

Group-46 Healthcare Monitoring System

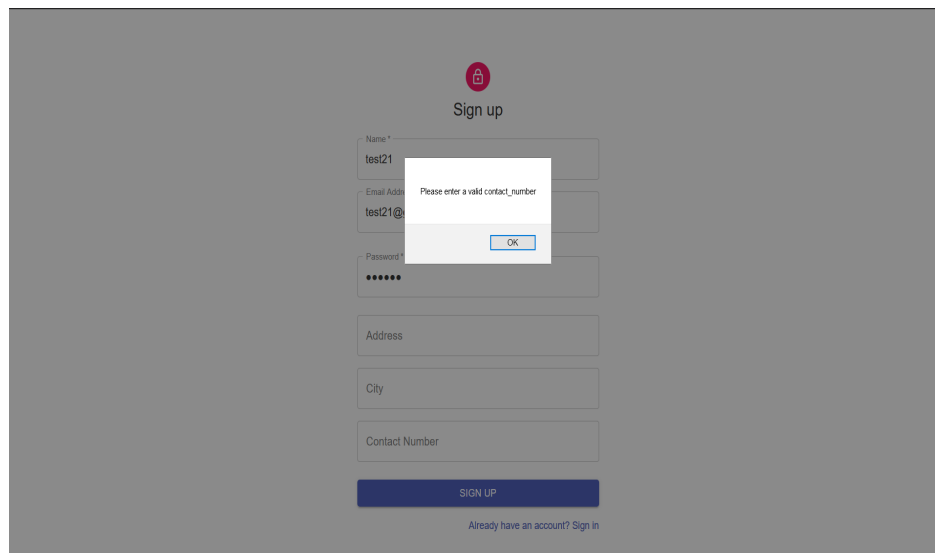
Unit testing

- Unit testing is done by the developer. Unit testing is a type of software testing where individual units or components of a software are tested. The purpose is to validate that each unit of the software code performs as expected.
- The **Unit Testing Techniques** are mainly categorized into 2 parts which are Black box testing that involves testing of user interface along with input and output, White box testing that involves testing the functional behaviour of the software application.
- White box testing is very hard in our project so we will perform black box testing
- We will use the equivalence class method and boundary value method for efficient black box testing.


TEST 1:

Create an Account (Patient)

- ◆ The fields :- name , email, password, contact number are necessary. Otherwise the user should not be registered.
- ◆ The email id should be unique otherwise email already exists message will be displayed



The screenshot shows a 'Sign up' form with the following fields: Name*, Email Address, Password, Address, City, and Contact Number. A modal dialog box is displayed over the form with the message 'Please enter a valid contact_number' and an 'OK' button. The 'Name*' field contains 'test21', the 'Email Address' field contains 'test21@', and the 'Password' field is masked with dots. The 'Address', 'City', and 'Contact Number' fields are empty. At the bottom of the form is a 'SIGN UP' button and a link that says 'Already have an account? Sign in'.



Sign up

Name *

test21

Email Address *

Password *

••••••

Address

1234 Street

City

Springfield


Contact Number

SIGN UP

Already have an account? [Sign in](#)

Please enter a valid email

OK



Sign up

Name *

test21

Email Address *

test21@gmail.com

Password *

Address

1234 Street

City

Springfield

Contact Number


12345

SIGN UP

Already have an account? [Sign in](#)

Please enter a valid password

OK



Sign up

Name *

test10

Email Address *

test10@gmail.com

Password *

••••••

Address

1234 Street

City

Surat

Contact Number

12345

SIGN UP

Already have an account? [Sign in](#)

