

CareU User Manual

Development Team: Group 6

Client Team: Group 14

External Dependencies:

1. Basic Dependencies

- spring-boot-starter-data-jpa
- spring-boot-starter-security
- spring-boot-starter-thymeleaf
- spring-boot-starter-web
- thymeleaf-extras-springsecurity5
- spring-boot-starter-mail
- spring-boot-devtools
- spring-boot-starter-test
- spring-security-core
- spring-security-test
- bootstrap
- jquery
- webjars-locator-core

2. Special Dependencies:

- spring-security-oauth2-client: This has been used for performing Gmail Authentication and Social Media sign up.
- mysql-connector-java: This has been used for establishing a connection between the application and the database.
- pdfbox: This dependency is used for generating a PDF based on a template. We have used this for generating the bill pdf file.
- spring-boot-starter-oauth2-client: This has been used for performing Gmail Authentication and Social Media sign up.

Build Documentation:

- CSV Dump file for bank database. This file needs to be run in the database before executing the file. This file has already been run in DEV, TEST, PROD databases, so if you want to run it in databases other than these or in your local database then you need to use the .csv file and perform an import.
- The deployments are automated using CI/CD pipeline. Based on the branch the spring will pickup the active profiles and deploy to Heroku.
- To manually build and run the application clone the repo and use **mvn clean install**.

Features/User Scenarios:

1. **Doctor Registration:** This is the user registration page which is common for both the Doctor and Patient. Only the common details of Doctor and Patient is taken here.

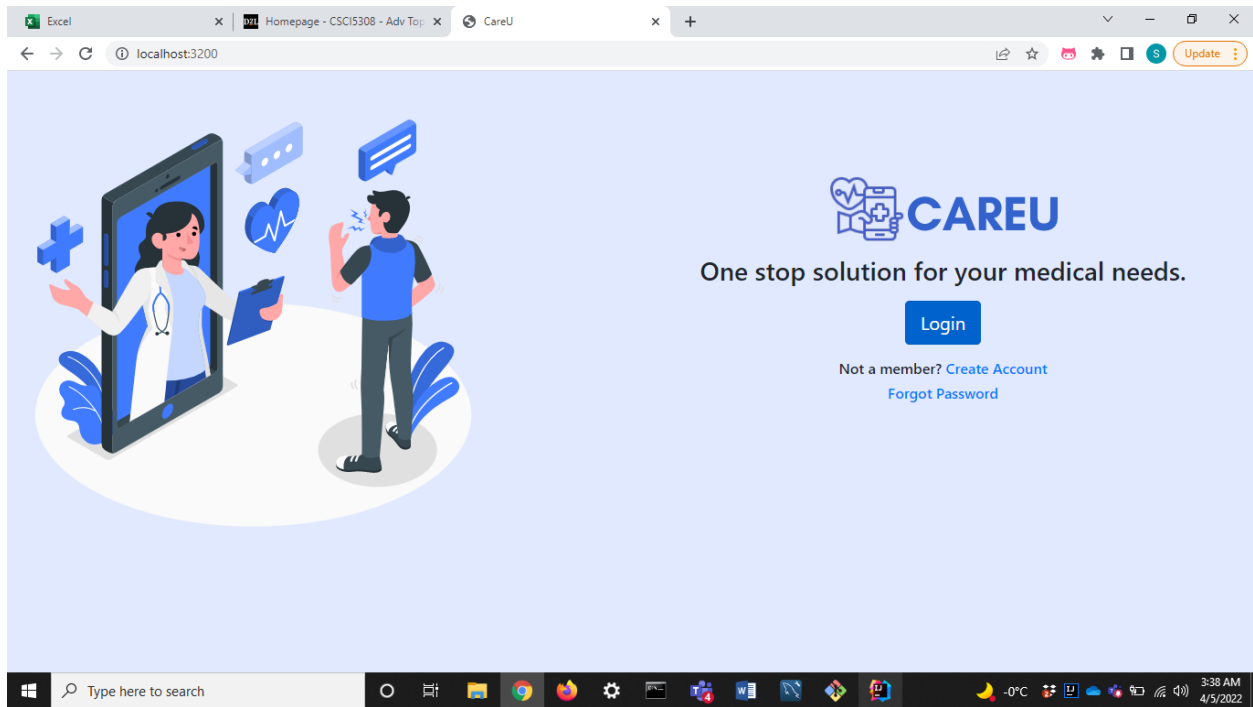


Fig 1.1: Application Landing Page (Click on **Create Account**)

Register

First Name	Last Name
<input type="text" value="Srivathsav"/>	<input type="text" value="Chevuru"/>
Email	Phone
<input type="text" value="srivathsavchevuru@gmail.com"/>	<input type="text" value="9024127150"/>
Gender	Password
<input checked="" type="radio"/> Male <input type="radio"/> Female	<input type="password" value="....."/>
User Type	
<input checked="" type="radio"/> Doctor <input type="radio"/> Patient	

Fig 1.2: User Registration Page (Enter Registration Details)

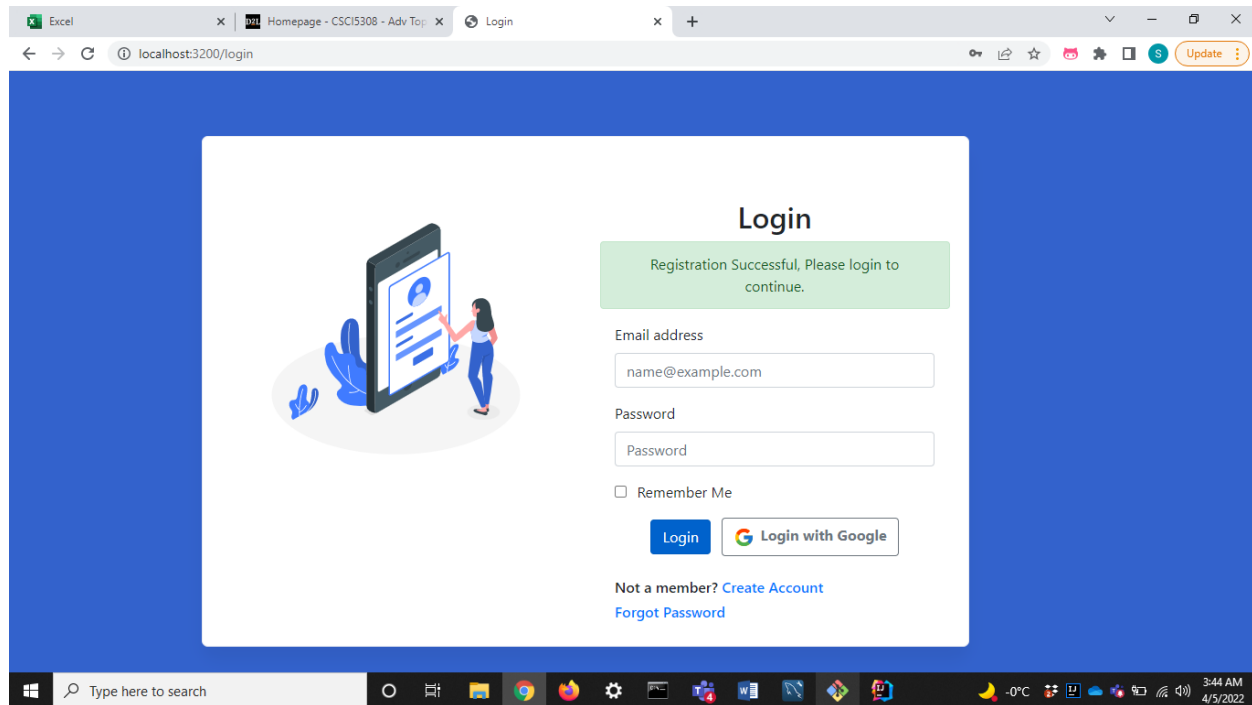


Fig 1.3: User Registration Successful Page

2. **Doctor Login:** This is the user login page which is common for both Doctor & Patient. If the login is successful Doctor is redirected to Doctor Homepage and Patient to Patient Homepage.

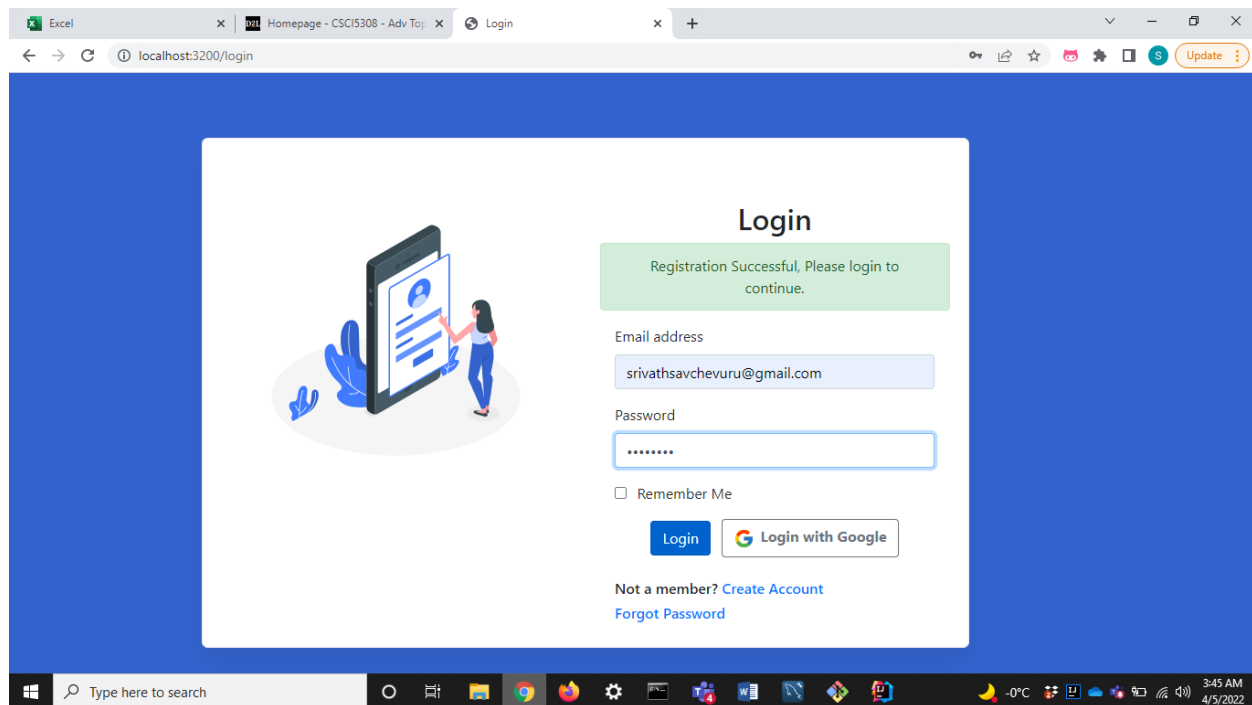


Fig 2.1: User Login Page (Enter the login details)

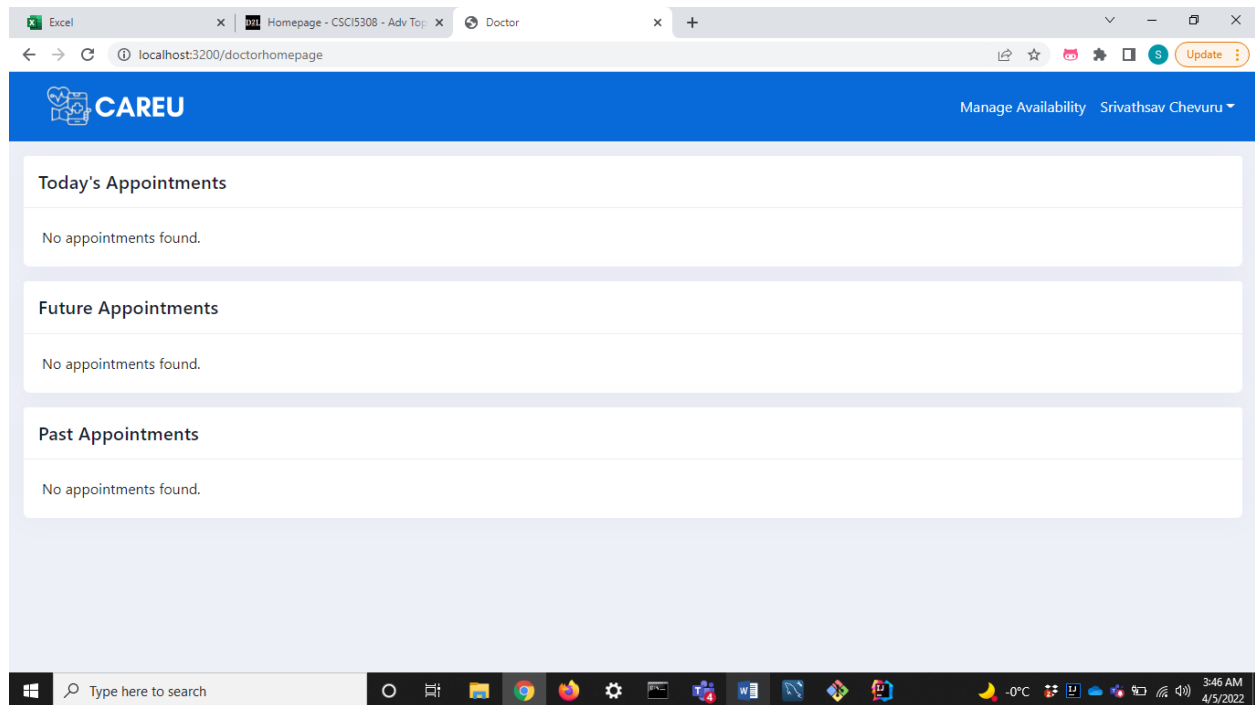


Fig 2.2: Doctor Homepage (You can click on CareU at any page to come to homepage)

3. **Doctor Profile Page:** In the user registration page only the very important details are taken from the user since it is common for Patient as well as Doctor. The Doctor specific details are taken here in the Doctor Profile page. It also asks the Doctor to upload his/her license along with profile details. To open this page hover on name in the top-right corner and click on Profile Settings. Clicking on Cancel will redirect to the homepage.

