

Web Programming Languages

CS 6314.502: Final Project

Instructor: Prof. Nurcan Yuruk



Healthcare Services

www.surakshacare.com

Project Description:

Suraksha Care provides an all-inclusive web portal, powered by a strong user-interface that helps to find the healthcare and wellness doctor of your choice. It provides service for searching and booking appointments with ER doctors or physicians.

At the tip of our fingers, we can avail quality healthcare & wellness services for our health and wellness requirements that Suraksha care encompasses. There is also a chatbot service that serves as a web assistant to fix appointments with the doctors.

SC Pricing Checkout WebDoctor Login

COVID 19 HOME CARE QUARANTINE SURAKSHA CARE

PACKAGE INCLUDES

Audio/Video consultant by Specialist Doctors.
Regular Vitals Monitoring(SPO2, HR, TEMP, BP, RR) by Consultant
Physician On-Line diet consultant by Nutritionist.



Daily Monitoring by Specialist /Nurse



Home Sample Collection

Fig 1: Desktop View



Fig 2: Mobile View

Database Design:

We have a normalized database model with collection doctorInfo that has two models:

i. doctorInfo

This model encompasses the details of the doctors in the database.

It has the following attributes:

- o _id
- o docName
- o qualification
- o experience
- o availability
- o timing
- o fee
- o docImg

ii. users

This model encompasses the details of the users in the database

Here the admin users are:

- o Mujtaba Arfath (arfath1997@gmail.com)
- o Aasia Afreen (afreen@gmail.com)
- o Divya Birla(divyabirla@gmail.com)

Standard users are:

- o Lydiya (Lydia@gmail.com)

More users can be added as they sign up

For hashing password of users bcrypt has been used (for security reasons).

The screenshot shows the MongoDB Atlas interface for the 'doctorInfo' collection. The left sidebar shows 'Clusters' selected under 'DATA STORAGE'. The main area displays the 'doctorInfo' collection with 2 databases and 3 collections. The 'doctorInfo' collection has 23 documents and 36KB of indexes. A sample document is shown:

```

_id: ObjectId("5fcad1f203f155b9c36d8eea")
docName: "Dr. Mikhail Vargavaski"
qualification: "MBBS, MD, FRCS in Gynaecology"
availability: "Mon Wed Thur Sat"
timing: "10:00 am to 5:00 pm"
fee: 500
docImg: "https://img.mensxp.com/media/content/2020/Mar/YouTube-Famous-Doctor-Mi... "
experience: 5

```

Another document is partially visible:

```

_id: ObjectId("5fcad6fb03f155b9c36d8eec")
docName: "Dr. Rachel Green"
qualification: "MRRC. MD in Paediatrics"

```

Fig 3: DB Model- doctorInfo

The screenshot shows the MongoDB Atlas interface for the 'users' collection. The left sidebar shows 'Clusters' selected under 'DATA STORAGE'. The main area displays the 'users' collection with 1 database and 3 collections. The 'users' collection has 9 documents and 36KB of indexes. A sample document is shown:

```

_id: ObjectId("5fcdb3660255ea4fc443362d")
name: "Divya Birla"
email: "divyabirla@gmail.com"
password: "$2a$08$5517BkQ7ed5s/aLSL0Rj.5kgImQvYSwUtX8uqhLnE6dUNlyces5"
history: []
__v: 0

```

Another document is partially visible:

```

_id: ObjectId("5fcbd5097811f0508482d4e3")
name: "Asia Afreen"
email: "asia@gmail.com"
password: "$2a$08$4bxcomVTkj2Ddn0NDLGMeH.eSSchIDLHp7rGza.BEZak.MVR17K"
history: []
__v: 0