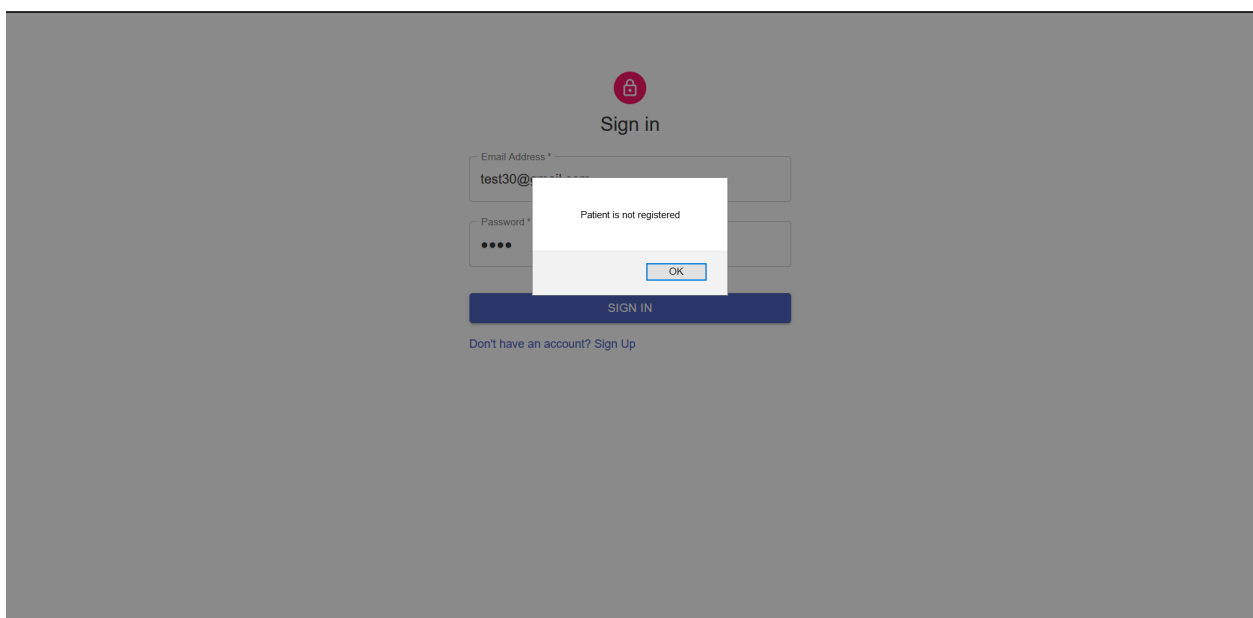
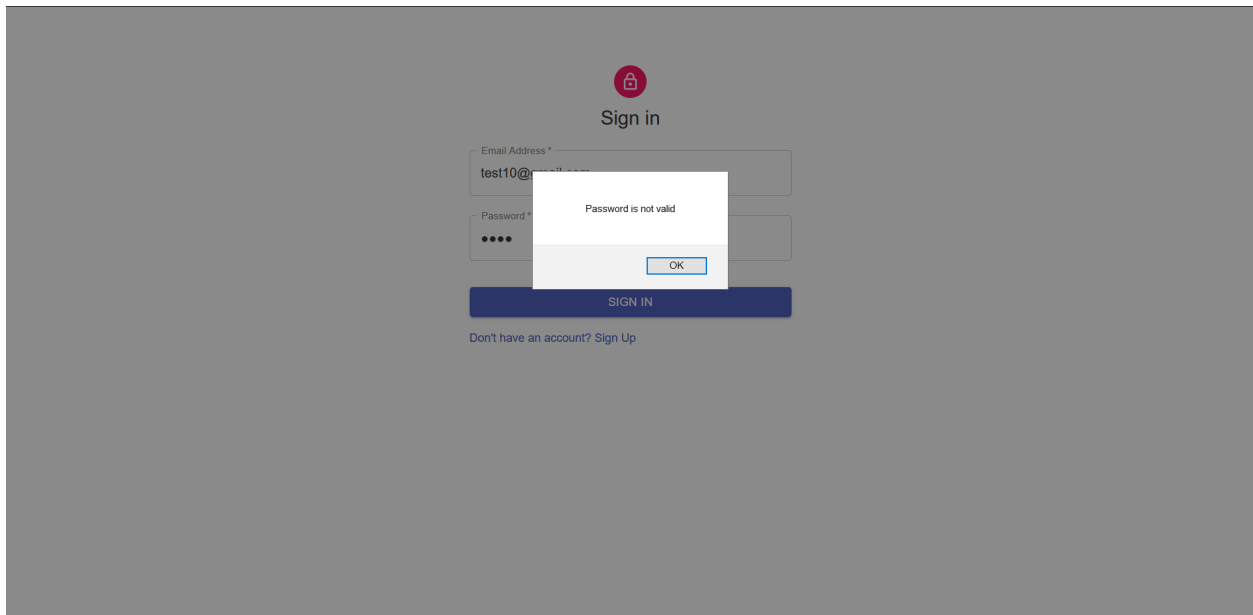
email is already in use please try another email

OK

TEST 2: Login (Patient)

Enter Email and Password:

