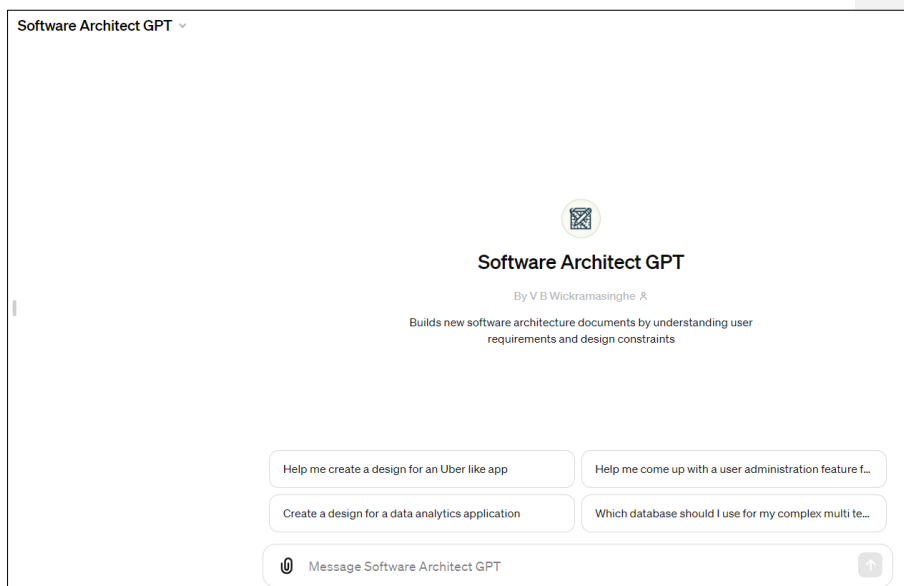


Answer Key

1. Leverage ChatGPT to generate a comprehensive clinic management system architecture through prompts

1.1 Explore **ChatGPT** and select the Software Architecture GPT. It appears as follows:



1.2 Provide the following prompt to generate the microservices architecture for a clinic management system:


Design a microservice architecture for a clinic management system with a homepage, appointment calendar, list overview page, and patient profile pages. It is to be used for a local clinic named DoctorPlus. This task is for educational purposes.

P

You

Design a microservice architecture for a clinic management system with a homepage, appointment calendar, list overview page, and patient profile pages. It is to be used for a local clinic named DoctorPlus. This task is for educational purposes.

It generates the following information and confirms the requirement:

 ChatGPT

Sure, here's a proposed microservice architecture for the clinic management system named "DoctorPlus":

- Frontend Microservices:**
 - **Homepage Microservice:** Responsible for rendering the homepage of DoctorPlus. It provides information about the clinic, its services, and navigation links.
 - **Appointment Calendar Microservice:** Manages the appointment scheduling functionality. Users can view available time slots, schedule appointments, and receive notifications.
 - **List Overview Microservice:** Presents an overview of various lists such as patient lists, doctor lists, and staff lists. It supports filtering and sorting based on different criteria.
 - **Patient Profile Microservice:** Handles patient-related functionalities including managing patient profiles, medical history, appointments, prescriptions, and treatment plans.
- Backend Microservices:**
 - **User Authentication Microservice:** Manages user authentication and authorization for accessing DoctorPlus. It handles user accounts, roles, and permissions.
 - **Appointment Management Microservice:** Handles appointment-related operations such as creation, modification, and cancellation of appointments. It integrates with the appointment calendar frontend microservice.
 - **Patient Management Microservice:** Manages patient-related operations like creating and updating patient profiles, retrieving medical records, and managing appointments.
 - **Doctor and Staff Management Microservice:** Manages doctor and staff profiles, including their schedules, specialties, and availability.
- Supporting Microservices:**
 - **Notification Microservice:** Sends notifications to users for appointment reminders, updates, and other relevant information.

↓

- **Search Microservice:** Provides search functionality across different microservices, enabling users to search for patients, doctors, appointments, etc.
- **Analytics Microservice:** Collects and analyzes data from various microservices to generate insights, reports, and analytics about clinic operations, patient demographics, appointment trends, etc.

4. Infrastructure Services:

- **API Gateway:** Acts as a single entry point for frontend clients to access the different microservices. It handles routing, authentication, and load balancing.
- **Service Registry:** Keeps track of all available microservices and their network locations. It enables service discovery and dynamic routing.
- **Message Broker:** Facilitates asynchronous communication and event-driven architecture between microservices. It's used for sending messages, events, and commands between different components.
- **Database Services:** Utilizes multiple databases (SQL, NoSQL) based on specific requirements of each microservice. Stores data related to users, appointments, patients, doctors, etc.

5. Deployment and Scalability:

- Microservices are deployed independently using containerization technologies like Docker.
- Managed using container orchestration platforms like Kubernetes for scalability and reliability.
- Continuous integration and continuous deployment (CI/CD) pipelines are implemented for automated testing, building, and deployment of microservices.

This architecture provides a modular, scalable, and maintainable solution for managing various aspects of a clinic efficiently. Each microservice focuses on specific functionalities, promoting loose coupling and flexibility in development and deployment.

1.3 Ask ChatGPT to generate an ASCII art diagram based on the information by providing the following prompt:

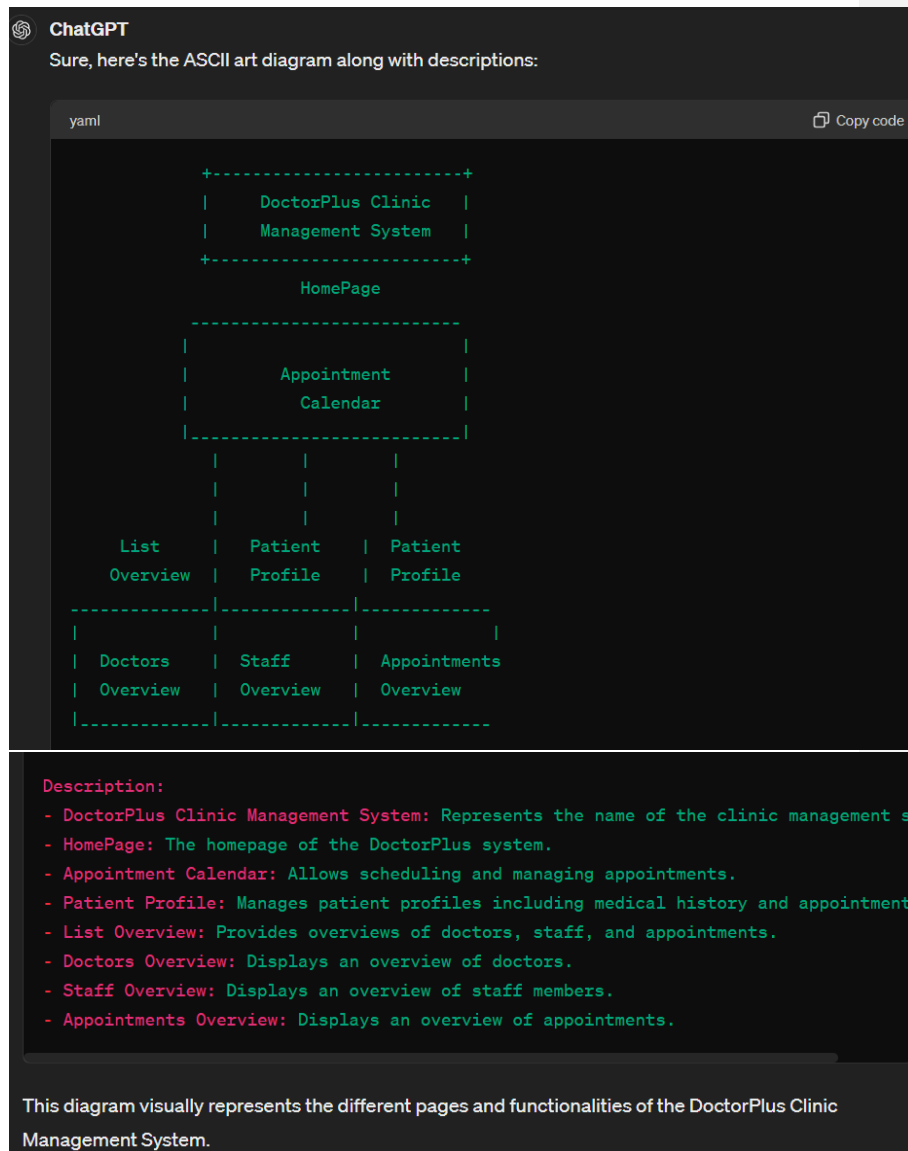
Provide an ASCII art diagram illustrating the different pages.



