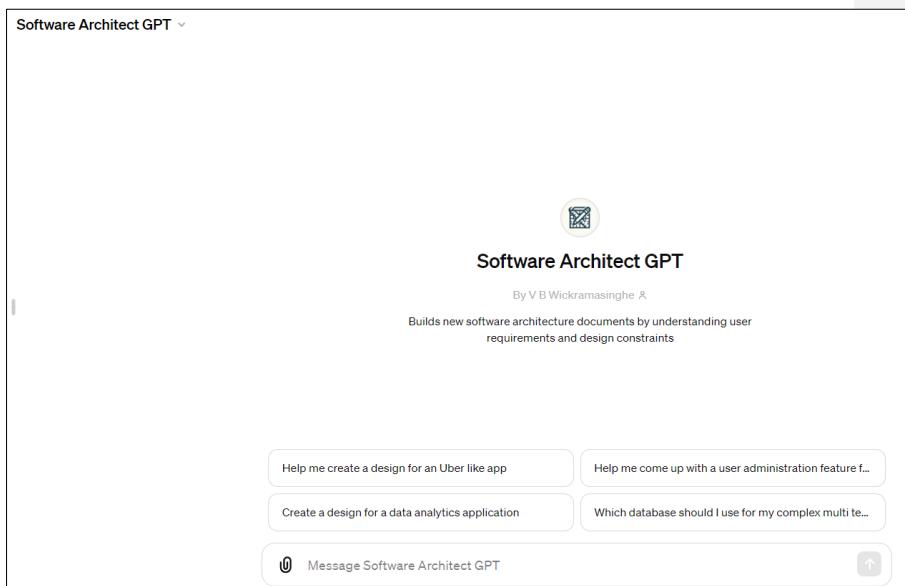


Answer Key

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:

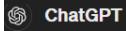


1.2 Provide the following prompt to generate the microservices architecture for a clinic management system:

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":

1. 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.

2. 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.

3. 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:

ChatGPT

Sure, here's the ASCII art diagram along with descriptions:

```
yaml
```

Copy code

```
+-----+  
| DoctorPlus Clinic |  
| Management System |  
+-----+  
          HomePage  
-----  
|  
| Appointment |  
| Calendar |  
|-----|  
| | | |  
| | | |  
| | | |  
List Patient Patient  
Overview Profile Profile  
-----|  
| Doctors Staff Appointments  
| Overview Overview Overview  
|-----|
```

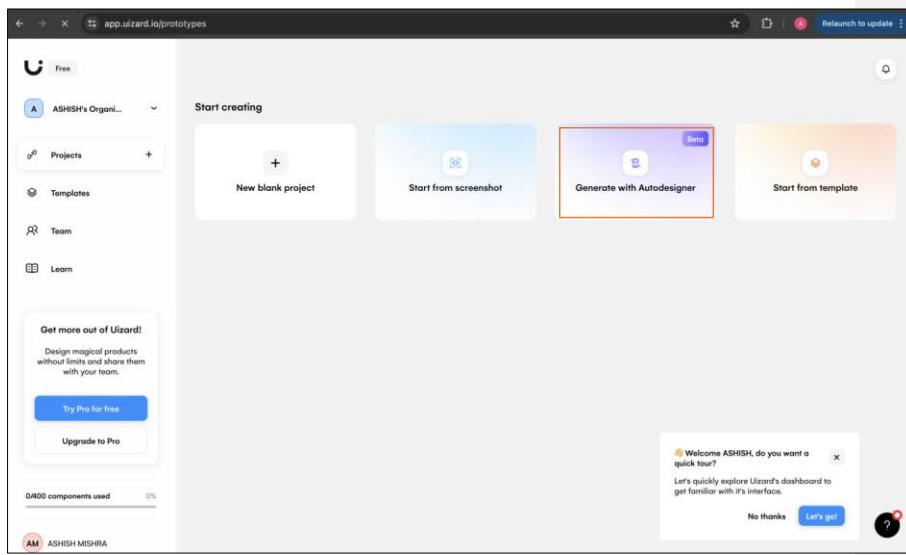
Description:

- DoctorPlus Clinic Management System: Represents the name of the clinic management system.
- HomePage: The homepage of the DoctorPlus system.
- Appointment Calendar: Allows scheduling and managing appointments.
- Patient Profile: Manages patient profiles including medical history and appointment details.
- List Overview: Provides overviews of doctors, staff, and appointments.
- Doctors Overview: Displays an overview of doctors.
- Staff Overview: Displays an overview of staff members.
- Appointments Overview: Displays an overview of appointments.