```

Fig 4: DB Model – users

Project	Doctor.js	User.js
SurkashaCare-master		
node_modules		
public		
src		
Assets		
Component		
Containers		
node-server		
lib		
Model		
node_modules		
routes		
app.js		
package-lock.json		
package.json		
passportConfig.js		
UI		
NavBar		
NavBar.css		
NavBar.js		
.gitignore		
App.css		
App.js		
App.test.js		
index.css		
index.js		
logo.svg		
serviceWorker.js		
setupTests.js		
.gitignore		
package-lock.json		
package.json		
README.md		
	<pre> 1 const mongoose = require("mongoose"); 2 //const validator= require("validator"); 3 4 const userSchema = new mongoose.Schema({ 5 docName:{ 6 type:String, 7 required:true, 8 9 }, 10 11 qualification:{ 12 type:String, 13 required:true, 14 15 }, 16 availability:{ 17 type:String, 18 required:true 19 }, 20 timing:{ 21 type:String, 22 required:true 23 }, 24 fee:{ 25 type:Number, 26 required:true 27 }, 28 docImg:{ 29 type:String 30 }, 31 experience:{ 32 type:Number, 33 required:true 34 } 35 36 }) 37 38 const Doctor = mongoose.model('doctorInfo',userSchema); 39 module.exports = Doctor; </pre>	

Fig 5: docinfo Schema

The screenshot shows a code editor with a sidebar on the left displaying a project structure for a Node.js application named "SurkashaCare-master". The structure includes folders for node_modules, public, src (containing Assets, Component, Containers, node-server, lib, Model), routes, and UI (containing NavBar). It also lists files like app.js, package-lock.json, package.json, and passportConfig.js. A .gitignore file is present in the root. The main pane displays two code files: Doctor.js and User.js.

```

Project
└ SurkashaCare-master
  └ src
    └ Model
      └ User.js
        1 const mongoose = require("mongoose");
        2 const validator= require("validator");
        3
        4 const userSchema = new mongoose.Schema({
        5   name:{
        6     type:String,
        7     required:true,
        8   },
        9
       10  email:{
       11    type:String,
       12    required:true,
       13    validate(value){
       14      if(validator.isEmail(value)==false){
       15        throw new Error("Email is invalid");
       16      }
       17    }
       18  },
       19  password:{
       20    type:String,
       21    required:true,
       22  },
       23  history:[
       24    {
       25      name:{
       26        type:String
       27      },
       28      timing:{
       29        type:String
       30      },
       31      fee:{
       32        type:Number
       33      },
       34      total:{
       35        type:Number
       36      },
       37      date:{
       38        type:Date
       39      }
       40    }
  
```

Fig 6: users Schema

Language/Frameworks used:

The web portal is built using MERN stack where:

- MongoDB Atlas as the Database Tier.
- Express.js and Node.js serve as the Server Tier.
- React.js serves as the Frontend Tier.

Main Functionalities:

- User signup:

Allows user to register by providing email as username and creating a password

SC Pricing Checkout WebDoctor Login

Unlock the unlimited service.

Login Sign Up

Login with Google

or

Name

Lydia

We'll never share your email with anyone else.

Email address

Lydia@gmail.com

We'll never share your email with anyone else.

Enter valid email

Password

**

Password Is not Strong, it should contain one lowercase letter, one uppercase letter, one numeric digit, and one special character

Re-type Password

RetypePassword

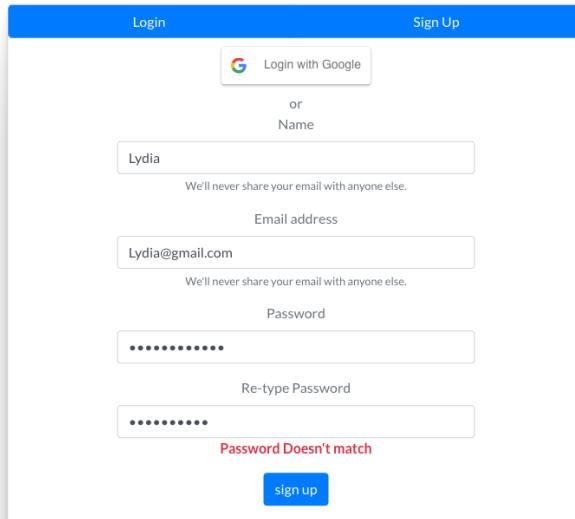
sign up

About us

"We are a group of remarkable ER Doctors ,Physicians and Trained Nurses who have the right experience to handle COVID-19 cases."

Fig 7: User SignUp form validation for username and password

Unlock the unlimited service.



