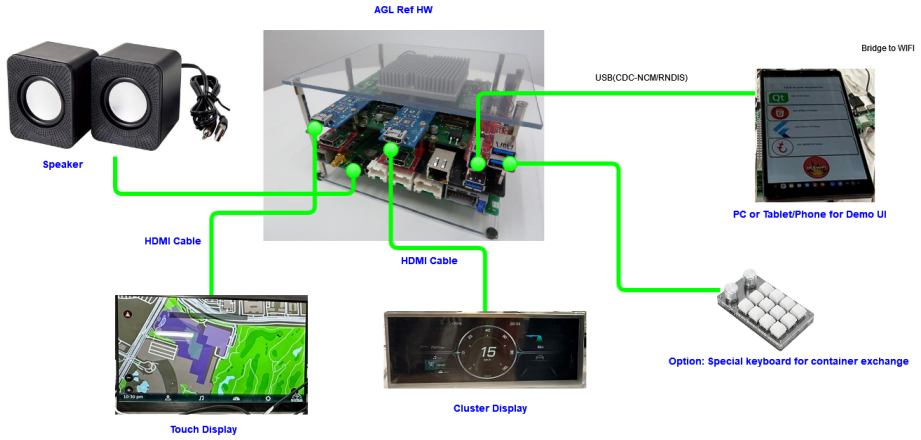
CES2024 Development

1. Demo Set



No	Name	num	Whow ship
1	AGL Ref HW	1	J.S.
2	Touch Display (Full HD)	1	J.S.
3	Cluster Display (1920x720 or Full HD)	1	J.S.
4	HDMI Cable (Need to check how to connect this cable to Touch/Cluster Display, that depend to display side connector)	2	J.S.
5	Tablet	1	Buy by Walt.
6	Speaker	1	Buy by Walt.
7	Optional: Special Keyboard	1	J.S.
8	Display arm - Touch Display	1	Walt
9	Display stand - Cluster Display	1	Kurokawa

2. Demo feature

2.1. Update latest AGL IVI

Development item	Status		Work by

Image	status	Use or not use
master: cluster demo	Run	Use
~~pike: momi ivi demo~~	~~Run~~	~~Not use, use at master~~
~~pike: fluter ivi demo~~	~~Run~~	~~Not use, use at master~~
~~pike: html5 ivi demo~~	~~Run~~	~~Not use, use at master~~
~~pike: qt vi demo~~	~~Run~~	~~Not use, use at master~~
master: momi ivi demo	Run	Use
master: flutter ivi demo (New design)	Run	Use
master: html5(cef) ivi demo	Run	Use
master: qt ivi demo	Run	Use