CAREU Srivathsav Chevuru

Profile Information

Overview <input type="text" value="I am a motivated heart surgeon."/>	Specialization <input type="text" value="Cardiologist, Surgeon"/>
Age <input type="text" value="48"/>	Doctor Registration Number <input type="text" value="A23S5"/>
Doctor Experience <input type="text" value="12"/>	Doctor Qualification <input type="text" value="MS, MBBS, FRCS"/>
Doctor Location <input type="text" value="Halifax, Nova Scotia"/>	

Fig 3.1: Doctor Profile Page (Enter the profile details here)

CAREU Srivathsav Chevuru

Doctor License Upload

Select Document to upload No file chosen

Fig 3.2: Doctor License Upload (Upload the license here)

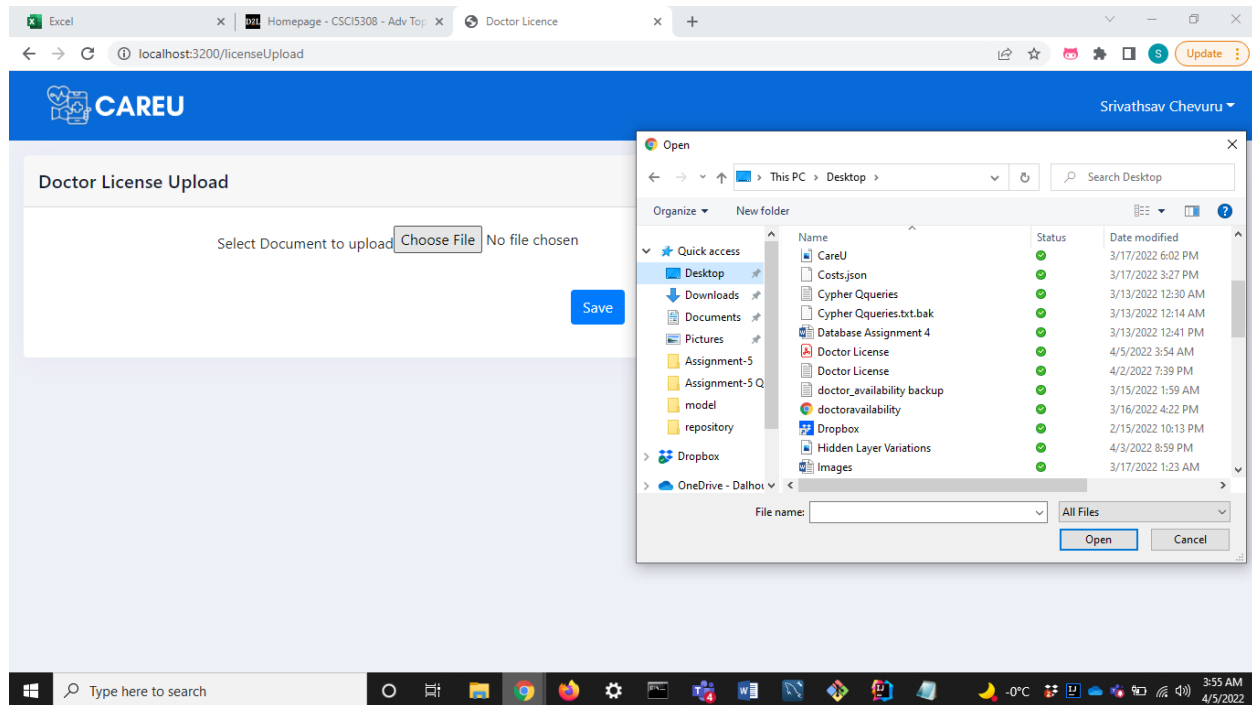


Fig 3.3: Doctor License Upload (Upload the license here)

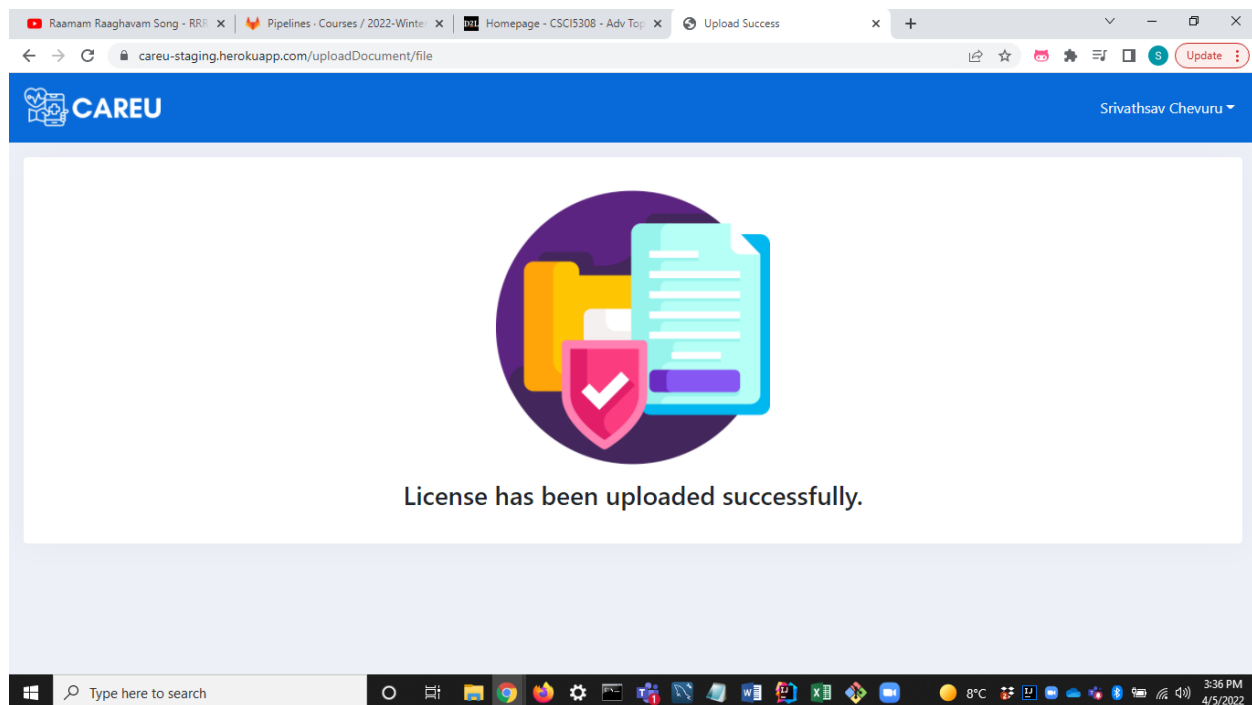


Fig 3.4: Doctor License Upload Success Page

4. Doctor Manage Availability: Doctor has the option of adding his availability. He can add multiple availability at a particular day. He should add each available slot separately. For example: If an appointment takes 30 mins and he is available for 1 hour on a particular day. He has to add 3 entries one for each available appointment slot that day. This has been done keeping in mind that there will be a multitude of doctors and all are different kinds of doctors and basing on the specialization the appointment time may vary. Appointment for Cardiologist may take longer than Appointment for Ear Specialist. The steps for adding availability:

- a. Select date, start time and end time.
- b. Click on Add.
- c. Now select date, start time and end time again to add multiple time slots.
- d. You can also delete added appointments by clicking on Delete button.
- e. Once you are done adding all the slots, Click on Save Availability.

The screenshot shows a web browser window with the URL `careu-staging.herokuapp.com/doctor-availability`. The page has a blue header with the CAREU logo and the user name 'Srivathsav Chevuru'. The main content area is titled 'Save Your Availability' and contains a form with the following fields:

- Available Date: (with a calendar icon)
- Start Time: (with a clock icon)
- End Time: (with a clock icon)

Below the form are three buttons: 'Add' (blue), 'Save Availability' (blue), and 'Cancel' (grey). Below the buttons is a table with the following headers:

Availability Date	Start Time	End Time	Delete
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The Windows taskbar at the bottom shows the search bar, taskbar icons, and system tray with the date and time '3:50 PM 4/5/2022'.

Fig 4.1: Doctor Manage Availability Homepage

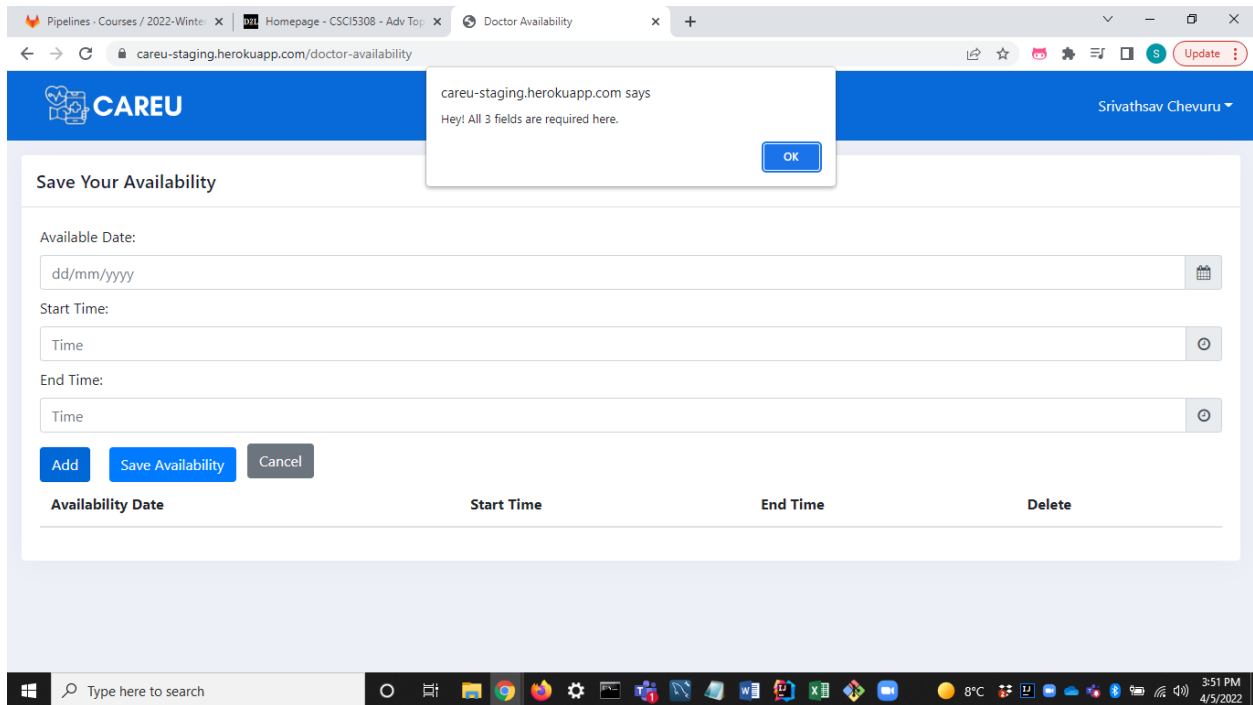


Fig 4.2: Doctor cannot add null values

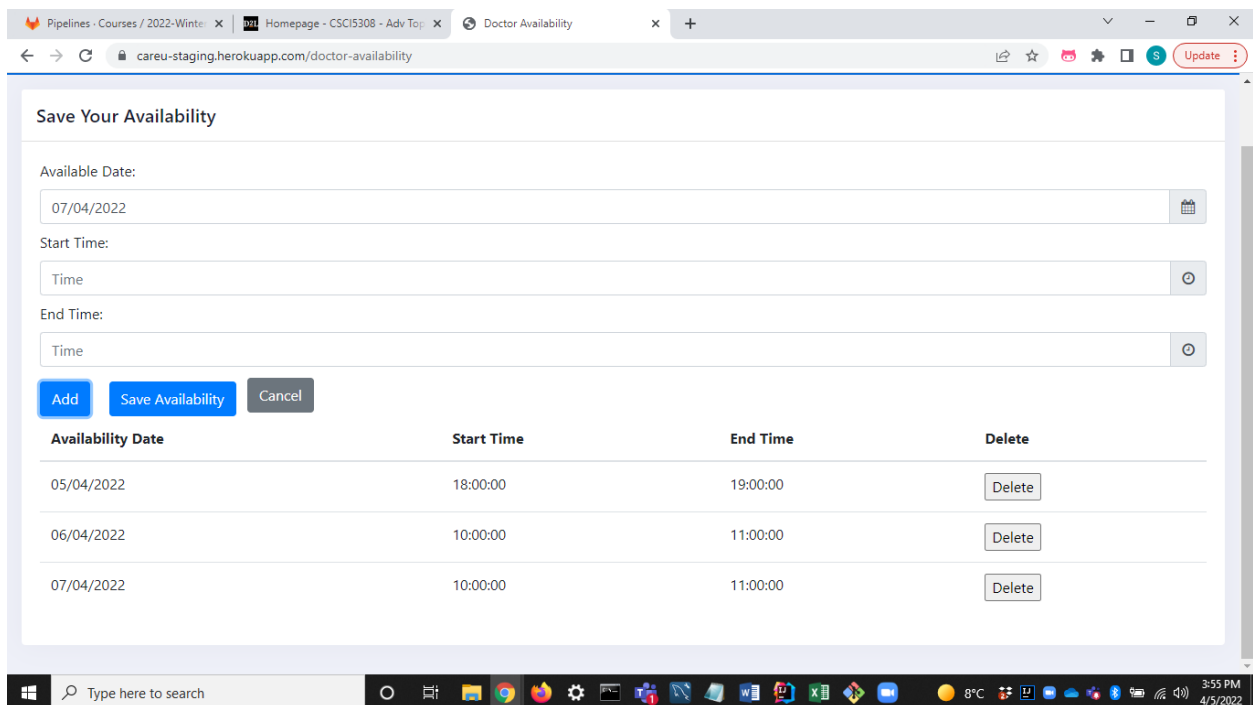


Fig 4.3: Doctor Adds multiple appointment slots

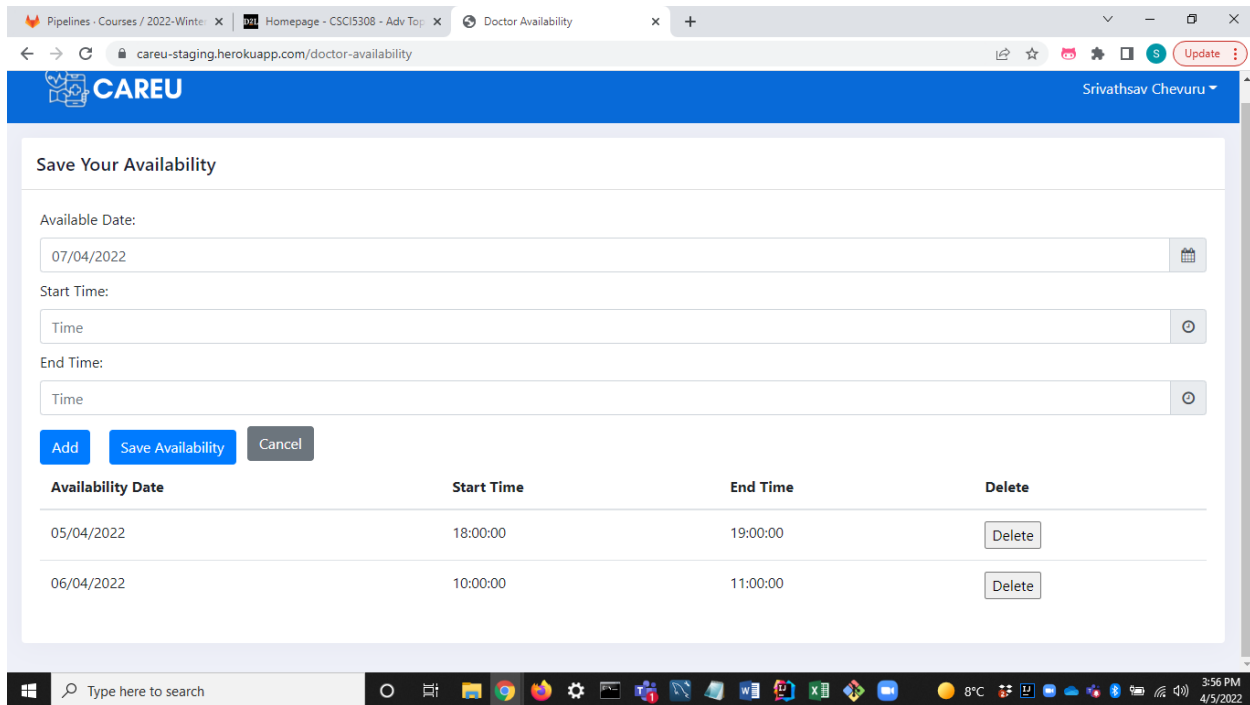


Fig 4.4: Doctor can click on delete and delete added appointment

5. **Edit Doctor Profile Details:** This enables the Doctor to edit the already entered profile details. For the reference of the Doctor the old data will be repopulated in the fields. If the user wants to edit it then he can edit and click on save.