The image shows a login and sign-up interface. At the top, there are two buttons: "Login" on the left and "Sign Up" on the right. Below the "Login" button is a "Login with Google" button featuring the Google logo. A horizontal line with the word "or" in the center separates the Google button from the "Name" input field. The "Name" field contains the name "Lydia". Below the "Name" field is a note: "We'll never share your email with anyone else." To the right of the "Name" field is an "Email address" input field containing "Lydia@gmail.com", with a similar note below it: "We'll never share your email with anyone else.". Below the email field is a "Password" input field containing a series of dots, followed by a "Re-type Password" input field also containing a series of dots. A red error message "Password Doesn't match" is displayed above the "Re-type Password" field. At the bottom right is a blue "sign up" button.

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Fig 8: Password match

- User login:

Allows a user to sign-in in two ways:

- i. Using registered user credentials (email id and password)
- ii. Using google account

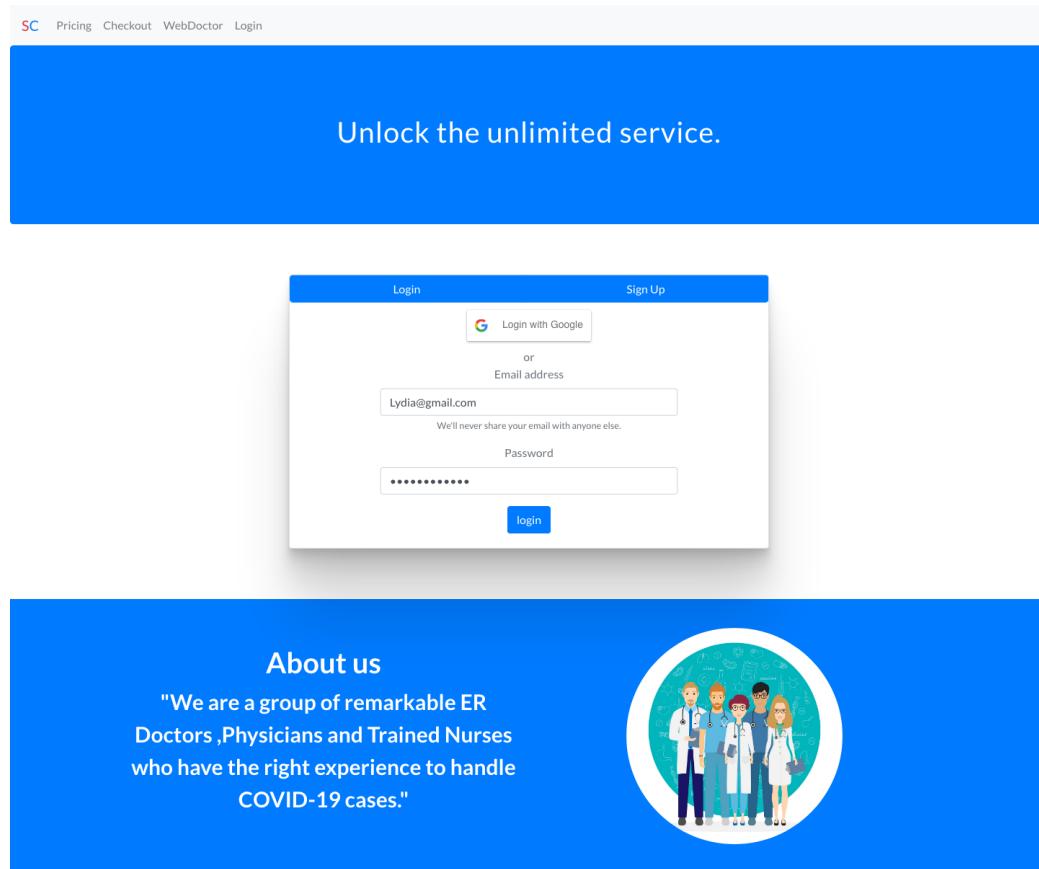


Fig 9: Login Page

- List of services in the system:

The service web portal provides

- A pricing page which lists the doctors with details of doctor's:
 - i. Image
 - ii. Name
 - iii. Qualification
 - iv. Years of experience
 - v. Appointment slots (days and timing)
 - vi. Session fees

This page uses pagination to provide 5 doctor cards per page.

OUR PACKAGE FOR THE TREATMENT

Adjust the doctor fee and experience to suite your budget.

