Shared state, independent rendering PoC

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Summary

Goal: Holistic digital cockpit HMI with seamless user experience across IVI and Instrument Cluster displays

Approaches:
- Display Sharing
- GPU Sharing
- Surface Sharing
- API Remoting
- Shared State, Independent Rendering
PoC/Demo Details

Implemented prototype of the digital cockpit that is addressing few essential customer use-cases and reusing HMI framework main principles

- Important customer cases related to domain interaction
- Using one of domain sharing approaches
- Using Linux and Android SW stacks
OEM scenario

Scope of the demo is to address one of customer use-cases: “extended cluster”

Initial state

Start

Navigation guidance starts

Ongoing

End

HCAT Cluster

Android Head Unit

Address 1
Address 2
Address 3

Address 2

Long press -> visual feedback
Note: Final UX is not defined (in work internally)
PoC architecture
Advantages to Shared State, Independent Rendering:
- Low inter-domain data channel bandwidth usage
- Applicability to mid/low performant SoC
- Operating System – agnostic approach
DEMO MAP USE CASE

Route select

IVI navigation start

Map move start

Drag and drop ongoing

End. Navigation guidance starts

Cluster

Android Head Unit

Address 1

Address 2

Address 3

Address 3

Address 3

Address 3

Long press -> map preview appears.
Drag operation -> map on cluster follows the map moves on IVI

Drop in shaded area -> animated move of the map to the cluster

Map appears in the cluster area.
Another app can be opened on IVI.
DEMO PHONE USE CASE

- Phone app sharing and data sync
PoC Technical Info

Rich Text Format
Thank you!

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