

Use Case 1: Turn On

Primary Actor(s): User, CES device

Precondition: CES Device has battery

Postcondition/Success Guarantee: Device is on

Main Success Scenario:

1. User presses and holds the CES device's power button.
2. Power LED turns on.
3. Display battery level on graph.

Extensions:

1. If battery level is insufficient, do not progress to step 2.

Use Case 2: Turn Off

Primary Actor(s): User, CES device

Precondition: CES Device is on

Postcondition/Success Guarantee: Device is off

Main Success Scenario:

1. User presses and holds power button on device.
2. Unit shuts off.

Extensions:

1. If Session in progress may take up to a second.

Use Case 3: Selection Time Out

Primary Actor(s): CES Device

Precondition: No selection has been made for two minutes

Postcondition/Success Guarantee: Device is off

Main Success Scenario:

1. Timer hits 2 minutes without input.
2. Turn device to off state.

Use Case 4: Deplete Battery

Primary Actor(s): CES Device, Battery

Precondition: A session has run

Postcondition/Success Guarantee: Battery level has dropped

Main Success Scenario:

1. A session length, intensity, and connection to skin is passed to the battery
2. Battery depletes its energy level according to passed information

Use Case 5: Battery Low

Primary Actor(s): CES Device, Battery

Precondition: Battery level has reached a value considered low.

Postcondition/Success Guarantee: User is informed of battery level

Main Success Scenario:

1. Battery detected to be low.
2. Display two bars on CES Device graph blinking on and off.
3. Continue blinking until battery replaced or battery critical occurs.

Use Case 6: Battery Critically Low

Primary Actor(s): CES Device, Battery

Precondition: Battery has reached a critically low level

Postcondition/Success Guarantee: User is informed of battery level and cannot start a session

Main Success Scenario:

1. Battery detected to be critically low.
2. Display single bar on CES Device graph, blinking on and off.
3. If session in progress end session.
4. Don't start another session until battery changed.

Use Case 7: User Selects Session Group

Primary Actor(s): User, CES Device

Precondition: CES Device is on.

Postcondition/Success Guarantee: Session group has been selected or changed

Main Success Scenario:

1. User presses power button.
2. Currently selected session group light turns off.
3. Next and newly selected session group light turns on.

Extensions:

2. Session group options are 20 minutes, 45 minutes, and user designated.

Use Case 8: User Selects Session

Primary Actor(s): User, CES Device

Precondition: CES Device is on.

Postcondition/Success Guarantee: Session has been changed or selected

Main Success Scenario:

1. User presses either the up or down arrow
2. Currently selected session light turns off
3. Newly selected session light turns on.

Extensions:

2. 4 possible sessions, each corresponding to a different frequency range and CES pulse type.
3. The newly selected session is either above or below the previously selected session light, wrapping to the start if up is pressed at the top or down pressed at the bottom.

Use Case 9: User Starts Highlighted Session

Primary Actor(s): User, CES Device

Precondition: CES Device is on

Postcondition/Success Guarantee: A session has begun

Main Success Scenario:

1. User presses the select/check button.
2. A connection test is started, see use case 10.
3. A session with the currently lit up session and session group is started.

Extensions:

2. A delay of 5 seconds is applied before starting.

Use Case 10: Connection Test

Primary Actor(s): User, CES Device

Precondition: User has started a session

Postcondition/Success Guarantee: A connection level is set for the session.

Main Success Scenario:

1. CES Mode light starts blinking.
2. Status of connection displayed on CES Device graph.
3. Once connection reaches satisfactory level, test ends.
4. On test end, device display goes blank or displays a soft on animation,

Extensions:

2. Graph bars 7 and 8 blinking indicate no connection, bars 4, 5, and 6 lit up indicate an ok connection, and bars 1, 2, and 3 lit up indicate an excellent connection.

Use Case 11: Ear Clips Disconnected During Session

Primary Actor(s): User, CES Device

Precondition: A session is in progress and ear clips have been disconnected

Postcondition/Success Guarantee: Device voltage has dropped down to a safe testing level

Main Success Scenario:

1. Ear clips are disconnected.
2. No connection lights 7 and 8 on device graph start blinking for a couple of seconds.
3. Graph lights start scrolling up and down, and voltage is reduced.

Extensions:

2. Can take up to 20 seconds for voltage to be reduced to a safe testing level.

Use Case 12: User Adjusts Intensity

Primary Actor(s): User, CES Device

Precondition: A session is in progress

Postcondition/Success Guarantee: Intensity has been increased or decreased.

Main Success Scenario:

1. User presses either the up button or down button during session.
2. Current intensity is either increased (up button) or decreased (down button).
3. Current set highest intensity number on graph will blink.

Use Case 13: User Records a Therapy

Primary Actor(s): User, CES Device

Precondition: A session is in progress

Postcondition/Success Guarantee: Therapy has been stored on device

Main Success Scenario:

1. User presses the record button.
2. Current session group, type, and intensity are saved to device.
3. If intensity changes during current session, the saved intensity is overwritten.
4. On session end, currently stored recorded values are added to history of treatment.

Use Case 14: Session Ends

Primary Actor(s): User, CES Device

Precondition: A session is in progress

Postcondition/Success Guarantee: CES stimulus has stopped.

Main Success Scenario:

1. A session has ended.
2. CES graph will scroll from 8 to 1 lighting up numbers as it goes.
3. CES stimulus will stop, and session is considered over.

Extensions:

1. Either to the duration ending or the user ending the session early by pressing the power button.
3. If session was being recorded, the last used settings at end of session are saved.