**Use Cases (Iteration 2)-Group 2**

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**Project Title : Telemedicine Application**

**Use Case 1 : User Login**

**Actor:** Patient, Doctor  
**Goal:** The goal of this use case is to allow both patients and doctors to securely access the telemedicine application using their registered credentials.  
**Preconditions:** The user must already have a registered account with valid credentials (email and password).  
**Input:**

* The user must provide the email address associated with their registered account.
* The user must enter their correct account password.

**Input Interactions:**

* The user enters their registered email address and password into the corresponding fields on the login page.
* After entering the credentials, the user clicks the "Login" button to submit the information for authentication.
* If the user has forgotten their password, they can click on the "Forgot Password" link to initiate the password recovery process.

**Expected Output:**

* Successful login redirects the user to the Professional Dashboard.
* Failed login displays an error message and prompts for correct credentials or account recovery.

**Use Case 2: New User Registration**

**Actor:** New User (Patient or Doctor)  
**Goal:** To allow a new user to create an account in the telemedicine application, selecting their role as either a patient or a doctor.  
**Preconditions:** None (new user).  
**Input:**

* The user must specify whether they are registering as a patient or a doctor.
* Patients provide details such as full name, contact information, age, gender, and address.
* Doctors provide details such as full name, contact information, qualifications, specialty, and availability.

**Input Interactions:**

* The user selects their role (Patient or Doctor) on the registration page.
* They proceed to fill in the required fields, providing personal or professional information based on their selected user type.
* The user creates a secure password to protect their account.
* Finally, the user clicks the "Sign Up" button to submit the registration form.

**Expected Output:**

* The system creates the user’s new account and confirms the registration with a message. The user is then directed to the login page, where they can log in using their newly created credentials.
* If any required fields are missing or incorrect, the system displays an error message, prompting the user to correct the information and resubmit the form.

**Use Case 3: Search Doctor**

**Actor:** Patient  
**Goal:** The goal of this use case is to allow patients to find doctors by entering specific search criteria such as name, specialization, location, or language.  
**Preconditions:** The patient must be logged into the telemedicine application.  
**Input:**

* Search criteria (name, specialization, location, language)

**Input Interactions:**

* The patient enters the desired search criteria in the search bar.
* After specifying the criteria, the patient clicks the "Search" button to execute the query.

**Expected Output:**

* A list of doctors that match the patient's search criteria is displayed, including relevant information such as their name, specialization, location, and available appointment slots.
* If no doctors match the criteria, the system displays a message indicating that no results were found and offers suggestions to refine the search.

**Use Case 4: Appointment Scheduling**

**Actor:** Patient  
**Goal:** The goal of this use case is to allow a patient to book an appointment with a selected doctor based on available time slots.  
**Preconditions:** The patient must be logged into the telemedicine application. A list of available doctors must be accessible for selection.  
**Input:**

* Selected doctor: The doctor with whom the patient wants to book an appointment.
* The date and time slot the patient wishes to select for the appointment.

**Input Interactions:**

* The patient searches for a doctor and selects the desired doctor from the list of available doctors..
* The patient selects a suitable date and time slot from the doctor's available schedule.
* The patient confirms the appointment by clicking the "Confirm" button.

**Expected Output:**

* The appointment is successfully booked, and a confirmation notification is sent to both the patient and the doctor via email or SMS.
* If the selected time slot is no longer available, the system prompts the patient to choose a different time slot.

**Use Case 5: Appointment Reminders**

**Actor:** Patient, Doctor  
**Goal:** To ensure that both patients and doctors are reminded of their upcoming appointments so they can prepare and attend on time.  
**Preconditions:** The user must be logged in and have access to a list of available doctors.  
**Input:**

* The user (either patient or doctor) must have a scheduled appointment in the system.
* The user's profile must include valid contact information (e.g., email or phone number) for sending notifications.
* The user must have enabled appointment reminders in their notification preferences.

**Input Interactions:**

* The system sends reminders via email, SMS, or in-app notifications based on the user’s preferred communication method.
* The reminder message contains details like the appointment time, date, doctor’s name, and type of consultation (video, in-person).
* Similar reminders are sent, including the patient’s name, appointment details, and any pre-session notes.

**Expected Output:**

* The patient receives a reminder via their chosen communication channel (email, SMS, in-app).
* The reminder includes essential details such as doctor’s name, time, type of consultation, and any necessary preparations (e.g., documents to have ready).
* The doctor receives reminders with patient details, the appointment schedule.

**Use Case 6: Video Consultation**

**Actor:** Patient, Doctor  
**Goal:** The goal of this use case is to enable a real-time video consultation between a patient and a doctor.  
**Preconditions:** An appointment must be scheduled and confirmed for the consultation.  
**Input:**

* Click "Join Call" button: Both the patient and doctor click the "Join Call" button for their scheduled appointment.