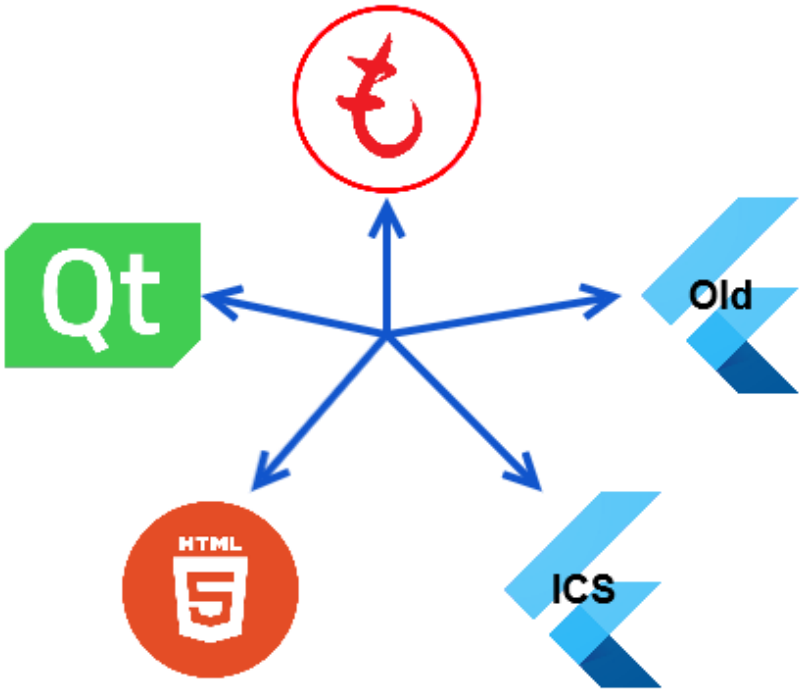
master: flutter ivi demo (old)	Run	Use

Current issue:

- Don't understand evolution for html5 update from cef to html5.
- New flutter demo is loss many feature. Need to frequently update until the CES deadline.

Demo design:

Five containers exchange. Momi, Qt, HTML5, Old Flutter, ICS Flutter.

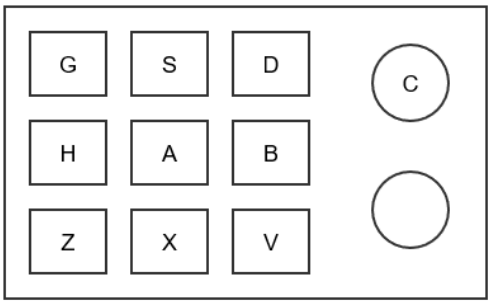


Container exchange by Keyboard. (Momi Key)

Keyboard configurator

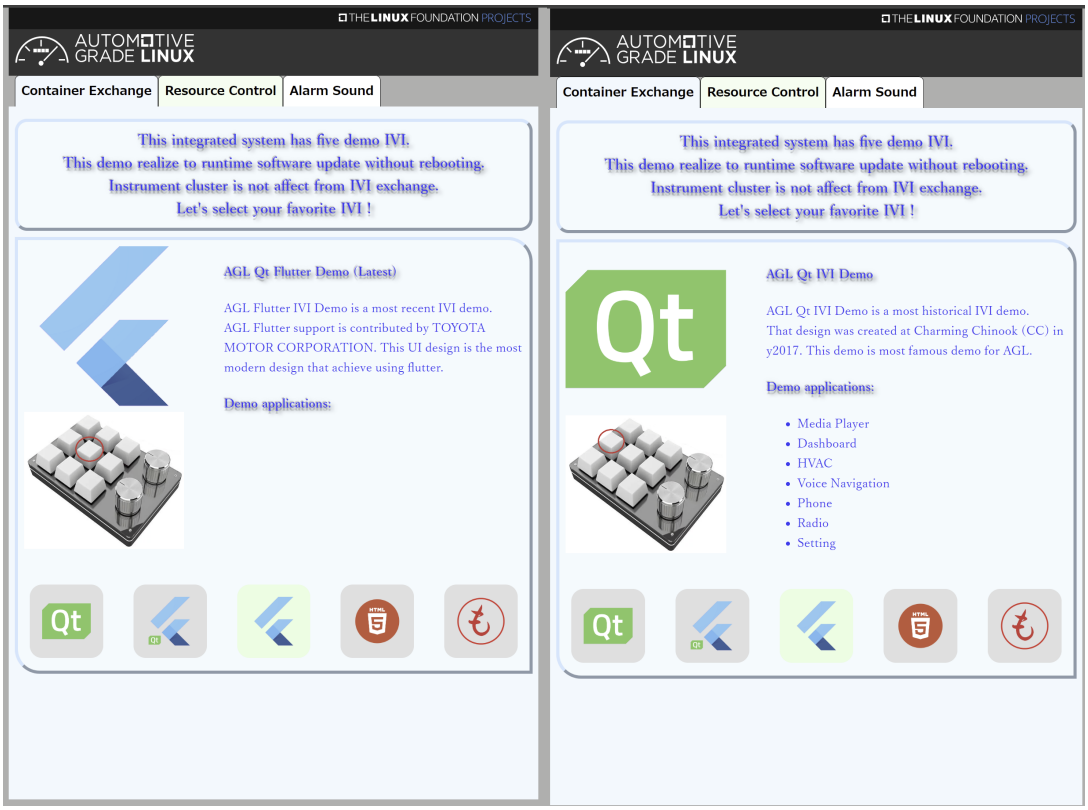
https://github.com/watatuki/usb-12key-kbd-prog

