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**Android White Label App Store**

**Group**

**Charter**

**Revision History**

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| **Version** | **Date** | **Author(s)** | **Reason for Revision** |
| 1.0 | 07.02.2023 | Melina Mascolo |  |
| 2.0 | 07.03.2023 | Melina Mascolo, Camille Ghibaudo | Addition of AOSP emulator as topic and detailing of responsibilities |
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**Type & Scope**

The majority of the vehicle OEMs are adopting Android Automotive Operating System as a base IVI platform that runs pre-installed Android System applications as well as 3rd Party Android Applications.

The ecosystem of third-party applications is likely to be a critical element in allowing end-consumers to access to their favorite digital content safely in the car. Hence, the primary objective is above all to avoid market fragmentation in solutions and tools.

There are two ways for vehicle OEMs to bring 3rd Party Android Applications to their vehicles:
1) By using the Google Automotive Services (GAS), a bundle containing the Google Play Store next to the Google Assistant and Google Maps.

2) Making use of a white label Android App Store and services, such as Faurecia Aptoide or Harman Ignite.

There are gaps in the Google standards when using the white label App Store, especially for the vehicle OEMs.

To address these gaps an Expert Group including several OEMs, White Label Store Providers and Application Providers is proposed. Below is a list of proposed topics with those in bold being the most important.

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| Topic | What is already considered by AAOS (Android Automotive Operating System) ? | What does GAS enable in addition? | What this Expert Group might develop further ? |
| **AOSP Emulator** | No Cross-OEM AOSP emulator without Google dependencies available | E.g. Polestar Emulator with dependencies to Google-specific services  | Cross-OEM AOSP Emulator enabling App Developers to test their for Non-GAS OEMs |
| Interoperability | [CTS (Compatibility Test Suite)](https://source.android.com/docs/compatibility/cts) and [VTS (Vendor Test Suite)](https://source.android.com/docs/core/tests/vts) to ensure Android framework is fully implemented | Additional test suite to ensure security and integration | Apps Compatibility Test Suite across OEM devices and AppStores(including emulators?)  |
| Vehicle data collection (incl. GDPR consideration) and Sensor interface definition | Vehicle data collection using vehicle properties (common and extended)Android Sensor interface and AIDL (Android Interface Definition Language) including EVS (exterior view system) for Camera | Support for additional mandatory vehicle propertiesSupport for ADAS (Advanced Driver Assistance Systems) oriented applications | Reduce the number of extended vehicle properties to common vehicle propertiesAnonymity of Data and Consent managementDefine standard interfaces for sensors which are not supported yet by AAOS |
| **Login / identification** | Local login & identification | Login & identification using Google Account | Investigate possibilities to expose Vehicle OEM authentication mechanism to 3rd-party apps |
| Payments and monetization model (incl. advertisement) | Payment using Ultra-Wideband (UWB) (payment methods only) | Google PayGoogle Mobile Ads | In-car payment including standard interface to access embedded wallet for 3rd-party developersDevelop a framework to enable app advertisement |
| **Push notifications** | [Notification Interface + Notification Center](https://developer.android.com/training/cars/notifications)  | [Firebase Cloud Messaging](https://firebase.google.com/docs/cloud-messaging) is mandatory | Define standard implementation of Notification CenterDocument alternative to Firebase |
| Location based services (LBS) | Location Based Services using Car-lib (new template for POI, Parking and Charging)  | Google Maps as host for the templated Apps | Make available standard Navigation Host to display new templatesExpose standard embedded wallet to LBS providers |
| Voice interface | TTS (Text To Speech) Android API + Voice Recognition API | Google Assistant | Define standard interface between non GAS Voice Assistant and 3rd-party apps |
| **Minimize/avoid driver distraction** | Driver Distraction feature to block/unlock apps or featuresDriver Distraction Guidelines for Google template only | Automotive applications on Google Play Store must support driver distraction guidelines | Extrapolate Driver Distraction GuidelinesCreate 3rd-party Apps Test Suites specific for driver distractionStandardize Extensions to UI-Restriction to support additional Driver Attention Management States (eg MIT AHEAD 3.0 / SpeedBump). |
| Display management | Display management using TaskView & split view management, including Cluster and secondary displays management |  | Create harmonized guidelines for developers with typical display specification and management |
| Automotive Touchpad Support | Currently only support for Touchscreen and Rotary controllers as input devices for AAOS |  | Add support for Touch pad |

**Responsibilities**

The Android White Label App Store Group will identify gaps between AAOS with GAS and AAOS without and propose, specify and/or develop white label solutions/alternatives. Only topics either not being available for OEMs using AAOS without GAS or not available at all will be tackled within this group in order to avoid fragmentation across the automotive industry.

The group is planning to work under the COVESA Antitrust guidelines that are already in place. In addition the deliverables will be published openely via COVESA, even for non-mebers. All generated code and standardization are considered being open source.

**Way of Working (WoW)**

Tbd.

Agile Working mode, jointly agreeing on most important topics to tackle out of backlog, reporting progress weekly within expert group and to board before major releases.

<*Describe how the entity will be organized; how it will operate in order to achieve the planned output – e.g., FOSS Project, waterfall, agile, other; and how and to whom it will report progress*>

**Planned Output**

The planned output of this new expert group will be to produce unified usage guidelines and reference implementations for Applications running on hardware within an automotive environment. Currently the work of this group would focus on Android Automotive.

The aim of the expert group is not only to perform discussions between members. We would like to have practical impact and for this, our work will include:

* Defining a set of requirements within the identified technical areas
* Developing usage guidelines for existing APIs
* Developing reference implementations to aid App Developers in reducing costs and speeding time-to-market by developing once, and deploying to many

<*Describe the planned “deliverables” of the entity in “milestones”* ***with associated due dates*** *(draft dates, release dates, report dates).* >

**Processes & Procedures**

<*List any Team/Expert Group/Project-specific procedures*>

**Participants**

* **BMW** (confirmed)

melina.mascolo@bmw.de

* **Faurecia Aptoide** (confirmed)

thomas.belin@forvia.com; camille.ghibaudo@forvia.com

* **Mercedes**
* **Volkswagen**
* **General Motors**
* **Harman**

Albert.Jordan@harman.com

* **Renault**

**Chairs & Vice-Chairs**

<*List the proposed/confirmed Chairs and Vice-Chairs of the entity. This should include at least a Chair, and could also include Co-Chairs (for Projects, use Maintainers instead of Chair/Co-Chair)>*

**Lifecycle and End of Life**

The expert group would continously review if there are open areas in the standards of Android Auomotive that need to be tackled.

<*Describe whether the entity is ongoing or has a specific deliverable that determines its end of life; this information shall also reflect lifecycle activities (initial charter, Board review, re-charter, other actions) taken on the entity.* >