

HealWell - An online health care web app

User Manual

1. Project Description & Workflow

Project Title:

Smart Healthcare Management System

(Built using **Blazor WebAssembly** for frontend and **ASP.NET Web API** backend in Clean Architecture)

Overview:

The Smart Healthcare Management System is a **modern, full-stack healthcare web app** built to streamline patient care, appointment scheduling, doctor management, and administrative analytics. This system leverages the **power of .NET ecosystem, component-based UI, and AI integration** to deliver a user-friendly, efficient, and intelligent platform for healthcare management.

The app is split into **three user portals — Patient, Doctor, and Admin** — each secured and tailored to its specific use case.

Tech Stack:

- **Frontend:** Blazor WebAssembly
- **Backend:** ASP.NET Web API (.NET 8)
- **Architecture:** Clean Architecture (with Domain, Application, Infrastructure, API layers)
- **Authentication:** JWT Token-Based Auth
- **Database:** Microsoft SQL Server
- **APIs & Features:**

- **OData** for dynamic filtering/searching
 - **JSServer** for UI interactivity
 - **LINQ** for querying and data manipulation
 - **AI Chatbot** via OpenRouter (DeepSeek V3 model)
-

◆ Workflow by Role:

Patient Portal:

- **Signup/Login:**
 - New users can register, while returning users log in securely.
- **Dashboard:**
 - Displays user's personal info, past appointments, and health history.
- **Book Appointment:**
 - Select department → filter & choose doctor → pick time slot → proceed to checkout → enter card details → get confirmation.
- **Doctor Search:**
 - Filter doctors by name or specialty using search input.
- **Doctor Profiles:**
 - View qualifications, experience, availability, education, and more.
 - Option to **book directly from profile page**.
- **AI Chatbot:**
 - Patients can chat with the AI for health-related queries or suggestions.
- **Dark Theme Support:**

- Toggle between light and dark mode for a comfortable user experience.
-



Doctor Portal:

- **Login:**

- Doctor accounts are created and managed by Admin only.

- **Profile Dashboard:**

- View doctor's own profile and availability schedule.

- **Appointments:**

- View list of upcoming and past appointments.

- **Patient Profiles:**

- Access full medical history and details of each patient they're scheduled with.

- **Add Prescriptions:**

- Add new prescriptions to patient profiles directly from appointment view.



Admin Portal:

- **Login:**

- Admin access is secure and restricted.

- **Manage Doctors:**

- Add new doctors, update details, activate/inactivate doctors.

- **Analytics Dashboard:**

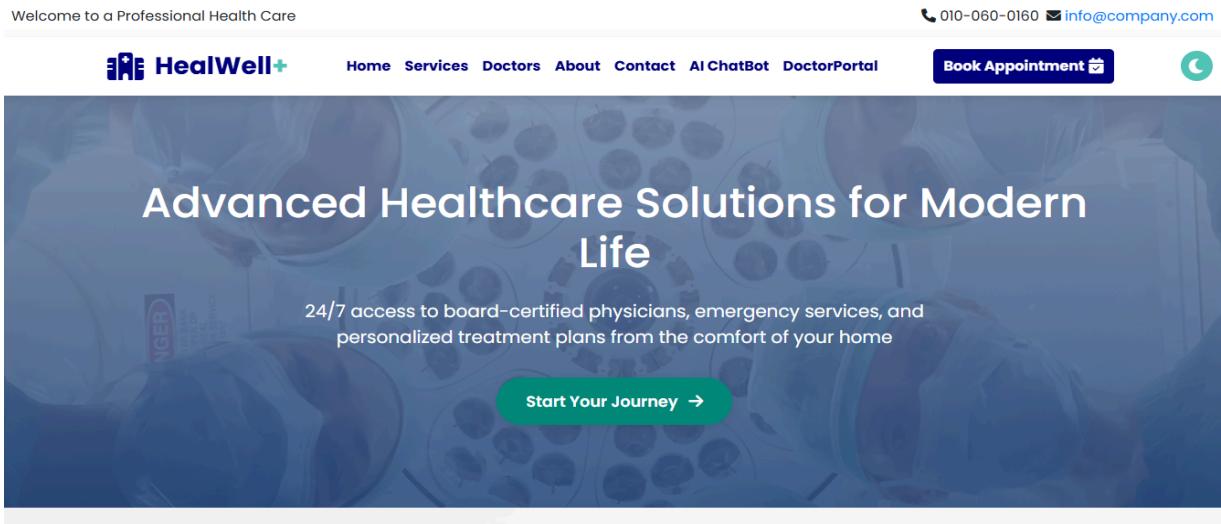
- View graphs and charts for:

- Total appointments
 - Patient growth over time
 - Top-performing doctors
- **System Management:**
 - View overall platform activity and user summaries.

◆ Unique Features:

- **🧠 AI Chatbot** for real-time interaction and support.
- **🔒 JWT-secured role-based authentication** system.
- **🌙 Dark theme toggle** across all pages.
- **📊 Admin dashboards with dynamic graphs** and charts for real-time analytics.
- **🔍 Advanced search using OData and LINQ.**

2. Screenshots



Dark theme overview

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Advanced Healthcare Solutions for Modern Life

24/7 access to board-certified physicians, emergency services, and personalized treatment plans from the comfort of your home

Start Your Journey →

HealWell+

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Our Specialized Services

Comprehensive care for all your health needs

Cardiology
Advanced heart care with diagnostic equipment and treatment plans.
[Learn More →](#)

Neurology
Specialized care for brain and nervous system disorders.
[Learn More →](#)

Orthopedics
Bone and joint care from sports injuries to replacements.
[Learn More →](#)

Pulmonology
Respiratory system specialists for breathing conditions.
[Learn More →](#)



Patient Testimonials

Hear what our patients say about their experiences

The care I received was exceptional. Dr. Johnson took the time to explain everything and made me feel comfortable throughout my treatment.



Sarah Miller
Cardiology Patient

After my knee surgery, the physical therapy team helped me regain full mobility. I'm back to playing tennis thanks to their expertise.



James Wilson
Orthopedics Patient

After my knee surgery, the physical therapy team helped me regain full mobility. I'm back to playing tennis thanks to their expertise.



James Wilson
Orthopedics Patient

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Welcome Back

Sign in to access your health portal

Email Address

Password

Remember me

[Forgot password?](#)

Login

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Welcome back, sadia khalil

Your health information and tools all in one place

 [Edit Profile](#)

 You have 3 unread messages

⚡ Quick Actions

 [New Appointment](#)

 [Messages \(3\)](#)

之心 Health Summary

120/80

Blood Pressure

120 lbs

Weight

1%

AIC

True

Immunizations

[View All Health Metrics >](#)



Make an Appointment

Name	Email
Select Date	Department
01/01/0001	Cardiology
Phone	Appointment Type
	In-person
Doctor	

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Complete Your Payment



Appointment Payment Confirmation

Payment Information

Name: laiba
Email: laiba@gmail.com
Phone: 181199

Appointment Details

Department
Neurology

Doctor



Your Appointment is Confirmed!

We've sent the details to laiba@gmail.com

Appointment Summary

 Patient
laiba

Payment Receipt

Transaction #TX678407



Appointment Summary

 Patient
laiba

 Service
Neurology Consultation

 Doctor
Miasha Nakahara

 Date & Time
Monday, January 1, 0001
00:00:00

 Location
HealWell+ Medical Center
123 Health Street, Suite 456
Dallas, TX 75201

Payment Receipt

Transaction #TX678407

June 16, 2025 6:22 PM

Consultation Fee	\$150.00
Facility Fee	\$25.00
Total Paid	\$175.00

Payment Method Online Banking ending in 1234 5678 9101

 Payment completed successfully

 Print Receipt

 Add to Calendar



Next Steps

1

Prepare for Your Visit

Review any pre-appointment instructions sent to your email. Please arrive 15 minutes early.

2

Complete Health Forms

Fill out your health history forms online through our patient portal. Careful to fill in correct info.

