

Tizen Download & Go for In Vehicle Infotainment

Matt Jones, Jaguar Land Rover

TIZEN™
**DEVELOPER
CONFERENCE**
2013
SAN FRANCISCO

Killer Features – Requested in 2011

- **Multimodal HMI**
 - HD Displays
 - Improved Voice Control
- **Connected World**
 - Telematics
 - Connected Navigation (augmented offboard)
 - App Store
- **Media Management – Online & Local**
- **HD Audio / Video**
- **Full Feature RSE**



This is a fully featured home entertainment network...

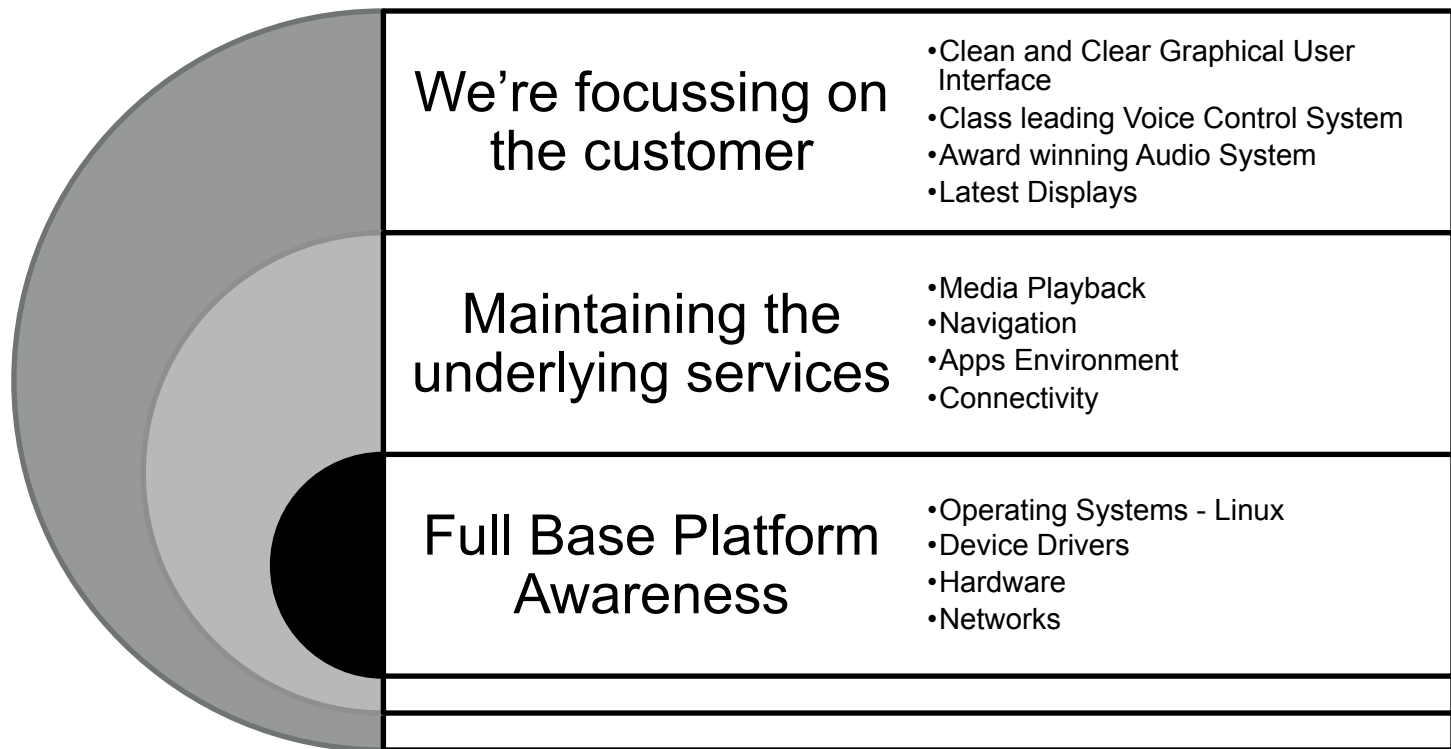
Killer Features – Requested in 2014

We have no idea...



*Why did Google suggest "Vector Calculus" as a related search when I searched for a picture of "Killer App" last night?

At Jaguar Land Rover...





How do you enable everyone to Innovate?

