1. Use Cases:

a. Use Case 1: Basic use case/Performing treatment on a patient

Actors: The patient and the operator using the device.

Pre-condition: The device is fully functional

Description:

1. The operator switches on the device

2. Following this, the appropriate treatment mode is selected for the patient and the time duration is settled by maintaining contact with the patient's skin.

3. The electrodes on the device then detect the electrical impedance from the patient's nerve and send out modulated electrical signals for the treatment

4. Visual and audio output is provided to inform the operator about the detected tissues.

5. The operator is also allowed to adjust the power of the modulated signals using the (left and right) buttons on the device.

Alternatives:

· Battery level low or any malfunction occurs. The device must be changed or replaced.

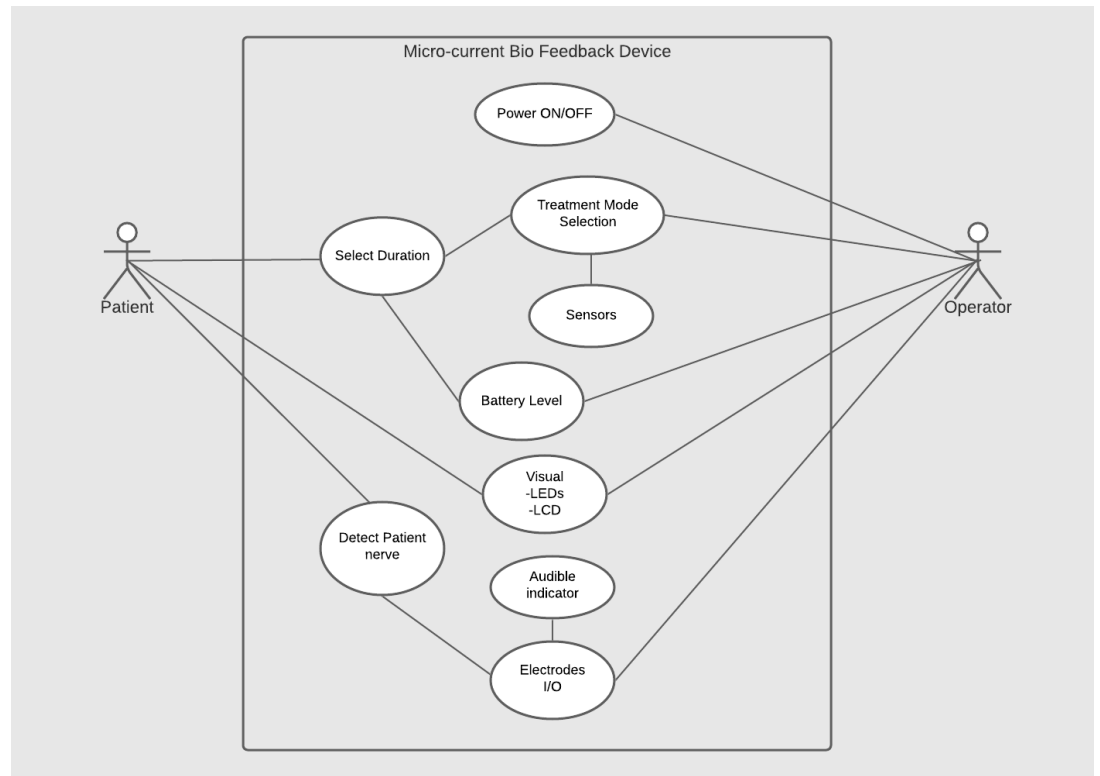Post condition: The patient's treatment has been successfully completed.

Figure-1: Use Case 1

b. Use Case 2:Selecting the desired treatment mode

Actors:The operator.

Pre-condition: The device is fully functional

Description:

1. The operator switches on the device
2. The operator navigates through the main menu and selects the programs option.
3. Following this the operator is provided the various options of treatments to select
4. The appropriate treatment mode is selected and is ready to perform the therapeutic intervention.

