

AUTOSAR (Music System)

Project Training –Automotive Overview

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Task1: Establish the OS Compatibility of the music system using AUTOSAR

Layers and Steps for Establishing OS Compatibility:

1. ECU Hardware

- **Selection:** Choose hardware that supports the AUTOSAR platform and meets the performance requirements of the music system.
- **Configuration:** Ensure the hardware is properly configured to support the AUTOSAR OS and runtime environment.

2. AUTOSAR Operating System

- **Compatibility:** Select an AUTOSAR-compliant OS that is compatible with the chosen ECU hardware.
- **Configuration:** Configure the OS according to the needs of the music system, including task scheduling, memory management, and interrupt handling.
- **Integration:** Integrate the OS with the Basic Software (BSW) modules.

3. AUTOSAR Runtime Environment

- **Setup:** Configure the Runtime Environment (RTE) to facilitate communication between software components and the underlying OS.
- **Mapping:** Map the application software components to the RTE for efficient execution.

4. AUTOSAR Services

- **Service Configuration:** Configure services such as diagnostics, memory services, and NVRAM management.
- **Service Integration:** Ensure that necessary AUTOSAR services are integrated to support application SWCs.

5. AUTOSAR Communication Stack

- **Communication Protocols:** Set up communication protocols (e.g., CAN, LIN, Ethernet).
- **Network Management:** Configure network management features.
- **Communication Services:** Implement and configure services like COM, PDU Router, and Transport Protocol.

6. AUTOSAR Interface

- **Interfaces:** Define and configure AUTOSAR interfaces to ensure smooth communication between the music software components and other AUTOSAR software components.
- **Standard Compliance:** Ensure the interfaces comply with AUTOSAR standards to maintain compatibility and interoperability.

7. Music Software Component / AUTOSAR Software Components

- **Development:** Develop the music software components as AUTOSAR-compliant software components.
- **Integration:** Integrate the music software components with other AUTOSAR software components using the defined interfaces.

Flow chart

