Use Cases

AID features:
1. Interface2. circuit test with skin contact.

5.Preset to 0.5 Hz and can change to 1.0Hz(might have to add other frequencies and waveforms).
6.20, 40 or 60 minutes countdown cycles to auto-off.
7. Large timer display (part of the interface).
8.0 – 500 microampere (μA) current control.
9.Current and treatment time may be locked to preset values
through out entire treatment session.
12.30 minute auto-off when not in use.
15.Automatically and permanently disables itself should a single fault
develop within the device causing the current to exceed 700 μA.
16. Batteries
17. Store history of treatments.

The main use case:

main actor: the user
Secondary Actor: device? maybe?
pre-condition/trigger: device still has some juice, user has the required equipment (ear lobe)
success guarantee: User receives treatment and device shuts down
main scenario:

1. User connects the ear plugs to the AID and installs them on their ears
2. User presses the “On” button
3. User sets the timer to their desired time (20, 40, 60 minute intervals) (use case)
4. The User can choose their desired current (variation) (use case)
5. The user can adjust the lock settings (see Use Case 45: Lock)
6. The User receives their treatment
7. The Device power-off automatically

variation:
6’ User doesn’t choose current, default value (100 micro amps) is used
6’1. if (uncomfortable feeling) -> decrease until no feelings.

Our Use Cases so far:

1. **The main usage**
2. **The timer setter**
3. **The current setter**
4. **The locker setter**
5. **Recording last session for one user (save)**
6. **Access the recordings (load)**
7. **The Frequency setter**
8. **Toggle value mode (if arrow keys change current or frequency)**
9. **Low Battery use case (shuts down 2%/ warning at 5%)**

“Waveform cycle starts wh
en electrodes touch skin.
Countdown timers: select 20, 40 or 60 minutes.

Use Case 2: Set Timer

Main Actor: User
Secondary Actor: The Device
Scope: CES Device Service
Level: User goal
Pre-condition: Battery is not empty, Device is on
Success Guarantee: The User can see the time they selected on the screen of the device

Main success scenario:

1. Timer sets to 60 by default
2. The user presses the timer button to cycle through time options for the therapy session.
3. The device sets the selected time by the user

Extensions:
3a. If the device is running a therapy, and it has the lock settings turned on, the device doesn't change the time.

Use Case 3: Set Current

Main Actor: User
Secondary Actor: The Device
Scope: CES Device Service
Level: User goal
Pre-condition: Battery is not empty, Device is on , mode button is set to current
Success Guarantee: The User can see the current they selected on the screen of the device

Main success scenario:

1. When turned on, the device sets the current to 100 micro amps
2. The user presses the arrow buttons to change the value of the current
3. The device sets the current selected by the user

Extensions:
3a. If the device is running a therapy, and it has the lock settings turned on, the device doesn't change the current.

Use Case 4: Set Lock

Main Actor: User
Secondary Actor: The device
Scope: CES Device Service
Level: User goal
Pre-condition: Battery is not empty, Device is on.
Success Guarantee: The user can see the lock light on the device.

Main success scenario:

1. The user presses the lock button twice within 5 seconds.
2. The device locks itself.

Variations:

1’. If the device is already locked, user can press the lock button twice to unlock the device.
2’. The device unlocks itself

Use Case 5: Save Recording

Main Actor: User
Secondary Actor: The device
Scope: CES Device Service
Level: User goal
Pre-condition: Battery is not empty, Device is on.
Success Guarantee: The user can see the treatment added to their history.

Main success scenario:

1. User presses the button to record their therapy.
2. Device adds the therapy to history once the therapy is done.

Use Case 6: Load Recording

Main Actor: User
Secondary Actor: The device
Scope: CES Device Service
Level: User goal
Pre-condition: Battery is not empty, Device is on.
Success Guarantee: The device starts with the selected recording.
Main success scenario:

1. The user presses the load button on the device.
2. A list of recordings is displayed
3. User uses the arrow keys to scroll through the recordings.
4. User presses the load button to select the recording they want.
5. The recording is loaded into the device

Variation:

2-5a. The user chooses the cancel option, and the device goes back to its default menu/status.

Use Case 7: Set Frequency

Main Actor: User
Secondary Actor: The Device
Scope: CES Device Service
Level: User goal
Pre-condition: Battery is not empty, Device is on , mode button is set to frequency
Success Guarantee: The User can see the frequency they selected on the screen of the device

Main success scenario:

1. When turned on, the device sets the frequency to 0.5hz
2. The user presses the arrow buttons to change the value of the frequency
3. The device sets the frequency selected by the user

Extensions:

3a. If the device is running a therapy, and it has the lock settings turned on, the device doesn’t change the frequency.

Use Case 8: Toggle between frequency and amperage

Main Actor: User
Secondary Actor: The Device
Scope: CES Device Service
Level: User goal
Pre-condition: Device is on & the device is set to Frequency Mode.
Success Guarantee:

Main success scenario:

1. Mode is set to amperage by default
2. User presses toggle button to switch mode
3. Switcher to frequency mode
4. Arrow keys now control frequency

Variation:

1. Mode is on amperage then it switches to frequency

Use Case 9: Battery Low

Main Actor: The Device
Secondary Actor: The User
Scope: CES Device Service
Level: Sub function
Trigger: battery gets below 5%
Success Guarantee: Device switches off.

Main success scenario:

1. Audio Warning is sent out to inform the user that the batteries are low
2. The user replaces the batteries with new ones

Extension:

2a. If the battery reaches a critical state of 2%, the device shuts down.