GENIVI

[Home](#) [About](#) [News](#) [Resources](#) [Compliance](#) [Projects](#) [Join](#) [Contact](#)

GENIVI Open Source Projects

The following list represents the GENIVI Alliance's Open-Source Community Projects. The GENIVI Alliance is an automotive and consumer electronics industry association that promotes the development and adoption of an open in-vehicle infotainment (IVI) reference platform.

To learn more about the all-new Alliance-sponsored public open-source community project, visit the [FAQ document](#) or explore the current projects listed below.

Want to be notified when the GENIVI Alliance Project sites are available? Sign up for our [notification email](#). (Note: you should receive a confirmation email after signing up. It may have been misplaced in the junk mail folder.)



Audio Manager
<http://projects.genivi.org/audio-manager>

The Audio Manager is a framework that:

- is able to manage audio abstracts hard and software that the business logic can be implemented independently of routing mechanisms
- makes it possible to implement different business logic
- independent from hard and software routing mechanisms
- is capable of managing dynamic added sources and destinations
- manages audio routing with the use of audio routing mechanisms
- provides a common and simple API to command and control the audio routing
- uses the standard GENIVI compliant mechanisms for configuration management and lifecycle
- The AudioManager is NOT yet another routing mechanism

[+ Read more](#)



Diagnostic Log and Trace
<http://projects.genivi.org/diagnostic-log-trace>

DLT is a reusable open source software component for standardized logging and tracing in infotainment ECUs based on the AUTOSAR 4.0 standard. The goal of DLT is the consolidation of the existing variety of logging and tracing protocols on one format.

GENIVI

[Home](#) [About](#) [News](#) [Resources](#) [Compliance](#) [Projects](#) [Join](#) [Contact](#)

Get your IVI products to market faster

Build your enhancements on GENIVI's Alliance's core services platform and streamline your development process.

About the Alliance

GENIVI® is a non-profit industry alliance committed to driving the broad adoption of an In-Vehicle Infotainment (IVI) open-source development platform.

The alliance aims to align requirements, deliver reference implementations, offer certification programs, and foster a vibrant open-source IVI community.

Our work will result in shortened development cycles, faster time-to-market, and reduced costs for companies developing IVI equipment and software.

News and Views

09/21/2012
GENIVI expands open-source IVI development
John Day's Automotive Electronics News

09/19/2012
GENIVI adopts full open sourcing strategy
automotiveworld.com

08/14/2012
Alliance touts industrywide infotainment software
Automotive News

08/13/2012

GENIVI® Open Source Projects

The GENIVI Alliance component development will be moving to all-new Alliance-sponsored public open-source community projects.

Informational Quick Links:
[Press Release](#)
[Frequently Asked Questions \(FAQ\)](#)
[Current Community Project Listing](#)

The GENIVI compliance program provides a set of specifications for GENIVI member companies to measure their products and services. Those that

AGL Mission

“Enable the Automotive Industry to successfully utilize Linux and Open Source technologies for product development and deployment with open collaboration and processes, reference software and hardware, education and practices.”

AGL Vision

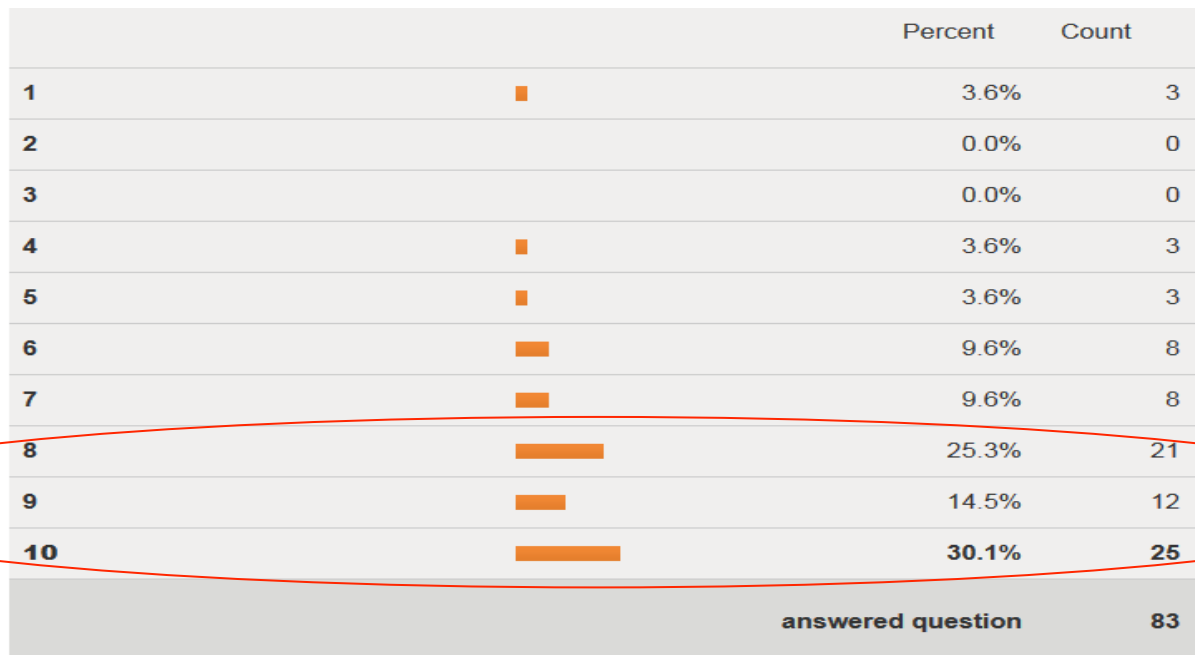
To open-up Linux as a development platform in the automotive marketplace...