key-setup-momikey.sh



G : AGL Flutter demo IVI CES2024
S : AGL Flutter demo IVI CES2023
D : AGL Qt demo IVI
H : AGL HTML5 demo IVI
A : AGL Momi demo IVI
B : AGL Safe Momi demo IVI
C : force reboot guest
Z : Teltail/alarm 1
X : Teltail/alarm 2
V : Teltail/alarm 3

Container exchange by Tablet control. (Momi Web)

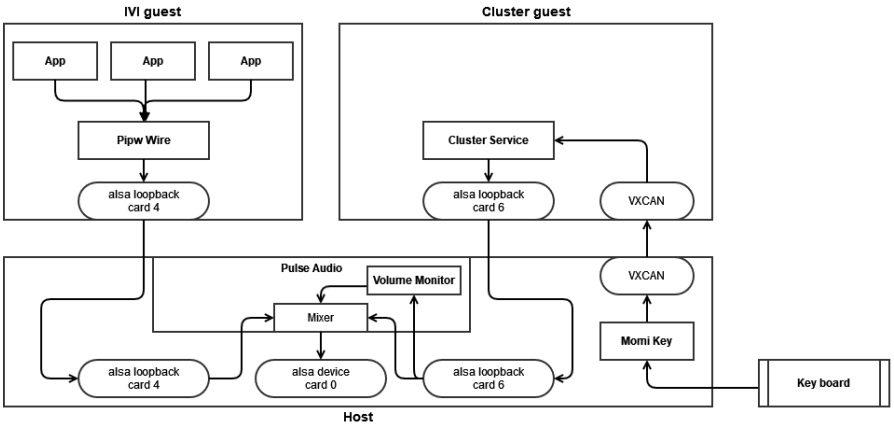


2.2. ~~Virt IO loopback audio based~~ audio control

	Development item	Status		Work by

1	~~Integrate VirtIO driver and vhost adoptor to host.~~	Drop at CES2024	~~Michele demonstrated sound feature in ALS2023. But it's not upstreamed. Now available for kernel module virtio-loopback only.~~ ~~This week Michele will send detailed instructions to manually compile the components used in the demo presented at OSS summit. Upstream activity is ongoing.~~	-
1-1	~~Backport virtio-sound on kernel v5.10~~		~~Build successful. Not tested.~~	
1-1	~~virtio-loopback driver~~		~~Build successful. Not tested.~~	
1-3	~~virtio-loopback adapter~~		~~Build successful. Not tested.~~	
1-4	~~Vhost-user-sound~~		~~Did not success building using AGL crosssdk / AGL yocto environment. How to build??~~ ~~Ask to Michele now.~~	
1-5	~~Integrate to host~~			
2-1	Guest side sound support Cluster: Divide cluster-service from cluster-refgui.	Done	Need to improve cluster-service and cluster-refgui. Cluster-service(not support CAN input, demo only), Cluster-refgui was merged.	Dr. Y
2-2	Guest side sound support Cluster: Add alarm sound support to cluster-service by alsa. Start/stop alarm by trigger from outside.	Done	Cluster service play alarm sound triggered by keyboard.	Dr. Y
3-1	Guest side sound support Momi IVI	Done	Directory use ALSA device.	Dr. Y
3-2	Guest side sound support Qt IVI	Done	~~Guidance sound is available. But media player is not work. That is issue for udisks mount. (It cause error in guest).~~	Dr. Y
3-3	Guest side sound support Flutter IVI(ICS)	Done	Cherry-pick patch. Media Player is now working.	Dr. Y
3-4	Guest side sound support HTML5/CEF	Done	Success to play on YouTube.	Dr. Y
3-5	Guest side sound support Flutter IVI(Old)	Done		Dr. Y
4	ALSA loop based audio shearing	Done		Dr. Y
4-1	Integrate alsa loopback device	Done		Dr. Y
4-2	Configure for guest - Cluster	Done	aplay playing	Dr. Y
4-3	Configure for guest - Momi IVI	Done	Media Player playing	Dr. Y
4-4	Configure for guest - each agl-ivi-demo	Done	Need to change wireplumber config in guest.	Dr. Y
4-5	Audio mixing by host PulseAudio	Done	Now available to mix cluster (aplay) and Momiplayer sound.	Dr. Y
4-6	Audio Control	Done	Mute IVI audio in case of alarm sound playing.	Dr. Y