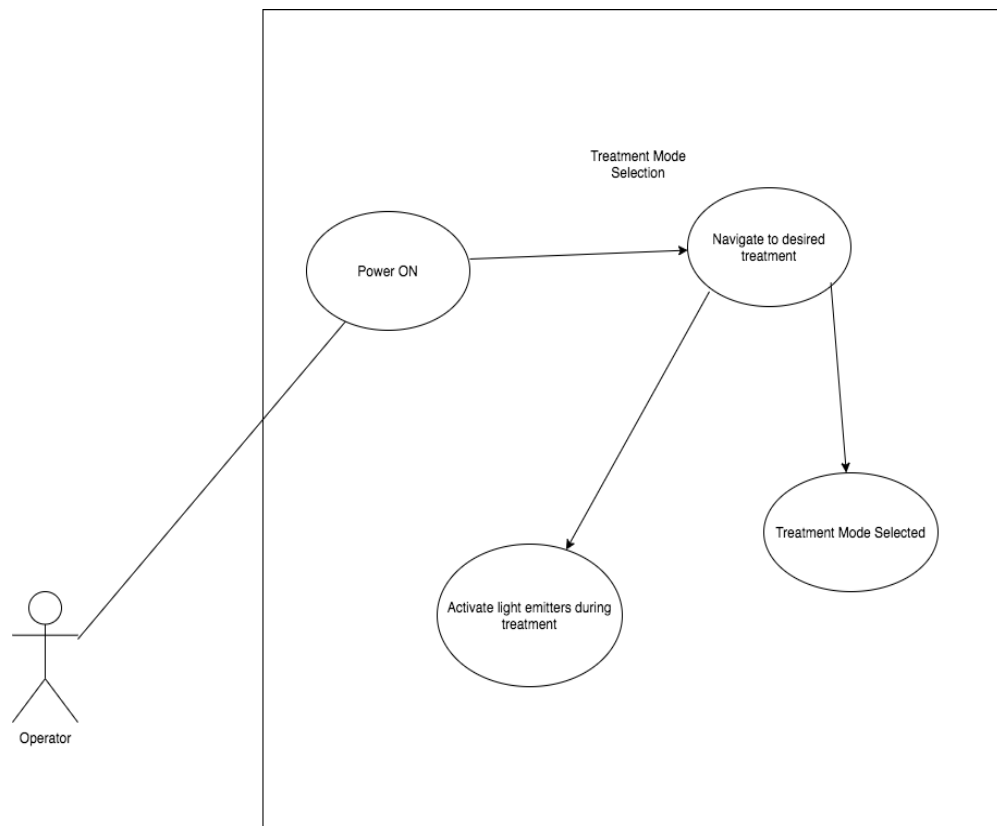Post condition: The desired treatment mode is selected

Figure-2: Use Case 2

c. **Use Case 3: Changing the display settings of the device**

Actors: The operator.

Pre-condition: The device is fully functional

Description:

1. The operator switches on the device
2. The operator navigates through the main menu and selects the settings option.

3. Over here the operator is provided a wide range of options to customize the user-interface of the application including being able to change the language.
4. The user then selects the screen layout option where he would be able to customize the layout of his device's UI .

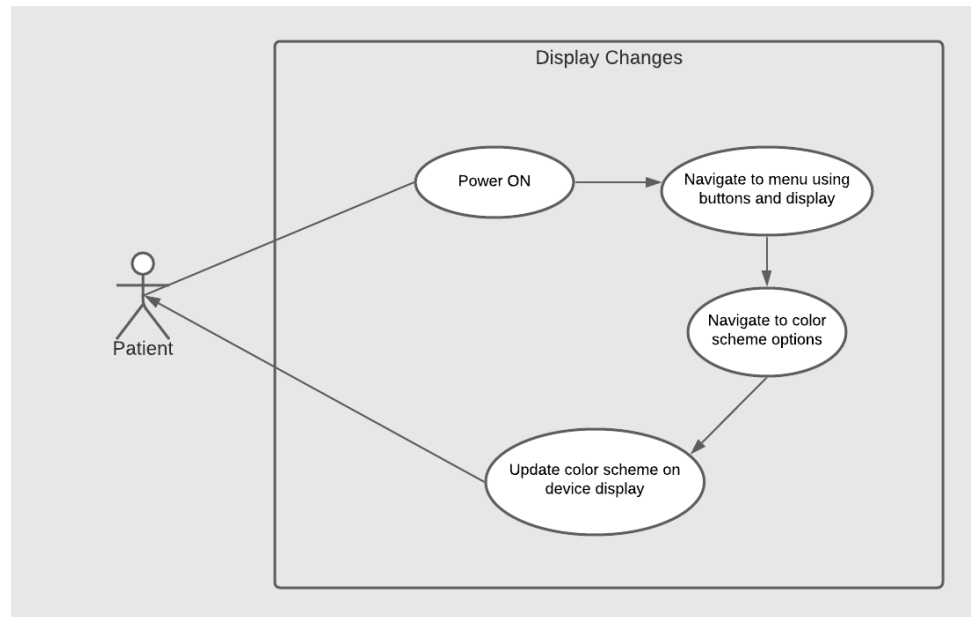Post condition: The desired display changes are made by the user.

Figure-3: Use Case 3

d. **Use Case 4: Selecting the frequency range of the device**

Actors: The operator.

Pre-condition: The device is fully functional

Description:

1. The operator switches on the device
2. The operator navigates through the main menu and selects the frequency option.
3. The user of the device is presented with a range of frequencies.
4. The user then selects the desired frequency.

5. Following this, the timer starts and the device starts emitting the electric signals. The user is also allowed to adjust the power level of the frequency using the buttons in the device.

Post condition: The frequency range is selected by the operator.