This diagram visually represents the different pages and functionalities of the DoctorPlus Clinic Management System.

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

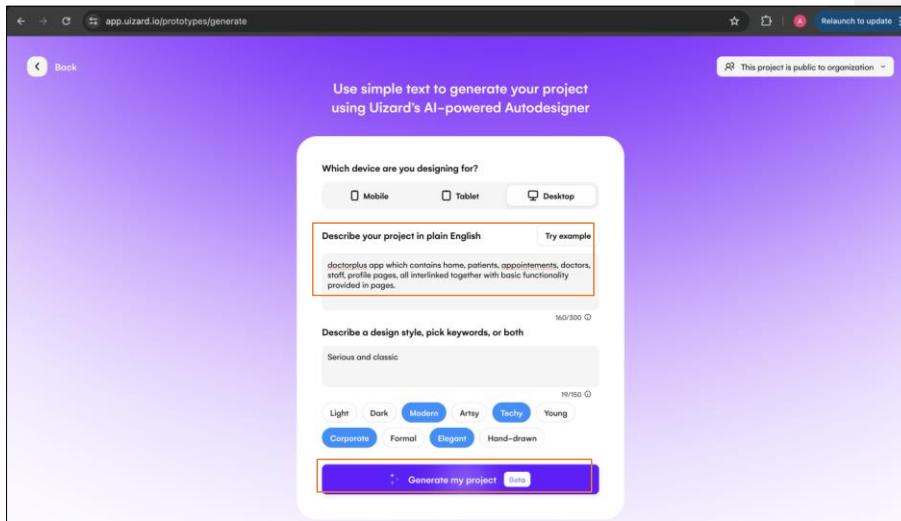
2.1 Log in to <https://app.uizard.io/prototypes> and then click on **Generate with Autodesigner**



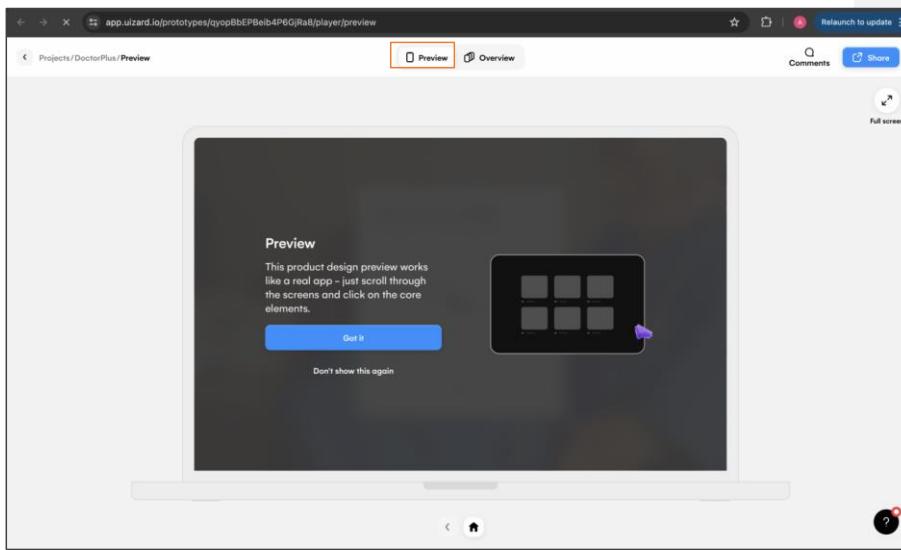
2.2 Select **Desktop** as a device and then select **style options** as shown. Then, provide the prompt to generate the clinic management system pages:

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

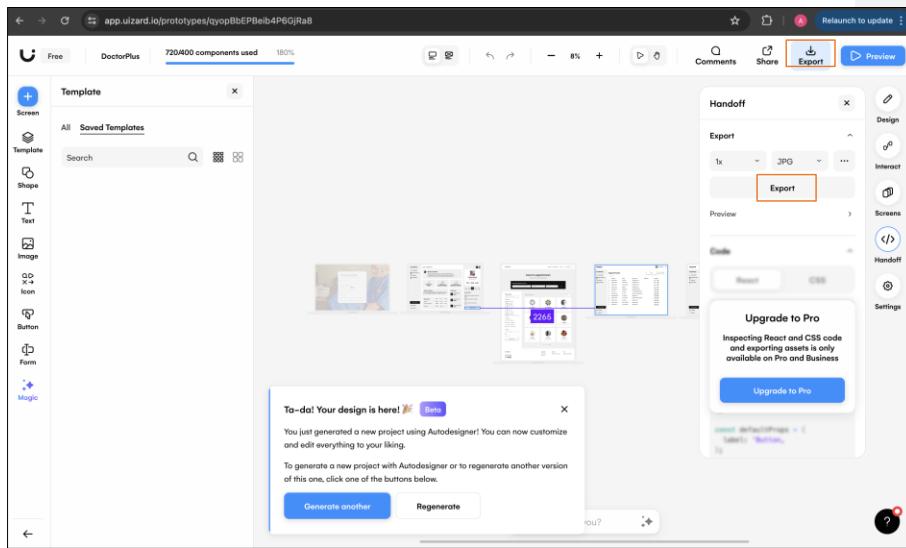
Click on **Generate my project**



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:

A screenshot of the DoctorP app. The top navigation bar shows 'DoctorP' and a user profile for 'Dr. Smith'. The left sidebar has links for 'Dashboard', 'Appointments', 'Patients', and 'Reminders'. A 'View events' button is at the bottom of the sidebar. The main area is titled 'Appointments' and shows a weekly calendar from Monday to Friday. Each day has a grid of time slots. Some slots contain icons representing appointments, such as a doctor icon for Dr. Lee or a patient icon for Dr. Emily. Specific details like '9:00 - 10:30 Patient:' are visible in some cells. The top right of the calendar has a '+ Add slot' button and other controls. The bottom right corner of the calendar has a greyed-out area.

DoctorPlus

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

Daily intake

Nutrition	Intake	Daily	Remaining
2,700	2,500	-250	

Staff details

Patient health	22%
Medical history	52%
Patient treatment	16%

Patient Details
Male, 45 years old

Diagnosis Allergies Prescript
Blood Medicat Monday

27 28 29 30 31
Tuesday Wednesday Thursday Friday Next

Lore ipsum

- Physical therapy session
- Vaccination schedule
- Cardiac monitoring

Update details

MediLa

DoctorPlus

Appointments

July < >

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

Add

Dr. Smith

DoctorP

Dr. Smith ▾

DoctorPlus

- Dashboard**
- Appointments
- Patients
- Reminders

Patient – John Doe

 Patient
John Doe

Sex: Last check-in: 6
Age: Dept:
Blood: 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

View events

Settings

Sign out

Healthcare

Dashboard Find specialist About us Enter

Search & Appointments

Select doctor & time for appointment

Manage Appointments

Search by specialty/doctor/hospital Location Select date Find

Filter results

Search appointments

Specialties

- Family doctor
- Oral health
- Neuroscience
- Radiology
- Skin care
- Urinary system
- Mental health

[View all](#)

Credentials

- Physician degree
- Bachelor of Medicine
- Doctor of Medicine
- Doctor of Osteopathic