- Low cost of entry – *potentially free*
- Easily available
- Developer friendly
- Providing a solution to enable rapid development of a professional looking proof of concept to demonstrate to the community.

... Enabling anyone to innovate, within 20 minutes

Survey Monkey






On a scale from 1-10, with 10 being the highest, what value would you place on offering an easy to use “Download and Go” kit?











69.9%

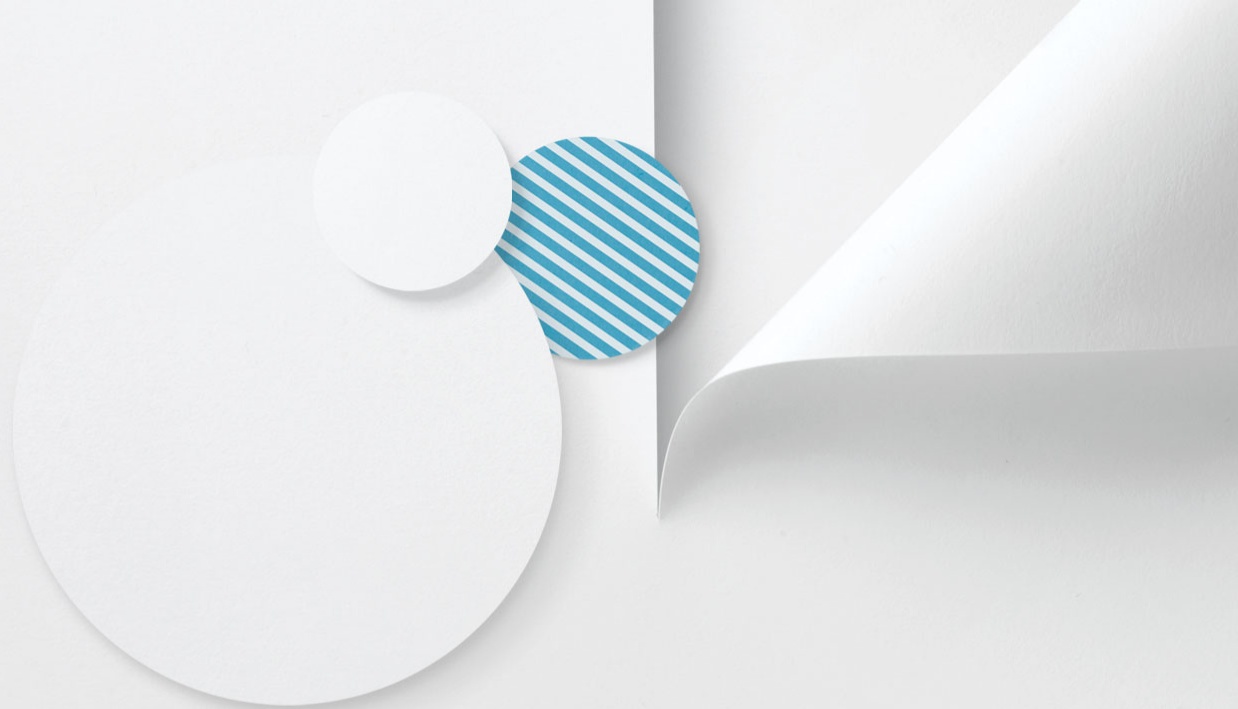
Survey Monkey

2. What elements do you feel would be important to have included in the IVI proof of concept development starter kit? (select all that apply)