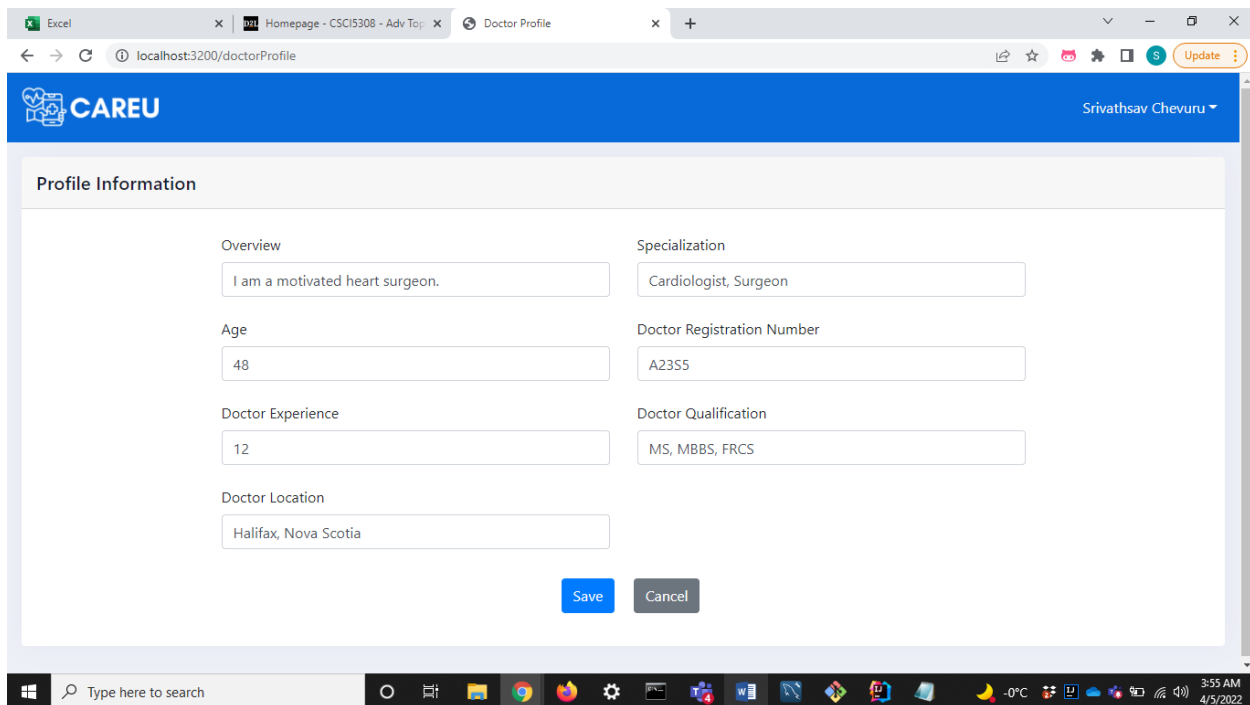
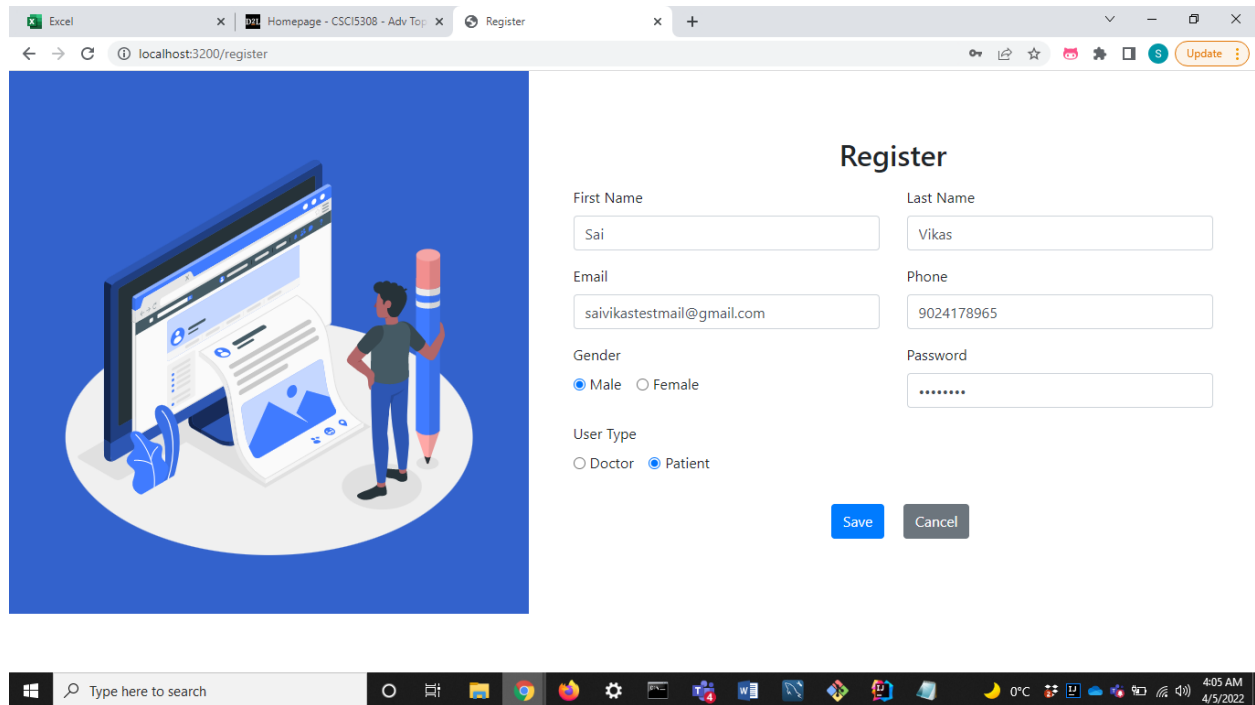


Fig 4.1: Edit Doctor Profile Details (Enter the new details which you want to save)

6. **Patient Registration:** The Patient can register by signing up as Patient by changing the User Type using the radio button.



The screenshot shows a web browser window with the URL `localhost:3200/register`. The page has a blue header with the title "Register". On the left, there is a large illustration of a person standing next to a large computer monitor displaying a website, with a large pencil and a small figure of a person sitting at a desk. The registration form contains the following fields and options:

- First Name:
- Last Name:
- Email:
- Phone:
- Gender: ☒ Male ☐ Female
- User Type: ☐ Doctor ☒ Patient
- Password:

At the bottom right of the form are two buttons: "Save" (blue) and "Cancel" (grey). The browser's taskbar at the bottom shows the Windows logo, a search bar, and various application icons. The system clock in the bottom right corner indicates 4:05 AM on 4/5/2022.

Fig 5.1: Patient Registration (Enter the Patient Registration Details)

7. **Patient Login:** The Patient Login page allows patients to login to the application. After successful login you are redirected to Patient Homepage.

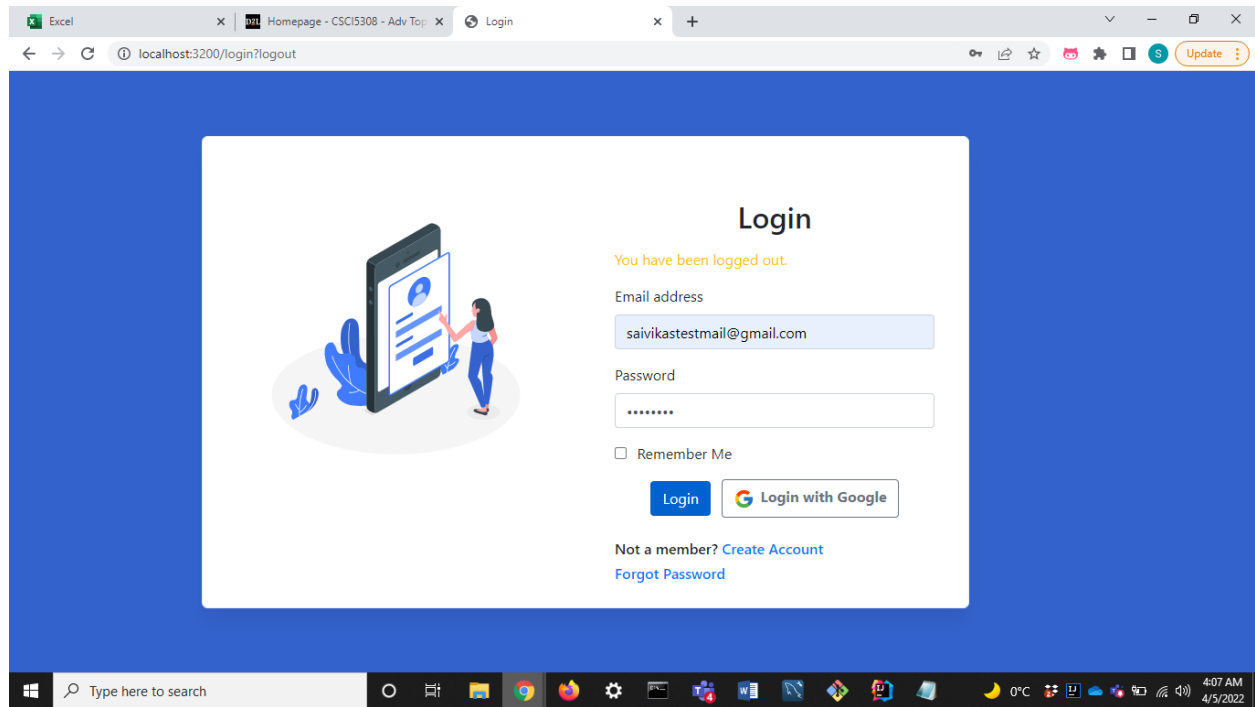


Fig 6.1: User Login Page

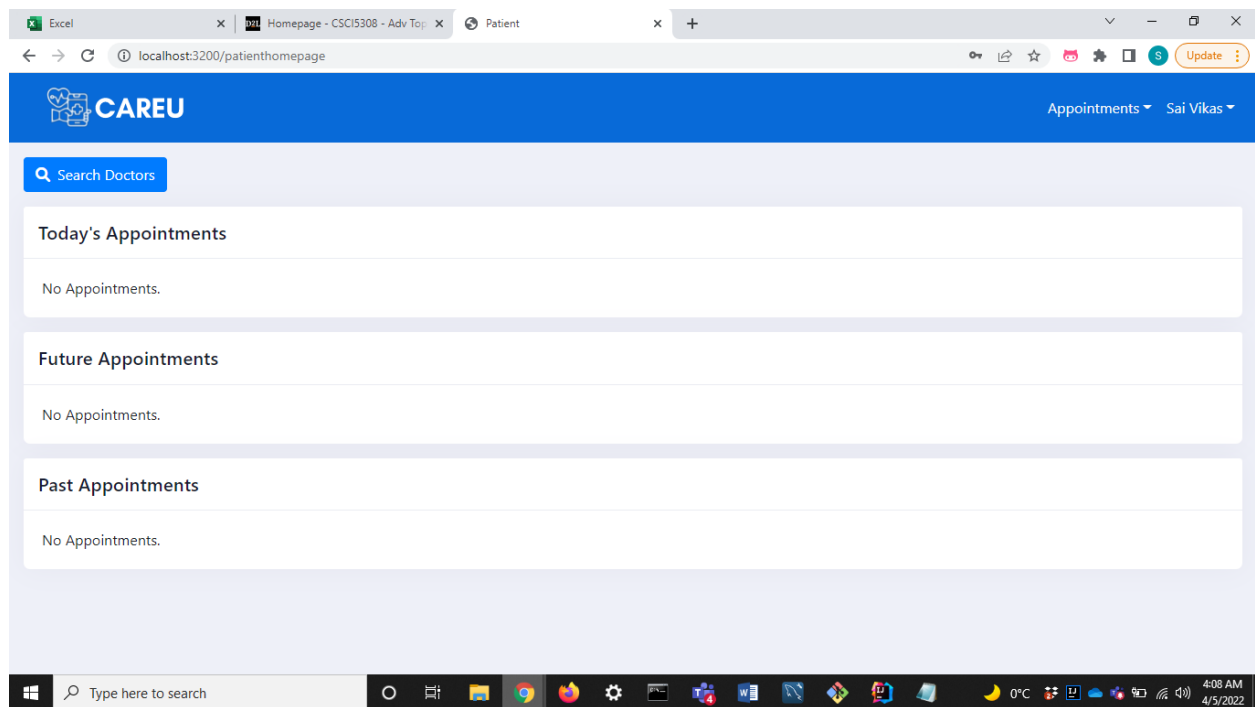


Fig 6.2: Patient Homepage

8. Book Appointment: If you click on the Search Doctors then you would get a list of Doctors. By default, it will show all the available doctors. The patient can also search based on Specialization, Doctor First Name, Doctor Last Name.