Location

Search country

Area

Search city

Refresh results

Displaying 175 results

Sort by: Top rated

 Dr. Smith Cardiology services	 Dr. Johnson Pediatric care services	 Dr. Lee Surgical procedures
 Dr. Brown Internal medicine services	 Dr. White General practitioner services	 Dr. Black Emergency medicine services
 Dr. Green Oncology services	 Dr. Grey Radiology services	 Dr. Blue Neurology services

< 1 2 3 ... 20 >

DoctorPlus

Stay connected [!\[\]\(4869df20ad1294ff9824330afc0e83a8_img.jpg\)](#) [!\[\]\(aa724cd5f5fd0b4f7bbe0f0fb5de977a_img.jpg\)](#) [!\[\]\(24741aed5439184030aca88656f16079_img.jpg\)](#)

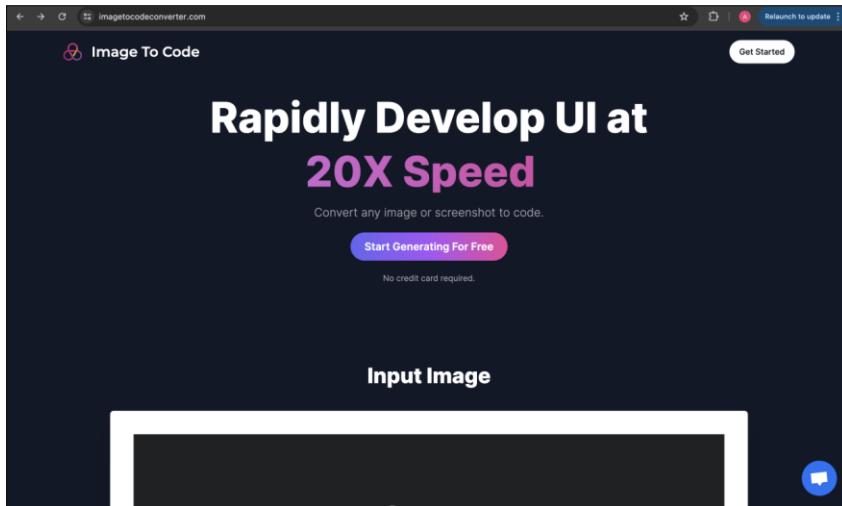
About the [Learn more about us](#)

Join the [Explore our services](#)

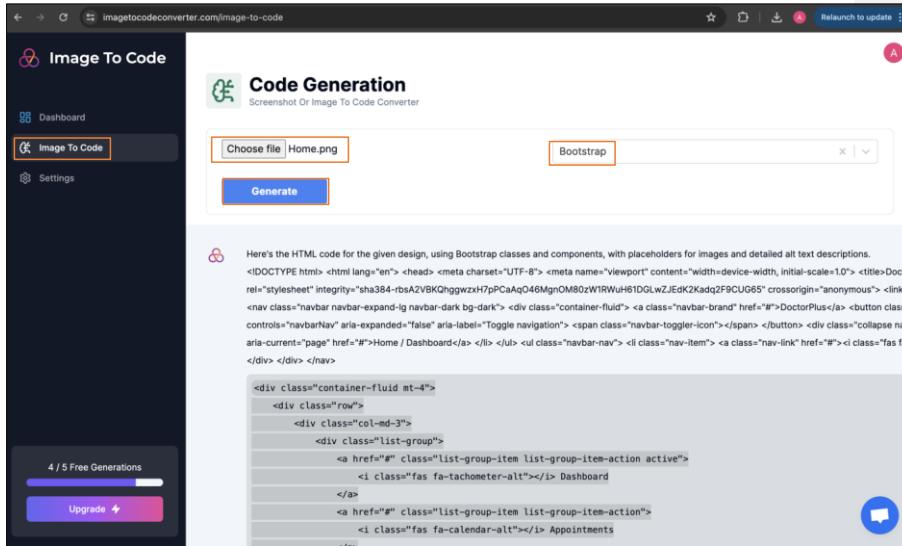
Get [Get help on the app](#)

