

HeartWave Use Cases

UC-01	Base Use Case
Description	Simple use case for normal device usage.
Actors	User, Battery
Pre-condition	The device is powered off.
Post-condition	Device works properly according to the user's commands, and records the data accumulated during the session.
Main Sequence	<ol style="list-style-type: none">1. User presses the power button to turn on the device. (UC-02)2. Device displays the main menu on screen.3. User selects the desired option from the menu.4. Displays selected menu.5. User presses the power button to power off the device.
Variation	<ol style="list-style-type: none">4a. If the battery drops to 0, the session data will automatically save and the device will power off automatically.
Extension	<ol style="list-style-type: none">2a. At any step if the user selects the power button, go to UC-03.3a. If the user selects 'Settings' from the menu, go to UC-04.3b. If the user selects 'History', go to UC-05.3c. If the user selects 'Start New Session', go to UC-06,
Traceability	

UC-02	Turn Device On Use Case
Description	Use case for turning the heartwave device on
Actors	User, Battery
Pre-condition	Device is off; Device has battery remaining
Post-condition	The device is on and the display is showing the main menu
Main Sequence	<ol style="list-style-type: none">1. User presses power button while device is turned off2. The device powers on.3. The device turns on display
Variation	<ol style="list-style-type: none">2a. Device does not turn on.<ul style="list-style-type: none">- If the device is not turned and reaches this point it is out of battery and needs to be recharged
Extension	

Traceability	
--------------	--

UC-03	Turn Device Off Use Case
Description	Use case for turning the heartwave device off
Actors	User
Pre-condition	Device is on; Device has battery remaining
Post-condition	The device is no longer on and stops consuming battery
Main Sequence	<ol style="list-style-type: none"> 4. User presses power button while device is turned on 5. The device turns off display 6. The device powers off.
Variation	
Extension	
Traceability	

UC-04	Change Settings Use Case
Description	The user changes either the challenge level or breath pacer settings
Actors	User
Pre-condition	The device is turned on and it has enough battery remaining to successfully change the settings
Post-condition	The desired setting is changed
Main Sequence	<ol style="list-style-type: none"> 1. The device displays the default screen with all the menu options 2. The user selects the “settings” option 3. The user selects one of the options 4. The user interacts with their selected option 5. The user selects the “save” button 6. The user is brought back to the main menu
Variation	4. If the battery hits 0 or if the back button is pressed before the user’s changes are saved, the changes the user made will not be saved.
Extension	<ol style="list-style-type: none"> 3. <ol style="list-style-type: none"> a. The user selects the “challenge level” option b. The user selects the “breath pacer” option

	<ul style="list-style-type: none"> c. The user selects the “reset” option <p>4.</p> <ul style="list-style-type: none"> a. The user selects one of the 4 challenge levels b. The user changes the time interval between each breath c. A message is shown to the user asking to press “save” if they are sure they want to reset the device
Traceability	

UC-05 View History Use Case	
Description	User Views previous sessions, the dates they occurred, and sessions' summaries.
Actors	User
Pre-condition	Device is on and the user is on the main menu page.
Post-condition	The user is able to view all currently saved sessions.
Main Sequence	<p>User selects history module using the ok button</p> <p>User selects to view user history by selecting the view module</p> <p>The device displays the users previous session and challenge mode data, including the date and type of the session</p>
Variation	
Extension	3a. If the user has no previous sessions nothing is displayed
Traceability	

UC-06 Delete Session Use Case	
Description	User deletes a saved session from the user history
Actors	User
Pre-condition	Device is on and the user is on in the history view module
Post-condition	The user deleted the desired session from the devices history
Main Sequence	<ul style="list-style-type: none"> 1. User presses the “DOWN” button; the selected session move down 2. Repeat step 1 until the device is selecting the desired session 3. User presses the “OK” button to select the session

	<ol style="list-style-type: none"> 4. User selects the delete option by pressing the down and “OK” buttons 5. The user confirms the deletion by selecting the “yes” option with the “OK” button
Variation	<ol style="list-style-type: none"> 1a. If the user reaches the bottom and presses the “DOWN” button the selector returns to the beginning of the history view 1b. If the user reaches the bottom and presses the “UP” button the selector returns to the end of the history view
Extension	<ol style="list-style-type: none"> 1a. User presses the “UP” button; the selected session is moved up, and returns to step 2.
Traceability	

UC-07 Heart Wave Session Use Case	
Description	User case for a heart wave session
Actors	User, Battery, HeartWave sensor
Pre-condition	Device is turned on, the user has selected ‘Start New Session’ from the menu, and the HeartWave sensor is reading a heart rate.
Post-condition	Session completes, successfully recording the data, and displays a summary to the user. A record is created and saved into the device history.
Main Sequence	<ol style="list-style-type: none"> 1. The user presses the select button to initiate a session. 2. The session initializes, and the device begins recording heart rate. 3. The device displays the HRV graph, breath pacer, contact icon, coherence score, timer, and achievement score. 4. The LED on the devices lights up corresponding to the Heart Coherence of the user over the last 64 seconds. 5. The display updates continuously throughout the session, at different rates for each component. 6. User presses the select button to complete the session. 7. The summary view appears displaying: challenge level, percentage of time in different coherence levels (low, medium and high), average coherence, length of session, achievement score, and the full HRV graph. 8. The summary is recorded along with the date, and is sent to be history.

Variation	<p>2a. If at any time the back button is pressed during the session the session completes, the record of the session is sent to history and the user is brought to the main menu. (UC-01, part 2)</p> <p>2b. If at any time the power button is pressed, or the device runs out of power during the session the session completes, the record of the session is sent to history and the device is powered off. (UC-02)</p> <p>2c. If at any time the HeartWave sensor is no longer reading a heart rate, the session is completed and the use case skips to step 7.</p>
Extension	<p>5a. The LED light changes colour based on the user's average coherence score over the last 64 seconds.</p> <p>5b. The HRV graph updates every time a heartbeat is registered.</p> <p>5c. The timer is updated every second.</p> <p>5d. Every five seconds the coherence score and achievement scores update.</p>
Traceability	

UC-08 Clear History Use Case	
Description	Use case for the user history
Actors	User
Pre-condition	Shows all the previous sessions, dates, summaries, and deletable elements.
Post-condition	Clears the entire history.
Main Sequence	<ol style="list-style-type: none"> 1. User selects the history module 2. User clicks on a session 3. User selects 'Clear All' to delete all the sessions in the history
Variation	
Extension	2a. If the user has no previous sessions, nothing is displayed
Traceability	