		Response Percent	Response Count
GUI framework that runs on Windows and Linux		51.2%	43
VMWare image for a virtual machine		52.4%	44
Downloadable file system image of complete software to run on reference hardware		77.4%	65
Suggested example hardware that is easily obtained and off the shelf		69.0%	58
Other (please specify) Show replies		25.0%	21
answered question			84
skipped question			1

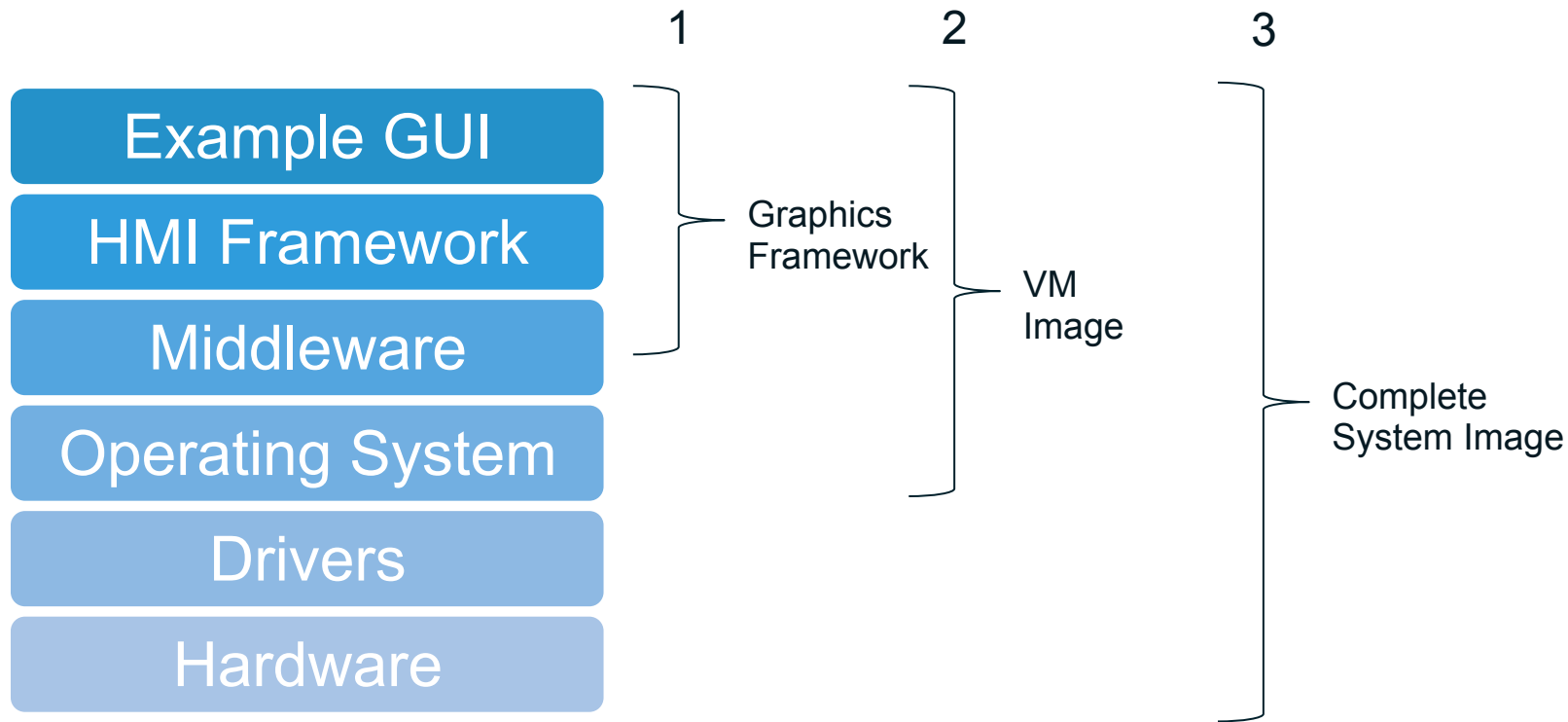
3. What elements of hardware should be suggested? (select all that apply)

		Response Percent	Response Count
Main unit including CPU		88.0%	73
Touch screen display		71.1%	59
CAN adapter		60.2%	50
GPS adapter		47.0%	39
Wifi / Bluetooth		62.7%	52
Camera interface		44.6%	37
Radio receiver (AM/FM)		34.9%	29
Other (please specify) Show replies		14.5%	12
answered question			83
skipped question			2