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-rbsA2VBKQhggwzxH7pPCaAqO46MgnOM80zW1RWuH61DGLwZJEdK2Kadq2F9CUG65" 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=swap" 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="#">></a>
Appointments</a>
</li>
<li class="nav-item">
  <a class="nav-link" href="#">></a> Patients</a>
</li>
<li class="nav-item">
  <a class="nav-link" href="#">></a> Reminders</a>
</li>
</ul>
<ul class="navbar-nav ms-auto">
<li class="nav-item">
  <a class="nav-link" href="#">></a> Profile</a>
</li>
<li class="nav-item">
  <a class="nav-link" href="#">></a> Settings</a>
</li>
<li class="nav-item">
  <a class="nav-link" href="#">></a> 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">></h5>
Appointments</h5>
            <p class="card-text">8,526</p>
          </div>
        </div>
      </div>
    </div>
  </div>
</div>
</div>
```

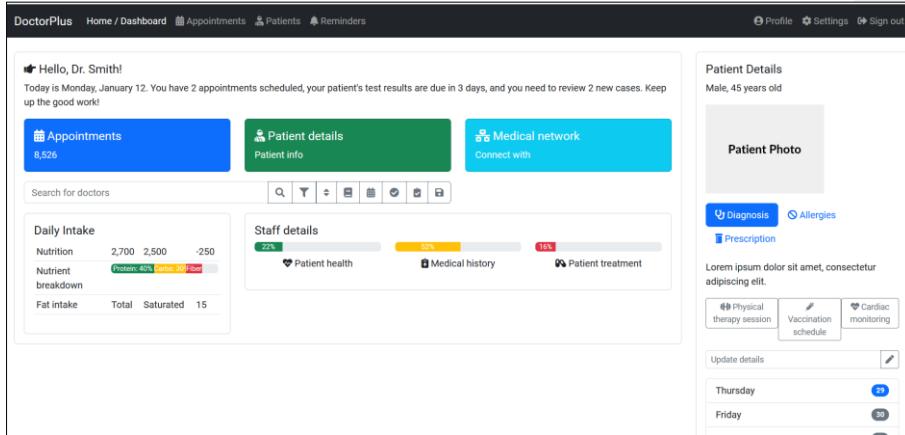
```
</div>
<div class="col-md-4">
  <div class="card bg-success text-white mb-3">
    <div class="card-body">
      <h5 class="card-title"><i class="fas fa-user-injured"></i> Patient
      details</h5>
      <p class="card-text">Patient info</p>
    </div>
  </div>
</div>
<div class="col-md-4">
  <div 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 class="col-md-8">
  <div class="card">
    <div class="card-body">
      <h5 class="card-title">Staff details</h5>
      <div class="row">
```



```
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 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>
```


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-rbsA2VBKQhgGzxH7pPCaAqO46MgnOM80zW1RWuH61DGLwZJEdK2Kadq2F9CUG6
  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 class="col">
<div class="card bg-light">
<div class="card-body py-2">
```

```
<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>
<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>
</div>

<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.3/dist/js/bootstrap.bundle.min.js"
integrity="sha384-kenU1KFdBl4zVF0s0G1M5b4hcpxyD9F7jL+jjXkk+Q2h455rYXK/7HAuoJl+0I4"
crossorigin="anonymous"></script>
</body>
</html>

```

The output for this page is:

The screenshot shows the DoctorPlus dashboard interface. On the left, there's a sidebar with a patient photo placeholder, the name "John Doe", and patient number "Patient nr. P2Q5W8Z1". Below this are sections for "Age:", "Sex:", "Blood:", and "Dept:". A note indicates "Last check-in: 6". Under "Appointment history", there are entries for "Blood test" (with "Dr. Lisa Johnson" and "Dr. Michael Brown" listed) and "X-ray scan". A "Medication history" section is also present. The main content area has a "Health summary" tab selected, showing three cards: "Flu symptoms" (placeholder image), "Blood pressure" (placeholder image), and "Vitamin D" (placeholder image). At the top right of the main area, there are "Week", "Month", and "Year" navigation buttons.