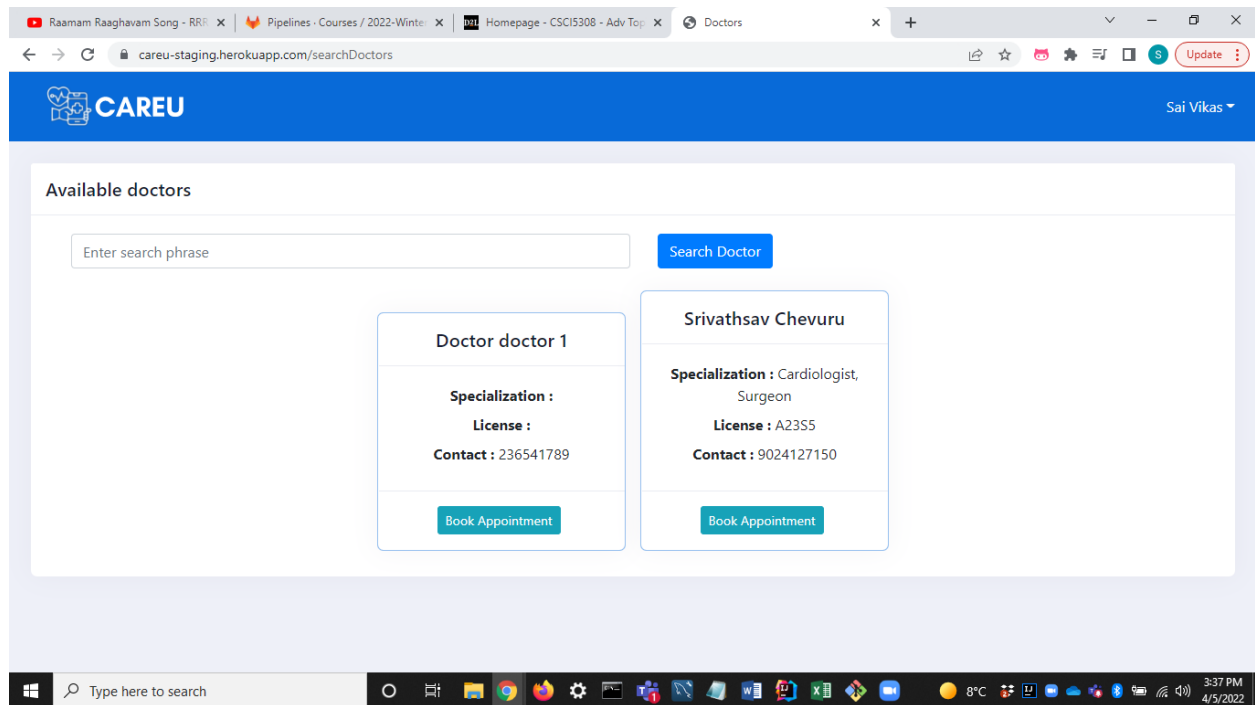


Fig 7.1: Default View of Search Doctors

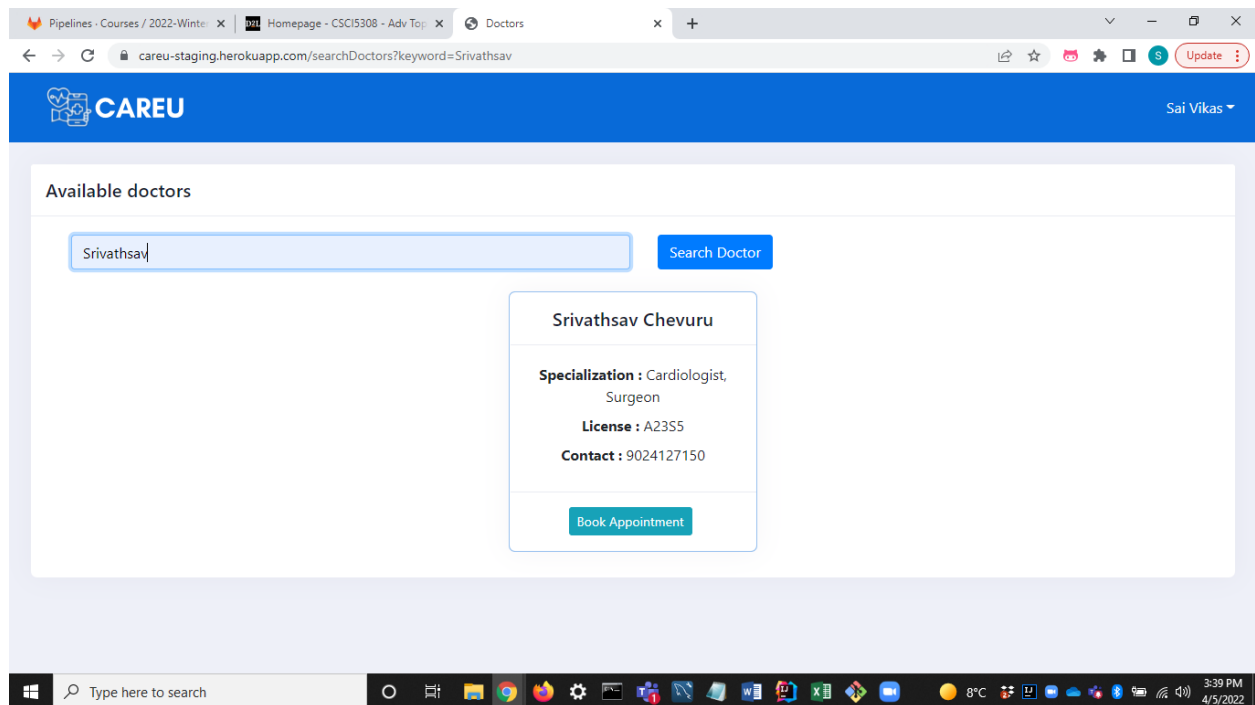


Fig 7.2: Search Based on First Name

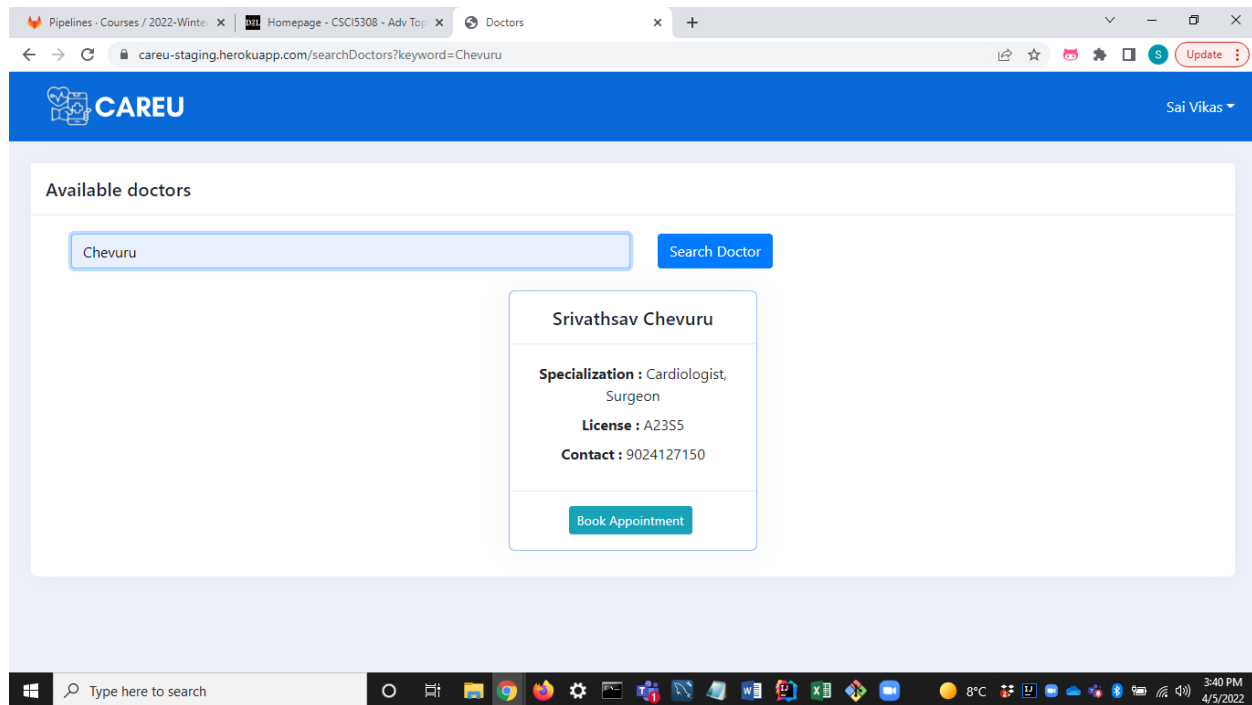


Fig 7.3: Search Based on Last Name

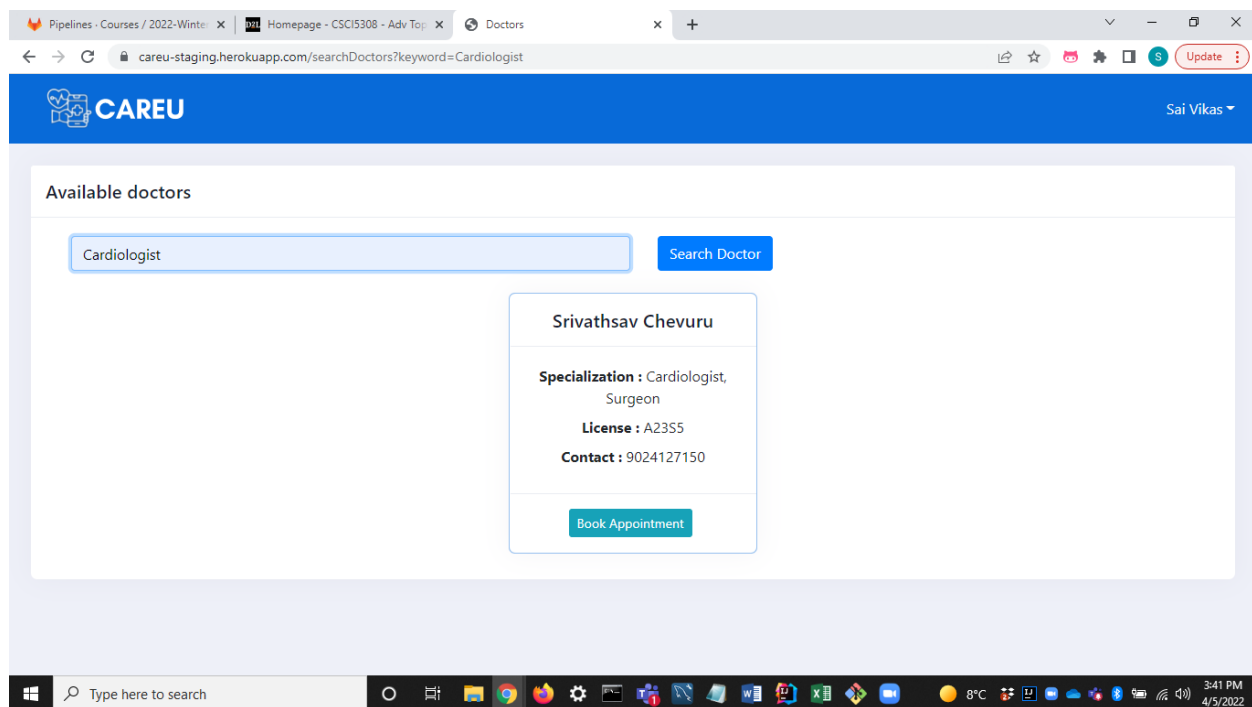


Fig 7.4: Search Based on Specialization

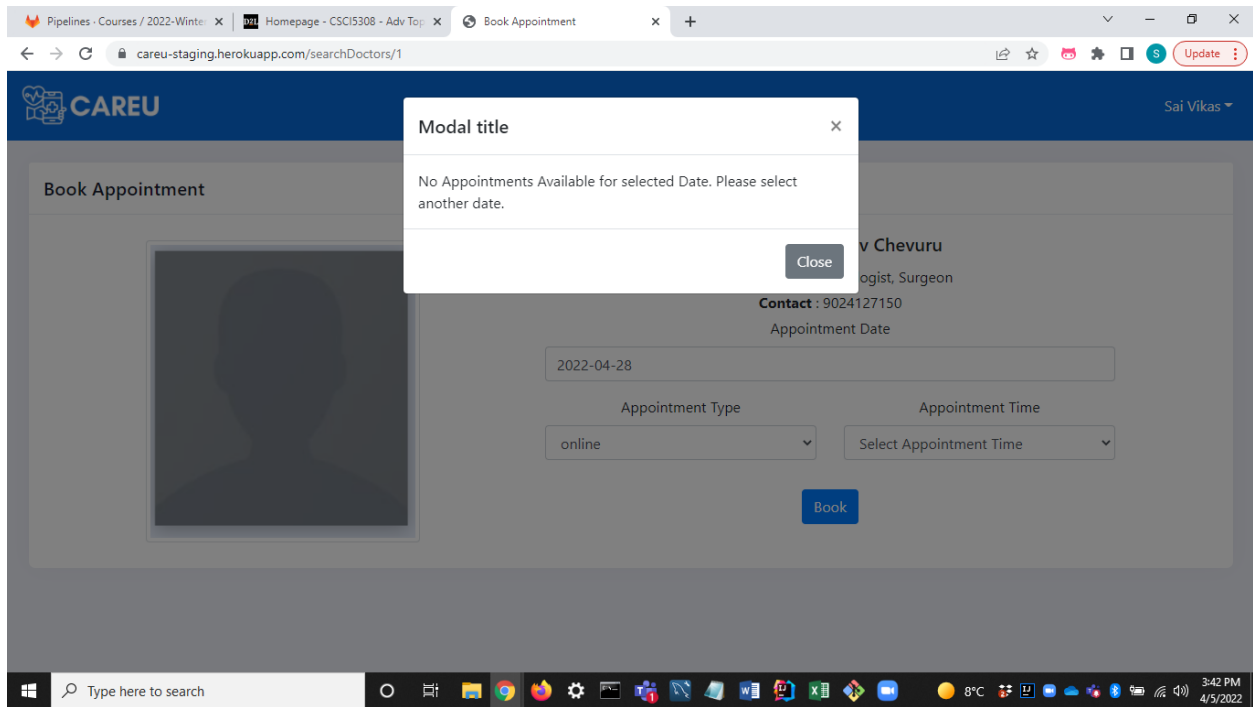


Fig 7.5: If no appointment slots are available that day (Doctor is not available that day)

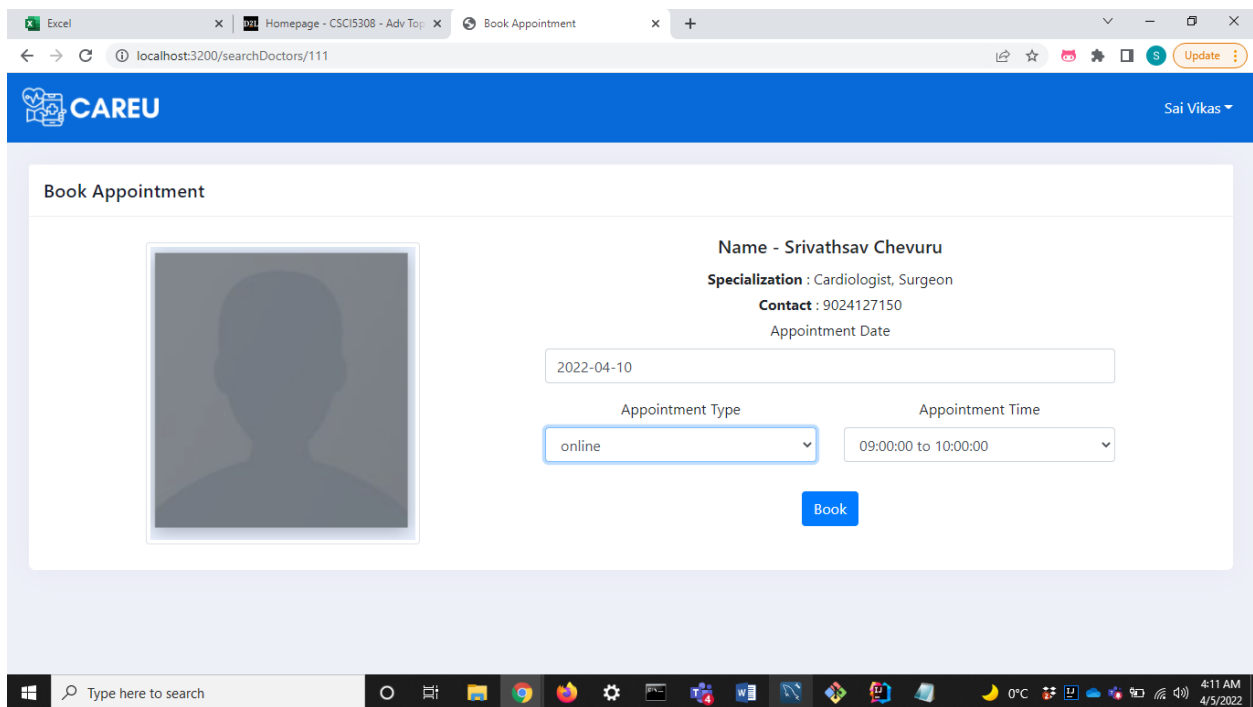


Fig 7.6: Select appointment date and time from available list.

Payment

Services	Charges/Payments
Consultation	40.0
Tax	15%
Total:	46.0

Email: saivikastestmail@gmail.cc

Card Information: 4132413241324132
 VISA
 04
 24
 123

Name on card: Sai Vikas

Country or region: Canada
 B3J2K9

[Pay](#) [Cancel](#)

