How Qt meets the Automotive technology requirements of today, tomorrow & beyond

Nils Christian Roscher-Nielsen
Product Manager, The Qt Company
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- Trends in the Automotive Industry?
- Why Qt in Automotive?
- Why Qt Automotive Suite?
- What is Qt Automotive Suite?
- Leveraging Open Source & the Qt Project
- Qt in the Automotive World

- Do you want to be a part of the automotive story with Qt? Join us now!
Automotive Industry Change

- Economics
- Digital Lifestyle
- Technology
- Ecology
Requirements for IVI Systems & the Multi-Screen Challenge
Why Qt in Automotive?

- Technology
- Ecosystem
- Independence
Introducing Qt Automotive Suite!
Why Qt Automotive Suite?

From great HMI Framework to full Automotive Hybrid Application framework including tooling

- Stunning User Experience
- Optimized for Automotive Platforms
- 3rd Party Application Support
What are we trying to achieve?

- Flexibility to Innovate
- Faster Development Cycles
- Enable All Software Developers
- Managed Complexity

Software Explosion
Open Governance for the definition of Standard Automotive APIs

Contribution from leading UI software developers

Harmonize Qt based offering for leading automotive platforms

GENIVI WWG certification

Automotive optimized business model
Contributions to the Qt Project to develop the Qt for Automotive offering
Contents of the Qt Automotive Suite Offering

- HMI UI
- Applications
- 3rd party Applications
- Application manager
- Qt Automotive APIs
- Qt toolkit
- Middleware
  - GENIVI
  - AGL
  - QNX
- OS: Linux, QNX
- HW adaptation
- HW

Support

Services:
- SDK creation
- Hardware adaptation
- OS adaptation
- Middleware adaptation
- HMI creation
- Application creation
- ...
Qt Automotive API collaboration

- Open Project for contribution and collaboration

- Qt Project governance model
  Proven, working, meritocratic community model
  - [http://wiki.qt.io/The_Qt_Governance_Model](http://wiki.qt.io/The_Qt_Governance_Model)

- Target is to have a common way for
  - Building automotive applications by developers
  - Exposing OEM specific features and services to developers
  - Enabling both Qt/QML and Qt WebEngine for creating applications
ApplicationManager
Qt Compositing using Wayland

- Modern, multi-process architecture
- Application Lifecycle Management
- Security model to protect integrity
- Hardware accelerated compositing using Wayland
- OpenGL and HTML applications can be seamlessly composited

- Elevates Qt from a UI and application framework to a fully-fledged automotive UI software platform
Gamma Ray & QNX by KDAB

- Great tooling for Qt and C++ applications
  - Speed of development
  - Quality of product
  - Manage complexity

- QNX Integration
  - Developed and maintained by QNX and KDAB
  - To become a part of the Qt Automotive Suite

- Service partner
Wild West of Automotive Systems

- The automotive systems are mostly based on specialized hardware and proprietary software
  - OEM solutions
  - Tier 1 Platform solutions
  - Apple, Google, open source platforms
  - Wide variety of open and proprietary Operating Systems

- Alliances and consortiums, like GENIVI and AGL
  - Still not fully standardized platforms
  - Many combinations, tools and optional available
Qt in Genivi

• Qt is a part of the Genivi spec
  • Fully compatible
  • Several products on the road already!

• Several large companies involved
  • BMW, JLR, PSA,
  • Nissan, Honda, Daimler,
  • Continental, Delphi, Clarion, Alipine, Pioneer, Visteon, etc.
  • Wind River

• The Qt Company
Qt and Automotive Grade Linux

- Open Collaboration
  - Part of the The Linux Foundation
- Qt is a Bronze partner
- Qt is the key technology for HMI and application development

Logos of Toyota, Renesas, Jaguar Land Rover, Harman, Intel, Panasonic, Mitsubishi Electric, and Honda.
Qt Automotive Suite Availability

- Technology Preview at the end of Q4/2015
  - Can be used for development purposes
  - Not tied to other Qt release cycles
- Delivery ready Q2/2016
  - For production use
- Open Source version will also be available
  - Will not contain full tooling suite, available only in the commercial version
  - LGPLv3 / GPLv3
Total Costs of Ownership

Using Qt’s building blocks, Qt Automotive Suite and Enterprise tooling solution cost less than traditional development models with other technologies.

Qt Enterprise framework provides numerous cost saving elements.

Modern, fast, up to date Web Browser Engine is included.

Availability off source codes decrease maintenance costs.

Qt’s plug-in architecture makes solution expandability really easy.

Qt’s test sets and framework increases testing efficiency.

Qt’s functionality and Enterprise feature sets speed up the development.
You are invited to join!

qt.io/qt-automotive-suite
Thank you very much!

nils.roscher-nielsen@theqtcompany.com