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" style="border: none; padding: 0; margin-right: 10px;"><i class="fas fa-chevron-left"></i></button>
            <button type="button" class="btn btn-sm btn-outline-secondary" style="border: none; padding: 0; margin-right: 10px;"><i class="fas fa-chevron-right"></i></button>
          </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>
</div>

<script
src="https://cdn.jsdelivr.net/npm/bootstrap@5.2.3/dist/js/bootstrap.bundle.min.js"
integrity="sha384-kenU1KFdBl4zVF0s0G1M5b4hcpxyD9F7jL+jjXkk+Q2h455rYXK/7HAuoJl+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		OK
Patient Code:	Jane Smith	15/6/2023, 10:00		OK
Patient Code:	Emily Johnson	20/6/2023, 09:00		OK
Patient Code:	Michael	25/6/2023, 13:30		OK
Patient Code:	Patient List	Next Appointment:		BUSY
Upcoming	Doctor List	Following Appointment:		OK
Patient Details	Dr. Smith	Appointment: 26/6/2023,		OK
Medical Records	Dr. Johnson	Appointment:		OK
Patient Profile	Dr. Anderson	Appointment: 31/6/2023,		OK
Medical Team	Dr. Roberts	Appointment:		OK
Patient History	Nurse Johnson	Appointment:		OK
Appointment	Dr. Thompson	Appointment:		OK

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>
<td>
```

```
<div class="d-flex align-items-center">
    
    <span>15:00 - Dr. Lee</span>
</div>
</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>
    <div class="d-flex align-items-center">
        
            <span>16:45 - Dr. Emily</span>
        </div>
    </td>
    <td></td>
    <td>
        <div class="d-flex align-items-center">
            
                <span>14:00 - Patient:</span>
            </div>
        </td>
        <td></td>
        <td></td>
        </tr>
        <tr>
        <td>
            <div class="d-flex align-items-center">
                
                    <span>7:00 - 7:30 Patient:</span>
                </div>
            </td>
            <td></td>
            <td></td>
            <td></td>
            <td></td>
            </tr>
        </tbody>
```

```
</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 screenshot shows the DoctorP dashboard for Dr. Smith. At the top, there's a navigation bar with links for DoctorP, Dashboard, Appointments, Patients, and Reminders. On the right, it says "Dr. Smith". Below the navigation is a section titled "Appointments" with a "July" calendar view. The calendar grid shows various appointment slots with icons and descriptions. A blue button labeled "+ Add Appointment" is visible in the top right of the calendar area. At the bottom of the calendar, there's a "View events" button and some social media sharing icons.

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-
rbsA2VBKQhgwwzxH7pPCaAqO46MgnOM80zW1RWuH61DGLwZJEdK2Kadq2F9CUG6
5" crossorigin="anonymous">
<link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/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 & Appointments</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>
    <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 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-tooth"></i> Oral health </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-brain"></i> Neuroscience </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-ray"></i> Radiology </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-hand-holding-medical"></i> Skin care </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-kidney"></i> Urinary system </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-head-side-brain"></i> Mental health </label>
                    </div>
                    <a href="#" class="btn btn-link">View all</a>
                </div>
                <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> Physician degree </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-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 class="col">
```

```
<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 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 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 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 class="col">
```

```
<div class="card h-100">  
    <div class="card-body">  
        <h5 class="card-title">Dr. Green</h5>  
        <p class="card-text">Oncology services</p>  
    </div>  
    </div>  
    <div class="col">  
        <div class="card h-100">  
            <div class="card-body">  
                <h5 class="card-title">Dr. Grey</h5>  
                <p class="card-text">Radiology services</p>  
            </div>  
            </div>  
        </div>  
        <div class="col">  
            <div class="card h-100">  
                <div class="card-body">  
                    <h5 class="card-title">Dr. Blue</h5>  
                    <p class="card-text">Neurology services</p>  
                </div>  
                </div>  
            </div>  
        </div>  
    </div>  
<nav aria-label="Page navigation example">  
    <ul class="pagination justify-content-center">  
        <li class="page-item disabled"><a class="page-link" href="#" tabindex="-1"  
aria-disabled="true">Previous</a></li>  
        <li class="page-item active"><a class="page-link" href="#">1</a></li>  
        <li class="page-item"><a class="page-link" href="#">2</a></li>  
        <li class="page-item"><a class="page-link" href="#">3</a></li>  
        <li class="page-item"><a class="page-link" href="#">...</a></li>  
        <li class="page-item"><a class="page-link" href="#">20</a></li>
```