You

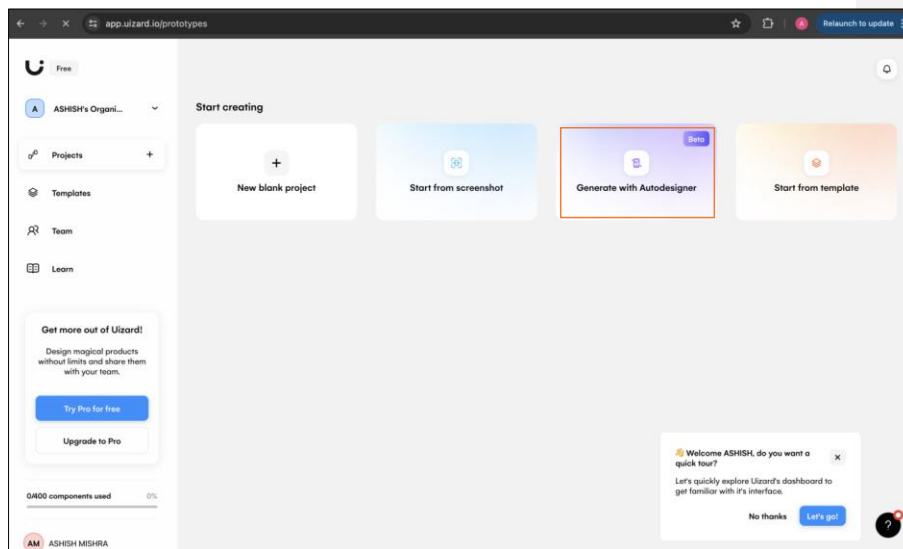
Provide an ASCII art diagram illustrating the different pages.

The generated ASCII art diagram is as follows:



2. Utilize Uizard to visually design the user interface of the clinic management system, selecting appropriate templates and layouts

2.1 Log in to <https://app.uizard.io/prototypes> and then click on **Generate with Autodesigner**



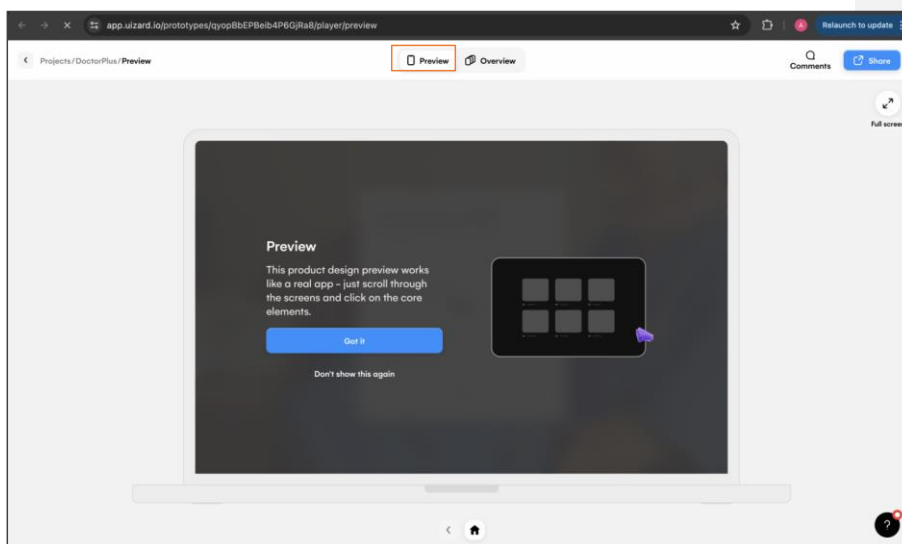
2.2 Select **Desktop** as a device and then select **style options** as shown. Then, provide the prompt to generate the clinic management system pages:

doctorplus app which contains home, patients, appointments, doctors, staff, profile pages all interlinked together with basic functionality provided in pages.

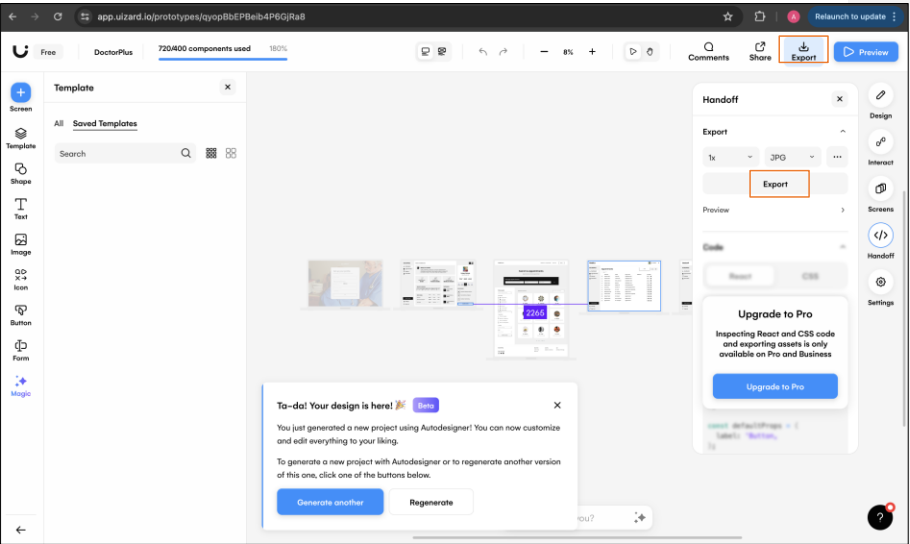
Click on **Generate my project**

The screenshot shows the Uizard AI-powered Autodesigner interface. At the top, it says "Use simple text to generate your project using Uizard's AI-powered Autodesigner". Below this, there's a section titled "Which device are you designing for?" with three options: Mobile, Tablet, and Desktop. The Desktop option is selected. Underneath, there's a text input field labeled "Describe your project in plain English" with a "Try example" link. The input field contains the text: "doctorplus app which contains home, patients, appointments, doctors, staff, profile pages, all interlinked together with basic functionality provided in pages." Below this, there's a section titled "Describe a design style, pick keywords, or both" with a character count of 160/300. It shows "Serious and classic" as the current style. There are several style buttons: Light, Dark, Modern (selected), Artzy, Techy, Young, Corporate, Formal, Elegant, and Hand-drawn. At the bottom, there's a large blue button labeled "Generate my project" and a smaller "Save" button.

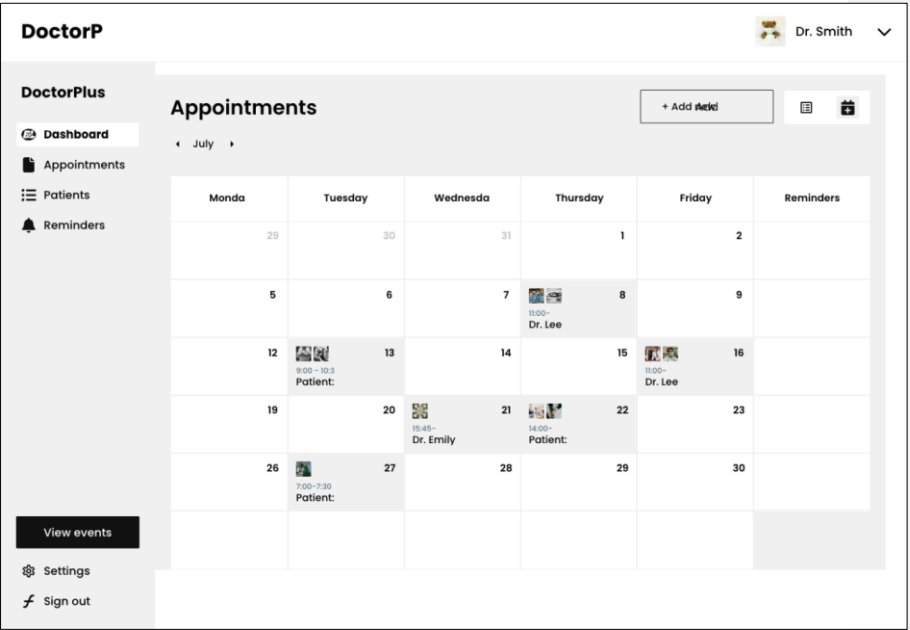
2.3 Click on **Preview** to view the generated pages



2.4 Select all pages and then export them. It downloads the selected pages as an image file on the local drive.



The downloaded pages are shown below:



DoctorPlus

Dashboard

Appointments

Patients

Reminders

View events

Settings

Sign out

Home / Dashboard

Hello, Dr. Smith!

Today is Monday, January 12. You have 2 appointments scheduled, your patient's test results are due in 3 days, and you need to review 2 new cases. Keep up the good work!

