USER MANUALS

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REMOTE MONITORING FOR PARKINSON DISEASE

Patient Application Manual:

Welcome to the Patient Application. This application is designed to allow patients to connect to a healthcare server, register, log in, track personal health information, and create and manage reports.

Step 1: Launch the Application

To begin, run the Patient Application. The app will attempt to establish a connection with the server.

- **IP Address and Port**: When prompted, enter the server's IP address and port. Ensure these details are correct for a successful connection.
- **Connection Status**: You will receive a confirmation message once the connection is successful. If the connection fails, check the IP and port, and try again.

Step 2: Pre-Login Menu

Once connected, you will see the **Pre-Login Menu** with the following options:

1. **Register**: New users can create an account.
2. **Log in**: Returning users can log in to their existing account.
3. **Exit**: Close the application.

Step 3: Registration Process

If you are new to the application, select **Register**. You will be asked to provide the following information:

- **Email**: Enter a valid email address.

o **Note**: The system will check if the email is already registered.

- **Full Name**: Enter your full name.
- **Date of Birth**: Input your birth date.
- **Password**: Create a password for your account.

Once your registration is complete, the server will assign you to a doctor (if available). If the registration is successful, you will proceed to the **Login Menu**.

Step 4: Logging In

If you are a registered user, select **Log in**. You will need to provide your:

- **Email**: Enter your registered email.
- **Password**: Enter your password.

If the details are correct, you will be logged in, and the **Main Menu** will be displayed.

Main Menu (After Login)

Once logged in, you have access to the following options:

1. **View Personal Information**: This will display your full name, email, date of birth, and doctor's information (if assigned).
2. **View Reports**: See all the reports you've created. These reports are sorted by date.
3. **Create a New Report**: Start the process of creating a new report.
4. **Log Out**: Exit the application and return to the Pre-Login Menu.

Managing Reports

Viewing Reports

- After logging in, you can choose **View Reports** to see a list of all reports. Each report will include:
  - **Report Date**
  - **Patient and Doctor Observations**
  - **Symptoms**

You can also view the full details of each report.

Creating a New Report

To create a new report, follow these steps:

1. **Enter Observations**: Provide your personal observations for the report.
2. **Select Symptoms**: Choose from a list of symptoms. You can add multiple symptoms to the report.
3. **Capture Signals**: You can capture physiological signals (e.g., EMG, ECG) using a connected BITalino device. These signals will be saved into a CSV file.
4. **Save the Report**: After finalizing the report, it will be sent to the server, and you will receive confirmation.

Signal Capture

Capturing Signals:

You can capture various types of signals using the BITalino device. The available signal types include:

- **EMG (Electromyography)**
- **ECG (Electrocardiogram)**
- **EDA (Electrodermal Activity)**
- **ACC (Accelerometry)**

To start capturing a signal:

1. Select the type of signal you want to capture.
2. The application will record the signal and append it to the CSV file associated with your report.
3. You can capture multiple signals, and they will be added to the file.
4. Once finished, choose **Finish signal capture** to end the process.

Additional Features

Patient Information:

You can always view and update your personal information (e.g., name, email, date of birth). If a doctor is assigned to you, their information will also be displayed.

Logging Out:

If you wish to log out, select the **Log Out** option from the main menu. This will return you to the Pre-Login Menu.

Doctor Application Manual:

Welcome to the Doctor Application. This application is designed to allow healthcare providers to log in, manage patient data, view patient reports, and add observations to those reports. This guide will walk you through the steps to effectively use the doctor application.

Step 1: Launch the Application

To begin, run the **Doctor Application**. The app will prompt you to establish a connection to the server by entering the server's **IP address** and **port**.

- **IP Address and Port**: Enter the correct server details for a successful connection.
- **Connection Status**: You will receive a confirmation message once the connection is successful. If the connection fails, double-check the details and try again.

Step 2: Pre-Login Menu

Once the connection is established, you will see the **Pre-Login Menu** with the following options:

1. **Register**: New doctors can create an account.
2. **Log in**: Returning doctors can log into their existing accounts.
3. **Exit**: Exit the application.

