Use cases

(For use cases 1 and 2 check the alternate at the bottom)

Use Case 1:

Name: Coherent Heart-Rhythm

Primary Actor: Patient (User)

Goal: Patient completes session and is displayed summary readings

Main Success Scenario:

1. User turns on HeartWave

2. Active pulse reading light turns on

3. User adjusts challenge level and breath pacer settings by going to Menu→Settings

4. User initializes a session by going to Menu→Start Session

5. Screen shows main HRV graph (HR vs time) with key metrics

6. User breaths in the pattern set by the breath pacer strip of lights

7. User sees their current coherence score (numerical value), length (duration of session) and achievement (total sum of coherence scores sampled every 5 seconds) in real time

8. Coherence light changes to green and a beep goes off

9. When the user is finished using the machine, they end the session by going to Menu→End Session

10. User is shown summary view (challenge level, % of time in different coherence levels, average coherence, length of session, achievement score, entire HRV graph)

11. User turns off device

Use Case 2:

Name: Incoherent Heart-Rhythm

Primary Actor: Patient (User)

Goal: The user achieves a coherent heart-rhythm pattern

Precondition: The user has an incoherent heart-rhythm (anxious) and has begun a session

Main Success Scenario:

1. HeartWave displays the HRV pattern, coherence score, length, and achievement to the user in real time, showing incoherence, displaying a red light

2. The user stabilizes their breath with slow and steady breaths, achieving a more pattern like range in HRV

3. The light changes to green

4. The device beeps

5. User is shown summary data

6. User turns off device

Extensions:

   1a. The light is blue

   2a. The user does not stabilize their breath

      2ai. The user enables the breath pacer option as a guideline to regulate breathing

Use Case 3:

Name: View/Delete a session

Primary Actor: Patient (User)

Goal: The user views/deletes a session from the log history

Precondition: The user has completed at least one session with the HeartWave

Main Success Scenario:

1. User views the log history by going to Menu→View Log History.

2. User selects a session by using the arrow keys to navigate the log, and selects a session with the selector.

3. User views the session data.

Extensions:

1a. User optionally deletes session by using arrow keys to navigate to the delete option.

1ai. User confirms their action.

Use Case 4:

Name: Reset Device

Primary Actor: Patient (User)

Goal: The user resets the device to factory settings

Precondition: The user has data stored on the device

Main Success Scenario:

1. The user turns on the HeartWave device.

2. The user follows the path of Menu→Settings.

3. The user presses the reset option.

4. The user confirms they would like to clear all data from the device.

Use Case 5:

Name: Charge Device

Primary Actor: Patient (User)

Goal: The user charges the battery to 100%

Precondition: The user notices the battery % is low

Main Success Scenario:

1. The user navigates to the charge device option by going to Menu→Settings→Charge Device

2. The user selects 'Charge Device'

3. The device charges back up to 100%

Alternate:

Use Case 1: (replaces Use Case 1 and 2)

Name: Heart-Rhythm Check

Primary Actor: Patient (User)

Goal: Patient completes session and is displayed coherent heart-rhythm summary readings

Main Success Scenario:

1. User turns on HeartWave.

2. Active pulse reading light turns on.

3. User adjusts challenge level and breath pacer settings by going to Menu→Settings.

4. User initializes a session by going to Menu→Start Session.

5. Screen shows heart-rhythm pattern through main HRV graph (HR vs time) with key metrics such as coherence score, length, and achievement in real time.

6. The coherence light is red or blue, with an incoherent heart-rhythm pattern.

7. The user stabilizes their breath with slow and steady breaths, achieving a more pattern-like range in HRV.

8. Coherence light changes to green and the HeartWave beep activates.

9. When the user is finished using the machine, they end the session by going to Menu→End Session

10. User is shown summary view (challenge level, % of time in different coherence levels, average coherence, length of session, achievement score, entire HRV

graph)

11. User turns off device

Extensions:

6a. The coherence light is already green and user's HRV is coherent and does not require further stabilizing.

7a. The user is having difficulty regulating their breath.

7ai. The user follows the optional breath pacer setting using the pattern in strip of lights.

8a. The light remains blue or red.

8ai. The user must continue trying to regulate their breath.