Use Case 1: Main Functions

Primary Actor:

User

Stakeholders and Interest:

User: Wants to have a personalized experience and store health data from the device scans and see historical data.

RaDoTech Device: Ensures that the body scans are done properly.

RaDoTech App: Ensures that the user can log in, and view the data and graphs produced by the RaDoTech device.

Precondition:

- The RaDoTech app is installed on the user's device and RaDoTech device is ready to use.

Success Guarantee:

The user completes a health scan, receives the results in data and graph form on the app and recommendations, and can view the historical data.

Main Success Scenario:

1. Users can create a user profile
    a. Refer to Use Case 2
2. The user can log in to the RaDoTech application to view their profile
    a. Refer to Use Case 6
3. The User selects Pair Device within the app to pair the RaDoTech device to the application
    a. Refer to Use Case 7
4. The user can navigate to the "Measure Now" option to collect the data from the health scan from the RaDoTech device.
    a. Refer to Use Case 7
5. The user scans each meridian points.
    a. Refer to Use Case 8
6. The data is done being collected in the app after collecting the data from the health scan made by the RaDoTech device
    a. Refer to Use Case 9
7. The user can view the data of the health scan
    a. Refer to Use Case 11

Extensions:

- **1a. The user can update the created profile** (Refer to Use Case 3)
- **1b. The user can delete the created profile** (Refer to Use Case 4)
- **1c. The user can create multiple profiles** (Refer to Use Case 5)

Use Case 2: Create Profile

Primary Actor:
User

Stakeholders and Interest:
User: Wants to create a profile to personalize their experience and store health data.
RaDoTech App: Ensures the profile is created and stored securely for future use.

Precondition:
- The app is installed, and the user has opened it.

Success Guarantee:
The user successfully creates a profile, which is saved to the RaDoTech App.

Main Success Scenario:
1. User clicks "Create Profile"
2. User inputs required information (e.g., name, age, gender, weight).
3. User confirms the information.
4. RaDoTech App validates the input and creates the profile.
5. RaDoTech App displays a confirmation message that the profile was created successfully.

Extensions:
- **4a. Invalid or incomplete information**
  - **4a.1.** RaDoTech App prompts the user to correct or complete the information before proceeding.

Use Case 3: Update Profile

Primary Actor:
User

Stakeholders and Interest:

- **User:** Wants to keep their profile information up-to-date.
- **RaDoTech App:** Ensures updated data is stored correctly and reflects the latest changes.

Precondition:
The user has already created a profile and is logged in.

Success Guarantee:
The user's profile is updated with the new information.

Main Success Scenario:

1. User navigates to the "Profiles" section.
2. User selects their existing profile to edit.
3. User is displayed their current information.
4. User makes the necessary changes.
5. User saves the changes.
6. RaDoTech App validates the new information and updates the profile.
7. RaDoTech App displays a confirmation message indicating the changes were saved successfully.

Extensions:

- **6a. Invalid information**
  - **6a.1**. RaDoTech App notifies the user of errors and highlights fields needing correction.

Use Case 4: Delete Profile

Primary Actor:
User

Stakeholders and Interest:

- **User:** Wants to remove unwanted or unused profiles.
- **RaDoTech App:** Ensures the profile is deleted securely and not recoverable.

Precondition:
The user has already created a profile and logged in.

Success Guarantee:
The selected profile is deleted from the RaDoTech App.

Main Success Scenario:

1. User navigates to the "Profiles" section.
2. User selects the profile they want to delete.
3. User is displayed their current information.
4. User selects "Delete profile".
5. User confirms the deletion.
6. RaDoTech App removes the profile from the database.
7. RaDoTech App displays a message confirming the profile has been deleted.

Extensions:

- **3a. User cancels deletion**
  - **3a.1.** RaDoTech App stops the deletion process, and the profile remains unchanged.

Use Case 5: Add Multiple Profiles

Primary Actor:
User

Stakeholders and Interest:

- **User:** Wants to add multiple profiles for other users.
- **RaDoTech App:** Supports managing multiple profiles and ensures proper association of health data.

Precondition:
The app is installed and running, and the user is logged in.

Success Guarantee:
The user successfully creates and manages multiple profiles.

Main Success Scenario:

1. User navigates to the "Profiles" section.
2. User selects "New Profile".
3. User inputs information for the new profile.
4. RaDoTech App validates and stores each profile.
5. RaDoTech App displays a list of all profiles managed by the user.

Extensions:

- **4a. Profile limit reached**
  - **4a.1.** RaDoTech App notifies the user that no more profiles can be added.
- **4b. Invalid information**
  - **4b.1.** RaDoTech App notifies the user of errors and highlights fields needing correction.