Step 3: Doctor Registration

If you're new to the application, select **Register**. You will need to provide the following information:

- **Email**: Enter a valid email address. The system will check if the email is already registered.
- **Full Name**: Enter your full name.
- **Date of Birth**: Input your birth date.
- **Password**: Create a password for your account.

Once you've registered successfully, you'll be directed to the **Login Menu**.

Step 4: Doctor Login

If you're a returning doctor, select **Log in**. You will need to provide:

- **Email**: Enter your registered email address.
- **Password**: Enter your password.

After successfully logging in, you'll be taken to the **Main Doctor Menu**.

Main Doctor Menu (After Login)

Once logged in, you have access to the following options:

1. **View Patient Information**: See all the patients you are assigned to.
2. **View Reports**: View all reports associated with your patients.

3. **Add an Observation**: Add a medical observation to a patient's report.
4. **Log Out**: Exit the application and return to the Pre-Login Menu.

Managing Patients

Viewing Patients

Once logged in, the **Main Doctor Menu** will show you the list of patients assigned to you.

- If no patients are assigned to you, you will see a message indicating that you have no patients yet.
- If you have patients, their names will be listed, and you can select one to view their information and reports.

Selecting a Patient

To view a specific patient's details, select the patient from the list. This will bring you to the **Patient Info Menu**, where you can see the patient's reports and details.

Managing Reports

Viewing Reports

After selecting a patient, you will see a list of reports associated with that patient. Each report includes:

- **Report Date**
- **Patient and Doctor Observations**
- **Symptoms**

You can view the full details of any report, including the signals (e.g., EMG, ECG) captured during the patient's visits.

Adding an Observation to a Report

Once you have selected a report, you have the option to **add an observation** to it. To do this:

- **Add Observation**: You can add any observations regarding the patient's condition, which will be included in the report.
- **Send the Observation**: After entering the observation, it will be sent to the server, and the report will be updated.

Patient Report Details

When you select a specific report, you will be able to view detailed information, such as:

- **Patient Observation**: Written by the patient.

- **Doctor Observation**: You can add your own observation.
- **Symptoms**: The symptoms recorded during the patient's visit.

You can also download the signal data (e.g., from the BITalino device) associated with the report.

Additional Features

Logging Out

If you wish to log out, select the **Log Out** option from the main menu. This will exit your session and return you to the **Pre-Login Menu**.

Admin application manual:

Welcome to the Server Administrator Application. This application allows the server administrator to log in, manage the server, handle client connections, and control various server functionalities.

Step 1: Launch the Application

To begin, run the **Server Application**. The application will prompt the administrator to log in.

Administrator Login

- **Email**: Enter the administrator's registered email address.
- **Password**: Enter the administrator’s password.

The system will validate the credentials, and upon successful login, you will be directed to the **Server Menu**.

Step 2: Admin Login Menu

After logging in, the administrator is presented with the **Admin Menu** with the following options:

1. **Start Server**: Start the server to begin accepting client connections.
2. **Stop Server**: Stop the running server.
3. **Exit**: Exit the application completely.

Step 3: Start Server

To start the server:

1. **Start Server Option**: Select **Start Server** from the menu.
2. The application will start the server on **Port 9000** and begin listening for incoming client connections.
3. The server will handle each client connection in a new thread, allowing multiple clients to connect simultaneously.
4. **Server Status**: Once the server is running, it will display the status: "Server started on port 9000".

Step 4: Stop Server

To stop the server:

1. **Stop Server Option**: Select **Stop Server** from the menu.
2. The application will ask you to confirm the shutdown. You will be informed of how many clients are currently connected.
3. Confirm if you want to **stop the server** or **return to the menu**.

- **Stop Server Confirmation**: Select **1** to stop the server or **0** to return to the menu.

Once confirmed, the server will stop accepting new connections and will close the server socket.

Step 5: Exit the Application

To exit the application:

1. Select **Exit** from the menu.
2. The application will close the server and all connections, terminating the process.