Fig 7.7: Add payment details to complete booking of appointment

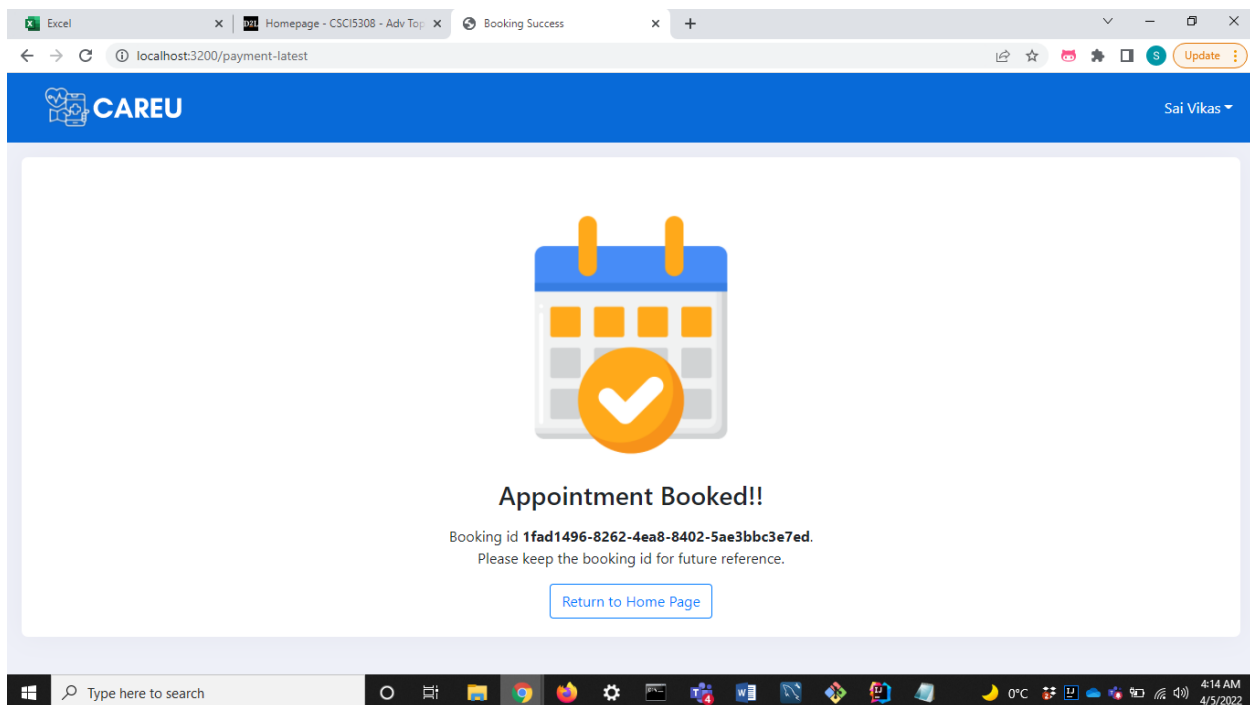


Fig 7.8: Payment Success & Booking Success

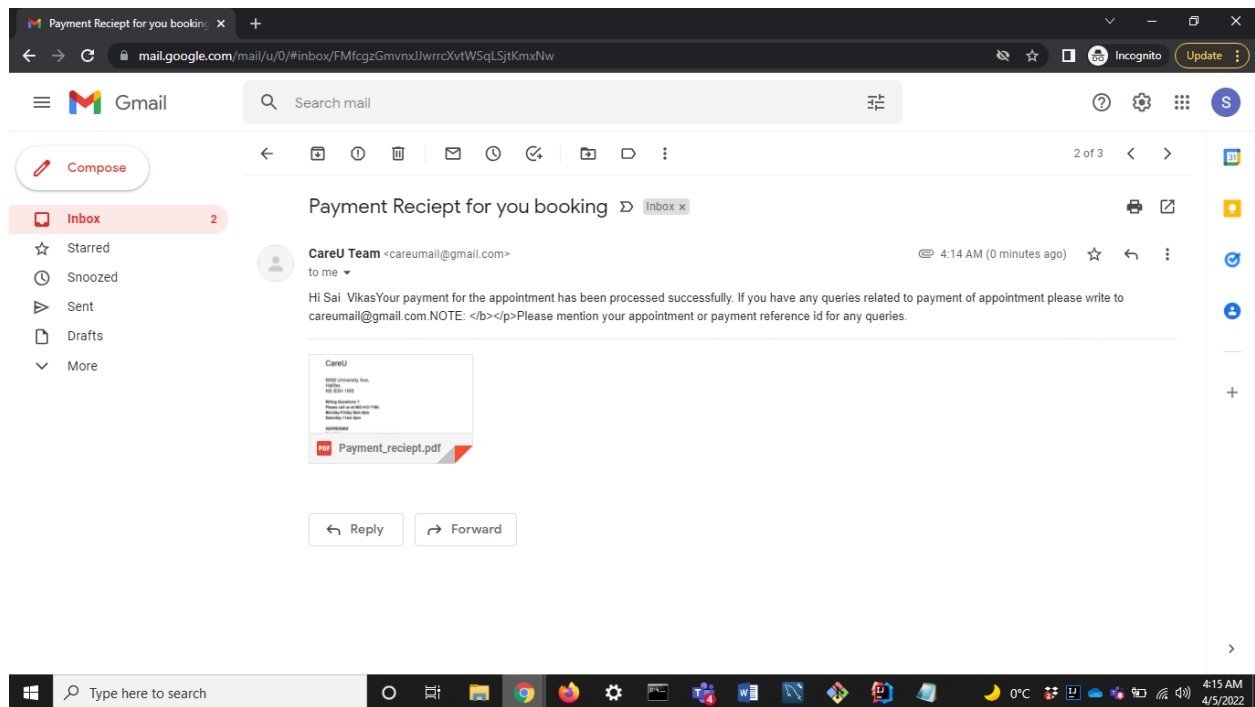


Fig 7.9: Bill PDF mail for reference

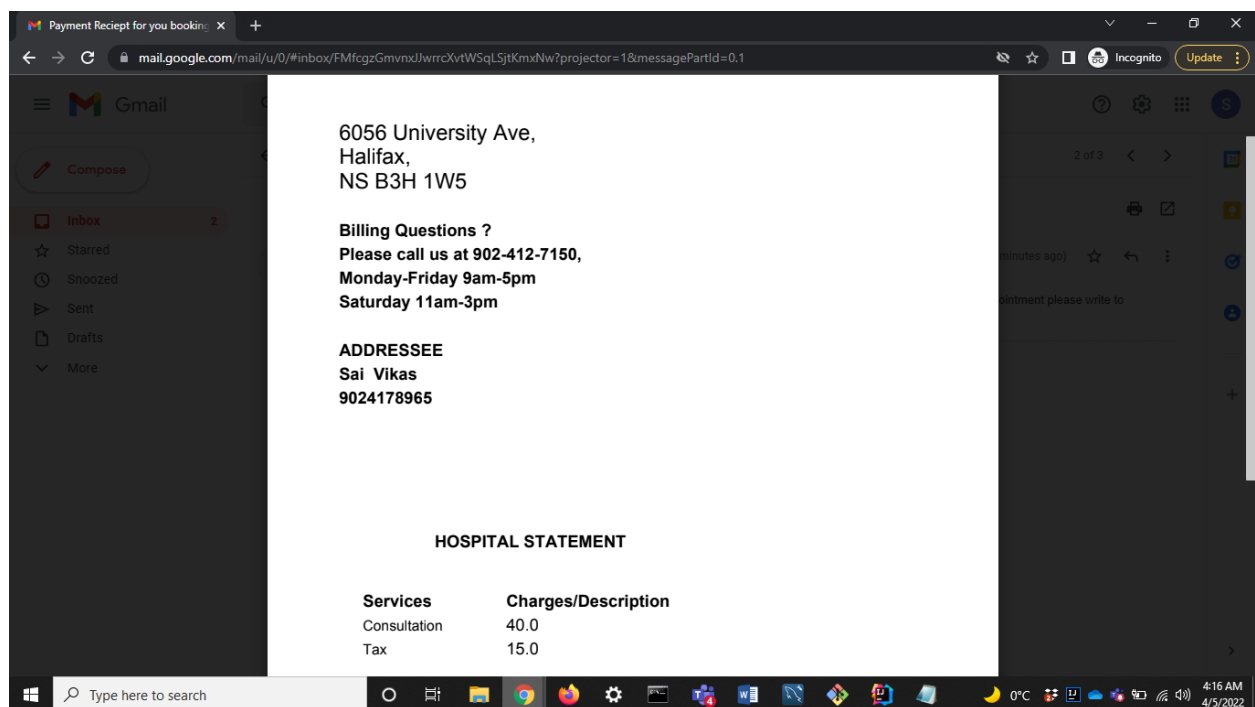


Fig 7.10: Bill PDF sample

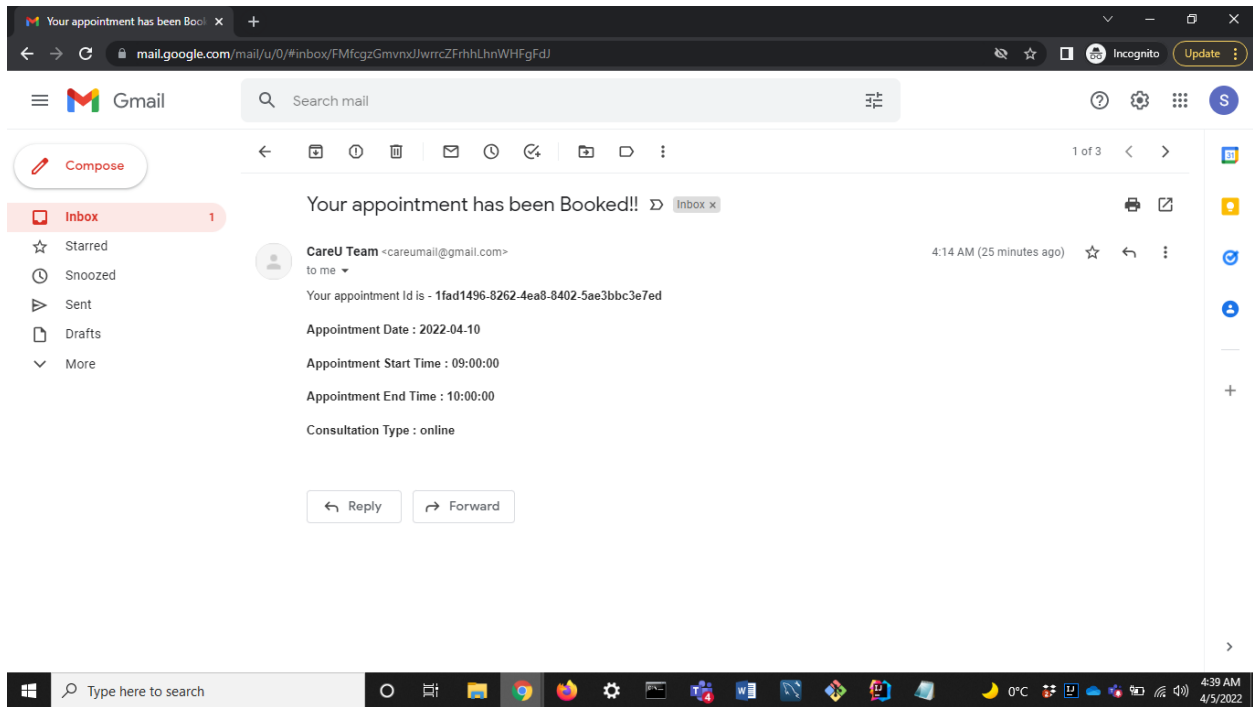


Fig 7.11: Booking Appointment Success Mail (This does not consist the bill but contains only appointment details)

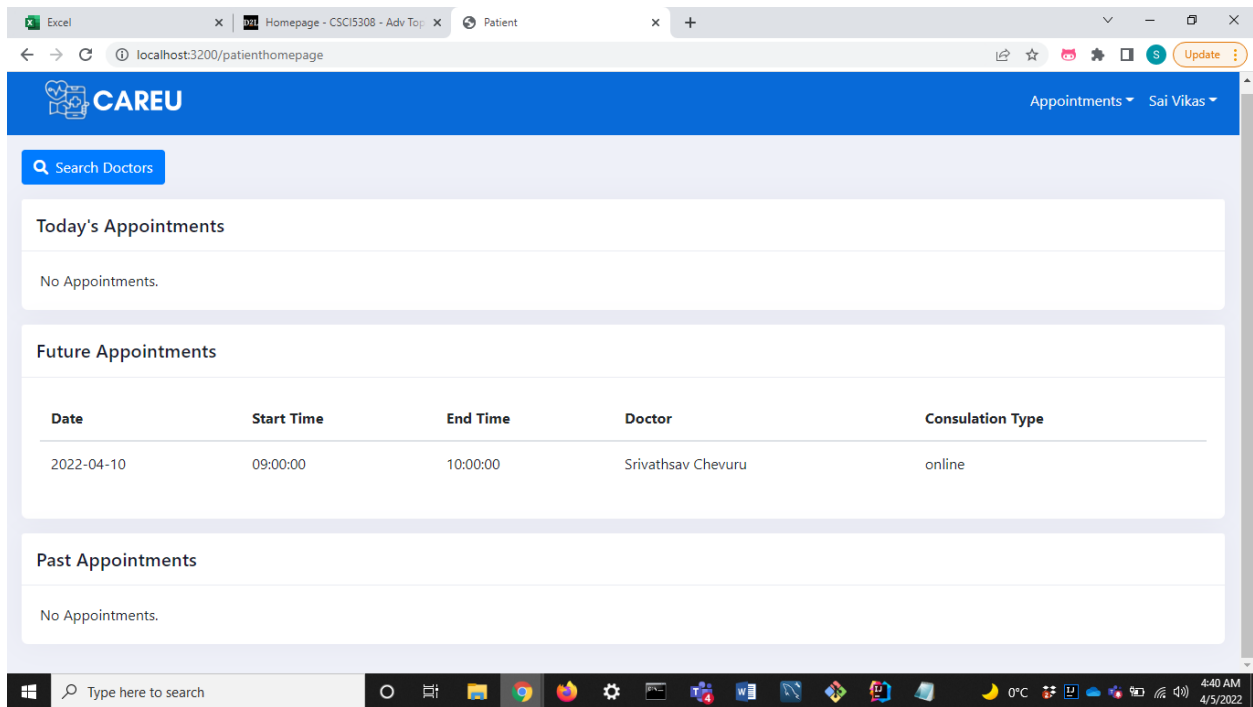


Fig 7.12: Patient Homepage after appointment booking success

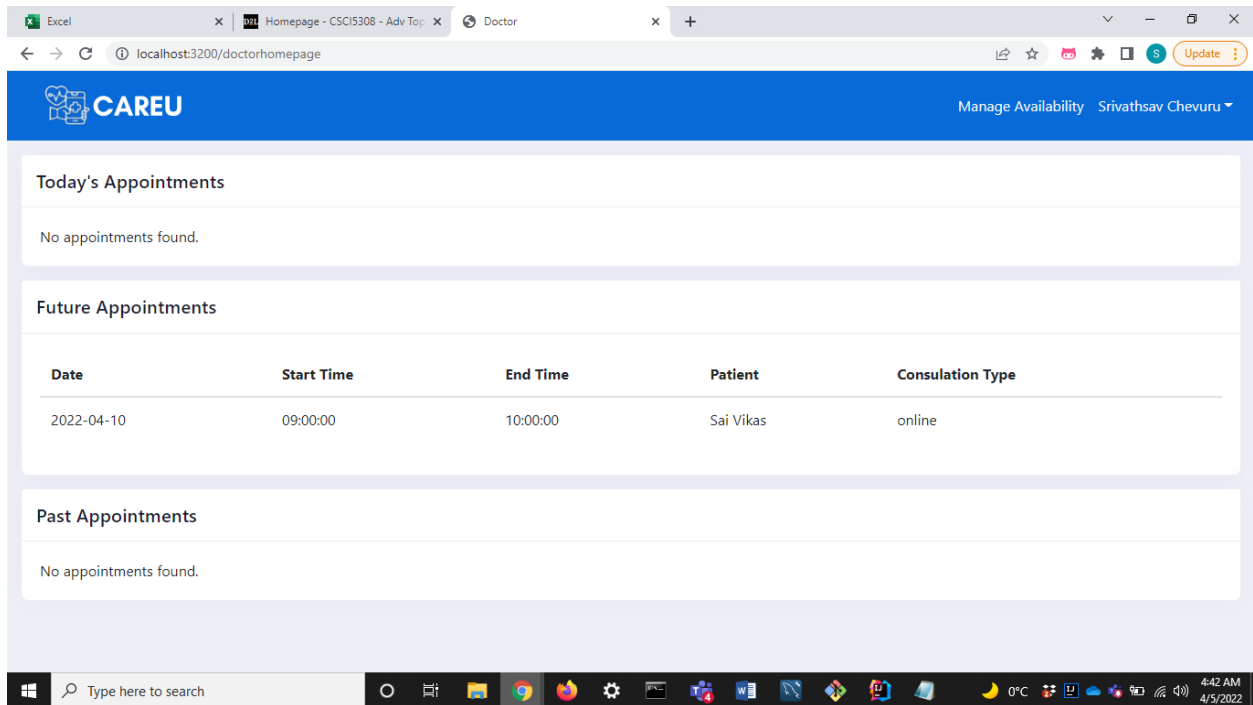


Fig 7.13: Doctor Homepage after appointment success

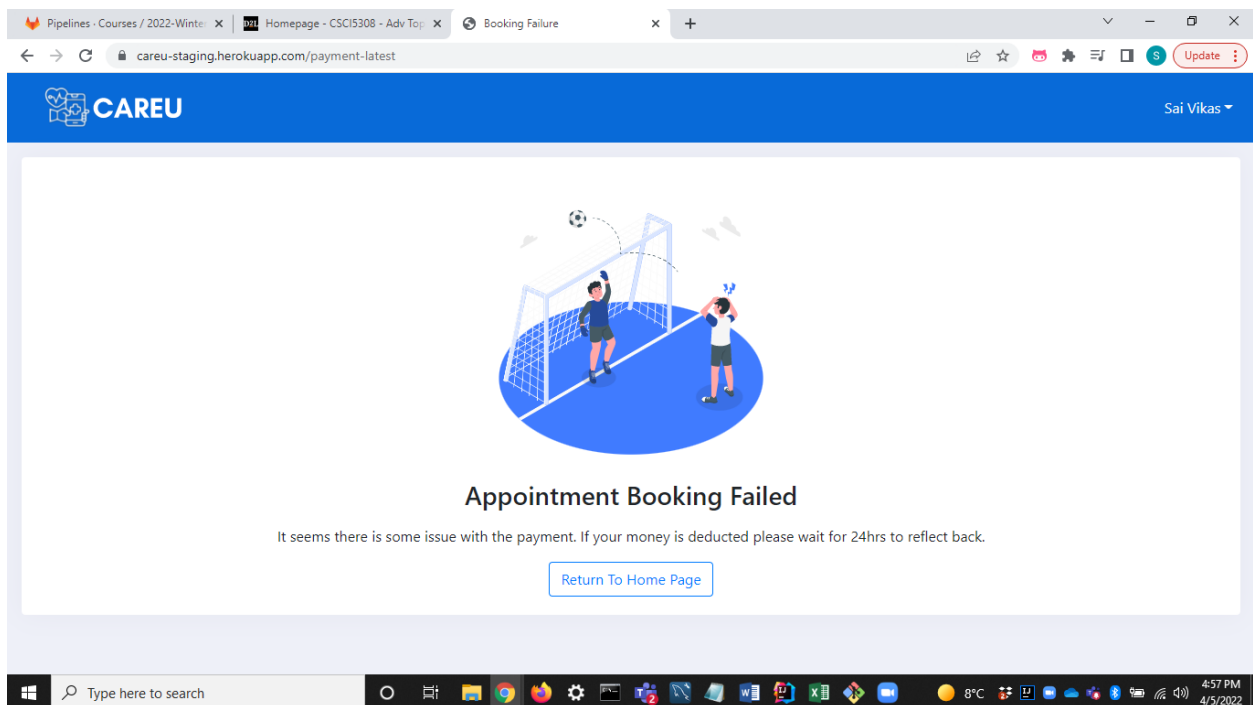


Fig 7.14: Appointment booking failure page (Failure will happen if payment is not processed correctly, payment failure can happen due to wrong card number, unsupported card type, wrong expiry month & expiry date, insufficient funds, if card has expired but is still being used)

- 8. Patient Cancel Appointment:** Patient can cancel appointment which he has booked. To do that he has to hover on Appointments which is on top right corner of the page. Then click on Cancel Appointment.