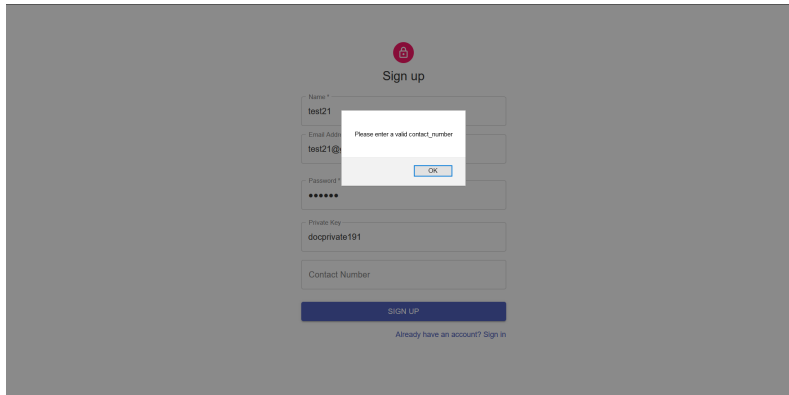
- If they do not match, then user doesn't exists message will be displayed
- If they match, then it will be redirected to the patient page



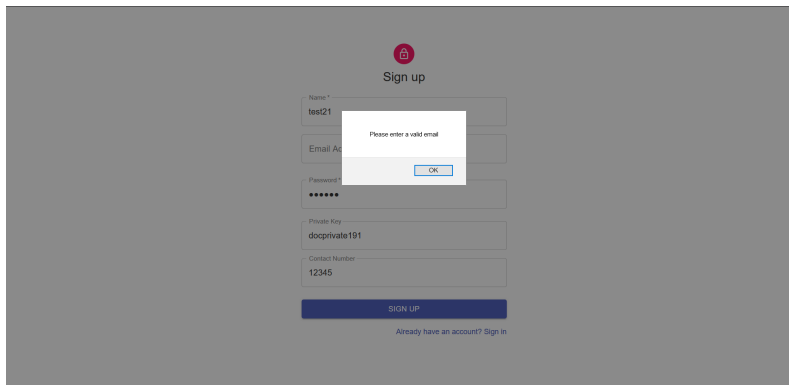
TEST 3:

Create an Account (Doctor) :-

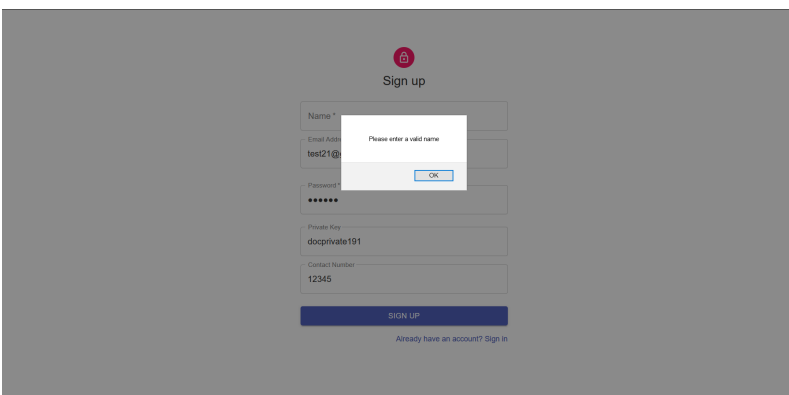
- If the private key is wrong, then the doctor should not be able to log in.
- If any of the fields(email, contact number , password) is missing, or the email is already registered, then the doctor should not be able to log in.




The image shows a 'Sign up' form with a red lock icon at the top. The form fields are: Name (test21), Email Address (test21@gmail.com), Password (masked with dots), Private Key (docprivate191), and Contact Number (empty). A blue 'SIGN UP' button is at the bottom. A modal dialog box is open with the message 'Please enter a valid contact_number' and an 'OK' button. Below the button, it says 'Already have an account? Sign in'.



The image shows the same 'Sign up' form, but the Contact Number field now contains '12345'. A modal dialog box is open with the message 'Please enter a valid email' and an 'OK' button. The rest of the form and the 'SIGN UP' button are visible below.



The image shows the same 'Sign up' form, but the Email Address field now contains 'test21@gmail.com'. A modal dialog box is open with the message 'Please enter a valid name' and an 'OK' button. The rest of the form and the 'SIGN UP' button are visible below.


