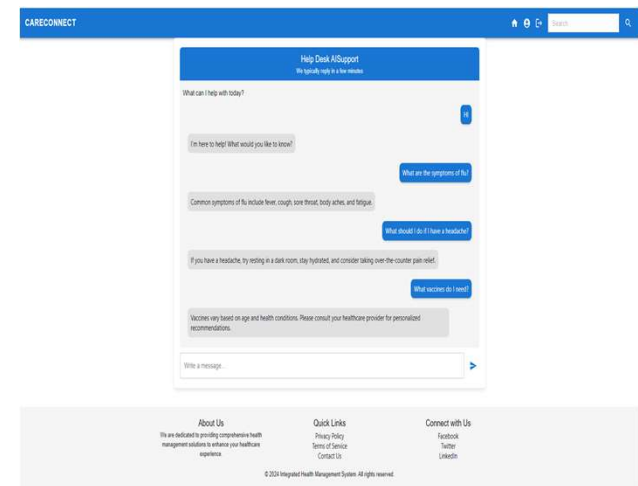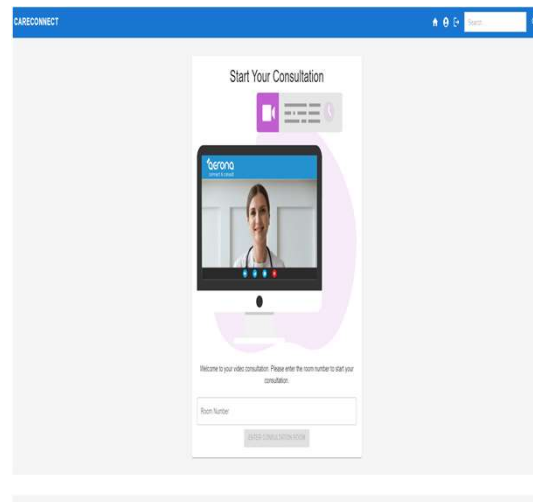
Monitoring and Control (KPI)

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

o Our solution enhances the patient experience with seamless access to healthcare services and information.

o This project also lays the groundwork for future enhancements, including telemedicine features and AI-driven health insights, to improve overall patient outcomes.