**Input Interactions:**

* Both the patient and doctor access the video consultation interface upon clicking the "Join Call" button.
* They initiate or join the call, which enables the video and audio communication features for the consultation.

**Expected Output:**

* Video and audio communication are enabled, allowing the patient and doctor to conduct the consultation in real-time.

**Use Case 7: Prescription Management**

**Actor:** Doctor, Patient  
**Goal:** The goal of this use case is to generate, view, and manage prescriptions effectively within the telemedicine application.  
**Preconditions:** The doctor must have completed a consultation with the patient.  
**Input:** \*Prescription details: Information including medication names, dosages, and instructions.

**Input Interactions:**

* The doctor creates a digital prescription after the consultation.
* The doctor submits the prescription through the application, making it available to the patient.
* The patient accesses their account to view or download the prescription.
* The patient may also share the prescription with a pharmacy directly from the application.

**Expected Output:**

* A digital prescription is successfully created and stored in the patient's account.
* The prescription is accessible for the patient to view, download, or share with pharmacies as needed.

**Use Case 8: Medical Records Management**

**Actor:** Patient, Doctor  
**Goal:** The goal of this use case is to securely store, access, and manage medical records within the telemedicine application to ensure accurate and continuous patient care.  
**Preconditions:** Users must have medical records available for upload or management.  
**Input:**

* Upload or view medical records: Information including lab reports, diagnostic images, consultation notes, and other health-related documents.

**Input Interactions:**

* Patient:
  + Uploads new medical records to their account.
  + Accesses and views their stored medical records.
  + Manages their records by organizing, updating, or deleting as needed.
* Doctor:
  + Accesses medical records uploaded by the patient.
  + Updates or adds new records based on consultations or treatments.
  + Manages the records by reviewing and making necessary adjustments to support patient care.

**Expected Output:**

* Medical records are securely stored and updated in the application.
* Both the patient and doctor can access, view, and manage records as needed, ensuring continuity of care and accurate health records.

**Use Case 8: Secure Messaging for Consultations**

**Actor:** Patient, Doctor  
**Goal:** Enable secure, encrypted messaging for consultations and follow-up questions between patients and doctors.  
**Preconditions:** Both patient and doctor have active accounts. The secure messaging feature is enabled.  
**Input:**

* Patient initiates a message related to a past consultation or follow-up question.
* Doctor responds with advice, clarification, or requests for further consultation.
* System encrypts all messages and sends notifications of new messages.

**Input Interactions:**

* Patient accesses the messaging feature from the dashboard, attaches relevant records, and sends the message.
* Doctor receives notifications, reviews the message, and replies through the platform.

**Expected Output:**

* Patient: Receives secure feedback or clarifications from the doctor.
* Doctor: Provides follow-up care, monitors progress, and advises further steps if needed.

**Use Case 9: Update Profile and Logout**

**Actor:** Patient, Doctor  
**Goal:** To update personal or professional information in the application and securely log out of the account.  
**Preconditions:** The user must be logged into the telemedicine application.  
**Input:**

* Profile Update: New or updated personal details such as name, contact information, address, and profile picture.
* Logout: Initiation of the logout process.

**Input Interactions:**

* Update Profile:
  + The user navigates to the profile settings page.
  + The user enters or modifies their personal or professional details.
  + The user saves the changes, which are then updated in the application.
* Logout:
  + The user clicks the "Logout" button.
  + The system processes the logout request and securely terminates the user session.

**Expected Output:**

* The user’s profile information is updated in the system, reflecting the latest changes.
* The user is logged out of the application.
* The user is redirected to the login page or the application’s home page, depending on the design.

**Use Case 8: Administration(User management)**

**Actor:** Admin  
**Goal:** To allow the admin to manage users (patients and doctors), troubleshoot system issues, and ensure smooth operation of the telemedicine application  
**Preconditions:**

* The admin must be logged into the telemedicine application.
* There must be users (patients and doctors) registered in the system.
* The system may encounter issues such as user complaints, system errors, or performance issues.

**Input:**

* **User Management** : User selection (patient or doctor),Action (approve, deactivate, delete).
* **Troubleshooting** : Issue reports (e.g., login failure, video call connection issues, prescription errors).  
  Admin selects the reported issue and initiates troubleshooting steps

**Input Interactions:**  
The admin selects a specific issue to investigate, such as:

* Login issues: Resets passwords, reviews account activity.
* Video consultation issues: Checks connection logs, ensures the video module is functioning correctly.
* Prescription errors: Verifies prescription data, ensures it aligns with the consultation record.

**Expected Output:**

* The system issue is resolved (e.g., login restored, video consultation fixed, prescription error corrected).
* The admin can mark the issue as "resolved," and can send an email to the affected user.
* If the issue cannot be resolved immediately, it is escalated to technical support, and the user is informed.

**Use Case Diagram**

