

Notes:

The user interface provided is a suggestion, and not a requirement. However, some elements of the provided interface are required. This traceability matrix does not currently include details regarding the calculation of certain metrics (such as Achievement score).

Traceability Matrix

Requirement	Use Case	Implemented By	Tested By	Description
A light indicates an active pulse reading	5	MainWindow	Start a session and view the colour of the pulse indicator change.	When the device is reading a pulse (in a session), the colour of the pulse light changes.
The UI contains a screen	3,4,5,6,7,8	MainWindow.ui	Run the app and look at the UI.	There is a screen on the device in which the menus and graphs are displayed.
The UI contains a menu	3,4,7,8	MainWindow.ui	Run the app and look at the UI.	The device opens up to the main <i>menu</i> by default.
The UI contains a 'Selector' button	1,2,5,8	MainWindow.ui	Run the app and look at the UI.	There is a selector button in the centre of the arrow buttons which is used to indicate that the currently selected menu item should perform an operation.
The menu has a 'Start Session' option listed	1,5	MainWindow	Open the app and look at the UI.	When the app opens up to the

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first				main menu, the 'Start Session' button is at the top of the list and is selected by default.
The menu has a 'Settings' option	3,4	MainWindow	Open the app and look at the UI.	The 'Settings' option is a part of the Main Menu UI that opens by default.
The menu has a 'Log/History' option	3,4,7,8	MainWindow	Open the app and look at the UI.	The 'Log/History' option is a part of the Main Menu UI that opens by default.
There is a red/blue/green light indicating coherence level	6	MainWindow.ui	Start a session and wait for the Heart Rate Variance calculation to produce various coherence scores, reflected in the light at the top of the UI.	The light at the top of the UI changes based on the current coherence score. While in a session, it updates.
The 'Selector' button starts/stops sessions	5	MainWindow	Open the app, click the button to start a session, and then click the button again to stop it.	The app opens with the 'Start Session' button selected. Pressing the selector will start the session, and the pressing it again will end the session.

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The device screen displays the menu by default	1	MainWindow	Open the app and look at the UI.	The device displays the main menu by default when it opens.
There are different challenge levels that affect coherence scores	4,5,6,7,8	MainWindow	CHange the challenge level, and then run through a session.	The challenge level changes the coherence score required to qualify as "good".
The screen displays the current coherence score	6	MainWindow	Start a session and look at the UI.	The session menu displays the current coherence score near the top.
The screen displays the length of the current session	6	MainWindow	Start a session and look at the UI.	The session displays the session time near the top, which updates every second.
The screen displays the current achievement score	6	MainWindow	Start a session and look at the UI.	The session menu displays the current achievement score at the top, which updates every 5 seconds.
The screen displays the HRV graph	6	MainWindow, Session	Start a session and look at the UI.	The session menu prominently displays a graph of the user heart rate, which is updated every second.
There is a 'Breath Pacer' as a	3,6	MainWindow.ui	Open the app and look at the UI.	A series of lights representing the

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progression of lights or a bar				breath pacer are visible below the screen.
The default 'Breath Pacer' setting is 10 seconds	3	MainWindow	Open the app and check the 'Settings' menu.	The 'Settings' menu displays the breath pacer timing, which by default is 10 seconds.
The 'Settings' menu option allows modification of challenge level and breath pacer setting	3,4	MainWindow	Open the settings menu and click the left and right buttons when the challenge level or breath pacer timer are selected.	The challenge level and breath pacer setting can be adjusted using the left and right buttons in the UI when they are selected.
There are 4 challenge levels (Beginner -> Advanced)	4	MainWindow	Cycle through the challenge level options using the left and right buttons.	The challenge level options can be changed using the left and right buttons. Once all possible levels have been cycled through, it loops.
The breath pacer settings range from 1-30 seconds	3	MainWindow	Cycle through the breath pacer settings using the left and right buttons.	The left button decreases the breath pacer time and the right button increases it. Trying to go past 1 or 30 seconds loops around to the other side.

Requirement	Use Case	Implemented By	Tested By	Description
A session summary appears at the end of each session	5	MainWindow, Session	End a session and view the UI.	Once a session is completed, the history of past sessions is opened up, with the most recent session selected.
Session summaries display challenge level, percentage of time in each coherence level, average coherence, length of session, achievement score, and the HRV graph	5,6	MainWindow, Session	Select a session summary and view the UI.	An individual session summary displays these statistics. By selecting one summary, you can see them displayed.
The 'Log/History' menu option shows previous sessions and dates	7	MainWindow	Select the 'Log/History' option in the main menu and enter it.	The 'Log/History' menu option is available in the main menu, and selecting it will show the session history.
When a logged session is selected, its summary is displayed alongside the ability to delete it	7,8	MainWindow, Session	Open the 'Log/History' menu and view the UI.	When a session is selected, its statistics are displayed and clicking the right arrow key will select the option to delete it.
The device can be reset to its initial state with no stored data	N/A	MainWindow	Select the 'Reset Device' button in the settings menu.	The 'Reset Device' option resets the device to factory defaults.

Requirement	Use Case	Implemented By	Tested By	Description
The session screen displays the current battery level	N/A	MainWindow	Open the app and view the UI.	The device battery level is visible near the top of the ui and changes over time.
There is a beep when coherence level changes	6	MainWindow, Session	Start a session and let the heart rate variability change.	When a new coherence level is reached, the word "BEEP" is printed to the console.
There's an on/off button that turns on/off the device	1,2	MainWindow	Press the power button to turn the device on, and then press it again to turn the device off.	The power button near the bottom of the UI toggles the power state and locks the device if it is off.