Use Case 6: Login to App

Primary Actor:
User

Stakeholders and Interest:

- **User:** Wants to log in to access their data and profiles.
- **RaDoTech App:** Ensures secure authentication and provides access to the user's data.

Precondition:
The user has previously created an account, and the app is installed.

Success Guarantee:
The user is successfully logged in and can access their profiles and features.

Main Success Scenario:

1. User opens the app and selects the "Login" option.
2. User enters their credentials (e.g., email and password).
3. User presses "Login" button
4. RaDoTech App validates the credentials.
5. RaDoTech App displays the home screen with the user's profiles and features.

Extensions:

- **3a. Invalid credentials**
  - **3a.1.** RaDoTech App notifies the user of incorrect login details and prompts a retry.

Use Case 7: Start Health Scan

Primary Actor: User
Stakeholders and Interests:

- **User**: Wants to initiate the health scan process.
- **RaDoTech Device**: Prepares to collect data from the user's body.

Preconditions:

- The User is logged in, and the RaDoTech device is paired and ready to use.

Success Guarantee:
The health scan process begins successfully.

Main Success Scenario:

1. The User selects "Measure Now" in the app.
2. The app verifies the device's pairing status.

3. The app provides preparation instructions to the User.
4. The app displays a prompt to place the device on the first meridian point.

Extensions:

- **2a. Device not paired**:
  - **2a1.** The app notifies the User and provides troubleshooting steps.
- **4a. User does not follow preparation instructions**:
  - **4a1.** The app alerts the User to retry with proper setup.

Use Case 8: Perform Scan

Primary Actor: User
Stakeholders and Interests:

- **User**: Wants to perform the scan accurately.
- **RaDoTech Device**: Ensures the scan process collects accurate data.

Preconditions:

- The User has started the health scan, and the device is paired and operational.

Success Guarantee:
The device collects raw data from the specified meridian point.

Main Success Scenario:

1. The User places the device on the first meridian point as instructed by the app.
2. The device collects electrical readings and transmits them to the app.
3. The app confirms the successful scan of the meridian point.
4. User waits for 5 seconds on skin contact scan.
5. The app prompts the User to move to the next meridian point.

Extensions:

- **2a. Data collection fails**:
  - **2a1.** The app notifies the User of a failure and provides corrective guidance.
- **4a. User removes scanner from skin before the 5 second hit mark.**
  - **4a.1.** The app notifies the User of scan failure and to redo it.

Use Case 9: Complete Health Scan

Primary Actor: User
Stakeholders and Interests:

- **User**: Wants confirmation that the scan is complete.
- **RaDoTech App**: Processes and stores the completed scan data.

Preconditions:

- All specified meridian points have been scanned successfully.

Success Guarantee:
The health scan is completed, and the data is ready for processing.

Main Success Scenario:

1. The app confirms that all required meridian points have been scanned.
2. The device sends the collected data to the app.
3. The app notifies the User that the scan is complete.
4. The app begins processing the collected data.

Extensions:

- **3a. Data transmission fails**:
    - **3a1.** The app retries or prompts the User to restart the scan.

Use Case 10: Data processing

Primary Actor:
RaDoTech App

Stakeholders and Interest:
- **User:** scans body parts and sends it to the RaDoTech App via device
- **RaDoTech App:** processes data
Pre-Condition:
Collects data from scan

Success Guarantee:
Stores data into historical health database

Main Success Scenario:

1. Processes health data.

2. Following the success of the first main success scenario the RaDoTech App displays a success message onto the device's ui.

Extension:

- 2a. displays a failure message onto the device's ui prompting the user of the device to scan once more due to incorrect reading.

Use Case 11: View Historical Data

Primary Actor: User
Stakeholders and Interests:

- **User**: Wants to view and analyze trends in their past health data.
- **RaDoTech App**: Provides an organized and accessible view of historical data.

Preconditions:

- The User has completed at least one health scan.
- Historical data is stored in the app.

Success Guarantee:
The User can view past scans and analyze health trends.

Main Success Scenario:

1. The User navigates to the "History" tab in the app.
2. The app retrieves a list of past health scans.
3. The User selects a specific scan to view detailed metrics.
4. The app displays the selected scan's metrics, visualizations, and any associated notes.

