Device Use Cases

UC 1: Turn On The Device

Primary actor: The patient

Level: User goal

Scope: The device

Precondition: The device is off

Success guarantee: The user successfully turns on the device

Main success scenario:

1. The user presses power button
2. The device is on

Extensions:

2a. The device is out of battery

2b. The device loses power and turns off before completing the treatment

UC 2: Administer Treatment

Primary actor: The patient

Level: User goal

Scope: The device

Precondition: The patient has attached the ear clips, the device has been properly setup and is ready to use

Success guarantee: The device successfully delivers the treatments to the patient

Main success scenario:

1. The power button is pressed
2. The battery begins to drain
3. The patient can choose to turn off the device at any time
4. The patient sets the timer (20 mins, 45mins, or custom)
5. The patient sets the waveform (α, β, Δ, θ)
6. The patient can set an intensity
7. The patient chooses if they want to save treatment to history
8. The patient presses the start button to begin the treatment

9. The device delivers treatment through the patient's head

10. The timer starts counting down

11. The patient can change the intensity

12. The device automatically turns off after finishing the treatment

Extensions:

1a. The device is out of battery

1b. The device loses power and turns off before completing the treatment

2a. The battery drains faster because of the current treatment settings

2b. The battery will send a warning message if the battery level reaches 10%

2c. The device will automatically turn off if the battery level reaches 0%

8a. The patient did not press the start button within 30 minutes, so the device turns off

8b. The ear clips fall off the user, so the device send a notification to patient requesting them to setup the ear clips

9a. The user presses the power button while the treatment is processing, so the device turns off

10a. The device is out of battery while doing the treatment, so it automatically turns off

12a. If the user has checked to add treatment to history, record the treatment

UC 3: Change Treatment Intensity

Primary actor: The patient

Level: User goal

Scope: The device

Precondition: The device is on

Success guarantee: The user can change set up an intensity for the treatment

Main success scenario:

1. The user can choose from level 1 to 8 in the intensity bar using Up or Down button

2. The intensity is changed to the selected value

Extensions:

1a. The user choose the current intensity, so there is nothing to be changed

UC 4: Record and Replay The Treatment

Primary actor: The patient

Level: User goal

Scope: The device

Precondition: The device is on

Success guarantee: The device save the treatment's data to history and replay in the next treatments

Main success scenario:

1. The patient check the record to history check box
2. The patient start the treatment
3. The treatment's data is recorded
4. The user can choose a recorded treatment in history
5. The device execute the treatment similar to the recorded one

UC5: Turn Off The Device

Primary actor: The patient

Level: User goal

Scope: The device

Precondition: The device is on

Success guarantee: The user successfully turns off the device

Main success scenario:

1. The user presses power button
2. The device is off