Sign up

Name *
test21

Email Address *
test21@


Password *
Please enter a valid password
OK

Private Key
docprivate191

Contact Number
12345

SIGN UP

Already have an account? Sign in


Sign up

Name *
test21

Email Address *
email is already in use please try another email
OK


Password *

Private Key
docprivate191

Contact Number
12345

SIGN UP

Already have an account? Sign in


Sign up

Name *
test21

Email Address *
test21@

Password *

Private Key
abcodef

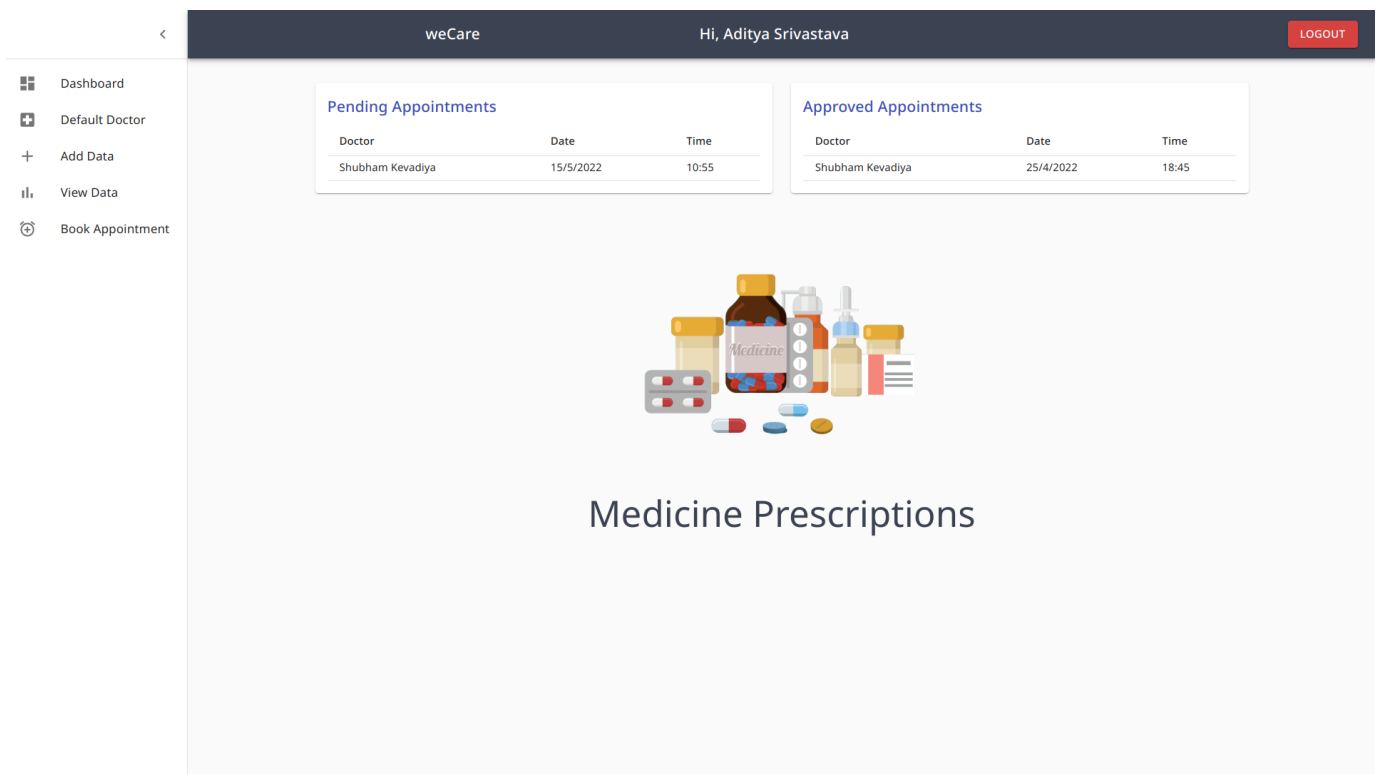
Contact Number
12345

SIGN UP

Already have an account? Sign in

You can not register, please enter valid private_key
OK

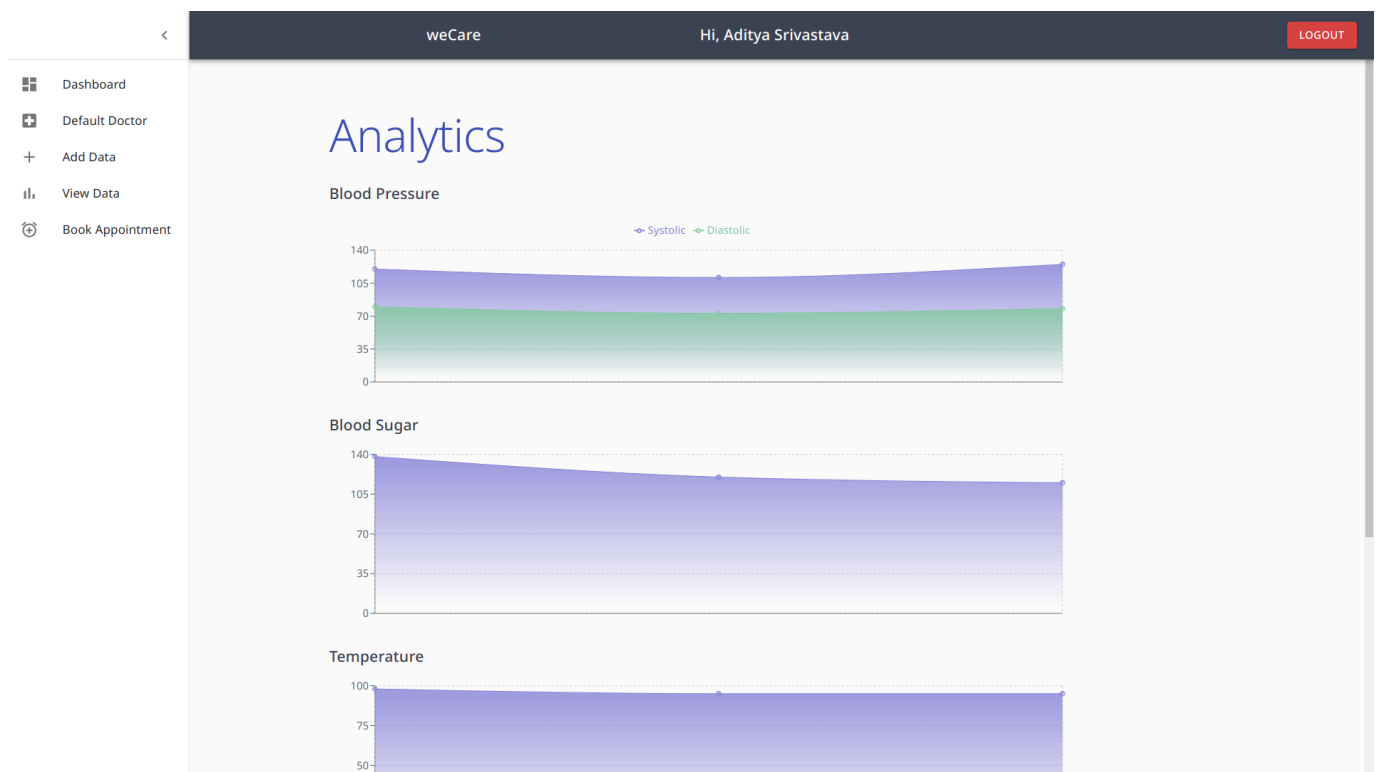
- After Logging, display dashboard



TEST 4:

View data (graphs) :-

- After addition of data, the graph should be generated and along with the time at which it was entered.



TEST 5: Add Data:

- If data is within the threshold, then we should get the message that the patient is healthy.

The screenshot shows the weCare application interface. At the top, a dark blue header bar contains the weCare logo, the user name "Hi, Aditya Srivastava", and a "LOGOUT" button. On the left, a sidebar menu lists: Dashboard, Default Doctor, Add Data, View Data, and Book Appointment. The main content area features an illustration of a doctor and a patient, followed by a "Report Form" section. The form contains input fields for: Blood Pressure Systolic (120), Blood Pressure Diastolic (80), Blood Sugar (150), Temperature(in Fahrenheit) (98.7), and Pulse Rate (87). A red "SUBMIT" button is at the bottom of the form. Below the form, two dark blue notification boxes appear: "Data Successfully sent" and "Voila, you seem to be Healthy".

