



Manuel Bachmann



LPC2014

Porting Tizen IVI to Wayland



Eurogiciel



Open-source development and integration :

- Maintainers for tizen.org (Base, Test, Web Framework, ... domains)
- Embedded systems for real-time multimedia :
 - Widi/Miracast stack,
 - Wayland/ Weston,
 - Webkit2 browser with HW acceleration.
- Applications : HTML5/CSS3, jquery, jqmobi, Cordova
- Location : Brittany - France



Manuel Bachmann

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- Previous maintainer of the GTK+3 for Win32 packages ;
- Author of a GLX wrapper for EGL : EGLX ⁽¹⁾ ;
- Upstream contributor to Weston, EFL, Ozone-Wayland... ;
- Maintains Weston and UI domain packages under Tizen.



Summary

- IVI : In-Vehicle Infotainment
- Making Tizen IVI Wayland-only ;
- Crosswalk web framework, Tizen APIs and XDG-Shell ;
- IVI-Shell for native extended IVI capabilities ;
- Frameworks and toolkits integration.





IVI : In-Vehicle Infotainment

- dedicated to vehicles ;
- following the GENIVI ⁽¹⁾ alliance specification ;
- two main flavors :
 - Modello Homescreen with the Crosswalk web framework ;
 - ICO Homescreen with IVI-Shell.

<DEMO TIME>

- 1) Tizen IVI with Modello Homescreen
- 2) Tizen IVI with ICO Homescreen



Making Tizen IVI Wayland-only

- Tizen Common supports several architectures (X86, AMD64, ARM...) and, for each one, a X11 and a Wayland profile ;
- Macros (%with_x, %with_wayland, ...) ensure building all packages for the right profile ;
- Tizen IVI is a x86 (Atom) Wayland profile with specifics ;
- Cleaned out of its X11 crufts by April 2014, thanks to release manager Mikko Ylinen.

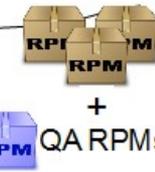
Making Tizen IVI Wayland-only



GIT Repositories



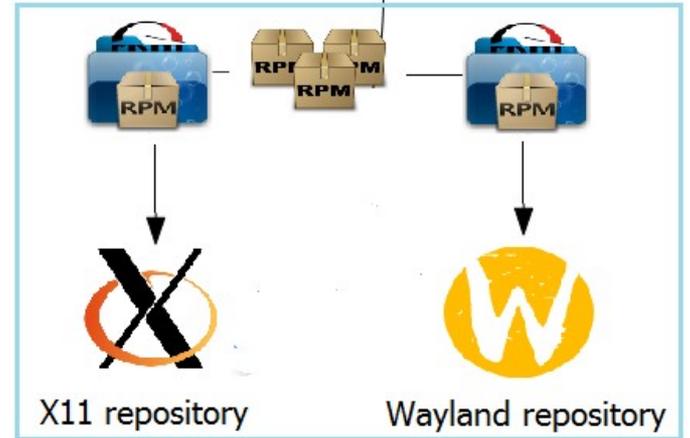
RPM Repositories



Accept build request

Build request

Release Managers



from Git repositories to X11/Wayland packages



CROSSWALK

- Based on Chromium, with specifics in the web engine and additional Tizen extensions ;
- Ozone-Wayland backend uses Wayland XDG-Shell for some Tizen API functionalities :
 - *tizen.application.hide()* is mapped to *xdg_surface_set_minimized()* ;
 - *tizen.application.launch()*, on an already started application, will resume it and bring it to foreground with *xdg_surface_present()* (Tizen patch);
- Hope to see *xdg_surface_present()* in the next Weston upstream release ⁽²⁾.

<DEMO TIME>

- 1) demo app with hide()/launch()
- 2) Tizen IVI - Modello Homescreen and hide()/launch()



IVI-Shell for native extended IVI capabilities

- In review process upstream, developer is TANIBATA Nobuhiko, hope to see it in Weston 1.7.0 ;
- Provides a Weston shell interface compliant with the GENIVI specification ⁽¹⁾ ;
- We maintain an external Weston Git repository with patches applied for reviewers ⁽³⁾, and build it as a separate plugin under Tizen ;
- Compatibility layer with XDG-Shell, so that standard applications can use it, has been proven possible and is currently being done ⁽⁴⁾ .

<DEMO TIME>

- 1) Tizen IVI - IVI-Shell and XDG-Shell compat demo



Frameworks and toolkits integration

- EFL : XDG-Shell and IVI-Shell pushed and integrated upstream ⁽⁵⁾ ;
- Qt : XDG-Shell pushed and integrated upstream by Philippe Coval, IVI-Shell under review ⁽⁶⁾ ;
- Crosswalk/Ozone-Wayland : XDG-Shell and IVI-Shell pushed and integrated upstream ⁽⁷⁾.

Links



- ⁽¹⁾ : GENIVI alliance : <http://www.genivi.org>
- ⁽²⁾ : xdg_surface_present() implementation demo :
<http://lists.freedesktop.org/archives/wayland-devel/2014-July/016224.html>
- ⁽³⁾ : weston-ivi-shell upstream adaptation GitHub repository :
<https://github.com/Tarnyko/weston-ivi-shell>
- ⁽⁴⁾ : ivi-shell xdg-shell compatibility layer feasibility :
<https://www.mail-archive.com/ivi@lists.tizen.org/msg02702.html>
- ⁽⁵⁾ : EFL upstream wayland shells :
<http://git.enlightenment.org/core/efl.git/commit/?id=87f02170e659678d7a2f000e6850bd3a29962756>
- <https://git.enlightenment.org/core/efl.git/commit/?id=50287ab731d4d87170238b365203e830edc038d5>

Links (2)

- ⁽⁶⁾ : Qt upstream wayland shells :
<https://bugreports.qt-project.org/browse/QTBUG-38633> -
<https://bugreports.qt-project.org/browse/QTBUG-41172>
- ⁽⁷⁾ : Ozone-Wayland upstream wayland shells :
<https://github.com/01org/ozone-wayland/commit/5f8a34c613ba826c7994c81d03f87df19f48881d>
-
<https://github.com/01org/ozone-wayland/commit/a034a018b6ec317ec5559dcce6efec916ec40512>

Q&A

That's all folks !

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