Fee: \$0 \$1000 Experience: 1 10



Name: Dr. Michael Struzzo

Qualifications: MBBS, MD in Infectious Disease & Pulmonology

Weekly Availability: Mon Tue Wed Thu Fri

Timings: 3:00 pm to 5:00 pm

Fee: \$550

Experience: 7 years

[reserve](#) [un-reserve](#)



Name: Dr. Ferek Shepherd

Qualifications: MBBS, MD, MRCS in Neurology

Weekly Availability: Mon Thu Sat

Timings: 11:00 am to 3:00 pm

Fee: \$600

Experience: 8 years

[reserve](#) [un-reserve](#)



Name: Dr. Jesse Williams

Qualifications: MBBS, MD in Cardiology

Weekly Availability: Wed Thu Fri Sat

Timings: 4:00 pm to 6:00 pm

Fee: \$650

Experience: 9 years

[reserve](#) [un-reserve](#)



Name: Dr. Helen Keller

Qualifications: MBBS, MD in Genetic Pathology

Weekly Availability: Mon Tue Wed Thu Fri

Timings: 10:00 am to 12:00 pm

Fee: \$400

Experience: 3 years

[reserve](#) [un-reserve](#)



Name: Dr. Meredith Grey

Qualifications: MBBS, MD in Preventive Medicine

Weekly Availability: Mon Tue Wed Thu Fri

Timings: 1:00 pm to 4:00 pm

Fee: \$400

Experience: 2 years

[reserve](#) [un-reserve](#)

0 1 2 3 4 5

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Fig 10: Pricing Page with pagination

On this page a user can search through filtering the attributes Fees and Experience and add reserve the doctor's slot for checkout.

- Filtering and searching available:

On the pricing page users can filter doctor detail cards by selecting range of fees and years of experience.

The screenshot shows a search interface for doctors. At the top, there are navigation links: SC, Pricing, Checkout, WebDoctor, and Login. Below this is a blue header bar with the text "OUR PACKAGE FOR THE TREATMENT". Underneath, there is a section titled "Adjust the doctor fee and experience to suite your budget." with sliders for "Fee" (ranging from \$0 to \$1000) and "Experience" (ranging from 1 to 10). The results are displayed in a grid of four doctor profiles:

- Dr. Jesse Williams**: MBBS, MD in Cardiology. Weekly Availability: Wed Thu Fri Sat. Timings: 4:00 pm to 6:00 pm. Fee: \$650. Experience: 9 years. Buttons: reserve, un-reserve.
- Dr. Alex Karev**: MBBS, MD in Internal Medicine. Weekly Availability: Mon Thu Fri. Timings: 10:00 am to 4:00 pm. Fee: \$700. Experience: 9 years. Buttons: reserve, un-reserve.
- Dr. Callie Torres**: MBBS, MD in Pulmonology & Infectious Disease. Weekly Availability: Mon Tue Wed Thu Fri. Timings: 11:00 am to 7:00 pm. Fee: \$750. Experience: 10 years. Buttons: reserve, un-reserve.
- Dr. Richard Webber**: MBBS, MD, FRCS, MRCS in Internal Medicine. Weekly Availability: Sat Sun. Timings: 12:00 pm to 4:00 pm. Fee: \$800. Experience: 10 years. Buttons: reserve, un-reserve.

At the bottom left, there is an "About us" section with the text: "We are a group of remarkable ER Doctors ,Physicians and Trained Nurses who have the right experience to handle COVID-19 cases." To the right of this text is a circular icon containing illustrations of medical professionals.

Fig 10: Filter for Fee $\geq \$650$ and Experience ≥ 9 years

- Checkout cart:

A checkout cart which allows registered user to book appointments and pay.

The screenshot shows a checkout page with a blue header bar containing the word "CHECKOUT" and the sub-instruction "Confirm your booking." Below this is a table listing two appointment entries:

Doctor Name	Date and Time	Fee	Add or Remove
Dr. Alex Karev	10:00 am to 4:00 pm	\$700	<button>Remove</button>
Dr. Jesse Williams	4:00 pm to 6:00 pm	\$650	<button>Remove</button>

Subtotal: \$1350

At the bottom are two buttons: "Pay" (green) and "Empty cart" (red).

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Fig 12: Checkout Cart

Remove Items From Cart

Here in reference to Fig 12 we can remove item. The below image shows the status of the cart after removing the first entry.

CHECKOUT

Confirm your booking.