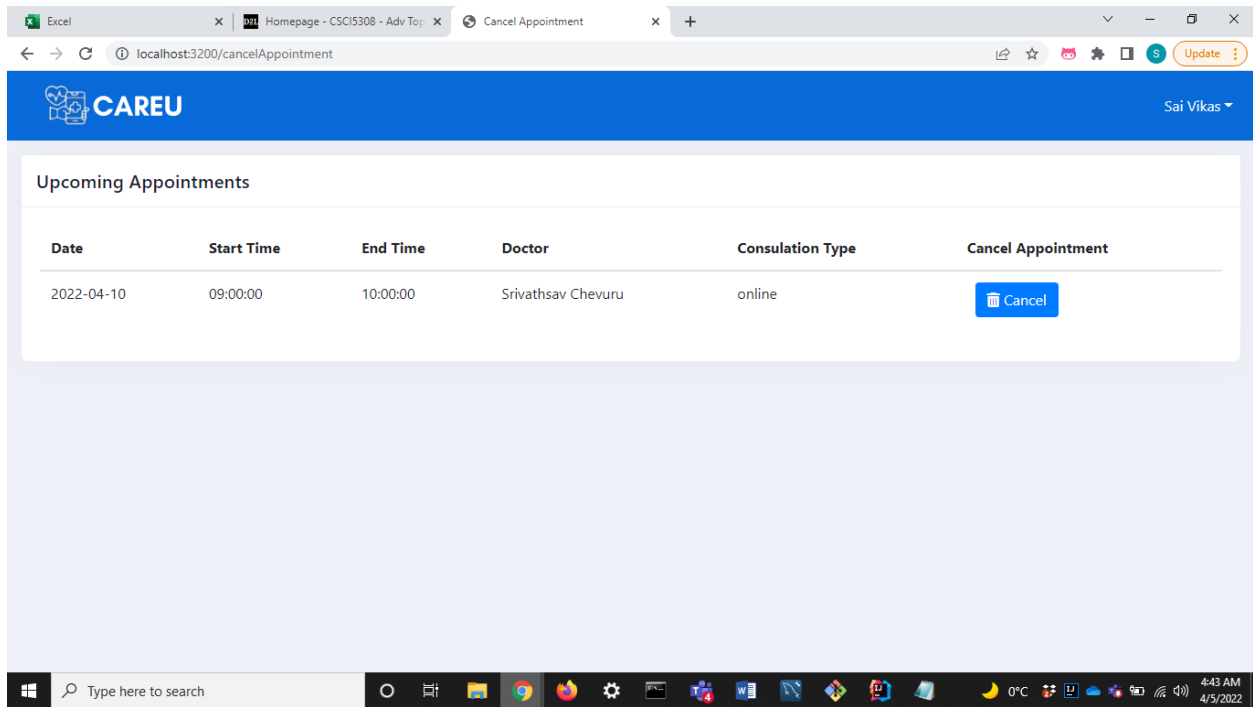


Fig 8.1: Cancel Appointment Page

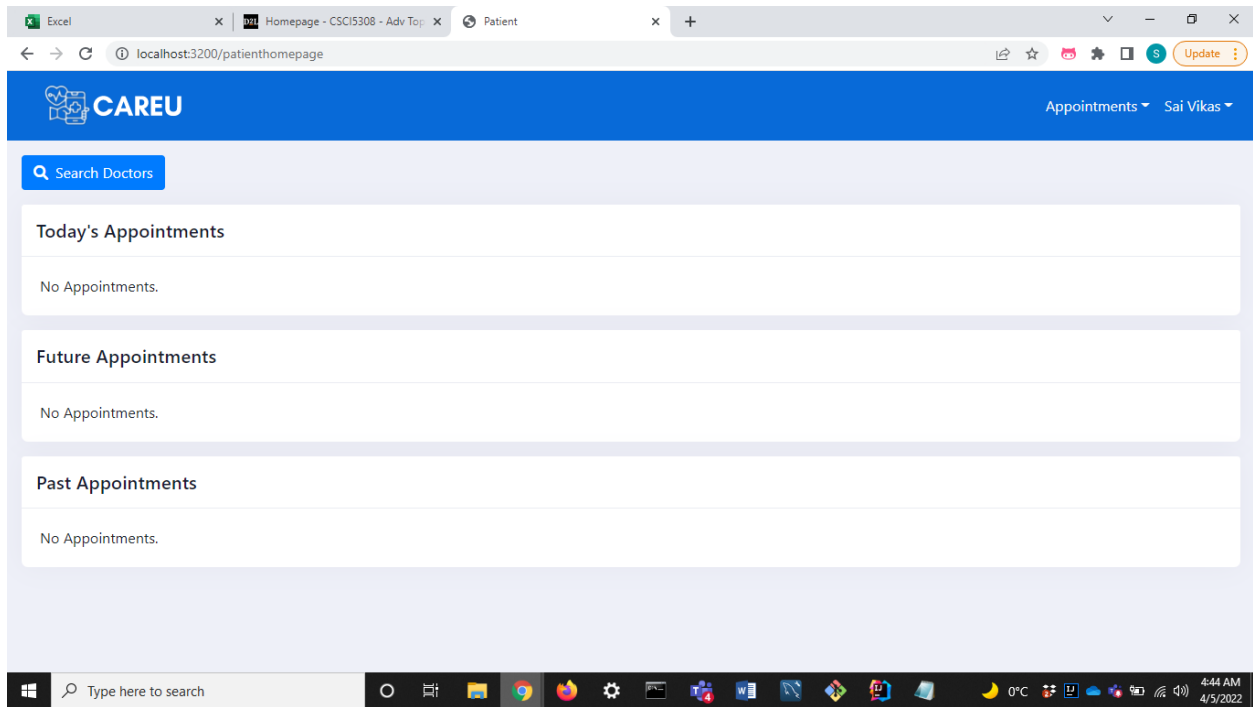


Fig 8.2: Patient Homepage after cancelling

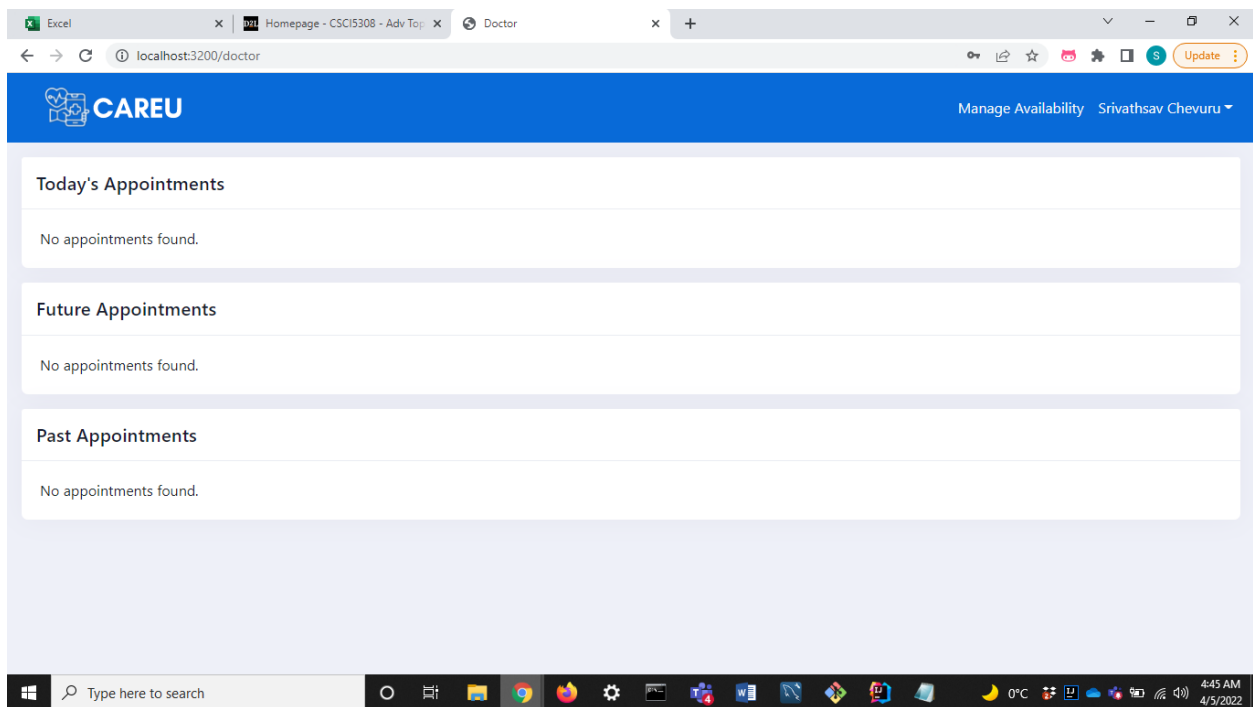


Fig 8.3: Doctor Homepage after cancelling

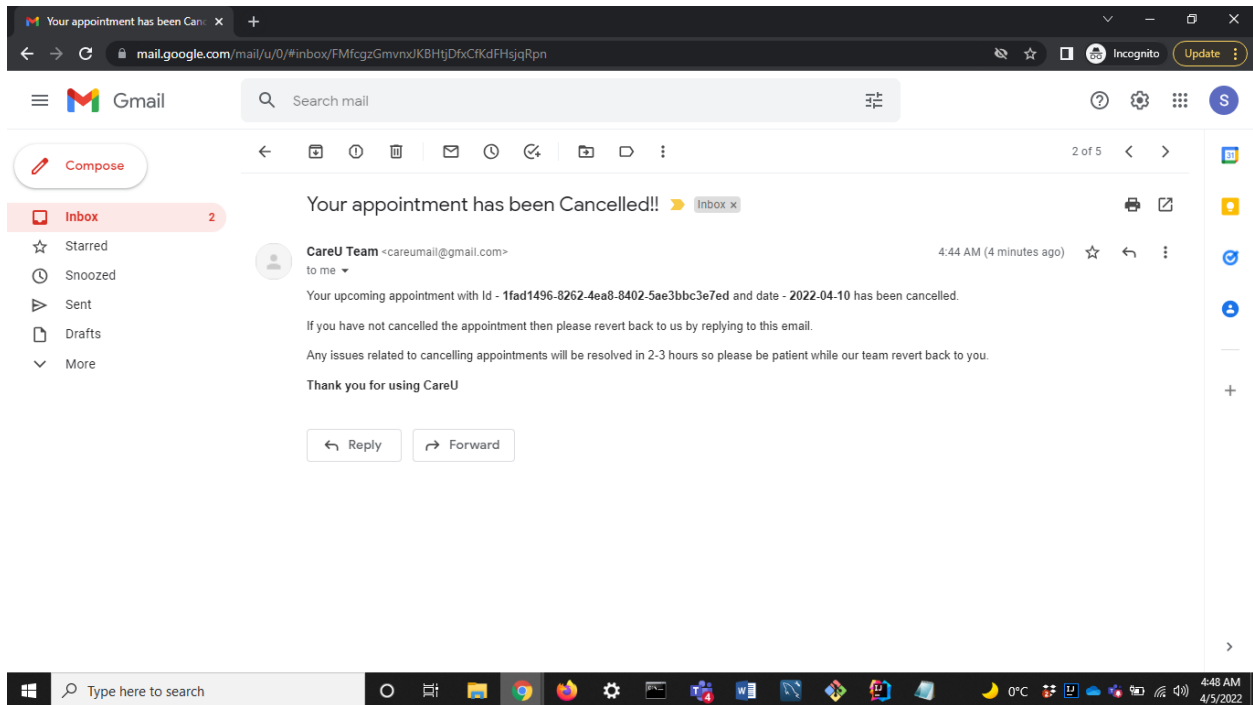


Fig 8.4: Appointment Cancellation Mail

9. **Forgot Password:** If a user forgets his password this feature enables him to reset the password. You have to first enter the mail to which you want the reset link to be sent. You would get a password reset link to your mail.

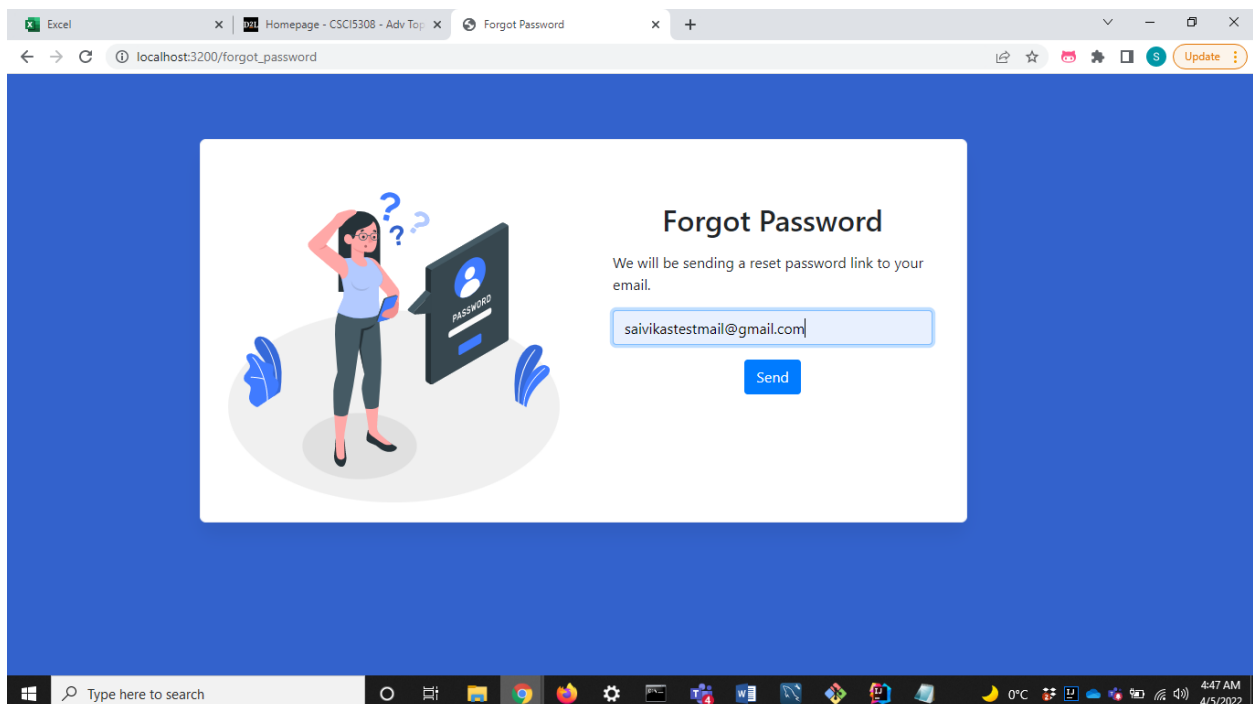


Fig 9.1: Forget Password Homepage (Enter the password reset mail)

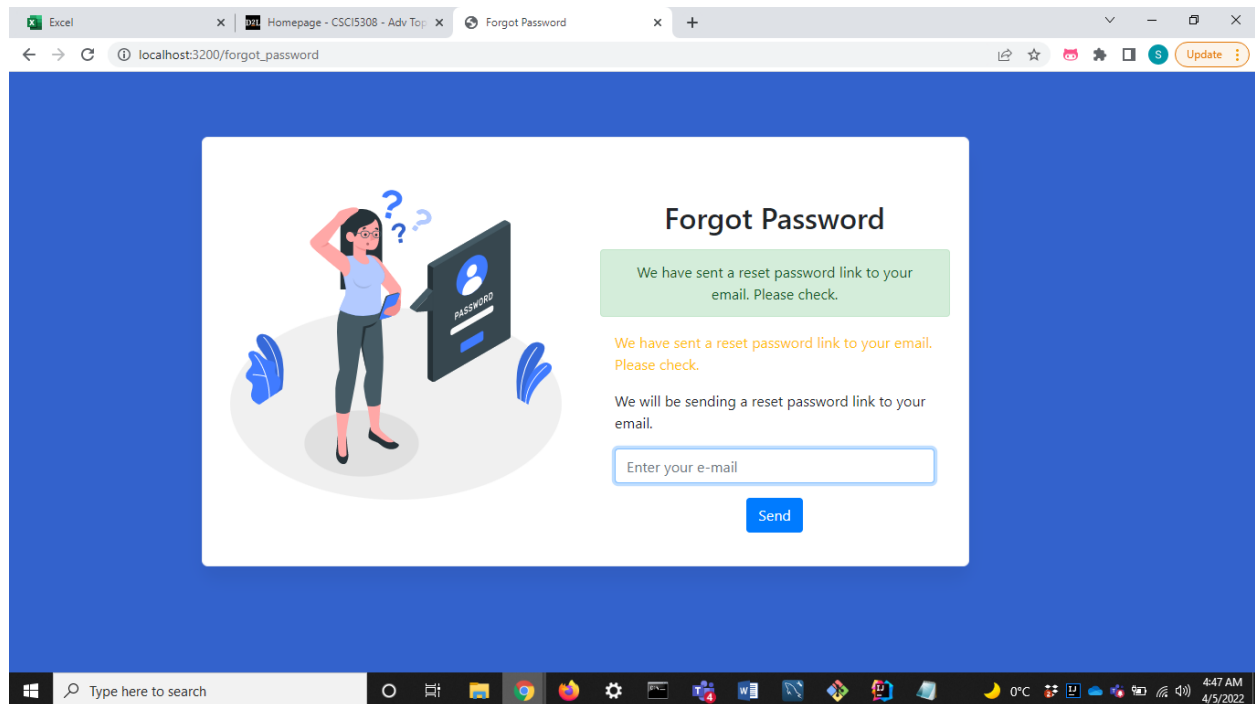


Fig 9.2: Password Reset mail has been sent.