- After addition, data will be stored in database

The screenshot displays the ClusterO database management interface. The top navigation bar includes "RATHOD'S Org - 202...", "Access Manager", "Billing", "All Clusters", "Get Help", and "RATHOD". The left sidebar shows a tree view with "Project 0" expanded, containing "Atlas", "Realm", and "Charts". Under "Atlas", the "Database" section is selected, showing "Data Lake", "DATA SERVICES", "Triggers", "Data API", "SECURITY", "Quickstart", "Database Access", "Network Access", and "Advanced". The main content area is titled "RATHOD'S ORG - 2022-04-23 > PROJECT 0 > DATABASES" and "ClusterO". It features tabs for "Overview", "Real Time", "Metrics", "Collections", "Search", "Profiler", "Performance Advisor", "Online Archive", and "Cmd Line Tools". The "Collections" tab is active, showing "DATABASES: 1" and "COLLECTIONS: 8". A "+ Create Database" button is present. Below, a search bar "NAMESPACES" is shown. The "weCare" namespace is expanded, revealing the "appointments" collection. The "appointments" collection details show "STORAGE SIZE: 36KB", "TOTAL DOCUMENTS: 7", and "INDEXES TOTAL SIZE: 36KB". A "FILTER" bar shows "{ field: 'value' }". The "QUERY RESULTS 1-7 OF 7" section displays two document snippets:

```
{
  "_id": ObjectId("626445f25ddc233dfcd6eb51"),
  "date": "2022-04-23T18:31:22.935+00:00",
  "isApproved": true,
  "patient": ObjectId("6264085353c888924c0c6f6"),
  "doctor": ObjectId("626445a1abf8363cffe7928"),
  "patientName": "abc",
  "doctorName": "Yash Khan",
  "__v": 0
}
```