Doctor Name	Date and Time	Fee	Add or Remove
Dr. Jesse Williams	4:00 pm to 6:00 pm	\$650	<button>Remove</button>

Subtotal :\$650

Pay

Empty cart



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Fig 13: Removed One Item

In reference to Fig 13, the below image shows the status of cart after clicking on Empty cart

Empty Entire Cart

CHECKOUT

Confirm your booking.

Doctor Name	Date and Time	Fee	Add or Remove
You have not booked an appointment	-	\$0	<button>Remove</button>

Subtotal :\$0

Pay

Empty cart



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Fig 14: Emptied Cart

- Purchase History

The web portal also displays the purchase history of the user.

The screenshot shows a web application interface. At the top, there is a navigation bar with links: SC, Pricing, Checkout, WebDoctor, and Login. Below the navigation bar, a large blue header box contains the text "Your Personal Details". On the left side, there is a sidebar for a user named Lydia, featuring a placeholder profile picture, the name "Lydia", the text "Your personal information", and an email address "email: Lydia@gmail.com". A "Logout" button is located at the bottom of the sidebar. The main content area displays three separate sections, each representing a doctor's appointment entry:

- Doctor Name:** Dr. Jesse Williams
Timings: 4:00 pm to 6:00 pm
Fee: \$650
- Doctor Name:** Dr. Mark Sloan
Timings: 4:00 pm to 7:00 pm
Fee: \$600
- Total:** \$1250

- Doctor Name:** Dr. Mikhail Varshavski
Timings: 10:00 am to 5:00 pm
Fee: \$500
- Doctor Name:** Dr. Rachel Green
Timings: 11:00 am to 4:00 pm
Fee: \$350
- Total:** \$850

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Fig 14: Purchase History

- Chatbot service:

A chatbot service that acts as a web assistant to fix appointments.

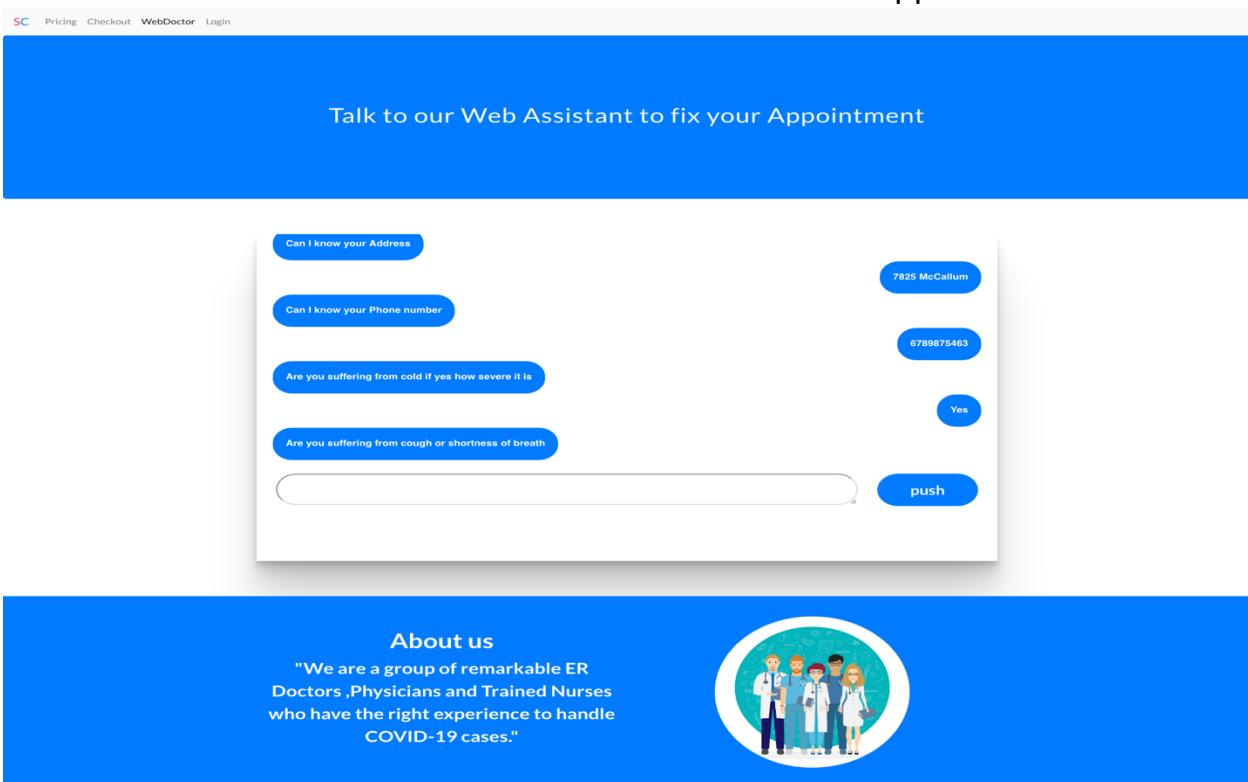


Fig 14: Chatbot

- Admin functionality:

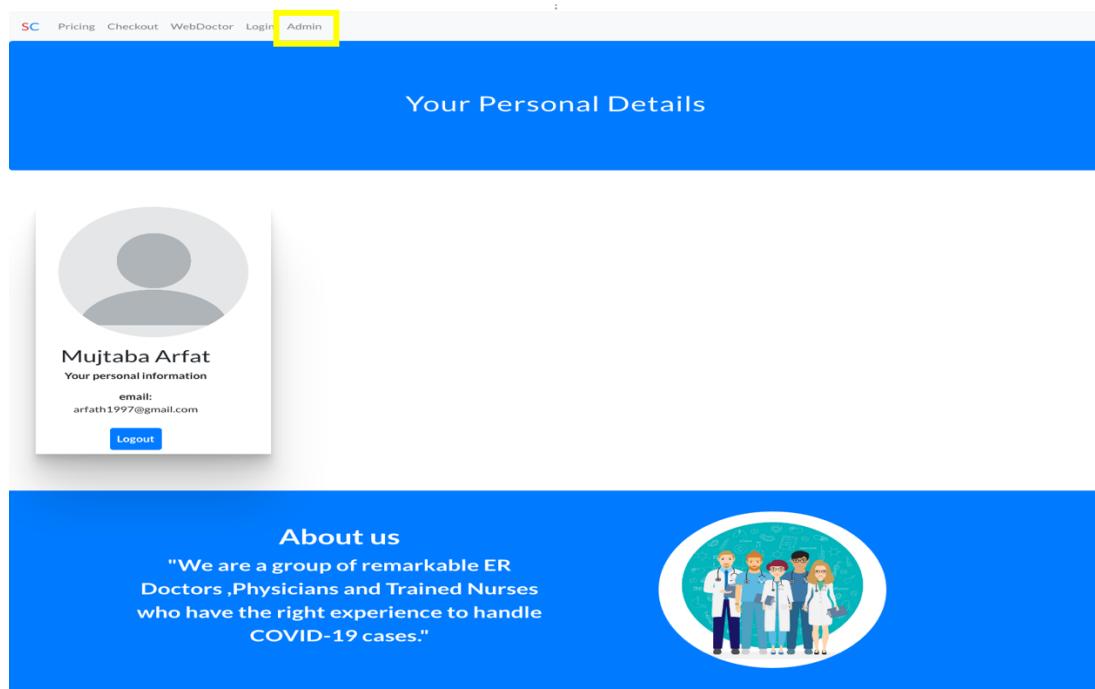


Fig 15: Admin Login

i. List all

Welcome Admin
You can modify existing doctor profiles or add new ones

The Admin Page displays a grid of 20 doctor profiles, each with a thumbnail, name, qualifications, weekly availability, timing, fee, and experience. Below the grid is a summary section.

