Smart Wellness Tracker System

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Motivation for the Proposed Application

Maintaining medical records and booking doctor appointments can be challenging, with patients often struggling to keep their prescriptions and reports organized. Misplacing crucial documents can hinder ongoing treatment and lead to frustration. A simple, smart system can make things easier for patients by offering a centralized, secure platform to manage their health records while retaining the convenience of automated appointment scheduling.

Description of the Proposed Application

The Smart Wellness Tracker System is a web-based platform designed to help patients manage their medical history while enabling doctors to provide better care. This application not only automates appointment booking but also integrates patient health management features to ensure a comprehensive healthcare experience.

For Doctors

- **Secure Login:** Doctors can create an account using Google Auth for secure login.
- **Clinic Details:** Doctors can provide their clinic details, including location, using Google Maps.
- **Calendar Integration:** Doctors can link their Google Calendar to show available time slots for appointments.
- **Payment Integration:** Doctors can add payment details to receive payments directly from patients.
- **Patient Visit History Access:** View the history of a patient's past appointments, treatments, and prescriptions (with patient consent).
- **Online Prescriptions:** Doctors can generate and share digital prescriptions with patients directly through the system.

For Patients

- **Secure Login:** Patients can log in using Google Auth.
- **Doctor Search:** Search for doctors by specialty, location, or available time slots.
- **Appointment Booking:** View doctor availability, book appointments, and make secure payments.
- **Health History Management:**
  - **Medical Records Vault:** Patients can upload and securely store medical reports, prescriptions, lab results, and imaging scans.
  - **Visit History:** Maintain a detailed history of past appointments, treatments, and diagnoses for reference.
- **Teleconsultation:**
  - Patients can consult doctors via video calls directly through the platform.
  - Ideal for non-urgent consultations or follow-ups, reducing the need for in-person visits.
- **Medication Reminders:**
  - Send personalized reminders to patients to take prescribed medications on time.
  - Notify patients when it's time to refill a prescription.

Commonly Used Functionalities

- **Secure Payments:** Utilize Stripe or PayPal for secure and seamless transactions.
- **Notifications:** Ensure timely reminders for appointments, prescription refills, and follow-ups.
- **Teleconsultation Platform:** Conduct video consultations using integrated video conferencing APIs such as Zoom or WebRTC.

Optional Functionalities

- **Chat Functionality:** Secure messaging for real-time communication between doctors and patients.
- **Health Trends and Analytics:** Generate insights and trends from patient health data to aid in proactive healthcare.
- **Insurance Integration:** Simplify claim management and provide clarity on coverage for both patients and doctors.

Optional functionalities will be implemented if the primary features of the project are completed and there is additional time available.
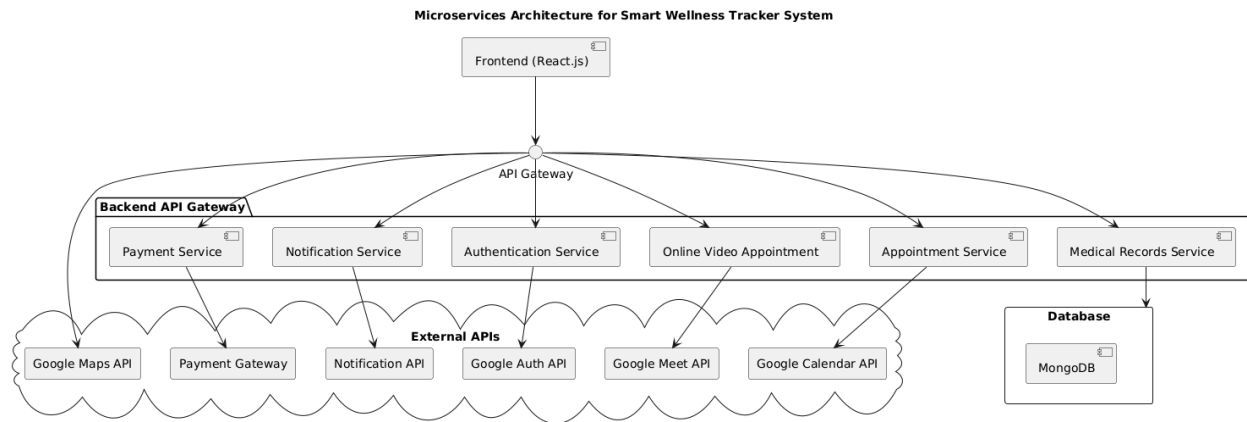
Technologies to Be Used

- **Frontend:** React.js for building a simple and user-friendly interface.

●	**Backend:** Node.js with Express to handle requests and manage the app's logic.

Services Used

●	**Database:** MongoDB to store user details, appointments, and payment information.
●	**Google Calendar API:** To sync and show doctors' available slots for booking.
●	**Google Maps API:** To let doctors add their clinic location and help patients with navigation.
●	**Payment Gateway (e.g., Stripe/PayPal):** For secure payments.
●	**Notification API (e.g., Twilio):** To send appointment reminders and updates.
●	**Google Auth API:** To allow secure login for both doctors and patients.
●	**Video Conferencing API (e.g., Zoom, WebRTC):** For enabling teleconsultation.

Microservices Architecture for Smart Wellness Tracker System

Utility of the Proposed Application

The Smart Wellness Tracker System aims to:

●	Save time for both doctors and patients by automating the appointment booking process.
●	Reduce missed appointments through timely reminders and notifications.
●	Simplify finding the right doctor using filters such as specialty, location.
●	Enhance patient experience by offering a comprehensive health history management system, making it more than just an appointment scheduler.
●	Provide digital prescriptions for convenience and easy access.
●	Ensure secure and smooth payment transactions.
●	Enable teleconsultations, making healthcare accessible to patients in remote areas or those unable to visit a clinic.
●	Improve medication adherence through personalized reminders.

By integrating features like health history management, online prescriptions and teleconsultation the system ensures a holistic approach to healthcare management, benefitting both patients and doctors alike.