Graphics Sharing and Distributed HMI Compositing

2017-11-16 Project Kick Off Meeting

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AGENDA

2. First definition of Graphics Sharing project
3. Review and refine initial goals of the project
4. Practicalities - issue tracker, mailing list, meeting setup
5. Introduction to Waltham (Daniel Stone, Collabora)
6. Introduction to Ramses (Bernhard Kisslinger, BMW) (slot #2)
7. Presentation of project participants, background, interest and planned participation
8. Free form discussion - immediate thoughts? other technologies to be aware of? Partitioning the work into different areas of investigation
9. Participant feedback on goals – prioritization
10. Review actions, next steps.
GENIVI Vehicle Domain Interaction Strategy

Deliver open standard interfaces and code that bridge multiple car software domains

- Enables cross-industry, collaborative effort
- Addresses an industry-wide challenge of domain interaction
- Simplifies development and improves solution quality
- Leverages expertise already existing in GENIVI community
Vehicle Domain Interaction Strategy  - Resources

• Large interest since GENIVI first announced the Vehicle Domain Interaction Strategy – leading to many questions

• To meet the demand we have created a Frequently Asked Questions document for the most common questions:  http://tinyurl.com/DIROFAQ

• Please refer to the FAQ for general questions about Vehicle Domain Interaction Strategy.

• Also:  - Strategy Home Page (Wiki):  http://tinyurl.com/DIROHOME
  - Strategy KickOff Slides and Recorded Webinar ^ links on Home page
  - Project registration/survey (fill in, to be kept informed)
Vehicle Domain Interaction Strategy = multiple projects

• **TODAY**: Start Project #1
  Graphics Sharing & Distributed HMI Compositing

• First among first 4 priority projects
(Reminder)
Project Candidates Identified During AMM Workshops in Seoul

1. Graphics sharing & Distributed HMI Compositing
2. Developing or Extending Hypervisor APIs
3. Determining Preferred Generic Communication Protocols
4. User Input Distribution and Coordination
5. System Health/Debugging/Analysis (incl. Log & Trace)
6. Distributed System Lifecycle / Node State
7. Network Traffic routing & accounting (priority/bandwidth/payment…)
8. (Distributed) Audio management
9. Distributed User / Login / Profile management
Scope and definitions (first proposal)

• **Graphics Sharing** =
  
  • “*Graphics in the form of bitmap, scene graph or drawing commands generated on one ECU, transferred for display from another ECU (or between virtual machine instances)*”

• We are concerned with over-the-network protocols, and Hypervisor facilitated solutions (GPU sharing), independently

• Not primarily focused on simple encoded video-distribution topics, although video compression might be part of the solutions. (But if it’s an appropriate candidate for general-purpose transfer, we should investigate/compare/clarify).
Scope and definitions #2 (first proposal)

• Distributed HMI Compositing =

  “Dealing with technologies and methods to turn a multi-ECU system into what appears and acts as a single user-experience”.

• Conceptually extends “graphics sharing” to the ability of requesting an “application HMI” to be shown on another ECU.
• Boundary might be a bit vague
• Relates to some common “application management”, details unknown?
Project Goals (first proposal)

• All project participants gain *thorough* understanding of available choices
• Produce technology demonstrators, newly created or (if exists already) found and highlighted.
• Publish hard data on learning: Performance, resource needs..
• Seek industry acceptance & alignment among Linux distributions
• Separately identify and describe Hypervisor-based opportunities, how they differ, characteristics, advantages and disadvantages.
• Seek alignment on solutions (protocols) among “closed” alternative proponents – i.e. other operating systems, commercial HMI-tools, etc.
• Promote *open* standards and implementations across industry
• Summarize and create (implementation) documentation for recommended choices
Practicalities

• Need clear commitments from project participants
• A project to achieve results! Those willing to actually work will organize (or self-organize) around a functioning meeting schedule.
• Volunteers for project leader?
• Time poll, or just set a time?
• Mailing list: genivi-projects @lists.genivi.org
• JIRA tracker
  (https://at.projects.genivi.org/jira/projects/GRAS - to be created)
Introduction to Waltham (networked Wayland protocol)

1. Daniel Stone presenting
Introduction to Ramses

Bernhard Kisslinger presenting
Remaining Agenda

• Presentation of project participants, background, interest and planned participation
• Free form discussion
• - immediate thoughts?
• - other technologies to be aware of?
• - Partitioning the work into different areas of investigation
• Participant feedback on goals – prioritization
• Review actions, next steps.
BACKUP SLIDES

1. (if needed to support conversation)
Supporting ECU architecture picture (example)
1. Register yourself to projects on the on-line GENIVI Domain Interaction form & survey (https://www.surveymonkey.com/r/JZJV5KP)

2. Project #1: **Graphics Sharing and HMI Coordination**
   - Project start: **Thursday, November 16**
   - how to join: https://at.projects.genivi.org/wiki/x/sIP0

3. Projects #2, #3 and #4 – meeting times to be announced – register your interest on the on-line form (https://www.surveymonkey.com/r/JZJV5KP)

4. Questions? Philippe Robin philippe.robin@technoveo.com
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   Use the community mailing list! genivi-projects@lists.genivi.org