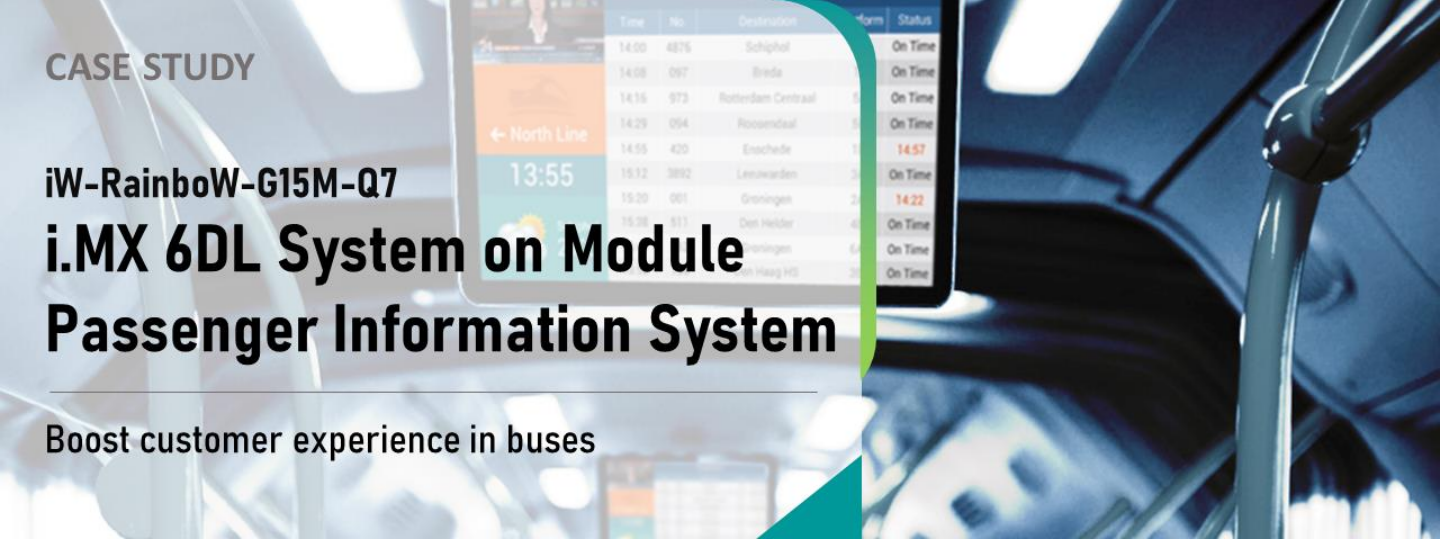

Introduction

Passenger information systems (also known as passenger information display systems) are digital displays used to monitor, track, and handle passenger information in real time. These systems are used for forecasting details like

- actual arrival & departure times
- passenger journey-related information
- general news
- current service distribution alerts

Multiple passenger information displays are installed in different areas of buses and are remotely updated, allowing riders of all ages to view immersive content from diverse topics. This makes it essential that the monitor hardware should be able to connect and control the information displayed simultaneously.

iWave recently delivered i.MX 6 System on Module to a global technology solutions company for designing bus passenger information displays. To accelerate their product development time, the client required off-the-shelf computing hardware with high connectivity levels and low power consumption.

Challenges

- Low power-consuming module
- Support for multiple display interfaces
- Required cost-effective solution with rich interfaces
- Support for high-speed PCIe connector
- Enable faster implementation and improve their market time

Solution Highlights

To meet the above requirement, iWave presented the i.MX 6DL System on Module (SoM) with a compact Qseven form factor. The SoM provided a faster, reliable system to the designer with all necessary interface connectors accelerating their product development time with reduced cost. The i.MX 6 System on Module is a perfect choice for powering display control, thanks to its compatibility with interfaces such as LCD, LVDS, HDMI, and MIPI DSI.

Key features of i.MX 6 Qseven System on Module

- i.MX 6 Dual Lite Core
- OpenGL ES 2.0, OpenVG 1.1 Graphic accelerators
- Multi-format HD 1080p encode & decode
- 1000/100/10 Mbps Ethernet
- PCIe Gen2 interface
- Display connector – LVDS, HDMI, MIPI DSI, 24bpp LCD
- AC'97 Audio, CAN
- RTC connector

The i.MX 6 System on Module is available in a modular and compact Qseven form factor (70mmx70mm) with support for wide operating temperatures. Its power-efficient ARM Cortex A9 processor, combined with advanced Linux and Android firmware and support for all standard interfaces such as Gigabit Ethernet, PCIe, SATA 3.0, USA 2.0, and GPIOs, delivers rich media content like animations, effects, static images, and HD video combined with bus operational data.

In these systems, the onboard PCIe interface acts as a backbone, enabling high-speed data communication with increased throughput. The i.MX 6 SoM comes with an integrated audio unit (using the AC'97 audio codec) to enable high-quality multichannel recording and playback. In addition, the Gigabit Ethernet port on the SoM opens a whole new world of online possibilities.

The System on Module eases installation for system integrators with simplified wiring and extended onboard coverage. Ethernet enables the passenger information system displays located throughout the bus to be connected and controlled. The simplicity of this configuration permits system integrators to place cables inside the handlebars to connect one display to the next one, which avoids extensive interior alterations, reduces deployment time, and opens up business opportunities for articulated buses as well.

The real-time controller (RTC) plays a crucial role in passenger information systems to enhance the passenger experience while simultaneously improving operations and reducing costs. Passengers receive up-to-date information about their journeys, providing reassurance regarding destination times. In addition, it allows operators to plan and adapt their services.

More information on i.MX System on Modules can be found here.

If you have any queries, please contact us at mktg@iwavesystems.com.

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