```
<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:

Healthcare Dashboard Find specialist About us Enter

Search & Appointments

Select doctor & time for appointment

Search by specialty/doctor/hospital Location dd/mm/yyyy Find

Search appointments Displaying 175 results Sort by: Top rated

View all

Family doctor Oral health Neuroscience Radiology Skin care Urinary system Mental health

Physician degree Bachelor of Medicine Doctor of Medicine Doctor of Osteopathic

Doctor Smith Doctor Johnson Doctor Lee

Dr. Smith Cardiology services Dr. Johnson Pediatric care services Dr. Lee Surgical procedures

Doctor Brown Doctor White Doctor Black

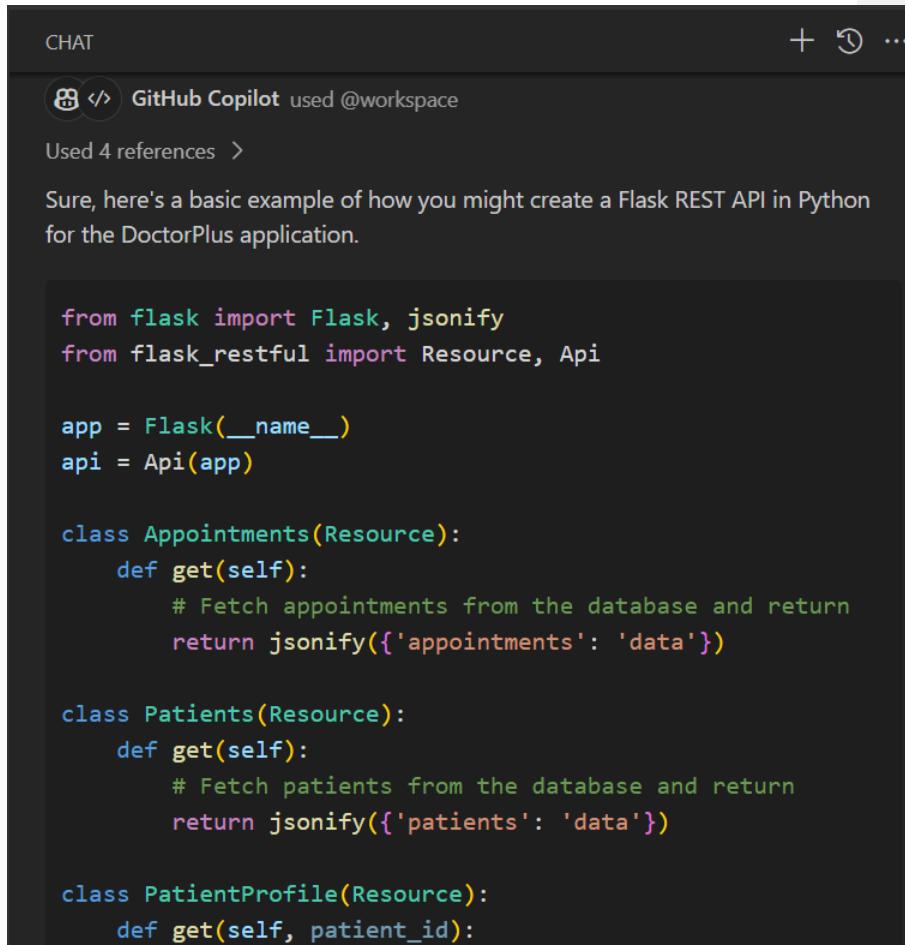
4. Leverage GitHub Copilot to generate backend Rest APIs code, incorporating necessary functionalities

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
        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

0 ➤ ▾

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)
```