 and

```
{
  "_id": ObjectId("626446525ddc233dfcd6eb63"),
  "date": "2022-04-26T18:32:00.000+00:00",
  "isApproved": false,
  "patient": ObjectId("6264085353c888924c0c6f6"),
  "doctor": ObjectId("626445a1abf8363cffe7928"),
  "patientName": "abc",
  "doctorName": "Yash Khan",
  "__v": 0
}
```

- Here Valid will mean that the patient is fine and doesn't need medical attention now.
- Invalid means that the person is unhealthy and mail will be sent to the doctor.

Equivalence class :-

- 1) D1 :- BloodPressure Systolic between 90-140(both inclusive) or empty [valid]
- 2) D2 :- BloodPressure Diastolic between 60-100(both inclusive) or empty[valid]
- 3) D3 :- PulseRate between 60-100(both inclusive) or empty [valid]
- 4) D4 :- Temperature between 95-101(both inclusive) or empty [valid]
- 5) D5 :- BloodSugar between 70-180(both inclusive) or empty [valid]

Boundary value :-

Parameter	Invalid	Valid	Valid	Invalid
BloodPressure Systolic	89	90	140	141
BloodPressure Diastolic	59	60	100	101
PulseRate	59	60	100	101
Temperature	94	95	101	102
BloodSugar	69	70	180	181

<

weCare

Hi, Aditya Srivastava

LOGOUT

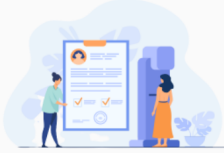
Dashboard

Default Doctor

Add Data

View Data

Book Appointment



Report Form

Blood Pressure Systolic

120

Blood Pressure Diastolic

80

Blood Sugar

150

Temperature(in Fahrenheit)

102

Pulse Rate

81

SUBMIT

Data Successfully sent

Gaffer, you need to see your doctor

TEST 6 :

Book appointment (patient)

- The patient should be able to select the date and time on which he wants to book an appointment and that request should be sent to the doctor.

<

weCare

Hi, Aditya Srivastava

LOGOUT


Dashboard

Default Doctor

Add Data

View Data

Book Appointment



Available Doctors

Yash Khanapara

yashkhan@gmail.com

SELECT DATE AND TIME

Date picker dialog

05/15/2022

Time picker

03:01 PM

BOOK APPOINTMENT

Shubham Kevadiya

shubh@gmail.com

SELECT DATE AND TIME

Purav Kansara

purav@gmail.com

SELECT DATE AND TIME

Varun Rathod

varun@gmail.com

SELECT DATE AND TIME

Appointment Request Sent

TEST 7:

Medical Prescriptions(patient) :

- The patient should be shown the details of the medicine prescribed by the doctor, when he is required to take the medicine and for how long he should take it.

<

weCare

Hi, Nilay Khanpara

LOGOUT

Dashboard

Default Doctor

+

Add Data

|||

View Data

🕒

Book Appointment

Doctor	Date	Time
Shubham Kevadiya	27/4/2022	17:30
Shubham Kevadiya	26/4/2022	17:31
Yash Khanapara	25/4/2022	18:14

Medicine Prescriptions

combiflame
Dr. Nilay Khanpara
Prescribed Till: 25/4/2022
Morning : ✕
Afternoon : ✕
Night : ✓

dolo 650mg
Dr. Shubham Kevadiya
Prescribed Till: 15/5/2022
Morning : ✓
Afternoon : ✕
Night : ✓

TEST 8:

Request of appointment (doctor) :

- When the patient request for an appointment, that should be visible to the doctor, and he/she should be given option to accept or reject it.