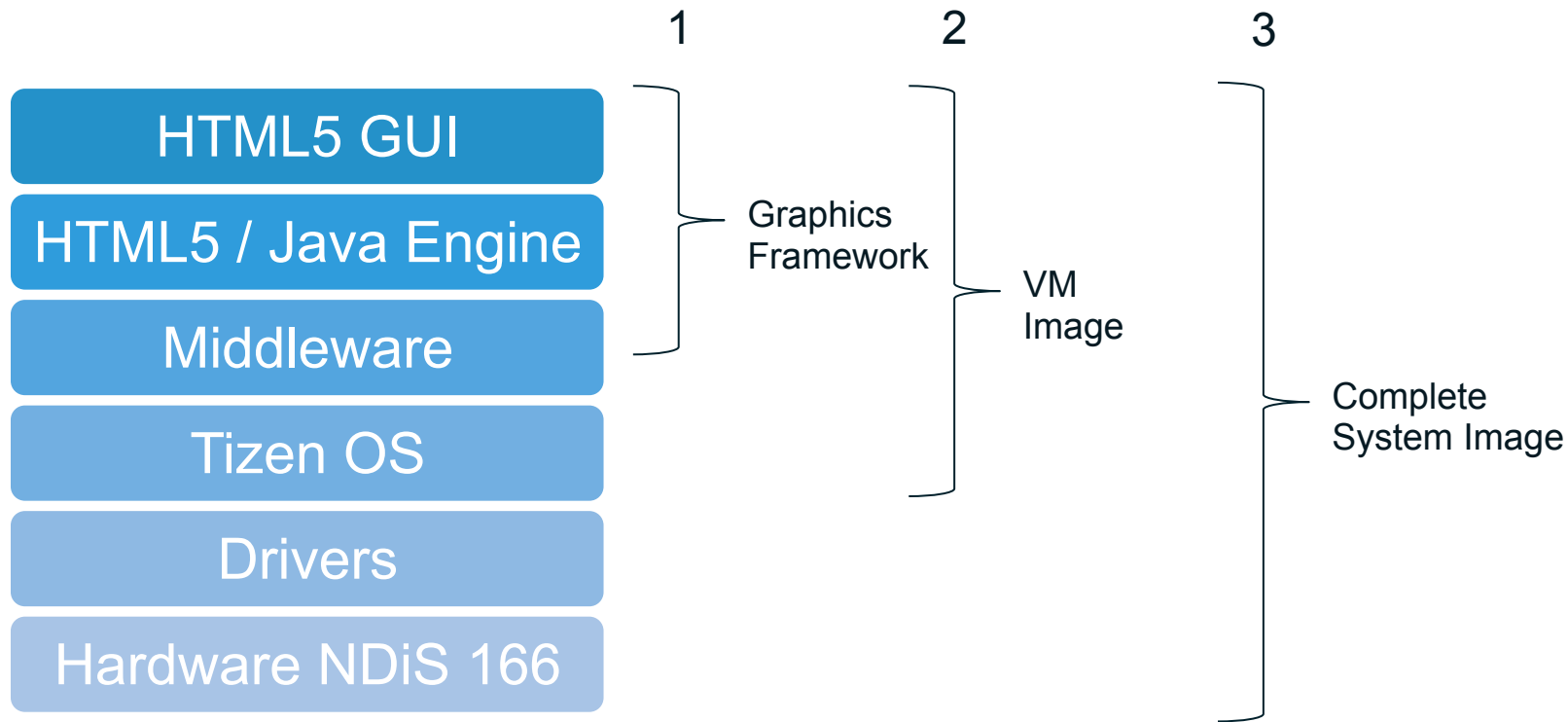


Make it tangible...

