Use Case 1: New Session

Primary Actor:

- Device User

Precondition:

- User has a device.
- Electrodes are properly in place.

Main Success Scenario:

1. User presses the power button.
2. Device Turns on
3. User presses the menu button.
4. User presses the new session option.
5. The device opens a timer that begins once contact is initiated, indicated by blue light on the device.
6. The timer shows approx. time remaining and session progress bar indicated by a percentage.
7. The software calculates a baseline for each EEG site individually over approx. 1 minute,determining the average dominant frequency for eacg site.
8. The software applies treatment over the duration of one second, indicated by the green light, to each site concurrently. Approx. 1 sec.
9. The software calculates a new baseline ave. dominate freq for each site over approx 1 min.
10. Repeat steps 8 through 9 3 more times.
11. The device ends the session
12. The device saves the session data
13. Power off device

Postcondition:

New session is complete and treatment has been delivered successfully. Session data saved.

Extensions:

2a. The device does not turn on.
    2a1. User is required to charge the device battery.
2b. Low battery detected
    2b1. Notify user of low battery
4a. Session will not start if in low battery mode
5a. Contact is lost
    5a1. Red light flashes
    5a2. Session is paused
    5a3. Devices starts beeping until contact reestablished
    5a4. If contact not reestablished after 5 minutes, device turns off and session is erased
9a. User presses pause
    9a1. If after 5 minutes contact is not reestablished device turns off and session is erased
9b. Low battery detected during session
    9b1. Session is erased
    9b2. Notify user of low battery

9b3. Return to Menu

Related Information:

- Extensions 5 and 9 regarding lost contact, pressing pause and low battery can occur at any point of the treatment
- More over low battery can occur in any of the use cases, will always show warning and return to main menu
- Treatment begins at the baseline dominant frequency a site + 5Hz. Each consecutive round, an Extra 5Hz is added to this offset. So in the 2nd round of treatments the treatment would be the new dominant frequency of a site + 10Hz. So on and so forth until 4 treatment rounds are completed.

Use Case 2: Viewing Session Log History on Device

Primary Actor:

- Device User

Precondition:

- User has a device.

Main Success Scenario:

1. User presses the power button.
2. Device Turns on
3. User presses the menu button.
4. User presses the session log history option.
5. The device displays only time and date of sessions
6. User can scroll as desired

Postcondition:

Session log history viewed successfully.

Use Case 3: Input Date and Time

Primary Actor:

- Device User

Precondition:

- User has a device.

Main Success Scenario:

1. User presses the power button.
2. Device Turns on
3. User presses the menu button.
4. User presses the date and time option.
5. Device prompts user for current date and time
6. User enters current date and time
7. Device clock updated to new date and time

Postcondition:

Date and time inputted and updated correctly.

Use Case 4: View Session History on PC

Primary Actor:

- Device User

Precondition:

- User has a device.
- User has a PC.

Main Success Scenario:

1. User uploads therapy session data from Device memory to PC
2. User selects view history on PC
3. A list of therapy session entries are shown to on PC
4. User can scroll throw entries as desired

Postcondition:

Session history viewed successfully.

Related Information:

- The therapy session entries show the following information
    - Time
    - Date
    - Before and After dominant numerical average frequencies for each EEG site side by side