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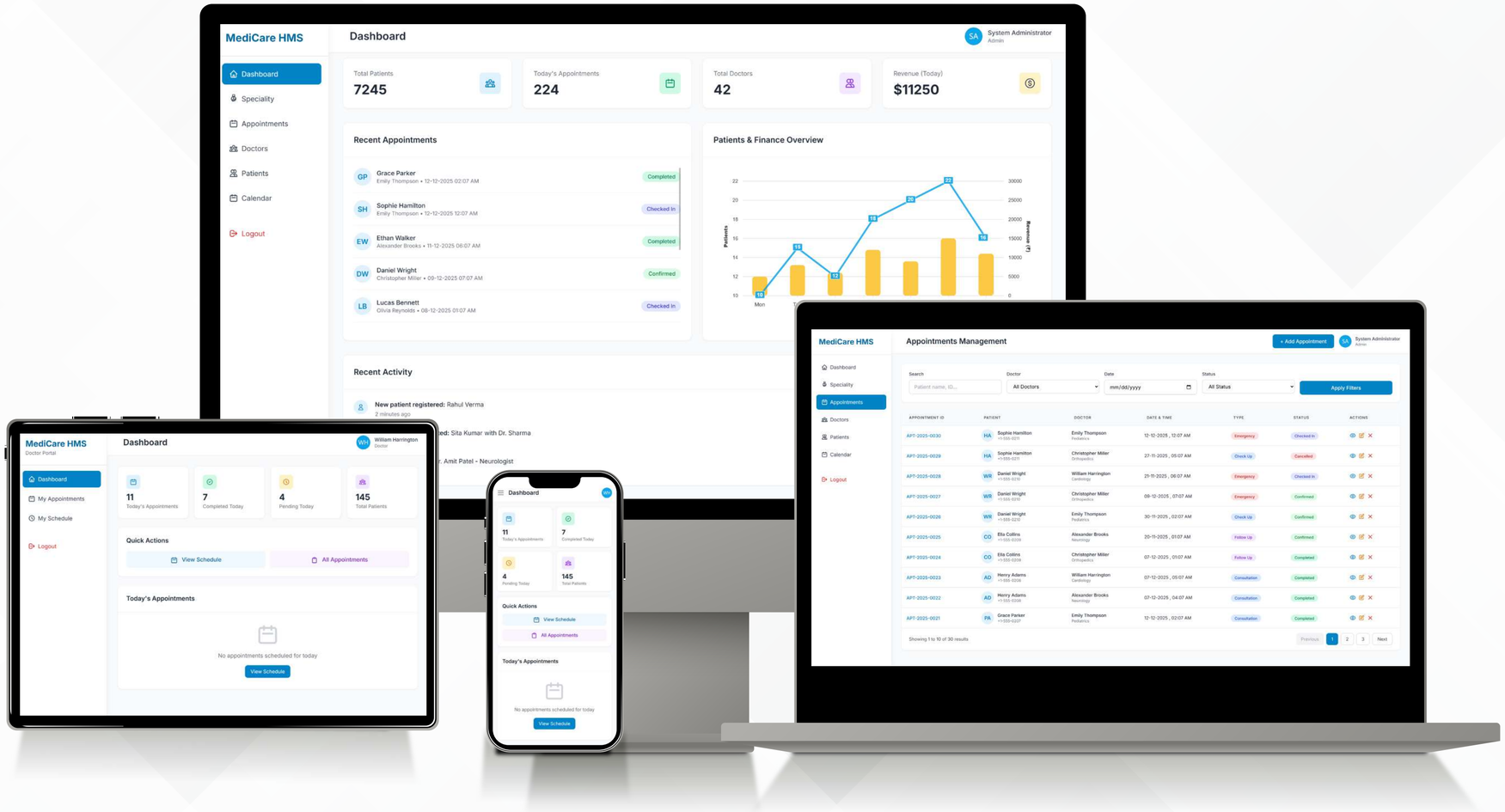
MediCare Healthcare Management System

Product: HMS – Web App + Mobile App(iOS and Android) + Admin System Hybrid Cross Platform Mobile App