<

weCare

Hi, Dr. Yash Khanapara

LOGOUT

Dashboard

View Data

🕒

Appointment Requests

Pending Appointments

Patient	Date	Time	Accept	Reject
Aditya Srivastava	15/5/2022	15:1	✓	✕

Accept or reject the request,

- If accepted, display the appointment to patient and doctor

<

weCare

Hi, Dr. Yash Khanapara

LOGOUT

Dashboard

View Data

Appointment Requests

Pending Appointments

Patient	Date	Time	Accept	Reject
---------	------	------	--------	--------

<

weCare

Hi, Dr. Yash Khanapara

LOGOUT

Dashboard

View Data

Appointment Requests

Approved Appointments

Patient	Date	Time
Nilay khanpara	25/4/2022	18:14
Aditya Srivastava	15/5/2022	15:1

<

weCare

Hi, Aditya Srivastava

LOGOUT

Dashboard

Default Doctor

Add Data

View Data

Book Appointment

Pending Appointments

Doctor	Date	Time
Shubham Kevadiya	15/5/2022	10:55

Approved Appointments

Doctor	Date	Time
Shubham Kevadiya	25/4/2022	18:45
Yash Khanapara	15/5/2022	15:1

Medicine Prescriptions

Dolo

Dr. Yash Khanapara

Prescribed Till: 15/5/2022

Morning : ✕

Afternoon : ✕

Night : ✕

Dolo

Dr. Yash Khanapara

Prescribed Till: 15/5/2022

Morning : ✓

Afternoon : ✕

Night : ✕

TEST 9:

Show list of patient to doctor :

- The list of all patients, along with the graph of parameters, medical prescription should be visible to the doctor so he can analyze the situation of the patient

<

weCare

Hi, Dr. Yash Khanapara

LOGOUT

Dashboard

View Data

Appointment Requests

Patient List

Name: Aditya Srivastava

Email: adityaj@gmail.com

Contact: 7343743731

Address: Dalit

City: Gandhinagar

SHOW PAST REPORTS

VIEW MEDICINE PRESCRIPTION

ADD MEDICINE PRESCRIPTION

Name: Nilay khanpara

Email: Nilaykhan@gmail.com

Contact: 9646222362

Address: 56, ghodbunglows, mota varachha

City: Calicut

SHOW PAST REPORTS

VIEW MEDICINE PRESCRIPTION

ADD MEDICINE PRESCRIPTION

Name: temp

Email: temp@gamil.com

Contact: 0

Address: 1

City: Gandhinagar

SHOW PAST REPORTS

VIEW MEDICINE PRESCRIPTION

ADD MEDICINE PRESCRIPTION

Show past prescriptions

weCare Hi, Dr. Yash Khanapara [LOGOUT](#)

Patient List

Name: Aditya Srivastava
Email: adityaj@gmail.com
Contact: 7343743731
Address: Dailict
City: Gandhinagar

[SHOW PAST REPORTS](#) [VIEW MEDICINE PRESCRIPTION](#) [ADD MEDICINE PRESCRIPTION](#)

Name: Nilay Khanpara
Email: Nilaykhan@gmail.com
Contact: 9646222362
Address: 56, ghodtbunglows, mota varachha
City: Calicut

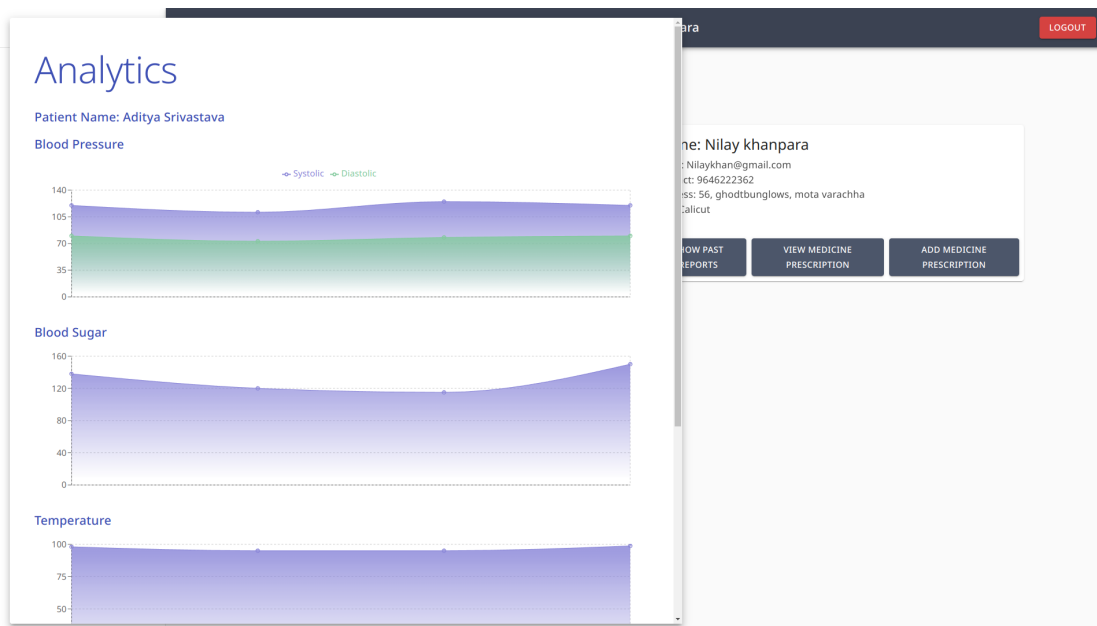
[SHOW PAST REPORTS](#) [VIEW MEDICINE PRESCRIPTION](#) [ADD MEDICINE PRESCRIPTION](#)

