

HMI Framework Test Case

Revision: 0.2Final
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23rd/Oct/2017

This document shows what kinds of test was done for the following modules.

- Home screen
- Window manager
- Sound manager

System testing

For these tests, sample applications which are contained in home screen's source tree are used as test program. These samples based on CES2017, and changed for new home screen, window manager and sound manager.

Screen transition

Start Window manager and Sound manager, Show the Home screen

Pre condition:

1. Power off.
2. All HMI framework related software must be installed properly.

Test cases:

#	Current screen	Operation	Expected result	Result
1	Power off	Turn on the board	Window manager will start	V
2	Power off	Turn on the board	Sound manager will start	V
3	Power off	Turn on the board	Home screen will appear	V

*) These tests will be tested at same time.

**) The Home screen consist status bar, four shortcut icons, control bar and nine application icons.

Launch the application by app icon on the Home screen

Pre condition:

1. After boot-up, and the Home screen is shown.

Test cases:

#	Current screen	Operation	Expected next screen	Result
1	Home screen	Touch Media player icon	Media player	V
2	Home screen	Touch Radio icon	Radio	V
3	Home screen	Touch Navi icon	Simple EGL	V
4	Home screen	Touch HVAC icon	HVAC	V

*) Regarding #3, Navi icon is reused for another application. Simple EGL is used for test of native weston application.

Switch the application by shortcut button

Pre condition:

1. After boot-up, and the Home screen is shown.
2. Since this test is for "Switching", so each application must be launched in advance.

Test cases:

#	Current screen	Operation	Expected next screen	Result
1	Home screen	Touch Media player shortcut	Media player	V
2	Home screen	Touch HVAC shortcut	HVAC	V
3	Home screen	Touch Navi shortcut	Simple EGL	V
4	Media player	Touch Media player shortcut	Media player	V
5	Media player	Touch HVAC shortcut	HVAC	V
6	Media player	Touch Navi shortcut	Simple EGL	V
7	Media player	Touch Home screen shortcut	Home screen	V
8	Radio	Touch Media player shortcut	Media player	V
9	Radio	Touch HVAC shortcut	HVAC	V
10	Radio	Touch Navi shortcut	Simple EGL	V
11	Radio	Touch Home screen shortcut	Home screen	V
12	Simple EGL	Touch Media player shortcut	Media player	V
13	Simple EGL	Touch HVAC shortcut	HVAC	V
14	Simple EGL	Touch Navi shortcut	Simple EGL	V
15	Simple EGL	Touch Home screen shortcut	Home screen	V
16	HVAC	Touch Media player shortcut	Media player	V
17	HVAC	Touch HVAC shortcut	HVAC	V
18	HVAC	Touch Navi shortcut	Simple EGL	V
19	HVAC	Touch Home screen shortcut	Home screen	V

Sprit window

Pre condition:

1. Replace layer.json file from official release to sprit test version.
2. After boot-up, and the Home screen is shown.

Test cases:

#	Current screen	Operation	Expected next main window	Expected next sub window	Result
1.1	Home screen	Touch Navi icon	Simple EGL (full screen)	(none)	V
1.2	After #1.1	Touch HVAC shortcut	Simple EGL	HVAC	V
1.3	After #1.2	Touch Media player shortcut	Simple EGL	Media player	V
1.4	After #1.3	Touch HVAC shortcut	Simple EGL	HVAC	NG1
1.5	After #1.4	Touch Navi icon	Simple EGL (full screen)	(none)	NG2
2.1	After #1.2	Touch Home screen shortcut	Home screen (full screen)	(none)	NG3
2.2	After #2.1	Touch Navi icon	Simple EGL (full screen)	(none)	NG4

NG report:

NG1: When HVAC shortcut was pushed, sub window disappeared and HVAC screen never appear.

NG2: When Navi shortcut was pushed, Simple EGL application is hunged. (seems something event doesn't reached)

NG3: When Home screen shortcut was pushed, Home screen appeared but previous application still appear with half transparency.