Extensions:

- **2a. No historical data exists**:
    - **2a1.** The app notifies the User and suggests completing a new scan.
- **3a. Retrieval error**:
    - **3a1.** The app displays an error message and provides troubleshooting instructions.
- **4a. View Visualizations**
    - **4a.1.** View Body Visualization (Refer to Use Case 12)
    - **4a.2.** View Chart Visualization (Refer to Use Case 13)
    - **4a.3.** View Circle Chart Visualization (Refer to Use Case 14)
- **4b. View recommendations** (Refer to Use Case 15)

- **4c. View Comments** (Refer to Use Case 16)

Use Case 12: View Body Visualization from Metrics

Primary Actor:
User
Stakeholders and Interest:
RaDoTech Device: Ensures that the body scans are done properly.
RaDoTech App: Ensures that the user can log in, and view the data and graphs produced by the RaDoTech device.
User: Wants to see the body visualization on the RaDoTech App
Precondition:
- Health data from the device and been processed and stored
Success Guarantee:
User can see a visual representation of health metrics in a body visualization format.
Main Success Scenario:
1. User Selects View Body Visualization option
2. The App retrieves the processed health metrics
3. The app generates a body visualization map, highlighting health status for relevant organs.
4. The user reviews the body visualization for a quick overview of their health.
Extensions:
- 3a. MAYBE: User requests detailed information about any highlighted area
  - The app displays a tooltip or explanation for that specific area.

Use Case 13: View Chart Visualization from Metrics

Primary Actor:
User
Stakeholders and Interest:
RaDoTech Device: Ensures that the body scans are done properly.
RaDoTech App: Ensures that the user can log in, and view the data and graphs produced by the RaDoTech device.
User: Wants to see the chart visualization on the RaDoTech App
Precondition:
- Health data from the device and been processed and stored
Success Guarantee:
User understands health status through the chart based visual representation
Main Success Scenario:
1. User selects "View Chart Visualization"
2. The app retrieves health metrics and organizes the data into charts

3. The app displays the charts for the various health parameters
4. User interacts with the chart.

Use Case 14: View Circle Visualization from Metrics

Primary Actor:
User
Stakeholders and Interest:
RaDoTech Device: Ensures that the body scans are done properly.
RaDoTech App: Ensures that the user can log in, and view the data and graphs produced by the RaDoTech device.
User: Wants to see the circle visualization on the RaDoTech App
Precondition:
- Health data from the device and been processed and stored
Success Guarantee:
User can see a visual representation of health metrics in a circle visualization format.
Main Success Scenario:
1. User selects the view circle visualization option
2. The app retrieves processed data and creates a circular visualization to represent the various health factors
3. User reviews the circular indicators for a quick overview of health risks or positive status.
Extensions:
● 3a. MAYBE: User requests detailed information about any highlighted area
   ○ The app displays a tooltip or explanation for that specific area.

Use Case 15: Recommend Medical Advice from Metrics

Primary Actor:
User

Stakeholders and Interest:

● **User:** Wants actionable insights and medical advice based on their health scan metrics.
● **RaDoTech App:** Processes the metrics and provides personalized recommendations.

Precondition:
The user has completed a health scan, and the RaDoTech App has processed the metrics.

Success Guarantee:
The user receives tailored medical advice or guidance based on their health metrics.

Main Success Scenario:

1. User accesses the details to their scan
2. User navigates to the "Recommendations" tab.
3. RaDoTech App retrieves the processed health metrics from the most recent scan.
4. RaDoTech App generates tailored medical advice
5. RaDoTech App displays the recommendations in an easy-to-understand format.

Extensions:

- 3a. Insufficient data:
  - RaDoTech App notifies the user that more data or another scan is required to provide recommendations.

Use Case 16: View Comments on Metrics

Primary Actor:
User

Stakeholders and Interest:

- **User:** Types health comments on an associated historical data.
- **RaDoTech App:** Stores comments for the historical data.

Precondition:
The user has completed a health scan, and the RaDoTech App has processed the metrics.

Success Guarantee:
The user receives the comments they typed in for a specific health metrics.

Main Success Scenario:

6. User accesses the details to their scan
7. User navigates to the "Comments" tab.
8. RaDoTech App retrieves the processed health metrics from the most recent scan.
9. RaDoTech App retrieves user inputted comments for this specific historical data
10. RaDoTech App displays the comments in an easy-to-understand format.

Use Case 17: Battery Power

Primary Actor:

RaDoTech Device

Stakeholders and Interest:
- RaDoTech Device**:** Uses device battery to run

Pre-Condition:
RaDoTech Device turns on

Success guarantee:
RaDoTech Device Displays low battery message

Main Success Scenario:

1. Depletes battery as device runs on battery power.
2. When the device depletes down to 20% a message will be displayed on the system's ui to prompt the user to charge it.

Extension:

- 2a. User does charges battery leading it not to shutdown.