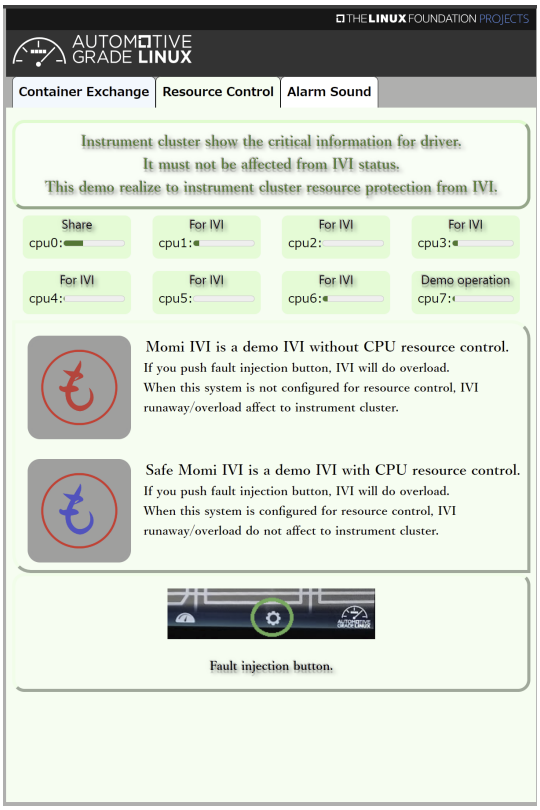
Audio control design



2.3. Enable some resource isolation feature

Development item	Status		Work by
Update container manager	Done		Dr. Y
Update container manager configuration	Done		Dr. Y
Visualize	Done		Dr. Y

CPU isolation demo by Tablet control. (Momi Web)



2.4. RTOS Island

Drop at CES2024.

3. How to build

New version

Old version:

Basically, use this procedure.

Build Procedure for AGL IC with Container Integration

clone this layer.

https://github.com/agl-ic-eg/meta-agl-demo-ces2024

Add to ic side bblayers.conf

```
BBLAYERS =+ "\
  ${METADIR}/meta-agl-devel/meta-egvirt \
  ${METADIR}/meta-agl-demo-ces2024/meta-agl-demo-ces2024 \
  ${METADIR}/meta-agl-demo-ces2024/meta-agl-demo-ces2024-ic \
  "
AGL_META_CLANG = " ${METADIR}/external/meta-clang "
```

Add to demo ivi side bblayers.conf

```
BBLAYERS =+ "\
  ${METADIR}/meta-agl-demo-ces2024/meta-agl-demo-ces2024-demoivi \
  ${METADIR}/meta-agl-demo-ces2024/meta-agl-demo-ces2024 \
  "
```

Shall use 3b procedure.

4. Key Config

Refer and use this.

https://github.com/watatuki/usb-12key-kbd-prog/blob/dev/key-setup-momikey.sh