NG4: When Navi shortcut was pushed, Simple EGL application is hunged. (seems something event doesn't reached)

On-screen

Pre condition:

1. After boot-up, and the Home screen is shown.
2. Internal testing tool is available.

Test cases:

#	Current screen	Operation	Expected next screen	Result
1.1	Home screen	Issue on-command of testing tool	On screen	V
1.2	After #1.1	Issue off-command of testing tool	Home screen	V

Sound transition

Transition between audio-off and basic sound

Pre condition:

1. After boot-up, and the Home screen is shown.

Test cases:

#	Current screen	Current FL, FR, RL, RR	Operation	Expected next screen	Expected FL, FR, RL, RR	Result
1.1	Home screen	Off, Off, NA, NA	Touch Media player icon	Media player	Off, Off, NA, NA	V
1.2	After #1.1	After #1.1	Touch Play button	Media player	MP, MP, NA, NA	V
1.3	After #1.2	After #1.2	Touch Stop button	Media player	Off, Off, NA, NA	V
2.1	Home screen	Off, Off, NA, NA	Touch Radio icon	Radio	Off, Off, NA, NA	V
2.2	After #2.1	After #2.1	Touch Play button	Radio	Radio, Radio, NA, NA	V
2.3	After #2.2	After #2.2	Touch Stop button	Radio	Off, Off, NA, NA	V

Note: We will test for Radio in few days.

Transition between basic sound and another basic sound

Pre condition:

1. After boot-up, and the Home screen is shown.

Test cases:

#	Current screen	Current FL, FR, RL, RR	Operation	Expected next screen	Expected FL, FR, RL, RR	Result
1.1	Home screen	Off, Off, NA, NA	Touch Media player icon	Media player	Off, Off, NA, NA	V
1.2	After #1.1	After #1.1	Touch Play button	Media player	MP, MP, NA, NA	V
1.3	After #1.2	After #1.2	Touch Radio shortcut	Radio	MP, MP, NA, NA	V
1.4	After #1.3	After #1.3	Touch Play button	Radio	Radio, Radio, NA, NA	V
2.1	Home screen	Off, Off, NA, NA	Touch Radio icon	Radio	Off, Off, NA, NA	V
2.2	After #2.1	After #2.1	Touch Play button	Radio	Radio, Radio, NA, NA	V
2.3	After #2.2	After #2.2	Touch Media player shortcut	Media player	Radio, Radio, NA, NA	V
2.4	After #2.3	After #2.3	Touch Play button	Media player	MP, MP, NA, NA	V

Note: We will test for Radio in few days.

Transition between basic sound and interrupt sound

Pre condition:

1. After boot-up, and the Home screen is shown.
2. Paring with mobile phone has been completed.
3. Lauch phone application in advance

Test cases:

#	Current screen	Current FL, FR, RL, RR	Operation	Expected next screen	Expected FL, FR, RL, RR	Result
1.1	Home screen	Off, Off, NA, NA	Touch Media player icon	Media player	Off, Off, NA, NA	V
1.2	After #1.1	After #1.1	Touch Play button	Media player	MP, MP, NA, NA	V
1.3	After #1.2	After #1.2	Call from external phone	Media player	Ring, Ring, NA, NA	-
1.4	After #1.3	After #1.3	Touch Home screen shortcut	Home screen	Ring, Ring, NA, NA	-
1.5	After #1.4	After #1.4	Touch Phone icon	Phone	Ring, Ring, NA, NA	-
1.6	After #1.5	After #1.5	Touch Off-hook button	Phone	Tel, Tel, NA, NA	-
1.7	After #1.6	After #1.6	Touch On-hook button	Phone	MP, MP, NA, NA	-

Note: Since Setting application wasn't ported to new window manager, so it's impossible to make the pre-condition. This test was skipped.

Status bar

Bluetooth icon

Pre condition:

1. After boot-up, and the Home screen is shown.
2. Any Bluetooth device have not pared yet. At that time, The connected status icon of bluetooth is toned down.

Test cases:

#	Current screen	Operation	Expected next screen	Result
1.1	Home screen	Touch Settings icon	Settings	-
1.2	After #1.1	Touch Bluetooth sub menu	Bluetooth sub menu	-
1.3	After #1.2	Touch target test device	Some blue connected icon appear on Bluetooth status icon	-

*) Since Settings application wasn't ported to new Window manager for testing so to/from Settings transition wasn't tested. In other word, because it is impossible to do the paring operation of bluetooth, the connected status icon of bluetooth wasn't tested.