Versions of Download



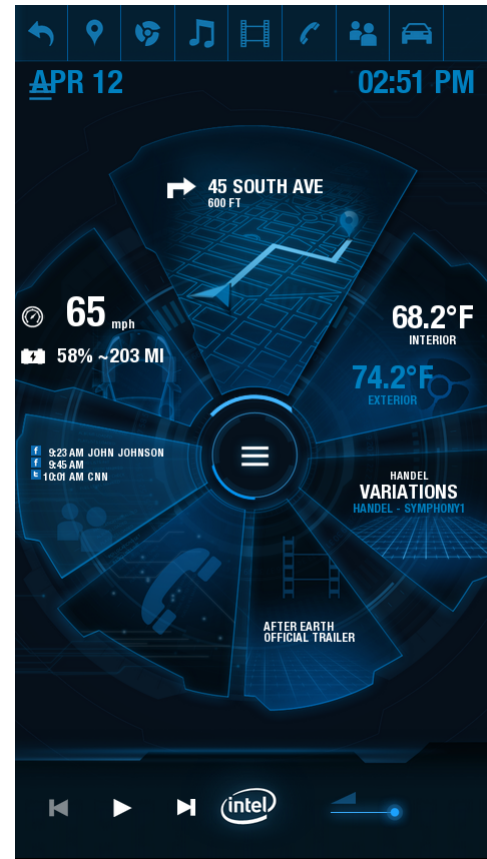
Incoming Software & Hardware



The POC Platform

JLR / Intel worked together to create a base platform that others can build on:

- Tizen 1.0 with node.js
- HTML5 based application environment using wgts
- Server backend to push / pull apps
- Complete documentation



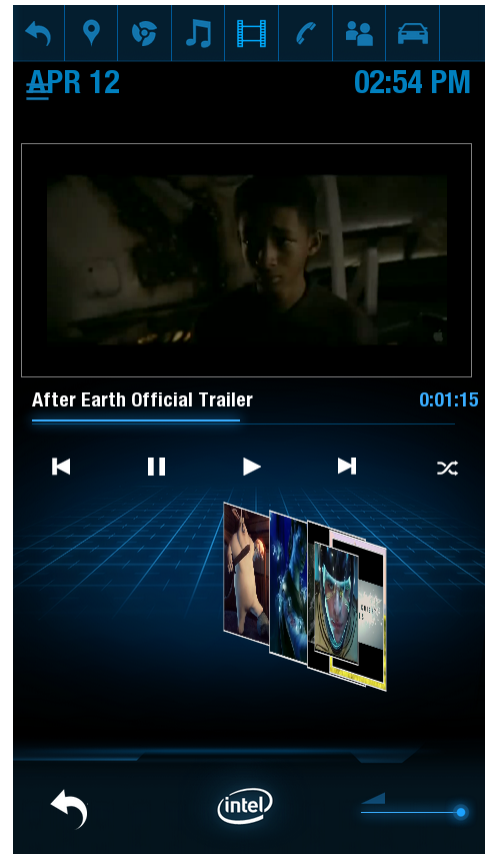
The Test Project

- **IVI & Remote vehicle interaction demo**
 - Led by Rudi Streif of AGL, Feuer Labs, Symbio and Symphony Teleca decided to work on a demo; based on a platform provided by Intel & JLR
- **In three weeks:**
 - Integrated the system into a vehicle, including CAN control
 - Built out the Media Player and HVAC controls
 - Built backend server in the cloud
 - Created remote control website for the HVAC



Progress

- **See we address link:**
 - *<http://automotive.linuxfoundation.org/agl-demonstrator>*
- **Today you can download:**
 - HTML5 framework – complete with sample user interface
 - Download the Virtual Machine image
 - Pre-built image – with detailed instructions to get up and running



2013 AGL User Experience Contest

- **There's more:**
 - <http://automotive.linuxfoundation.org/2013-agl-user-experience-contest>
- ***Timings:***
 - April 15 - May 17, 2013: Contestants submit their designs
 - May 17, 2013: Deadline for submissions
 - May 22/23, 2013: Winners and runners up are notified via e-mail
- **Results will be shown at ALS Tokyo at the end of May!**



The road forwards...

The Future

- Keep it open
- Keep it easy
- Keep dropping feature...

Planned Next Steps #1

- **Migrate the platform to Tizen WRT & Wayland**
- **Fill the gaps:**
 - Integrate Navit for navigation
 - Integrate BlueZ / oFono for telephony
 - GStreamer with Dleyna for DLNA with a media file indexer
 - NFC with NearD
- **Integrate Smart Device Link**
 - Ford project to interface to Smart Devices

Planned Next Steps #2

Improve the car interfaces...

- **Utilise Automotive Message Broker for abstraction**
 - Include sample signal generator
 - Include reference GUI for basic vehicle signals
- **Better defined web API for vehicle signals and sensors**
 - Aligned to W3C Auto API group

Go see the car!





TIZEN™

DEVELOPER CONFERENCE

2013

SAN FRANCISCO