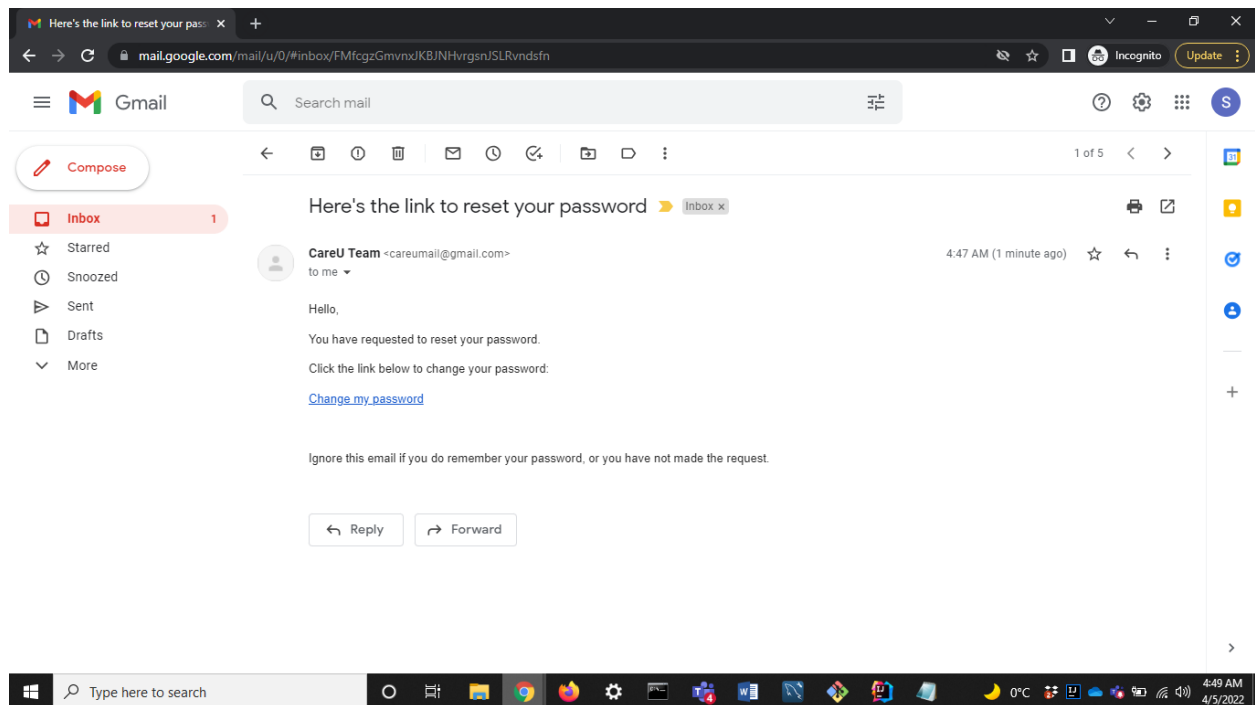


Fig 9.3: Password reset link mail

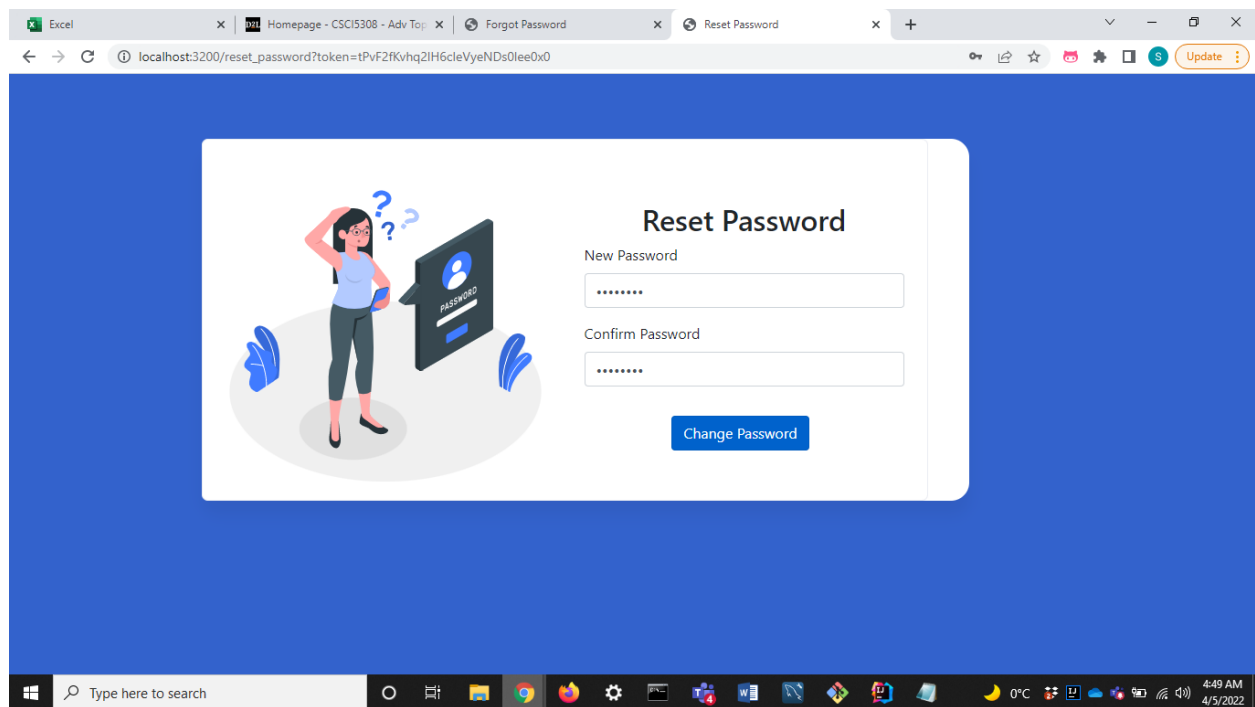


Fig 9.4: Password reset link page

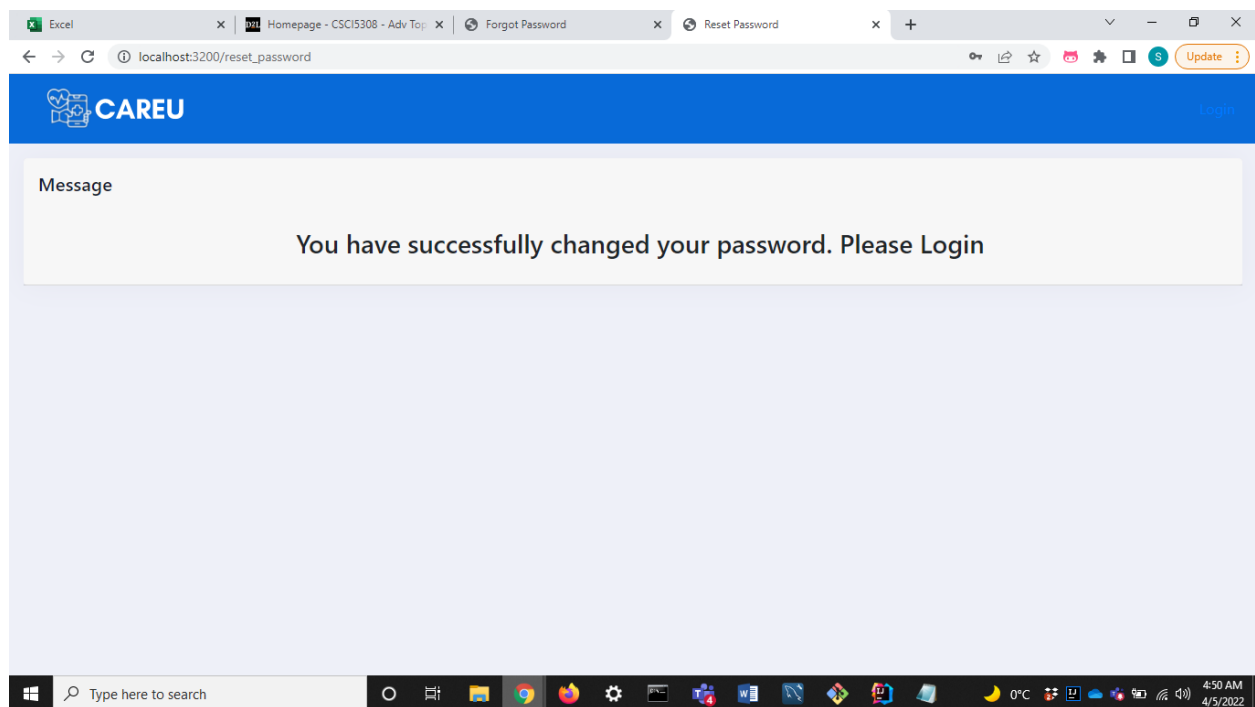


Fig 9.5: Password Reset Success Page

10. **Doctor Prescription Feature:** Doctor can add medications in the prescription. This prescription is only available for today's appointment and is disabled for past and future appointments. Doctor can also edit this prescription; the existing medications are repopulated and show to doctor and he can edit that and save the new medications.