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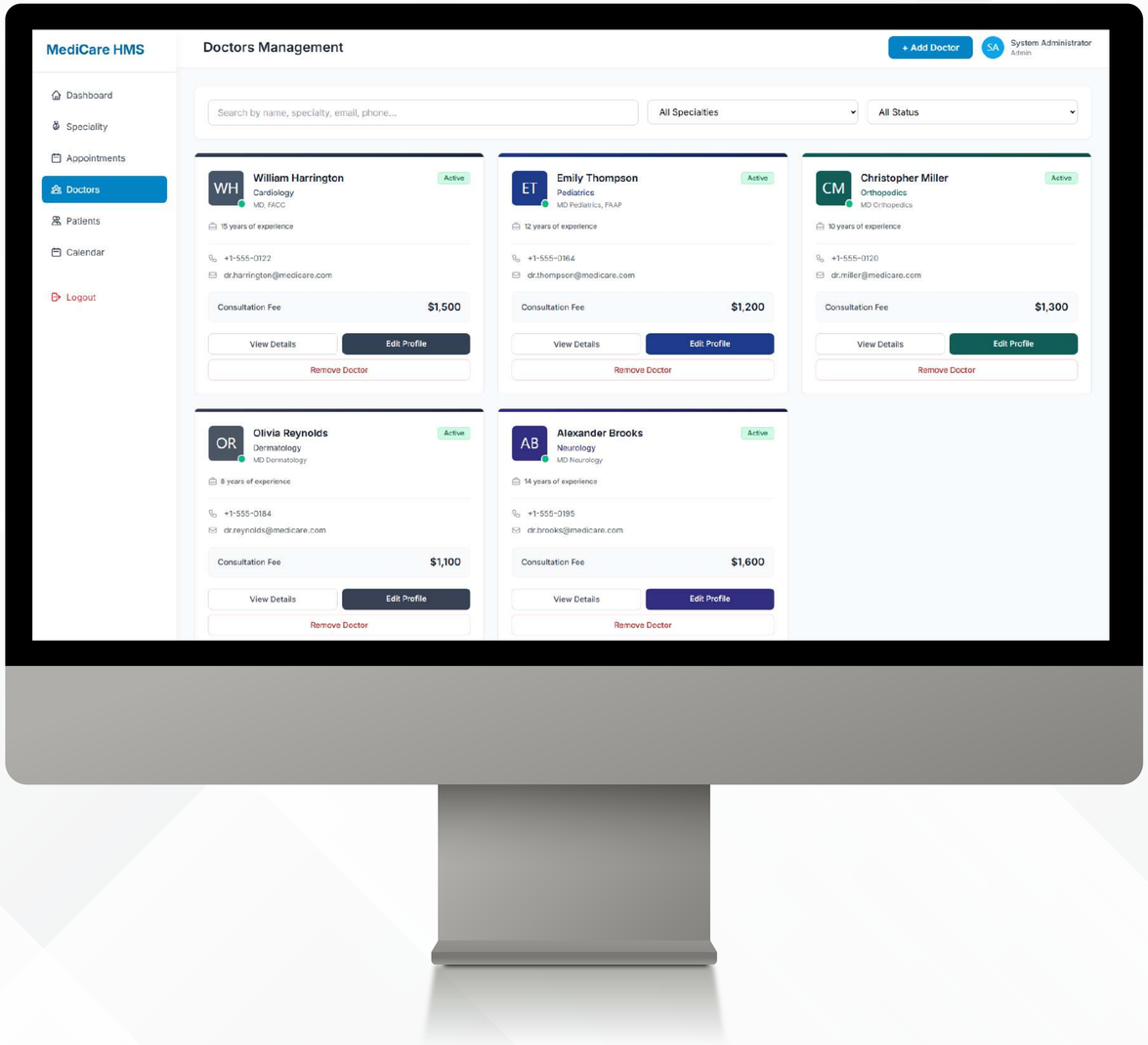
Overview of the Product

A healthcare founder approached us to build HMS, a complete digital ecosystem for doctor appointments, clinic management and patient engagement. The goal was to create a modern, seamless, and secure platform that works across web, iOS and Android.

The product needed instant appointment booking, real time availability of doctors, online consultations, patient health records, e prescriptions, reminders, payments, and clinic management tools. Healthcare products demand zero errors, high uptime and strict data privacy. HMS had to match global healthcare standards in speed, reliability and user experience.



The Challenge

The client wanted a unified experience across web and mobile with consistent UI, fast load times and intuitive navigation. The platform needed real time doctor schedules, multi clinic support, appointment queues, cancellations, telehealth video calls, prescription generation, and patient history tracking.

Scalability and security were critical because the product would store sensitive health data and needed **HIPAA grade architecture**. The system required automated reminders, push notifications, in app chat, analytics and stable cloud performance even with thousands of concurrent users.

All features had to be delivered within strict timelines while maintaining medical grade accuracy.