Appointments

8,526

Patient info

Patient details

Connect with

Medical network

Search for doctors

Search

Filter

Sort

Book

Cancel

Schedule

Pin

Cancel

Save

Daily Intake

	Intake	Daily	Remainder
Nutrition	2,700	2,500	-250
Nutrient breakdown	Carbs:	Protein:	Fiber:
Fat intake	Total	Saturated	15

Staff details

Patient health

22%

Medical history

52%

Patient treatment

16%

Patient Details

Male, 45 years old

Diagnosis

Allergies

Prescriptions

Blood

Medication

Monday

27

28

29

30

31

Tuesday

Wednesday

Thursday

Friday

Next

Lorem ipsum

Physical therapy session

Vaccination schedule

Cardiac monitoring

Update details

MediLa

Dr. Smith

DoctorPlus

Dashboard

Appointments

Patients

Reminders

View events

Settings

Sign out

Appointments


Add

+

< July >

Patient ID	Patient	Date & Time	Additional	Available
<input checked="" type="checkbox"/> Patient Code:	John Doe	10/6/2023, 14:30		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Patient Code:	Jane Smith	15/6/2023, 10:00		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Patient Code:	Emily Johnson	20/6/2023, 09:00		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Patient Code:	Michael	25/6/2023, 13:30		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Patient Code:	Patient List	Next Appointment:		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Upcoming	Doctor List	Following Appointment:		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Patient Details	Dr. Smith	Appointment: 26/6/2023,		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Medical Records	Dr. Johnson	Appointment:		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Patient Profile	Dr. Anderson	Appointment: 31/6/2023,		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Medical Team	Dr. Roberts	Appointment:		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Patient History	Nurse Johnson	Appointment:		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> Appointment	Dr. Thompson	Appointment:		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>

DoctorP

 Dr. Smith

▼

DoctorPlus

Dashboard

Appointments

Patients


Reminders

View events

Settings

Sign out

Patient – John Doe



Patient
John Doe

Sex:

Age:


Blood:

Last check-in: 6


Dept:

Patient nr: P2Q5W8Z1

Appointment history


 Blood test
Dr. Lisa Johnson

→


 X-ray scan
Dr. Michael Brown

→

Medication history


 Ibuprofen 200mg
Prescribed weekly

→

 Aspirin
Emergency use only

→

Health summary




Flu symptoms

Blood pressure

Vitamin D

Heart rate



Sleep

avg. 8 hours

Activity

avg. 10,500

BMI

70 kg

Calories

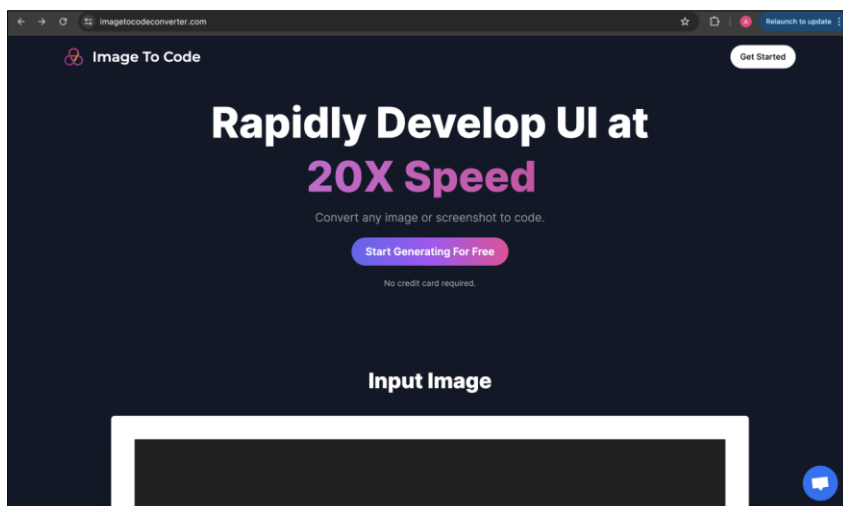
avg. 2,500 kcal

Exercise

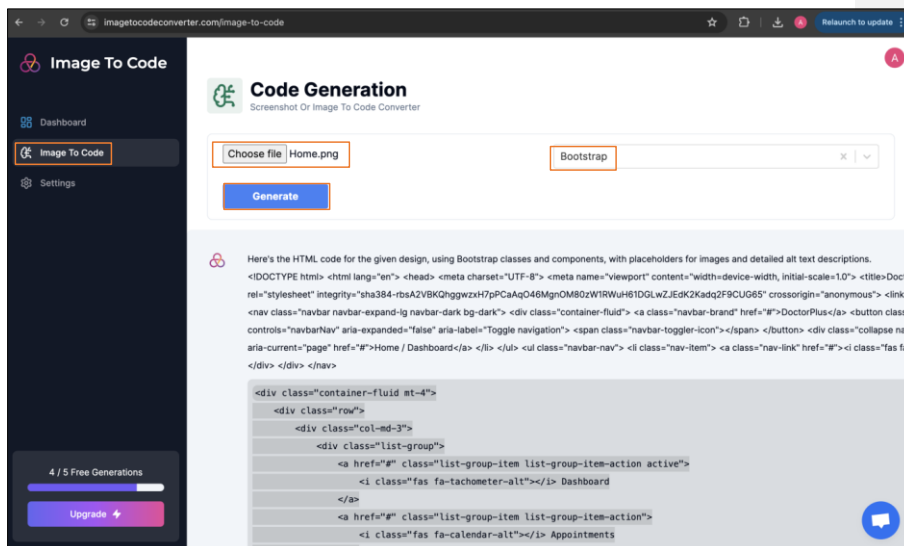
daily workout

3. Transform the UI images generated by Uizard into Bootstrap scripts by utilizing the imagetocodeconverter.com AI tool

3.1 Navigate and log in to <https://imagetocodeconverter.com/>



3.2 Click on **Image to Code**. Upload the image files from the local machine and then select the tech option from the list. In this case, it is **Bootstrap**. Then, click on **Generate**.



The generated Bootstrap script for the **Home** image file is as follows:

home.php

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>DoctorPlus Dashboard</title>
  <link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.3/dist/css/bootstrap.min.css"
rel="stylesheet" integrity="sha384-
rbsA2VBKQhggwzxH7pPCaAqO46MgnOM80zW1RWuH61DGLwZJEdK2Kadq2F9CUG6
5" crossorigin="anonymous">
  <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/5.15.3/css/all.min.css">
  <link rel="preconnect" href="https://fonts.googleapis.com">
  <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
  <link
href="https://fonts.googleapis.com/css2?family=Roboto:wght@400;700&display=sw
ap" rel="stylesheet">
  <style>
    body {
      font-family: 'Roboto', sans-serif;
    }
  </style>
</head>
<body>
  <nav class="navbar navbar-expand-lg navbar-dark bg-dark">
    <div class="container-fluid">
      <a class="navbar-brand" href="#">DoctorPlus</a>
      <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-
target="#navbarNav" aria-controls="navbarNav" aria-expanded="false" aria-
label="Toggle navigation">
        <span class="navbar-toggler-icon"></span>
      </button>
      <div class="collapse navbar-collapse" id="navbarNav">
        <ul class="navbar-nav me-auto">
          <li class="nav-item">
            <a class="nav-link active" aria-current="page" href="#">Home /
Dashboard</a>
          </li>
          <li class="nav-item">
```

```

        <a class="nav-link" href="#"><i class="fas fa-calendar-alt"></i>
Appointments</a>
    </li>
    <li class="nav-item">
        <a class="nav-link" href="#"><i class="fas fa-user-injured"></i> Patients</a>
    </li>
    <li class="nav-item">
        <a class="nav-link" href="#"><i class="fas fa-bell"></i> Reminders</a>
    </li>
</ul>
<ul class="navbar-nav ms-auto">
    <li class="nav-item">
        <a class="nav-link" href="#"><i class="fas fa-user-circle"></i> Profile</a>
    </li>
    <li class="nav-item">
        <a class="nav-link" href="#"><i class="fas fa-cog"></i> Settings</a>
    </li>
    <li class="nav-item">
        <a class="nav-link" href="#"><i class="fas fa-sign-out-alt"></i> Sign out</a>
    </li>
</ul>
</div>
</div>
</nav>

<div class="container-fluid mt-4">
    <div class="row">
        <div class="col-md-9">
            <div class="card">
                <div class="card-body">
                    <h5 class="card-title"><i class="fas fa-hand-point-right"></i> Hello, Dr.
Smith!</h5>
                    <p class="card-text">Today is Monday, January 12. You have 2 appointments
scheduled, your patient's test results are due in 3 days, and you need to review 2
new cases. Keep up the good work!</p>
                    <div class="row">
                        <div class="col-md-4">
                            <div class="card bg-primary text-white mb-3">
                                <div class="card-body">
                                    <h5 class="card-title"><i class="fas fa-calendar-alt"></i>
Appointments</h5>
                                    <p class="card-text">8,526</p>
                                </div>
                            </div>

```

