

## UC1: Turn OASIS device on

**Primary actor:** User

**Precondition:**

- The device is off

**Success Guarantees:**

- The device is turned on
- The device displays the record history [may be empty]

**Main Success Scenario:**

1. User presses and holds the power button for at least two seconds.
2. The power LED turns on.
3. The graph displays the battery level.

**Extensions:**

- 3a. The battery is critically low
  - 3a1. The battery indicator (number 1) blinks and the display notifies the device is turning off due to the battery level.
  - 3a1. The device turns off
  - 3a2. The user must replace the battery before turning the device on again.
- 3b. The graph lights up numbers one and two indicating the battery level is low.
  - 3b1. The user should replace the battery.

## UC2: Turn OASIS device off

**Primary actor:** User

**Precondition:**

- The device is on

**Success Guarantees:**

- The device is turned off.

**Main Success Scenario:**

1. User presses and holds the power button for at least two seconds.
2. The device shuts off.

## UC3: Select a session

**Primary actor:** User

**Precondition:**

- The CES device has been turned on

**Success Guarantees:**

- The user has a session ready to start

**Main Success Scenario:**

1. The user presses and releases the power button to navigate between the groups of 20min/45min/user-designated. The selected group and its available session types light up.

2. The user uses the up and down buttons to select a session type between Sub-Delta/Delta/Theta/Alpha by choosing its corresponding number (1 to 4). The respective CES Mode light for that session turns on.
3. Proceed to UC4.

**Extensions:**

- 1a. User selects the user-designated group
  - 1a1. The user will see no sessions in this group since the DAVID Session Editor is sold separately.
  - 1a2. The user clicks the power button to switch to different group
- 2a. User presses the up arrow while on the top-most number
  - 2a1. The bottom-most number lights up, indicating that the user is back to the beginning of the list.
- 2b. User presses the down arrow while on the bottom-most number (1)
  - 2b1. The top-most number lights up, indicating that the user is at the end of the list.

**Related Information:**

- If the user does not select a session within 30 seconds of the device turning on, it will turn off.

## UC4: Start the session

**Primary actor:** User

**Precondition:**

- The user has selected a session (UC3)

**Success Guarantees:**

- The user has gone through a session

**Main Success Scenario:**

1. The user dampens their earlobes with a small amount of tap water, saliva, or conductive gel.
2. The user attaches the left ear clip to their left earlobe and the right ear clip to their right earlobe
3. The user connects the ear clips' cable to the device
4. The user presses the Select button to start the previously selected session.
5. The device's CES mode light starts blinking.
6. The device verifies the quality of the electrical connection between itself and the user.
7. The device displays an okay (numbers 4, 5, 6 light up solid yellow) or excellent (numbers 1, 2, 3 light up solid green) connection.
8. Session type and remaining time are displayed in the device's display.
9. The device sends electrical stimulation to the user for the selected time.
10. The session ends and the device gradually reduces the CES stimulus intensity while the on-screen graph scrolls from 8 to 1.
11. Go to UC6

**Extensions:**

- 6a. There is no connection between the device and the user.
  - 6a1. The numbers 7 and 8 start blinking red.

- 6a2. The user revises that their earlobes are dampened enough.
- 6a3. The user checks that their ear clips are properly adjusted.
- 6a4. Repeat steps 6a1 to 6a3 until the connection is okay (numbers 4, 5, 6 light up solid yellow) or is excellent (numbers 1, 2, 3 light up solid green).
- 9a. The user wants to adjust the intensity.
  - 9a1. Go to UC5.
- 9b. The user wants to end the session.
  - 9b1. The user presses and releases the power button
  - 9b2. Go to step 10.
- 9c. The ear clips are disconnected.
  - 9c1. The device pauses the session and waits for the ear clips to be reconnected.
  - 9c2. The device displays the No Connection state (numbers 7 and 8 blink in red). The left (L) and right (R) lights turn on as well.
  - 9c3. If the ear clips are reconnected, go to step 7.
  - 9c4. After 30 seconds of idling, the device turns off automatically.
- 9d. The battery depletes to a low level.
  - 9d1. The device graph displays two blinking bars while continuing the session.
- 9e. The battery depletes to a critically low level.
  - 9e1. The device displays a single (number 1) blinking bar.
  - 9e2. The device ends the session early.
  - 9e3. The device returns to a safe voltage, notifying the user by scrolling up and down through its graph.
  - 9e4. The battery indicator (number 1) blinks and the display notifies the device is turning off due to the battery level.
  - 9e5. Device turns off

## UC5: Adjust intensity

**Primary actor:** User

**Precondition:**

- The user has started a session
- The connection test has ended
- The user feels over- or under-stimulation with the current intensity level

**Success Guarantees:**

- The intensity satisfies the user's comfort level

**Main Success Scenario:**

1. The user presses the up arrow or the down arrow buttons to raise or reduce the intensity level.
2. The user sees the approximate intensity level displayed on the device graph through lights 1 to 8, with the topmost lit number blinking.
3. User keeps increasing or decreasing the intensity until they are satisfied with the level.

**Extensions:**

- 1a. User presses the up arrow while on the top-most intensity (level 8)
  - 1a1. The intensity stays at level 8

- 1b. User presses the down arrow while on the bottom-most intensity (level 1)
  - 1b1. The intensity stays at level 1

## UC6: Record a session

**Primary actor:** User

**Precondition:**

- A session has just concluded or has been stopped by the user

**Success Guarantees:**

- The session is added to the records history

**Main Success Scenario:**

1. A prompt appears on the screen asking the user whether they want to save the session
2. User saves the session by pressing the checkmark button
3. The device automatically turns off after 30 seconds of inactivity

**Extensions:**

- 2a. The user does not touch any button
  - 2a1. The device automatically turns off after 30 seconds of inactivity
- 2b. The user presses the power button to avoid storing the session
  - 2b1. The device automatically turns off after 30 seconds of inactivity

## UC7: View recorded sessions

**Primary actor:** User

**Precondition:**

- The device is on
- There is no session running

**Success Guarantees:**

- User is informed about their history of sessions

**Main Success Scenario:**

1. The record's history is displayed to the user through the display to the right of the checkmark button
2. The user uses the touch screen to scroll through the records history.

# Use Case Diagram