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Tech Stack Used

Laravel Blade Template
Blades Engine

tailwindcss
TailwindCSS

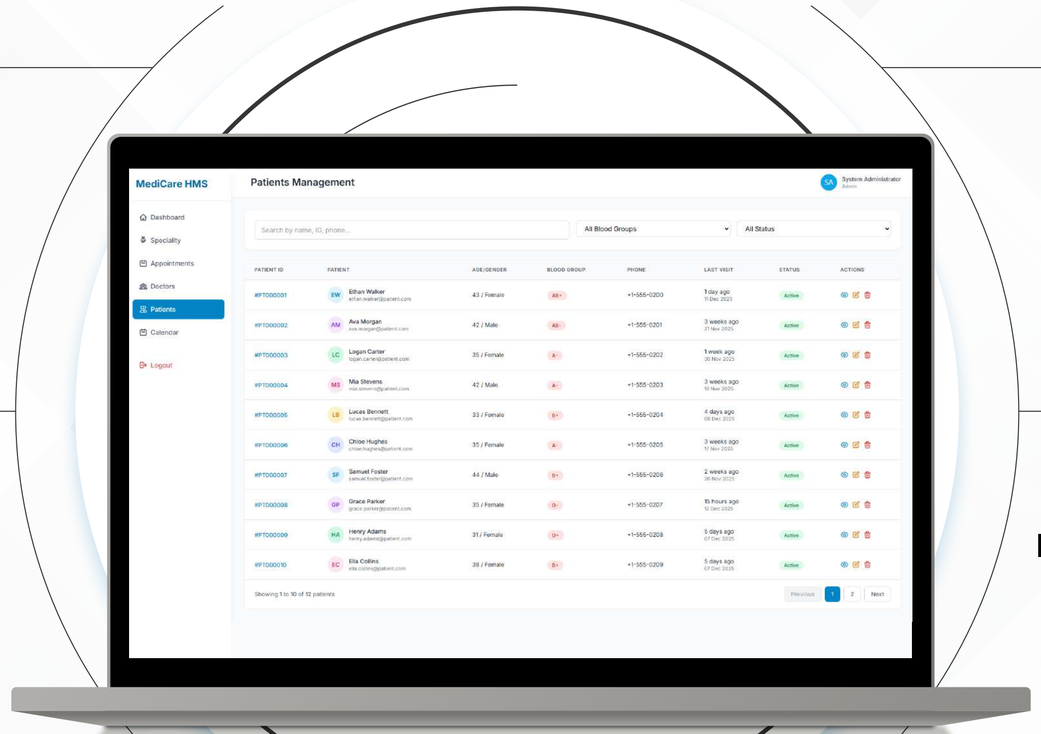
Frontend Web

Flutter

Mobile App

Laravel

Backend and Services



Database and Storage

MySQL

Infrastructure and DevOps

AWS EC2

CI CD pipelines

JWT Auth

AI and ML

Python

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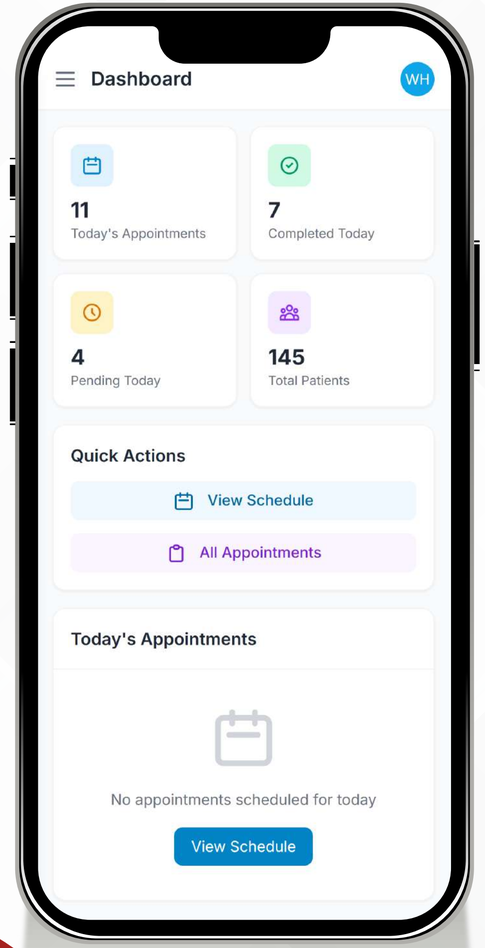

Our Solution

We built HMS as a robust multi-platform ecosystem with synchronized data across web and mobile. Real time doctor availability was implemented using optimized scheduling logic and event driven architecture. The mobile app provided a smooth patient experience with booking, video consultations, medical history access and digital prescriptions.

Clinics received a powerful admin portal with schedule management, appointment queues, patient files, billing tools, analytics and staff management. We deployed the entire system on AWS using secure VPC networks, encrypted data storage, auto scaling groups and continuous monitoring.

Telehealth features were integrated using secure video APIs with low latency and medical grade reliability. Notifications, reminders and follow ups were automated to keep patients engaged and reduce no show rates.

AI Engine for Smart Scheduling

We developed a lightweight AI model that analyzes past bookings, doctor availability patterns, consultation duration and patient behavior. The engine predicts ideal appointment slots, reduces scheduling conflicts and makes recommendations that shorten wait times. Over time the system becomes more accurate as more data is collected.

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Impact and Results

- HMS became a complete digital clinic ecosystem ready for scale
- Patients experienced faster booking, accurate availability and smooth teleconsultations.
- Clinics improved operational efficiency with smart scheduling and real time dashboards.
- AI driven suggestions reduced appointment conflicts by 25% and increased successful consultations.
- The hybrid mobile approach kept development costs lower while still delivering near native performance.
- Cloud infrastructure ensured security, speed and high availability for medical operations.
- HMS is now built for long term growth and can expand into pharmacies, diagnostics, hospital networks and advanced telemedicine.