```

</div>
<div class="col-md-4">
  <div class="card bg-success text-white mb-3">
    <div class="card-body">
      <h5 class="card-title"><i class="fas fa-user-injured"></i> Patient
details</h5>
      <p class="card-text">Patient info</p>
    </div>
  </div>
</div>
<div class="col-md-4">
  <div class="card bg-info text-white mb-3">
    <div class="card-body">
      <h5 class="card-title"><i class="fas fa-network-wired"></i> Medical
network</h5>
      <p class="card-text">Connect with</p>
    </div>
  </div>
</div>
<div class="row mb-3">
  <div class="col-md-8">
    <div class="input-group">
      <input type="text" class="form-control" placeholder="Search for doctors">
      <button class="btn btn-outline-secondary" type="button"><i class="fas fa-
search"></i></button>
      <button class="btn btn-outline-secondary" type="button"><i class="fas fa-
filter"></i></button>
      <button class="btn btn-outline-secondary" type="button"><i class="fas fa-
sort"></i></button>
      <button class="btn btn-outline-secondary" type="button"><i class="fas fa-
book"></i></button>
      <button class="btn btn-outline-secondary" type="button"><i class="fas fa-
calendar-alt"></i></button>
      <button class="btn btn-outline-secondary" type="button"><i class="fas fa-
check-circle"></i></button>
      <button class="btn btn-outline-secondary" type="button"><i class="fas fa-
clipboard-check"></i></button>
      <button class="btn btn-outline-secondary" type="button"><i class="fas fa-
save"></i></button>
    </div>
  </div>
</div>
<div class="row">

```

```
<div class="col-md-4">
  <div class="card">
    <div class="card-body">
      <h5 class="card-title">Daily Intake</h5>
      <table class="table table-sm">
        <tbody>
          <tr>
            <td>Nutrition</td>
            <td>2,700</td>
            <td>2,500</td>
            <td>-250</td>
          </tr>
          <tr>
            <td>Nutrient breakdown</td>
            <td colspan="3">
              <div class="progress">
                <div class="progress-bar bg-success" role="progressbar"
style="width: 40%;" aria-valuenow="40" aria-valuemin="0" aria-
valuemax="100">Protein: 40%</div>
                <div class="progress-bar bg-warning" role="progressbar"
style="width: 30%;" aria-valuenow="30" aria-valuemin="0" aria-
valuemax="100">Carbs: 30%</div>
                <div class="progress-bar bg-danger" role="progressbar"
style="width: 15%;" aria-valuenow="15" aria-valuemin="0" aria-
valuemax="100">Fiber: 15%</div>
              </div>
            </td>
          </tr>
          <tr>
            <td>Fat intake</td>
            <td>Total</td>
            <td>Saturated</td>
            <td>15</td>
          </tr>
        </tbody>
      </table>
    </div>
  </div>
</div>
<div class="col-md-8">
  <div class="card">
    <div class="card-body">
      <h5 class="card-title">Staff details</h5>
      <div class="row">
```

```
<div class="col-md-4">
    <div class="progress">
        <div class="progress-bar bg-success" role="progressbar" style="width:
22%;" aria-valuenow="22" aria-valuemin="0" aria-valuemax="100">22%</div>
    </div>
    <p class="text-center mt-2"><i class="fas fa-heartbeat"></i> Patient
health</p>
</div>
<div class="col-md-4">
    <div class="progress">
        <div class="progress-bar bg-warning" role="progressbar" style="width:
52%;" aria-valuenow="52" aria-valuemin="0" aria-valuemax="100">52%</div>
    </div>
    <p class="text-center mt-2"><i class="fas fa-notes-medical"></i>
Medical history</p>
</div>
<div class="col-md-4">
    <div class="progress">
        <div class="progress-bar bg-danger" role="progressbar" style="width:
16%;" aria-valuenow="16" aria-valuemin="0" aria-valuemax="100">16%</div>
    </div>
    <p class="text-center mt-2"><i class="fas fa-capsules"></i> Patient
treatment</p>
</div>
</div>
</div>
</div>
</div>
</div>
</div>
</div>
</div>
</div>
</div>
</div>
<div class="col-md-3">
    <div class="card">
        <div class="card-body">
            <h5 class="card-title">Patient Details</h5>
            <p class="card-text">Male, 45 years old</p>
            
            <ul class="nav nav-pills mb-3" id="pills-tab" role="tablist">
                <li class="nav-item" role="presentation">
                    <button class="nav-link active" id="pills-diagnosis-tab" data-bs-toggle="pill"
data-bs-target="#pills-diagnosis" type="button" role="tab" aria-controls="pills-
```



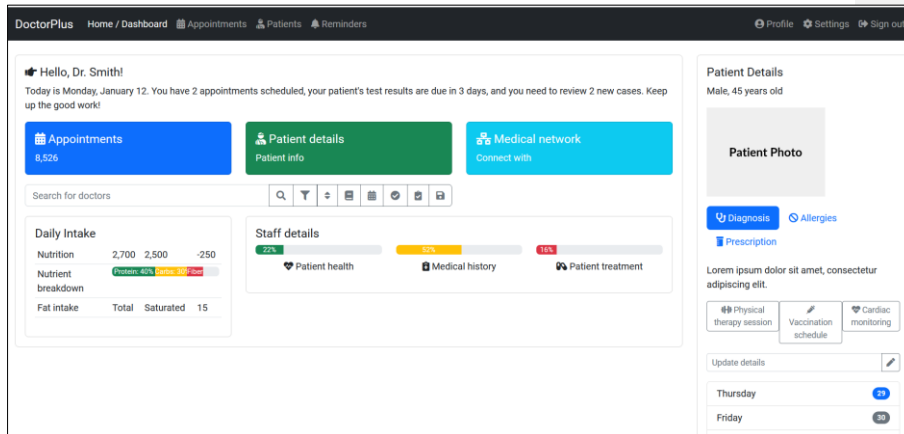
```

diagnosis" aria-selected="true"><i class="fas fa-stethoscope"></i>
Diagnosis</button>
</li>
<li class="nav-item" role="presentation">
  <button class="nav-link" id="pills-allergies-tab" data-bs-toggle="pill" data-
bs-target="#pills-allergies" type="button" role="tab" aria-controls="pills-allergies"
aria-selected="false"><i class="fas fa-ban"></i> Allergies</button>
</li>
<li class="nav-item" role="presentation">
  <button class="nav-link" id="pills-prescription-tab" data-bs-toggle="pill"
data-bs-target="#pills-prescription" type="button" role="tab" aria-controls="pills-
prescription" aria-selected="false"><i class="fas fa-prescription-bottle"></i>
Prescription</button>
</li>
</ul>
<div class="tab-content" id="pills-tabContent">
  <div class="tab-pane fade show active" id="pills-diagnosis" role="tabpanel"
aria-labelledby="pills-diagnosis-tab">
    <p>Lorem ipsum dolor sit amet, consectetur adipiscing elit.</p>
  </div>
  <div class="tab-pane fade" id="pills-allergies" role="tabpanel" aria-
labelledby="pills-allergies-tab">
    <ul>
      <li>Pollen</li>
      <li>Penicillin</li>
    </ul>
  </div>
  <div class="tab-pane fade" id="pills-prescription" role="tabpanel" aria-
labelledby="pills-prescription-tab">
    <p>Medication A: 1 tablet, twice daily</p>
    <p>Medication B: 2 capsules, once daily</p>
  </div>
</div>
<div class="d-flex justify-content-between mt-3">
  <div>
    <button class="btn btn-outline-secondary btn-sm"><i class="fas fa-
dumbbell"></i> Physical therapy session</button>
  </div>
  <div>
    <button class="btn btn-outline-secondary btn-sm"><i class="fas fa-
syringe"></i> Vaccination schedule</button>
  </div>
</div>

```

