

Introduction toIVI

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TIZEN™
**DEVELOPER
CONFERENCE**
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Overview

- **What is IVI?**
- **Evolution of IVI Solutions and the future of Tizen IVI**
- **How we incorporate requirements**
- **Typical Use Case**
- **Target Users**
- **3.0 Development**
- **Joining the effort**

Today's IVI track talks

- **Approach of In-Vehicle Infotainment development on open source software**
- **How to embrace wayland for tizen**
- **Experiences Developing a Wayland Based Tizen IVI HMI**
- **Audio management for Tizen IVI**
- **Tizen Download & Go for IVI**

What is IVI?

- **In-Vehicle-Infotainment**
- **Typical center console and backseat screens**
- **Access to all car system sensors**
- **Isolated from control of critical controls**
- **Interacts and integrates with passenger mobile devices**

Evolution of IVI Solutions

• Past

- Rigid custom built proprietary solution
- Expensive to spec out and deliver
- Unable to keep up with the pace of Internet innovation

• Present

- Leading vendors are developing initial Linux based systems now
- Using open software when available but heavily depending on proprietary solutions

• Future

- Open source software will continue to take over the core OS allowing proprietary solutions to solve the issues that...

The future of high tech cars... starting NOW!

- Rich sets of sensors and cameras providing loads of data
- Several high resolution displays throughout the car
- Complex speaker and microphone systems allowing software to individually target spacial zones in the car
- Tighter integration with the large range of mobile devices we carry around now and into the future
- Tight integration with new cloud based services

Tizen and the future of IVI

- **Provide an innovation platform using open components**
 - Pull from the server and desktop universe with technologies like Systemd and Wayland
 - Pull innovations in other Tizen verticals with technologies like the Application Run-time
 - Adopt GENIVI innovations including such technologies as the Automotive DLT
- **Enable a community developers ranging from large companies to individual enthusiast**

How we incorporate requirements

- **Automotive Grade Linux**

- Linux Foundation hosted working group with participation from both the automotive industry and the traditional hardware vendors
- Gathers automotive specific requirements

- **GENIVI**

- Large industry forum supported by all parts of the automotive ecosystem
- Seeds development efforts attempting to implement some requirements

- **Direct input from members**

- Requirements and feature request can be entered in the IVI Jira server via bugs.tizen.org

Target Users: Platform Providers / Car Manufacturers

- **Allow rapid development of Proof-Of-Concepts and prototypes**
- **Available on commodity hardware with no license fees**
- **Community of vendors supplying interesting technologies to incorporate into your experiment**
- **If the concept proves worthy then a community of vendors are available to help turn your POC into a product**

Target Users: Small Software Shops

- Provide a mechanism to deliver Innovation software
- No need to already have a foothold in the industry.... make something cool, show it off on Tizen IVI and make it available for others to try
- If it shows well then people will notice and doors will open

Target Users: Car hacking enthusiast!!

- **Modern 'Hot Rodding'**
 - Experiment with cool technologies
 - Plug in commodity hardware
- **Trick out my car...**
 - Personalize
 - Specialize
 - Innovate

Tizen IVI 3.0 starts now

- **The new 3.0 development model is in place now**
 - All git trees available on gerrit under /platform and /profile/ivi
 - All development on the “tizen” branch
- **Initial images containing basic OS available today**
 - <http://download.tizen.org/snapshots/tizen>
- **Porting Tizen middleware and application run-time in progress**
 - Monitor progress of pending patches on <https://review.tizen.org/gerrit>

What we are focusing on this year...

- **Do the fundamentals correct**

- A sane, consistent, optimized boot process
- Optimized graphics stack via Wayland
- Full access to automotive data
- Optimized application run-time using HTML technologies

- **Automotive user experience management**

- Dynamic control of experience based on driving conditions
- Driver safety management
- Last user mode support

Submitting contributions to existing projects

- **File a bug report in Jira**
 - <http://bugs.tizen.org>
 - IVI project
- **Check-out the source from Gerrit**
 - Source under the platform/and profile/ivi directories
 - All 3.0 projects build from the “tizen” branch
 - HINT: Find the associated git tree via the VCS tag in the RPM package
- **Use 'gbs' to submit the proposed change**

Coming soon... enable community innovation packages

- Enable community members to create innovation packages
- Not official Tizen packages but hosted on Tizen and supported with the Tizen Gerrit/GIT/Build infrastructure
- When something gains traction and makes sense to be a core part of Tizen IVI then we can migrate it to the profile/ivi repositories

Known gaps... patches will be accepted!

- **Over the air software update**

- We have the core capabilities with rpm, zypper, and btrfs snapshots, but all of this has to be tied together with some kind of a client/cloud solution
- Key interest area allowing the car market to innovate rapidly

- **Tighter integration with mobile devices**

- Potential integration with services such as MirrorLink and SDL

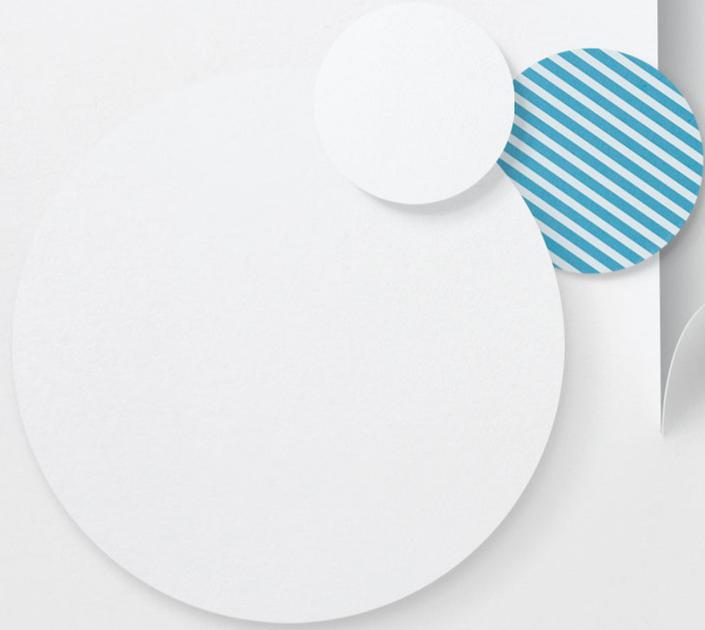
- **Enable building a full Tizen IVI stack using Yocto**

- What matters is the content. Users should be able to easily migrate between build systems and build tools

- **Deep integration of speech recognition and text-to-speech**

Call to Action!

- **Feed us requirements**
- **Help fill in some of the known gaps**
- **File bugs when you see issues**
- **Submit patches**
- **Innovate on top of Tizen IVI show it off to the world**



Questions



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