Name: temp
Email: temp@gamil.com
Contact: 0
Address: 1
City: Gandhinagar

[SHOW PAST REPORTS](#) [VIEW MEDICINE PRESCRIPTION](#) [ADD MEDICINE PRESCRIPTION](#)

combiflame
Dr. Nilay Khanpara
Prescribed Till: 25/4/2022
Morning : ✕
Afternoon : ✕
Night : ✓

Record of parameters of the patient:



TEST 10:

Addition of medicine to the patient :

- After looking at the parameters of the patient, the doctor should be able to prescribe medicine to the patient and the details of when to take it should be added in the patients side.

The screenshot shows the 'weCare' application interface. The top navigation bar includes a back arrow, the text 'weCare', the user 'Hi, Dr. Yash Khanapara', and a 'LOGOUT' button. The left sidebar contains 'Dashboard', 'View Data', and 'Appointment Requests'. The main area is titled 'Patient List' and displays two patient cards. The first card for 'Aditya Srivastava' has buttons for 'SHOW PAST REPORTS', 'VIEW MEDICINE PRESCRIPTION', and 'ADD MEDICINE PRESCRIPTION'. The second card for 'Nilay khanpara' has similar buttons. A 'Medicine Prescription' modal is open, showing the medicine 'Dolo', a prescribed till date of '05/15/2022', and a 'Medicine Time' section with 'Morning' selected (checked) and 'Afternoon' and 'Night' unselected. A 'SUBMIT' button is at the bottom right of the modal. A 'Medicine Added' notification bar is visible at the bottom left.

This screenshot shows the 'weCare' application after a prescription has been added. The 'Patient List' section now includes a third card for 'Name: temp' with buttons for 'SHOW PAST REPORTS', 'VIEW MEDICINE PRESCRIPTION', and 'ADD MEDICINE PRESCRIPTION'. A modal for 'Dolo' is open, displaying the doctor's name 'Dr. Yash Khanapara', the prescribed till date '15/5/2022', and the medicine time: 'Morning : ✓', 'Afternoon : ✗', and 'Night : ✗'. The 'ADD MEDICINE PRESCRIPTION' button is visible on the right side of the modal.

TEST 11:

Show list of doctors and update the doctor in the patient:

- A list of doctors working in the hospital should be shown to the patients so they can decide under which doctor they want to take the treatment .

<

weCare

Hi, Varun

LOGOUT

Dashboard

Default Doctor

Add Data

View Data

Book Appointment

No default doctor set yet.

We would suggest you to select a default doctor, so that a doctor can be notified if there is some problems with your health conditions.

List of Doctors

Yash Khanapara

yashkhan@gmail.com

SELECT AS DEFAULT

Shubham Kevadiya

shubh@gmail.com

SELECT AS DEFAULT

Purav Kansara

purav@gmail.com

SELECT AS DEFAULT

Varun Rathod

varun@gmail.com

SELECT AS DEFAULT

<

weCare

Hi, Varun

LOGOUT

Dashboard

Default Doctor

Add Data

View Data

Book Appointment

Your default doctor's email id is shubh@gmail.com.

List of Doctors

Yash Khanapara

yashkhan@gmail.com

SELECT AS DEFAULT

Shubham Kevadiya

shubh@gmail.com

SELECT AS DEFAULT

Purav Kansara

purav@gmail.com

SELECT AS DEFAULT

Varun Rathod

varun@gmail.com

SELECT AS DEFAULT

Default Doctor Changed