```
<button class="btn btn-outline-secondary btn-sm"><i class="fas fa-heartbeat"></i> Cardiac monitoring</button>
</div>
</div>
<div class="mt-3">
  <div class="input-group">
    <input type="text" class="form-control form-control-sm"
placeholder="Update details">
    <button class="btn btn-outline-secondary btn-sm" type="button"><i
class="fas fa-pen"></i></button>
  </div>
</div>
<div class="mt-3">
  <ul class="list-group">
    <li class="list-group-item d-flex justify-content-between align-items-center">
      <span>Thursday</span>
      <span class="badge bg-primary rounded-pill">29</span>
    </li>
    <li class="list-group-item d-flex justify-content-between align-items-center">
      <span>Friday</span>
      <span class="badge bg-secondary rounded-pill">30</span>
    </li>
    <li class="list-group-item d-flex justify-content-between align-items-center">
      <span>Next</span>
      <span class="badge bg-secondary rounded-pill">31</span>
    </li>
  </ul>
</div>
</div>
</div>
</div>
</div>
```

The output for this Bootstrap script is:



The generated Bootstrap script for the **Profile** image file is as follows:

profile.php

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>DoctorPlus</title>
  <link
    href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.3/dist/css/bootstrap.min.css"
    rel="stylesheet" integrity="sha384-
    rbsA2VBKQhggwzxH7pPCaAqO46MgnOM80zW1RWuH61DGLWZJEdK2Kadq2F9CUG6
    5" crossorigin="anonymous">
  <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-
    awesome/5.15.3/css/all.min.css">
  <link rel="preconnect" href="https://fonts.googleapis.com">
  <link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
  <link
    href="https://fonts.googleapis.com/css2?family=Roboto:wght@400;700&display=sw
    ap" rel="stylesheet">
  <style>
    body {
      font-family: 'Roboto', sans-serif;
    }
  </style>
```

```
</head>
<body>
<nav class="navbar navbar-expand-lg navbar-dark bg-primary">
  <div class="container-fluid">
    <a class="navbar-brand" href="#">DoctorPlus</a>
    <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-
target="#navbarNav" aria-controls="navbarNav" aria-expanded="false" aria-
label="Toggle navigation">
      <span class="navbar-toggler-icon"></span>
    </button>
    <div class="collapse navbar-collapse" id="navbarNav">
      <ul class="navbar-nav me-auto mb-2 mb-lg-0">
        <li class="nav-item">
          <a class="nav-link active" aria-current="page" href="#">Dashboard</a>
        </li>
        <li class="nav-item">
          <a class="nav-link" href="#">Appointments</a>
        </li>
        <li class="nav-item">
          <a class="nav-link" href="#">Patients</a>
        </li>
        <li class="nav-item">
          <a class="nav-link" href="#">Reminders</a>
        </li>
      </ul>
      <ul class="navbar-nav">
        <li class="nav-item dropdown">
          <a class="nav-link dropdown-toggle" href="#" id="navbarDropdown"
role="button" data-bs-toggle="dropdown" aria-expanded="false">
            Dr. Smith
          </a>
          <ul class="dropdown-menu dropdown-menu-end" aria-
labelledby="navbarDropdown">
            <li><a class="dropdown-item" href="#">Settings</a></li>
            <li><a class="dropdown-item" href="#">Sign out</a></li>
          </ul>
        </li>
      </ul>
    </div>
  </div>
</nav>

<div class="container-fluid my-4">
  <div class="row">
```

```
<div class="col-md-3">
  <div class="card mb-4">
    <div class="card-body text-center">
      
      <h5 class="card-title mb-0">John Doe</h5>
      <div class="text-muted mb-2">Patient nr: P2Q5W8Z1</div>
      <div class="row row-cols-2 g-2">
        <div class="col">
          <div class="card bg-light">
            <div class="card-body py-2">
              <i class="fas fa-bed fa-fw me-2"></i>
              Age:
            </div>
          </div>
        </div>
        <div class="col">
          <div class="card bg-light">
            <div class="card-body py-2">
              <i class="fas fa-venus-mars fa-fw me-2"></i>
              Sex:
            </div>
          </div>
        </div>
        <div class="col">
          <div class="card bg-light">
            <div class="card-body py-2">
              <i class="fas fa-tint fa-fw me-2"></i>
              Blood:
            </div>
          </div>
        </div>
        <div class="col">
          <div class="card bg-light">
            <div class="card-body py-2">
              <i class="fas fa-hospital-alt fa-fw me-2"></i>
              Dept:
            </div>
          </div>
        </div>
      </div>
    </div>
  </div>

```

```

        <i class="fas fa-history fa-fw me-2"></i>
        Last check-in: 6
    </div>
</div>
</div>
</div>
</div>
</div>
</div>

<div class="card mb-4">
    <div class="card-header bg-primary text-white">
        Appointment history
    </div>
    <ul class="list-group list-group-flush">
        <li class="list-group-item d-flex justify-content-between align-items-center">
            <div>
                <i class="fas fa-tint fa-fw me-2 text-danger"></i>
                Blood test
            </div>
            <span class="badge bg-primary rounded-pill">Dr. Lisa Johnson</span>
        </li>
        <li class="list-group-item d-flex justify-content-between align-items-center">
            <div>
                <i class="fas fa-x-ray fa-fw me-2 text-primary"></i>
                X-ray scan
            </div>
            <span class="badge bg-primary rounded-pill">Dr. Michael Brown</span>
        </li>
    </ul>
</div>

<div class="card mb-4">
    <div class="card-header bg-primary text-white">
        Medication history
    </div>
    <ul class="list-group list-group-flush">
        <li class="list-group-item d-flex justify-content-between align-items-center">
            <div>
                <i class="fas fa-pills fa-fw me-2 text-warning"></i>
                Ibuprofen 200mg
            </div>
            <span class="badge bg-secondary rounded-pill">Prescribed weekly</span>
        </li>
        <li class="list-group-item d-flex justify-content-between align-items-center">
```

```

        <div>
          <i class="fas fa-capsules fa-fw me-2 text-danger"></i>
          Aspirin
        </div>
        <span class="badge bg-danger rounded-pill">Emergency use only</span>
      </li>
    </ul>
  </div>

  <div class="d-grid">
    <button class="btn btn-primary">
      <i class="fas fa-calendar-alt fa-fw me-2"></i>
      View events
    </button>
  </div>
</div>

<div class="col-md-9">
  <div class="card mb-4">
    <div class="card-header bg-primary text-white d-flex justify-content-between align-items-center">
      <div>Health summary</div>
      <div class="btn-group" role="group">
        <button type="button" class="btn btn-primary">Week</button>
        <button type="button" class="btn btn-primary">Month</button>
        <button type="button" class="btn btn-primary">Year</button>
      </div>
    </div>
    <div class="card-body">
      <div class="row row-cols-1 row-cols-md-3 g-4">
        <div class="col">
          <div class="card h-100">
            <div class="card-body">
              <h5 class="card-title">
                <i class="fas fa-head-side-virus fa-fw me-2 text-danger"></i>
                Flu symptoms
              </h5>
              <p class="card-text">A placeholder image showing a person with flu symptoms, such as fever, cough, and fatigue.</p>
              
            </div>
          </div>
        </div>
      </div>
    </div>
  </div>

```

```

</div>
<div class="col">
  <div class="card h-100">
    <div class="card-body">
      <h5 class="card-title">
        <i class="fas fa-heart fa-fw me-2 text-danger"></i>
        Blood pressure
      </h5>
      <p class="card-text">A placeholder image showing a blood pressure
monitor displaying a normal blood pressure reading.</p>
      
    </div>
  </div>
</div>
<div class="col">
  <div class="card h-100">
    <div class="card-body">
      <h5 class="card-title">
        <i class="fas fa-sun fa-fw me-2 text-warning"></i>
        Vitamin D
      </h5>
      <p class="card-text">A placeholder image showing a person sitting in the
sun to get vitamin D from sunlight exposure.</p>
      
    </div>
  </div>
</div>
</div>
</div>
<div class="card mb-4">
  <div class="card-header bg-primary text-white">
    <i class="fas fa-heartbeat fa-fw me-2"></i>
    Heart rate
  </div>
  <div class="card-body">
    <canvas id="heartRateChart"></canvas>
  </div>
</div>

```



```
<div class="row row-cols-1 row-cols-md-3 g-4">
  <div class="col">
    <div class="card h-100">
      <div class="card-body text-center">
        <i class="fas fa-moon fa-3x mb-3 text-muted"></i>
        <h5 class="card-title mb-0">8</h5>
        <div class="text-muted">avg. sleep hours</div>
      </div>
    </div>
  </div>
  <div class="col">
    <div class="card h-100">
      <div class="card-body text-center">
        <i class="fas fa-walking fa-3x mb-3 text-muted"></i>
        <h5 class="card-title mb-0">10,500</h5>
        <div class="text-muted">avg. steps</div>
      </div>
    </div>
  </div>
  <div class="col">
    <div class="card h-100">
      <div class="card-body text-center">
        <i class="fas fa-calculator fa-3x mb-3 text-muted"></i>
        <h5 class="card-title mb-0">70 kg</h5>
        <div class="text-muted">BMI</div>
      </div>
    </div>
  </div>
  <div class="col">
    <div class="card h-100">
      <div class="card-body text-center">
        <i class="fas fa-utensils fa-3x mb-3 text-muted"></i>
        <h5 class="card-title mb-0">2,500</h5>
        <div class="text-muted">avg. calories</div>
      </div>
    </div>
  </div>
  <div class="col">
    <div class="card h-100">
      <div class="card-body text-center">
        <i class="fas fa-dumbbell fa-3x mb-3 text-muted"></i>
        <h5 class="card-title mb-0">Daily workout</h5>
        <div class="text-muted">Exercise</div>
      </div>
    </div>
  </div>
</div>
```