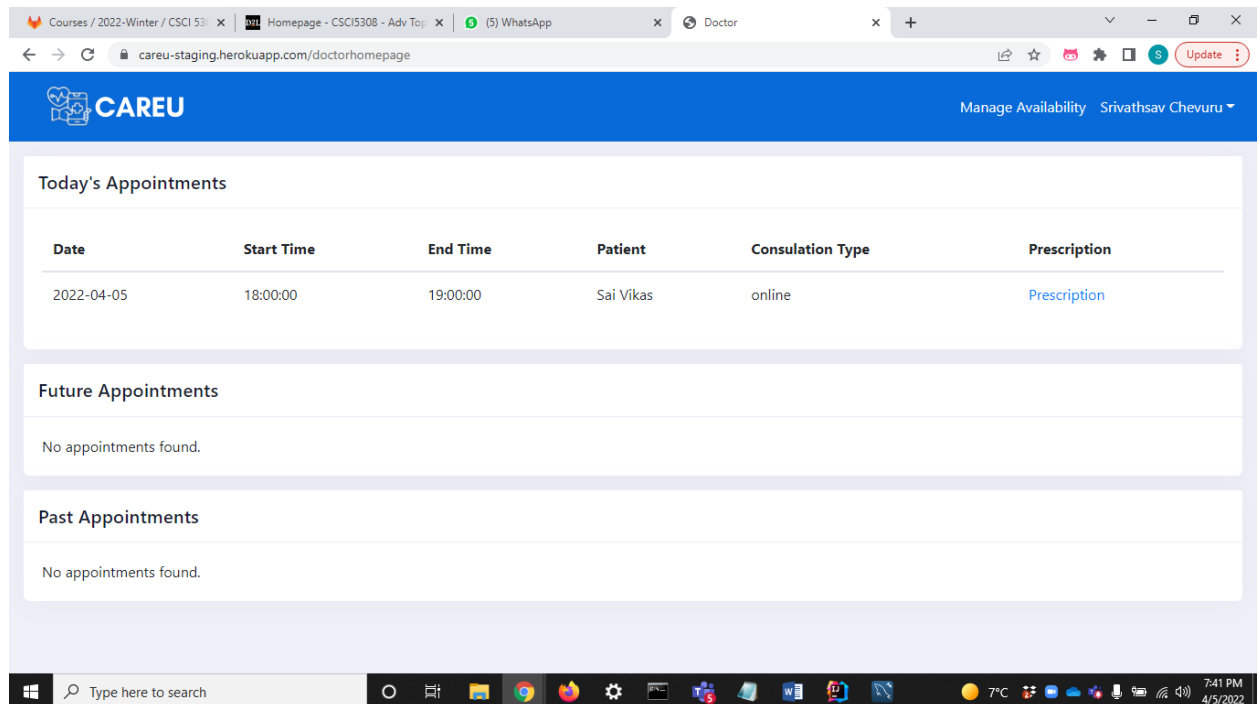


Fig 10.1: Doctor Prescription for Present Day Appointment

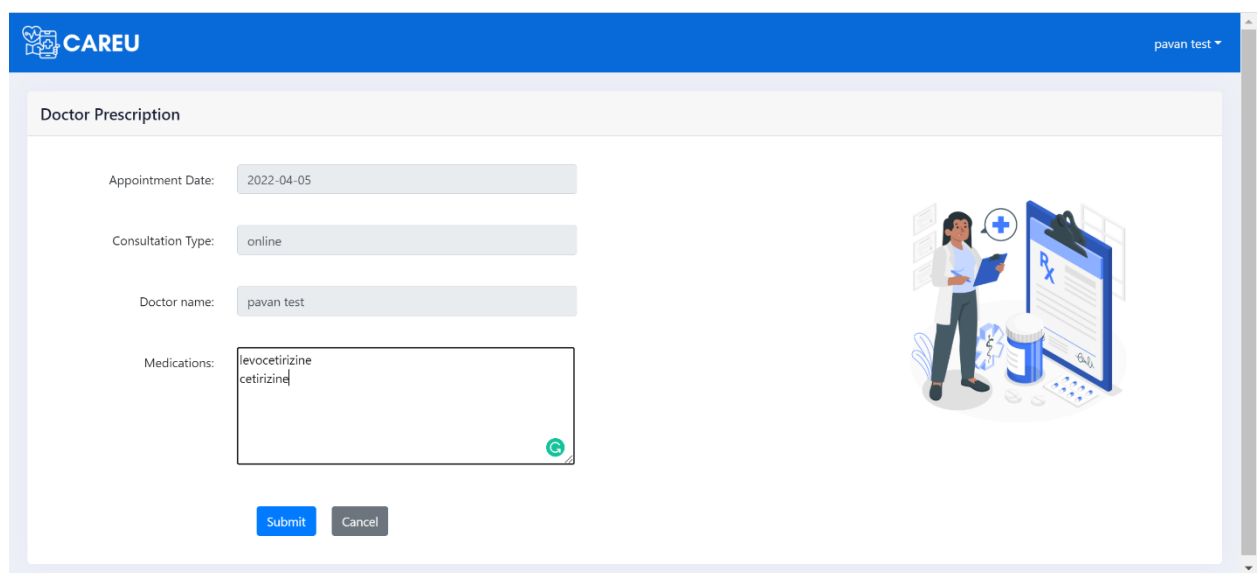
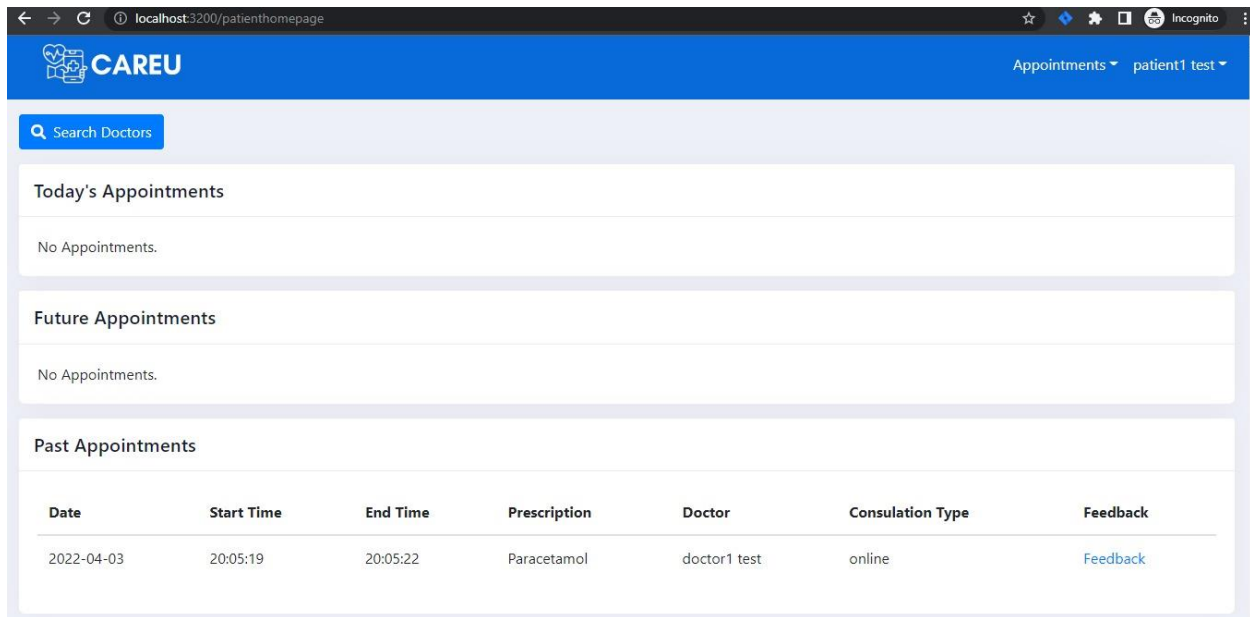


Fig 10.2: Doctor Prescription (Enter the medications)

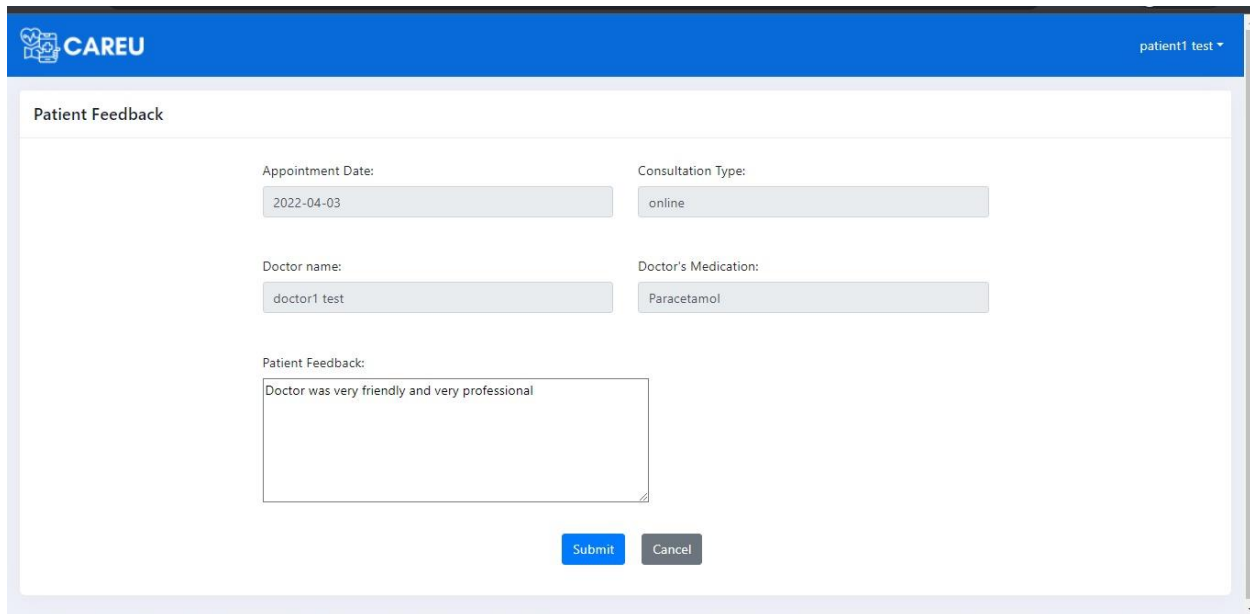
11. Patient Feedback: The patients can provide feedback by signing in to their portal. The feedback would only be enabled for past appointments.



The screenshot shows the CAREU Patient Homepage. The header includes the CAREU logo and a user menu with 'Appointments' and 'patient1 test'. A search bar for doctors is present. The main content area has three sections: 'Today's Appointments' (No Appointments), 'Future Appointments' (No Appointments), and 'Past Appointments'. The 'Past Appointments' section contains a table with one entry.

Date	Start Time	End Time	Prescription	Doctor	Consultation Type	Feedback
2022-04-03	20:05:19	20:05:22	Paracetamol	doctor1 test	online	Feedback

Fig 11.1: Feedback in the Patient Homepage



The screenshot shows the 'Patient Feedback' form. It contains pre-filled fields for Appointment Date (2022-04-03), Consultation Type (online), Doctor name (doctor1 test), and Doctor's Medication (Paracetamol). There is a text area for the feedback with the text 'Doctor was very friendly and very professional'. At the bottom are 'Submit' and 'Cancel' buttons.

Fig 11.2: Feedback page (Enter the feedback)

12.Redirection to dial pad for patients: From a UX perspective we have implemented this feature. The user can easily place a call by clicking on the number that he can see in his appointment. This will redirect him to dial pad. This option would only be available in mobile and not in desktop.

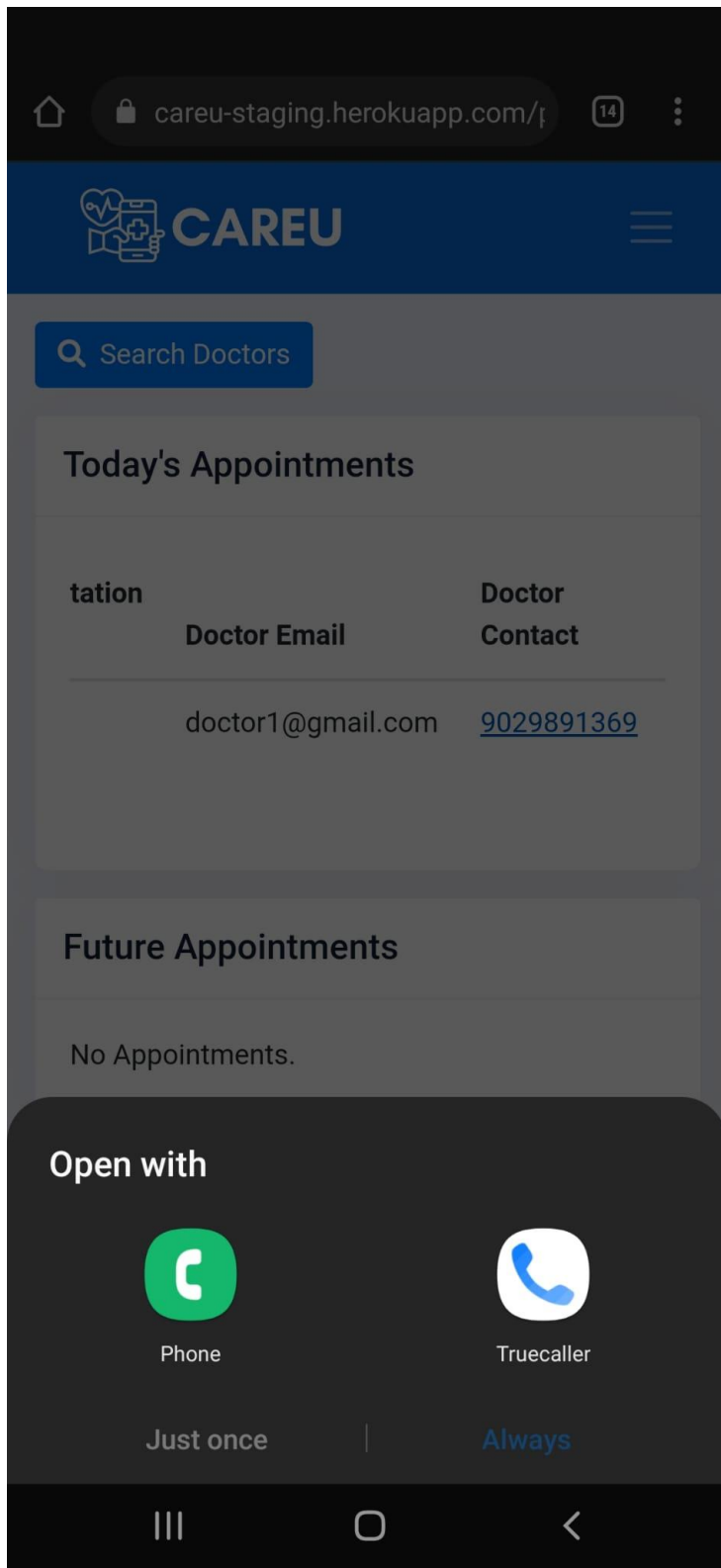
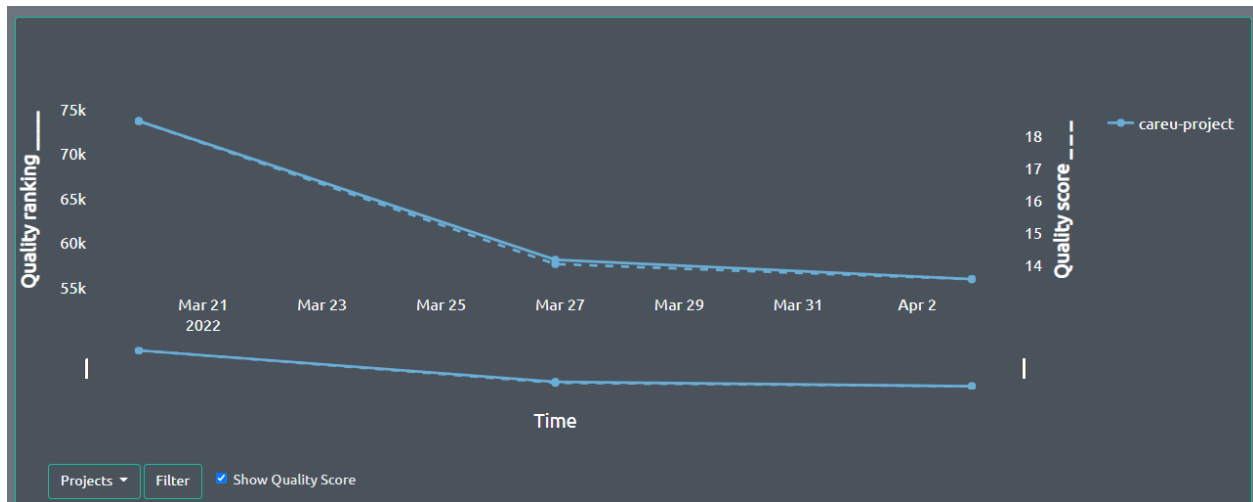


Fig 12.1: Redirection to dial pad (in mobile)

QScored Quality Graph:

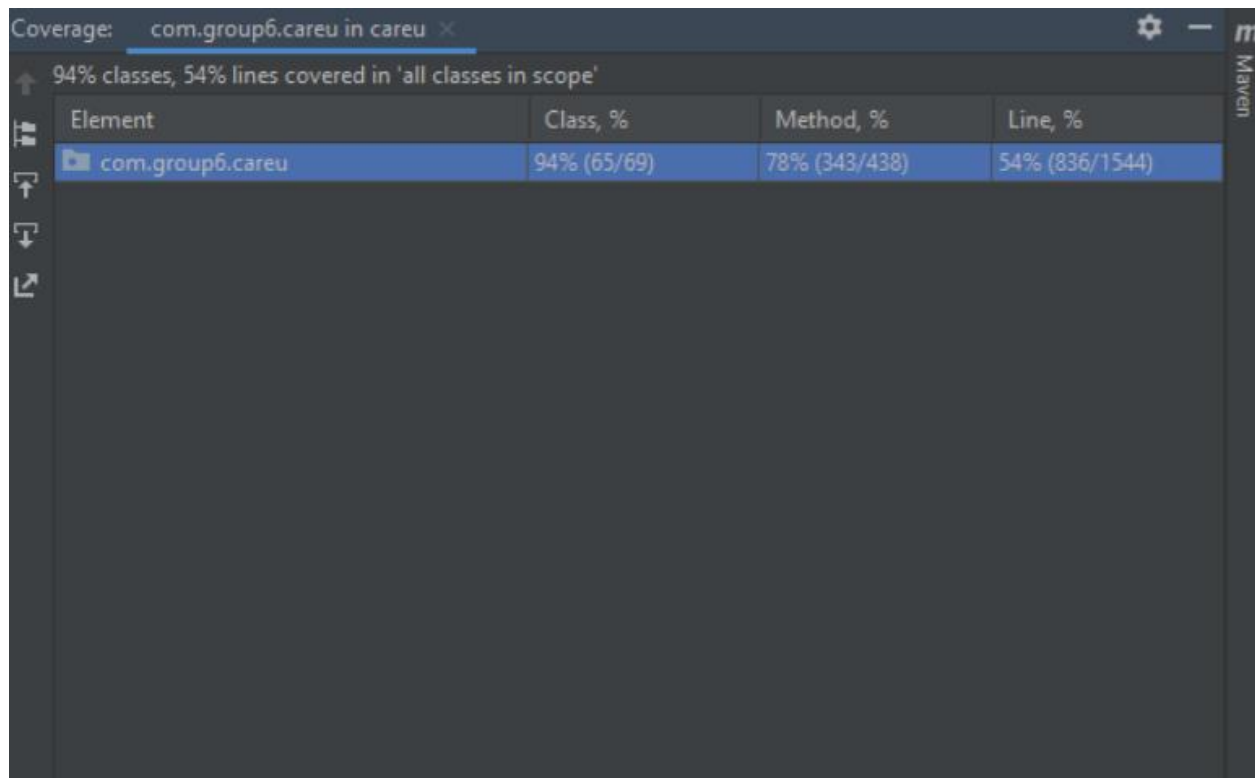


Test Coverage:

Total Tests Cases: 334

In the unit test case writing, setting classes and security configuration classes are not covered in test as a reason the Method coverage and Classes is shown as 78% and 94% respectively.

Moreover, the settings and security configuration classes cannot be mocked. Hence, we have tried to include every edge of functional code in the test coverage.

The image is a screenshot of the IntelliJ IDEA IDE showing a coverage report. The title bar of the report window says "Coverage: com.group6.careu in careu". Below the title bar, it states "94% classes, 54% lines covered in 'all classes in scope'". A table with four columns is displayed: "Element", "Class, %", "Method, %", and "Line, %". The first row of the table, which is highlighted in blue, shows the package "com.group6.careu" with 94% (65/69) class coverage, 78% (343/438) method coverage, and 54% (836/1544) line coverage. On the left side of the table, there are icons for expanding/collapsing the package and for navigating to the source code. On the right side, there is a vertical label "Maven".

Element	Class, %	Method, %	Line, %
com.group6.careu	94% (65/69)	78% (343/438)	54% (836/1544)