[Access Patient Portal](#)

3

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Book Appointment



Our Healthcare Services

Comprehensive medical care designed for your needs

Specialized Services

Expert care across all major medical disciplines

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Book Appointment



Find Your Doctor

Search from our network of certified healthcare professionals

Search by name, specialty or condition...

Search

Filter by Specialty:

Cardiologist ca Surgeon Dentist general principal Pregnancy Cardiology



Filter by Specialty:

Cardiologist

ca

Surgeon

Dentist

general principal

Pregnancy

Cardiology



Dr. Sarah Ahmed



Jamal



Haroon

Surgeon

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Dr. Sarah Ahmed

Cardiologist

★★★★★ 35 reviews

City Heart Institute

Book Appointment

Overview

Experience

Education

Availability

Reviews



Overview

Experience

Education

Availability

Reviews

About Dr. Ahmed

Dr. Sarah Ahmed is a board-certified cardiologist with over 10 years of experience in treating heart diseases and promoting cardiovascular health.

Specializations

Cardiologist

Cardiac Care

Preventive Medicine



AI Medical Assistant

Dr. AI is online

38.5°C) for more than 3 days. - Difficulty breathing or chest pain. - Yellow/green mucus (possible bacterial infection). - Symptoms lasting over 10 days. Hope you feel better soon! Let me know if you need more guidance. 😊

9:02 PM

You

hello

4:55 PM



38.5°C) for more than 3 days. - Difficulty breathing or chest pain. - Yellow/green mucus (possible bacterial infection). - Symptoms lasting over 10 days. Hope you feel better soon! Let me know if you need more guidance. 😊

9:02 PM

You

hello

4:55 PM



Dr. AI

Hello! 😊 How can I assist you today?

4:56 PM

Type your message...



End

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Book Appointment



Contact Us

We're here to help and answer any questions you may have

Get in Touch

Send Us a Message

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About HealWell+

Your trusted partner in comprehensive healthcare solutions since 2010.

👉 Contact Us



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Book Appointment



Welcome, Dr. Sarah Ahmed

Specialty: Cardiologist | City Heart Institute



Dr. Sarah Ahmed

Cardiologist

★ 4.8 (35 reviews)

All Appointments

6:44 AM sadiakhalil none



12:00 AM sadiakhalil none



12:00 AM sadiakhalil





Patient Profile

sadiakhalil

✉ sadiakhalil654@gmail.com

Heart Health Metrics

Blood Pressure

112/80

Weight

48.5 lbs

A1C Level

8.22

Immunizations

Up to date



Blood Pressure

112/80

Weight

48.5 lbs

A1C Level

8.22

Immunizations

Up to date

Previous Prescriptions

hjsjsj

View Health RecordsNew Prescription

Rx New Prescription

Medication

Dosage

Refills Remaining

0

Expiration Date

09/16/2025

Additional Instructions

justaddedSave PrescriptionCancel

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Book Appointment



Admin Dashboard

Add Doctor

Edit Doctor

Patients Analytics

Refresh

Doctors Analytics

Manage Doctors

Search doctors...

ID	Name	Specialty	Status	Appointments	Rating	Actions
1	Dr. Sarah Ahmed	Cardiologist	Active	120	★★★★★ 51	

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Book Appointment



Doctor Registration

Join our network of healthcare professionals

Full Name

Specialty

Email

Hospital/Clinic

Professional Bio

W

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Admin Dashboard

Doctors Analytics

Doctor Edit

Join our network of healthcare professionals

Full Name	Specialty
<input type="text"/>	<input type="text"/>
Email	Hospital/Clinic
<input type="text"/>	<input type="text"/>
Professional Bio	
<input type="text"/>	

Manage Doctors

ID	Name
1	Dr. Haroon
2	Dr. Sarah Ahmed
3	Dr. Sadia

Book Appointment

Analytics Refresh

Search doctors...