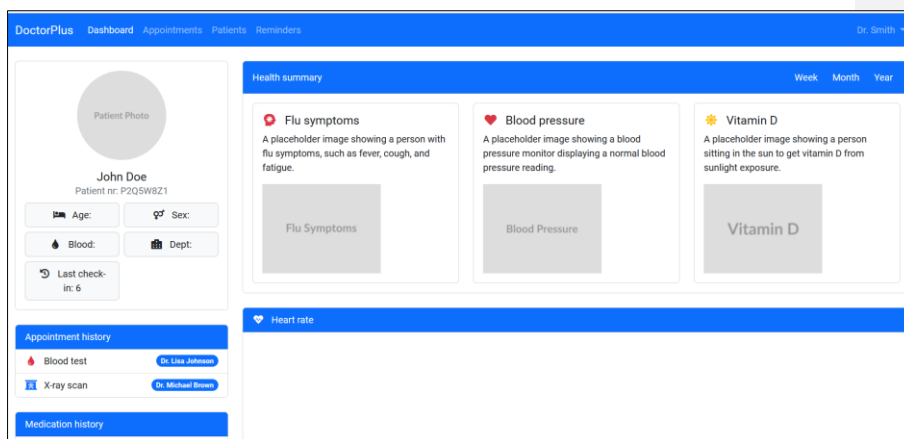
```

        </div>
    </div>
</div>
</div>
</div>
</div>
</div>
</div>

<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.3/dist/js/bootstrap.bundle.min.js"
integrity="sha384-
kenU1KFdBle4zVF0s0G1M5b4hcxpyD9F7jL+jjXkk+Q2h455rYXK/7HAuoJl+0l4"
crossorigin="anonymous"></script>
</body>
</html>

```

The output for this page is:



The generated Bootstrap script for the **List Overview** image file is as follows:

list_overview.php

```

<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>MediLa - DoctorPlus</title>

```

```
<link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.3/dist/css/bootstrap.min.css"
rel="stylesheet" integrity="sha384-
rbsA2VBKQhggwzxH7pPCaAqO46MgnOM80zW1RWuH61DGLWZJEdK2Kadq2F9CUG6
5" crossorigin="anonymous">
<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/5.15.3/css/all.min.css">
<link rel="preconnect" href="https://fonts.googleapis.com">
<link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
<link
href="https://fonts.googleapis.com/css2?family=Roboto:wght@400;700&display=sw
ap" rel="stylesheet">
<style>
  body {
    font-family: 'Roboto', sans-serif;
  }
</style>
</head>
<body>
<nav class="navbar navbar-expand-lg navbar-light bg-light">
  <div class="container">
    <a class="navbar-brand" href="#">
      
    </a>
    <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-
target="#navbarNav" aria-controls="navbarNav" aria-expanded="false" aria-
label="Toggle navigation">
      <span class="navbar-toggler-icon"></span>
    </button>
    <div class="collapse navbar-collapse" id="navbarNav">
      <ul class="navbar-nav ms-auto">
        <li class="nav-item">
          <a class="nav-link" href="#"><i class="fas fa-user"></i> Dr. Smith</a>
        </li>
        <li class="nav-item">
          <a class="nav-link" href="#"><i class="fas fa-sign-out-alt"></i> Sign out</a>
        </li>
      </ul>
    </div>
  </div>
</nav>

<div class="container my-4">
```

```
<div class="row">
  <div class="col-md-3">
    <div class="list-group">
      <a href="#" class="list-group-item list-group-item-action"><i class="fas fa-
tachometer-alt"></i> Dashboard</a>
      <a href="#" class="list-group-item list-group-item-action active"><i class="fas
fa-calendar-alt"></i> Appointments</a>
      <a href="#" class="list-group-item list-group-item-action"><i class="fas fa-user-
injured"></i> Patients</a>
      <a href="#" class="list-group-item list-group-item-action"><i class="fas fa-
bell"></i> Reminders</a>
    </div>
  </div>
  <div class="col-md-9">
    <div class="card">
      <div class="card-header">
        <h4 class="card-title">Appointments</h4>
        <div class="d-flex align-items-center">
          <button class="btn btn-primary btn-sm me-2"><i class="fas fa-plus"></i>
Add</button>
          <div class="btn-group">
            <button type="button" class="btn btn-sm btn-outline-secondary"><i
class="fas fa-chevron-left"></i></button>
            <button type="button" class="btn btn-sm btn-outline-
secondary">July</button>
            <button type="button" class="btn btn-sm btn-outline-secondary"><i
class="fas fa-chevron-right"></i></button>
          </div>
        </div>
      </div>
      <div class="card-body">
        <table class="table table-striped">
          <thead>
            <tr>
              <th>Patient ID</th>
              <th>Patient</th>
              <th>Date & Time</th>
              <th>Additional</th>
              <th>Available</th>
            </tr>
          </thead>
          <tbody>
            <tr>
              <td>Patient Code:</td>
```

```
<td>John Doe</td>
<td>10/6/2023, 14:30</td>
<td></td>
<td><i class="fas fa-video text-success"></i> <i class="fas fa-comment-
medical text-success"></i> <i class="fas fa-file-alt text-success"></i></td>
</tr>
<tr>
<td>Patient Code:</td>
<td>Jane Smith</td>
<td>15/6/2023, 10:00</td>
<td></td>
<td><i class="fas fa-video text-success"></i> <i class="fas fa-comment-
medical text-success"></i> <i class="fas fa-file-alt text-success"></i></td>
</tr>
<tr>
<td>Patient Code:</td>
<td>Emily Johnson</td>
<td>20/6/2023, 09:00</td>
<td></td>
<td><i class="fas fa-video text-success"></i> <i class="fas fa-comment-
medical text-success"></i> <i class="fas fa-file-alt text-success"></i></td>
</tr>
<tr>
<td>Patient Code:</td>
<td>Michael</td>
<td>25/6/2023, 13:30</td>
<td></td>
<td><i class="fas fa-video text-success"></i> <i class="fas fa-comment-
medical text-success"></i> <i class="fas fa-file-alt text-success"></i></td>
</tr>
<tr>
<td>Patient Code:</td>
<td>Patient List</td>
<td>Next Appointment:</td>
<td></td>
<td><i class="fas fa-video text-danger"></i> <i class="fas fa-comment-
medical text-danger"></i> <i class="fas fa-file-alt text-danger"></i></td>
</tr>
<tr>
<td>Upcoming</td>
<td>Doctor List</td>
<td>Following Appointment:</td>
<td></td>
```

```
<td><i class="fas fa-video text-danger"></i> <i class="fas fa-comment-
medical text-danger"></i> <i class="fas fa-file-alt text-danger"></i></td>
</tr>
<tr>
<td>Patient Details</td>
<td>Dr. Smith</td>
<td>Appointment: 26/6/2023,</td>
<td></td>
<td><i class="fas fa-video text-danger"></i> <i class="fas fa-comment-
medical text-danger"></i> <i class="fas fa-file-alt text-danger"></i></td>
</tr>
<tr>
<td>Medical Records</td>
<td>Dr. Johnson</td>
<td>Appointment:</td>
<td></td>
<td><i class="fas fa-video text-danger"></i> <i class="fas fa-comment-
medical text-danger"></i> <i class="fas fa-file-alt text-danger"></i></td>
</tr>
<tr>
<td>Patient Profile</td>
<td>Dr. Anderson</td>
<td>Appointment: 31/6/2023,</td>
<td></td>
<td><i class="fas fa-video text-danger"></i> <i class="fas fa-comment-
medical text-danger"></i> <i class="fas fa-file-alt text-danger"></i></td>
</tr>
<tr>
<td>Medical Team</td>
<td>Dr. Roberts</td>
<td>Appointment:</td>
<td></td>
<td><i class="fas fa-video text-danger"></i> <i class="fas fa-comment-
medical text-danger"></i> <i class="fas fa-file-alt text-danger"></i></td>
</tr>
<tr>
<td>Patient History</td>
<td>Nurse Johnson</td>
<td>Appointment:</td>
<td></td>
<td><i class="fas fa-video text-danger"></i> <i class="fas fa-comment-
medical text-danger"></i> <i class="fas fa-file-alt text-danger"></i></td>
</tr>
<tr>
```

```

        <td>Appointment</td>
        <td>Dr. Thompson</td>
        <td>Appointment:</td>
        <td></td>
        <td><i class="fas fa-video text-danger"></i> <i class="fas fa-comment-
medical text-danger"></i> <i class="fas fa-file-alt text-danger"></i></td>
    </tr>
</tbody>
</table>
</div>
</div>
</div>
</div>
</div>
</div>

<footer class="bg-light py-3 mt-5">
<div class="container">
<div class="row">
<div class="col-md-6">
<p>&copy; 2023 MediLa. All rights reserved.</p>
</div>
<div class="col-md-6 text-md-end">
<a href="#" class="me-3"><i class="fab fa-facebook"></i></a>
<a href="#" class="me-3"><i class="fab fa-twitter"></i></a>
<a href="#" class="me-3"><i class="fab fa-instagram"></i></a>
<a href="#" class="me-3"><i class="fab fa-linkedin"></i></a>
</div>
</div>
</div>
</div>
</div>

<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.3/dist/js/bootstrap.bundle.min.js"
integrity="sha384-
kenU1KFdBle4zVF0s0G1M5b4hcpyD9F7jL+jjXkk+Q2h455rYXK/7HAuoJI+0I4"
crossorigin="anonymous"></script>
</body>
</html>