Name	Qualifications	Weekly Availability	Timing	Fee	Experience
Mujtaba Arfat	MBBS, MD, FRCR	Mon Wed Thu Fri Sat	10:00 am to 5:00 pm	\$500	5 years
Dr. Michael Johnson	MBBS, MSc, FRCR	Mon Wed Thu Fri	10:00 am to 5:00 pm	\$500	5 years
Dr. Rachel Green	MBBS, MSc, FRCR	Mon Wed Thu Fri	11:00 am to 4:00 pm	\$350	2 years
Dr. Ross Geller	MBBS, MSc, FRCR	Mon Wed Thu Fri	11:00 am to 5:00 pm	\$350	2 years
Dr. Chandler Bing	MBBS, MSc, FRCR	Mon Wed Thu Fri	10:00 am to 3:00 pm	\$400	3 years
Dr. Monica Geller	MBBS, MSc, FRCR	Mon Wed Thu Fri	11:00 am to 3:00 pm	\$350	2 years
Dr. Derek Shepherd	MBBS, MSc, FRCR	Mon Wed Thu Fri Sat	10:00 am to 3:00 pm	\$400	5 years
Dr. Jesse Williams	MBBS, MSc, FRCR	Mon Wed Thu Fri	4:00 pm to 6:00 pm	\$450	2 years
Dr. Helen Keller	MBBS, MSc, FRCR	Mon Tue Wed Thu	10:00 am to 12:00 pm	\$400	2 years
Dr. Meredith Grey	MBBS, MSc, FRCR	Mon Tue Wed Thu	1:00 pm to 4:00 pm	\$400	2 years
Dr. Christina Yang	MBBS, MSc, FRCR	Mon Tue Wed Thu	1:00 pm to 4:00 pm	\$500	2 years
Dr. Mark Sloan	MBBS, MSc, FRCR	Mon Tue Wed Thu	10:00 am to 2:00 pm	\$400	2 years
Dr. Alex Karev	MBBS, MSc, FRCR	Mon Tue Wed Thu Fri	10:00 am to 4:00 pm	\$700	9 years
Dr. Izzie Stevens	MBBS, MSc, FRCR	Mon Tue Wed Thu	8:00 pm to 10:00 pm	\$450	2 years
Dr. Callie Torres	MBBS, MSc, FRCR	Mon Tue Wed Thu	1:00 am to 7:00 pm	\$700	10 years
Dr. Richard Webber	MBBS, MSc, FRCR	Mon Tue Wed Thu	1:00 pm to 4:00 pm	\$400	10 years
Dr. Reed Adams	MBBS, MSc, FRCR	Mon Tue Wed Sat	12:00 pm to 4:00 pm	\$400	2 years
Dr. Eliza Minnich	MBBS, MSc, FRCR	Mon Tue Wed Sat	4:00 pm to 6:00 pm	\$500	2 years
Dr. Intern Pierce	MBBS, MSc, FRCR	Mon Tue Wed Thu	10:00 am to 3:00 pm	\$350	2 years
Dr. Penny Blake	MBBS, MSc, FRCR	Mon Tue Wed Sat	1:00 pm to 4:00 pm	\$350	2 years
Dr. Abdul Bari	MBBS, MSc, FRCR	Mon Tue Wed Thu	12:00 am to 10:00 pm	\$400	2 years
Dr. Venkateswara	MBBS, MSc, FRCR	Mon Tue Wed Thu	1:00 pm to 4:00 pm	\$400	2 years

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Fig 16: Admin Page

ii. Add

The screenshot shows a web application for managing doctor profiles. On the left, there's a sidebar with a placeholder profile picture and the name 'Mujtaba Arfat'. Below it, under 'Your personal information', are fields for 'email:' (arfath1997@gmail.com) and two buttons: 'Logout' and 'Add Items'. The main content area has a blue header bar with the text 'Welcome Admin' and 'You can modify existing doctor profiles or add new ones'. A form is displayed for adding a new doctor profile:

Doctor Name:	Dr Annie Miller
Qualifications:	MBBS, MD, FRCS in Gynaecology
Weekly Availability:	Wed Fri
Timings:	11:00 am to 4:00 pm
Fee:	650
Experience	4

At the bottom of the form are 'Save' and 'Cancel' buttons.

Fig 17: Admin Add Functionality

iii. Update

iv. Delete

Both these functionalities are explained in the video at 4:25 timestamp.

Team Members:

<u>Name</u>	<u>NetID</u>
Mujtaba Arfat Syed	mxs190085
Aasia Afreen	axa190091
Divya Birla	dxb190021

Work Division:

- Front End for all pages done by Aasia Afreen.
- Backend logic for node and EJS involving Pricing, Filtering, Searching and User Authentication done by Mujtaba Arfat Syed.
- User Authentication backend connection with DB and Client done by Aasia Afreen and Divya Birla.
- Admin page backend logic done by Divya Birla.
- Database Design done by Mujtaba Arfat Syed and Divya Birla.
- Documentation and Video editing done by entire team together.

Files Attached:

- Project Report pdf
- Source files under SurakshaCare-master.zip
- Database json files – docinfo.json, users.json
- Readme file (with link to project video)