Actions

51 5 31

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Admin Dashboard

Add Doctor Edit Doctor Patients Analytics Refresh

Doctors Analytics

Key Metrics

8 Total Doctors ↑ 12%	19 Appointments (30d) ↑ 5%	Nan Avg. Rating = 0%
--	---	--

Appointments

\$1.575.00

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Top Performing Doctors

	Haroon Surgeon	51 1 appts
	Dr. Sarah Ahmed Cardiologist	51 120 appts
	Sadia Surgeon	41 0 appts

Specialty Distribution

Cardiologist	Dentist	general principal
Pregnancy	Surgeon	Cardiology



Patient Analytics

[Last 30 Days](#)
[Export](#)

4

Total Patients



19

Patients' Appointments



2

Total Health Records

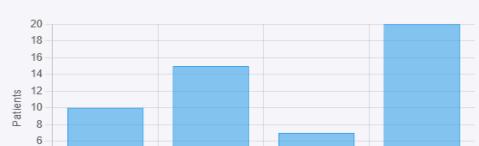


2

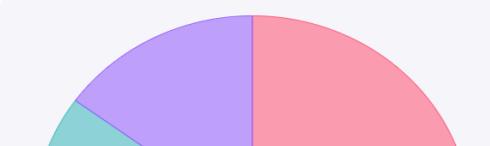
Total Prescriptions



Patient Growth



Age Distribution



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Patient Analytics

[Last 30 Days](#)
[Export](#)

4

Total Patients



19

Patients' Appointments



2

Total Health Records

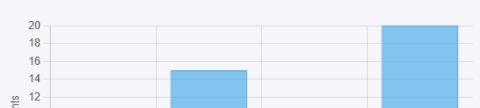


2

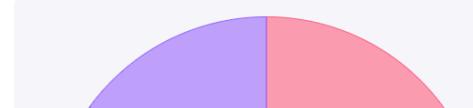
Total Prescriptions



Patient Growth



Age Distribution



3. User Instructions



For Patients:



Registration:

- Go to the **Patient Portal**.
- Click **Sign Up**, fill out required fields (name, email, password, etc.).
- Submit the form to create your account.

Login:

- Use your registered email and password to log in securely.
- After login, you're redirected to the **Patient Dashboard**.

Dashboard Overview:

- View your **personal information** and **medical history**.
- Shortcut to **add appointment**, **view AI chatbot**, or **search doctors**.

Booking an Appointment:

1. Click “**Add Appointment**”.
2. Select a **department** and choose from the listed doctors.
3. Pick your **preferred time slot**.
4. Proceed to **Checkout**, enter your **card details**.
5. On successful booking, you are redirected to a **confirmation page**.

Search for Doctors:

- Go to the **Doctors** tab in the navigation bar.
- Use search fields to filter doctors by **specialty** or **name**.
- Click a doctor card to view their full **profile**.
- From the profile, click “**Book Appointment**” if needed.

Using the AI Chatbot:

- Click on the **Chatbot** icon/tab.
- Enter health-related queries and receive **AI-generated suggestions**.
- Responses are powered by the **DeepSeek V3 model via OpenRouter API**.

 **Dark Mode:**

- Use the **toggle switch** on the navbar to switch between light/dark mode for a better user experience.
-

 **For Doctors:** **Login:**

- Go to the **Doctor Portal**.
- Use the **credentials provided by admin** to log in.

 **Profile View:**

- View your own information: specialty, experience, available slots, etc.

 **Appointments:**

- View all assigned appointments with details like date/time and patient name.
- Access the patient's full medical history.

 **Add Prescriptions:**

- From the appointment or patient profile, click "**Add Prescription**".
 - Enter the medication details and notes, then save.
-

 **For Admin:** **Login:**

- Go to the **Admin Panel**.
- Use secure credentials to access the system.



Doctor Management:

- **Add new doctor** by entering name, specialty, availability, education, and more.
- **Edit/update** doctor profiles as needed.
- **Activate/inactivate** doctors from the system dashboard.



View Analytics:

- Open the **Dashboard** tab to view:
 - Total appointments this week/month.
 - Number of active patients and doctors.
 - Top 5 most consulted doctors.
 - Trends over time via **graphs and charts**.

4. GitHub Link

<https://github.com/pupucit/blazor-project-sadia.git>