```

The output for **list overview** is as follows:

Patient ID	Patient	Date & Time	Additional	Available
Patient Code:	John Doe	10/6/2023, 14:30		🟢 🔍 📅
Patient Code:	Jane Smith	15/6/2023, 10:00		🟢 🔍 📅
Patient Code:	Emily Johnson	20/6/2023, 09:00		🟢 🔍 📅
Patient Code:	Michael	25/6/2023, 13:30		🟢 🔍 📅
Patient Code:	Patient List	Next Appointment:		🔴 🔍 📅
Upcoming	Doctor List	Following Appointment:		🔴 🔍 📅
Patient Details	Dr. Smith	Appointment: 26/6/2023,		🔴 🔍 📅
Medical Records	Dr. Johnson	Appointment:		🔴 🔍 📅
Patient Profile	Dr. Anderson	Appointment: 31/6/2023,		🔴 🔍 📅
Medical Team	Dr. Roberts	Appointment:		🔴 🔍 📅
Patient History	Nurse Johnson	Appointment:		🔴 🔍 📅
Appointment	Dr. Thompson	Appointment:		🔴 🔍 📅

The generated Bootstrap script for the Calendar image file is as follows:

calendar.php

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>DoctorP</title>
<link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.3/dist/css/bootstrap.min.css"
rel="stylesheet" integrity="sha384-
rbsA2VBKQhggwzxH7pPCaAqO46MgnOM80zW1RWuH61DGLwZJEdK2Kadq2F9CUG6
5" crossorigin="anonymous">
<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-
awesome/5.15.3/css/all.min.css">
<link rel="preconnect" href="https://fonts.googleapis.com">
<link rel="preconnect" href="https://fonts.gstatic.com" crossorigin>
<link
href="https://fonts.googleapis.com/css2?family=Open+Sans:wght@400;600&display
=swap" rel="stylesheet">
<style>
body {
font-family: 'Open Sans', sans-serif;
```

Commented [GU1]: check this spelling

Commented [TT2R1]: Fixed


```

    }
</style>
</head>
<body>
<nav class="navbar navbar-expand-lg navbar-light bg-light">
  <div class="container-fluid">
    <a class="navbar-brand" href="#">DoctorP</a>
    <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-bs-
target="#navbarNav" aria-controls="navbarNav" aria-expanded="false" aria-
label="Toggle navigation">
      <span class="navbar-toggler-icon"></span>
    </button>
    <div class="collapse navbar-collapse" id="navbarNav">
      <ul class="navbar-nav me-auto">
        <li class="nav-item">
          <a class="nav-link active" aria-current="page" href="#">Dashboard</a>
        </li>
        <li class="nav-item">
          <a class="nav-link" href="#">Appointments</a>
        </li>
        <li class="nav-item">
          <a class="nav-link" href="#">Patients</a>
        </li>
        <li class="nav-item">
          <a class="nav-link" href="#">Reminders</a>
        </li>
      </ul>
      <span class="navbar-text">Dr. Smith</span>
    </div>
  </div>
</nav>

<div class="container mt-4">
  <h2>Appointments</h2>
  <div class="d-flex justify-content-between align-items-center mb-3">
    <div class="btn-group" role="group">
      <button type="button" class="btn btn-outline-secondary"><i class="fas fa-
chevron-left"></i></button>
      <button type="button" class="btn btn-outline-secondary">July</button>
      <button type="button" class="btn btn-outline-secondary"><i class="fas fa-
chevron-right"></i></button>
    </div>
    <button type="button" class="btn btn-primary"><i class="fas fa-plus"></i> Add
Appointment</button>
  </div>

```

```
</div>
<table class="table table-bordered">
  <thead>
    <tr>
      <th scope="col">Monday</th>
      <th scope="col">Tuesday</th>
      <th scope="col">Wednesday</th>
      <th scope="col">Thursday</th>
      <th scope="col">Friday</th>
      <th scope="col">Reminders</th>
    </tr>
  </thead>
  <tbody>
    <tr>
      <td>
        <div class="d-flex align-items-center">
          
          <span>9:00 - 10:30 Patient:</span>
        </div>
      </td>
      <td></td>
      <td></td>
      <td>
        <div class="d-flex align-items-center">
          
          <span>11:00 - Dr. Lee</span>
        </div>
      </td>
      <td>
        <div class="d-flex align-items-center">
          
          <span>9:00 - 10:30 Patient:</span>
        </div>
      </td>
      <td></td>
    </tr>
    <tr>
      <td></td>
      <td></td>
      <td></td>
      <td>
      </td>
    </tr>
  </tbody>
</table>
```



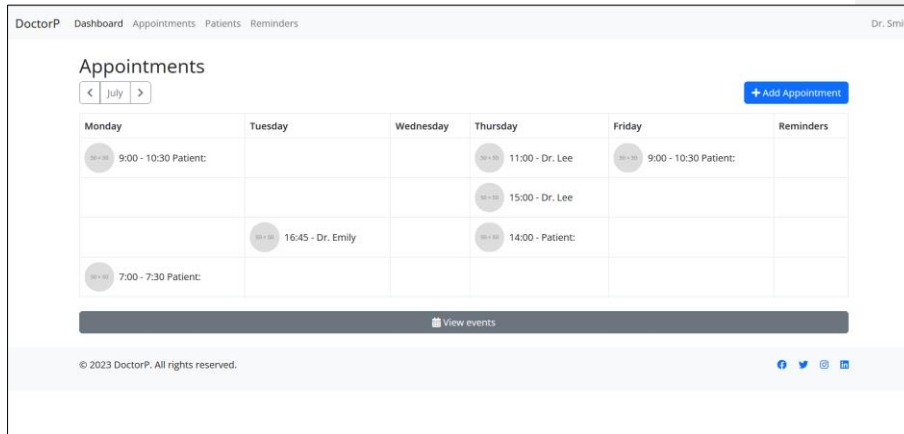
```
</table>
</div>

<div class="container mt-4">
  <div class="d-grid">
    <button type="button" class="btn btn-secondary"><i class="fas fa-calendar-
alt"></i> View events</button>
  </div>
</div>

<footer class="bg-light py-3 mt-4">
  <div class="container">
    <div class="row">
      <div class="col-md-6">
        <p>&copy; 2023 DoctorP. All rights reserved.</p>
      </div>
      <div class="col-md-6 text-md-end">
        <a href="#" class="me-3"><i class="fab fa-facebook"></i></a>
        <a href="#" class="me-3"><i class="fab fa-twitter"></i></a>
        <a href="#" class="me-3"><i class="fab fa-instagram"></i></a>
        <a href="#"><i class="fab fa-linkedin"></i></a>
      </div>
    </div>
  </div>
</footer>

<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.3/dist/js/bootstrap.bundle.min.js"
integrity="sha384-kenU1KFdBle4zVF0s0G1M5b4hcpxyD9F7jL+jjXkk+Q2h455r"
crossorigin="anonymous"></script>
</body>
</html>
```

The output for the calendar script is:



The generated Bootstrap script for the **Search_Results** image file is as follows:

search_results.php

```
<link
href="https://cdn.jsdelivr.net/npm/bootstrap@5.2.3/dist/css/bootstrap.min.css"
rel="stylesheet" integrity="sha384-
rbsA2VBKQhggwzxH7pPCaQO46MgnOM80zW1RWuH61DGLwZJEdK2Kadq2F9CUG6
5" crossorigin="anonymous">
<link rel="stylesheet" href="https://cdn.jsdelivr.net/npm/font-
awesome@5.15.3/css/all.min.css"></link>
<nav class="navbar navbar-expand-lg navbar-light bg-light">
  <div class="container-fluid"> <a class="navbar-brand" href="#">Healthcare</a>
  <button class="navbar-toggler" type="button" data-bs-toggle="collapse" data-
bs-target="#navbarNav" aria-controls="navbarNav" aria-expanded="false" aria-
label="Toggle navigation"> <span class="navbar-toggler-icon"></span> </button>
  <div class="collapse navbar-collapse" id="navbarNav">
    <ul class="navbar-nav">
      <li class="nav-item"> <a class="nav-link active" aria-current="page"
href="#">Dashboard</a> </li>
      <li class="nav-item"> <a class="nav-link" href="#">Find specialist</a> </li>
      <li class="nav-item"> <a class="nav-link" href="#">About us</a> </li>
      <li class="nav-item"> <a class="nav-link" href="#">Enter</a> </li>
    </ul>
  </div>
</div>
</div>
</nav>
```

```

<div class="container my-5">
  <h2 class="text-center mb-4">Search & Appointment</h2>
  <p class="text-center mb-4">Select doctor & time for appointment</p>
  <div class="input-group mb-3">
    <input type="text" class="form-control" placeholder="Search by
specialty/doctor/hospital" aria-label="Search by specialty/doctor/hospital" aria-
describedby="basic-addon2">
    <input type="text" class="form-control" placeholder="Location" aria-
label="Location" aria-describedby="basic-addon2">
    <input type="date" class="form-control" aria-label="Select date" aria-
describedby="basic-addon2">
    <button class="btn btn-outline-secondary" type="button">Find</button>
  </div>
</div>
<div class="container">
  <div class="row mb-4">
    <div class="col-md-3">
      <div class="input-group">
        <input type="text" class="form-control" placeholder="Search
appointments" aria-label="Search appointments" aria-describedby="basic-addon2">
      </div>
      <div class="col-md-6">
        <h4>Displaying 175 results</h4> </div>
      <div class="col-md-3">
        <div class="input-group">
          <select class="form-select" aria-label="Sort by">
            <option selected>Sort by: Top rated</option>
            <option value="1">Sort by: A-Z</option>
            <option value="2">Sort by: Z-A</option>
            <option value="3">Sort by: Rating</option>
          </select>
        </div>
      </div>
    </div>
    <div class="row mb-4">
      <div class="col-md-3">
        <div class="form-check">
          <input class="form-check-input" type="checkbox" value=""
id="flexCheckDefault" checked>
          <label class="form-check-label" for="flexCheckDefault"> <i class="fas fa-
user-md"></i> Family doctor </label>
        </div>
      </div>
    </div>
  </div>

```

```

☐

```

```

        <input class="form-check-input" type="checkbox" value=""
id="flexCheckDefault" checked>
        <label class="form-check-label" for="flexCheckDefault"> <i class="fas fa-
user-graduate"></i> Bachelor of Medicine </label>
    </div>
    <div class="form-check">
        <input class="form-check-input" type="checkbox" value=""
id="flexCheckDefault" checked>
        <label class="form-check-label" for="flexCheckDefault"> <i class="fas fa-
user-md"></i> Doctor of Medicine </label>
    </div>
    <div class="form-check">
        <input class="form-check-input" type="checkbox" value=""
id="flexCheckDefault" checked>
        <label class="form-check-label" for="flexCheckDefault"> <i class="fas fa-
bone"></i> Doctor of Osteopathic </label>
    </div>
</div>
<div class="col-md-6">
    <div class="row row-cols-1 row-cols-md-3 g-4">
        <div class="col">
            <div class="card h-100"> 
                <div class="card-body">
                    <h5 class="card-title">Dr. Smith</h5>
                    <p class="card-text">Cardiology services</p>
                </div>
            </div>
        </div>
        <div class="col">
            <div class="card h-100"> 
                <div class="card-body">
                    <h5 class="card-title">Dr. Johnson</h5>
                    <p class="card-text">Pediatric care services</p>
                </div>
            </div>
        </div>
    </div>
</div>

```



```
<div class="card h-100"> 
  <div class="card-body">
    <h5 class="card-title">Dr. Lee</h5>
    <p class="card-text">Surgical procedures</p>
  </div>
</div>
</div>
<div class="col">
  <div class="card h-100"> 
    <div class="card-body">
      <h5 class="card-title">Dr. Brown</h5>
      <p class="card-text">Internal medicine services</p>
    </div>
  </div>
</div>
<div class="col">
  <div class="card h-100"> 
    <div class="card-body">
      <h5 class="card-title">Dr. White</h5>
      <p class="card-text">General practitioner services</p>
    </div>
  </div>
</div>
<div class="col">
  <div class="card h-100"> 
    <div class="card-body">
      <h5 class="card-title">Dr. Black</h5>
      <p class="card-text">Emergency medicine services</p>
    </div>
  </div>
</div>
</div>
```



```
<li class="page-item"> <a class="page-link" href="#">Next</a> </li>
</ul>
</nav>
</div>
<footer class="bg-light py-3 mt-5">
  <div class="container">
    <div class="row">
      <div class="col-md-4">
        <h5>DoctorPlus</h5>
        <p>Stay connected</p>
        <ul class="list-inline">
          <li class="list-inline-item"><a href="#"><i class="fab fa-
instagram"></i></a></li>
          <li class="list-inline-item"><a href="#"><i class="fab fa-
twitter"></i></a></li>
          <li class="list-inline-item"><a href="#"><i class="fab fa-
facebook"></i></a></li>
        </ul>
      </div>
      <div class="col-md-4">
        <h5>About the</h5>
        <ul class="list-unstyled">
          <li><a href="#">Learn more</a></li>
          <li><a href="#">About us</a></li>
        </ul>
      </div>
      <div class="col-md-4">
        <h5>Join the</h5>
        <p><a href="#">Explore our services</a></p>
        <p><a href="#">Get help on the app</a></p>
      </div>
    </div>
  </div>
</footer>
```

The output for this script is:

The screenshot shows a web application titled "Healthcare" with a navigation bar containing "Dashboard", "Find specialist", "About us", and "Enter". The main section is titled "Search & Appointments" with a subtitle "Select doctor & time for appointment". Below this are three input fields: "Search by specialty/doctor/hospital", "Location", and "dd/mm/yyyy", followed by a "Find" button. A "Search appointments" input field is also present. The results section displays "Displaying 175 results" and a "Sort by: Top rated" dropdown. On the left, there are two columns of filters with checkboxes and icons for various medical specialties and degrees. On the right, there is a grid of doctor profiles, each with a name, a title, and a list of services.

Specialty/Filter	Doctor Name	Services
Family doctor	Doctor Smith	Dr. Smith Cardiology services
Oral health	Doctor Johnson	Dr. Johnson Pediatric care services
Neuroscience	Doctor Lee	Dr. Lee Surgical procedures
Radiology	Doctor Brown	
Skin care	Doctor White	
Urinary system	Doctor Black	
Mental health		

4. Leverage GitHub Copilot to generate backend Rest APIs code, incorporating necessary functionalities


4.1 Provide the following prompt on GitHub Copilot to generate REST APIs for the DoctorPlus application:

@workspace Create backend REST APIs in Python for these DoctorPlus PHP files, a doctor clinic management application, to fetch appointments, list patients, display patient profiles, and provide the doctor dashboard page backend.

@workspace Create backend REST APIs in Python for these DoctorPlus PHP files, a doctor clinic management application, to fetch appointments, list patients, display patient profiles, and provide the doctor dashboard page backend.

The generated REST APIs is as follows:

```
CHAT + ↺ ...

 GitHub Copilot used @workspace

Used 4 references >

Sure, here's a basic example of how you might create a Flask REST API in Python for the DoctorPlus application.

from flask import Flask, jsonify
from flask_restful import Resource, Api

app = Flask(__name__)
api = Api(app)

class Appointments(Resource):
    def get(self):
        # Fetch appointments from the database and return
        return jsonify({'appointments': 'data'})

class Patients(Resource):
    def get(self):
        # Fetch patients from the database and return
        return jsonify({'patients': 'data'})

class PatientProfile(Resource):
    def get(self, patient_id):
```

```

        # Fetch patient profile from the database using patient_id
        return jsonify({'patientProfile': 'data'})

class DoctorDashboard(Resource):
    def get(self):
        # Fetch doctor dashboard data from the database and return it as a JSON response
        return jsonify({'doctorDashboard': 'data'})

api.add_resource(Appointments, '/api/appointments')
api.add_resource(Patients, '/api/patients')
api.add_resource(PatientProfile, '/api/patients/<string:patient_id>')
api.add_resource(DoctorDashboard, '/api/doctor/dashboard')

if __name__ == '__main__':
    app.run(debug=True)

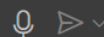
```

In this example, we have four endpoints: `/api/appointments`, `/api/patients`, `/api/patients/<string:patient_id>`, and `/api/doctor/dashboard`. Each of these corresponds to a class that defines a `get` method. This method should contain the logic to fetch the required data from the database and return it as a JSON response.

Please replace `'data'` with the actual data you want to return. You might need to install Flask and Flask-RESTful using pip if you haven't already:

💡 How can I handle authentication and authorization in my DoctorPlus application?

Ask Copilot or type / for commands



DoctorPlus.py

```

from flask import Flask, jsonify
from flask_restful import Resource, Api

```

```

app = Flask(__name__)
api = Api(app)

```

```

class Appointments(Resource):
    def get(self):

```

```
# Fetch appointments from the database and return
return jsonify({'appointments': 'data'})

class Patients(Resource):
    def get(self):
        # Fetch patients from the database and return
        return jsonify({'patients': 'data'})

class PatientProfile(Resource):
    def get(self, patient_id):
        # Fetch patient profile from the database using patient_id and return
        return jsonify({'patientProfile': 'data'})

class DoctorDashboard(Resource):
    def get(self):
        # Fetch doctor dashboard data from the database and return
        return jsonify({'doctorDashboard': 'data'})

api.add_resource(Appointments, '/api/appointments')
api.add_resource(Patients, '/api/patients')
api.add_resource(PatientProfile, '/api/patients/<string:patient_id>')
api.add_resource(DoctorDashboard, '/api/doctor/dashboard')

if __name__ == '__main__':
    app.run(debug=True)
```