Using Project Celadon to create a digital media player with multi OS support

Innovative digital signage solutions using Project Celadon - an Android* open source platform for Intel® architecture.

Target Customers
ISVs and System Integrators providing embedded and digital signage solutions.

Customer Strategic Challenges
According to Markets and Markets, the digital signage industry will grow to $29.6B by 2024 (Markets and Markets, March 2019), with the retail sector driving rising demand for reliable solutions including a variety of operating systems. In turn, the ubiquity of digital signage has driven end users to increasingly expect context-aware, “smart” experiences on vivid, high resolution displays. To address this, solution providers have long searched for hardware and software platforms that meet end-user expectations while addressing customer concerns around operating system flexibility and hardware reliability.

Customer Pain Points
- **Flexibility:** Customers are challenged to provide customizable Android OS implementations on performant hardware.
- **Cost:** Customers are challenged to bring lower cost devices to large digital signage implementations without significant hardware lead times associated with custom hardware development.
- **Reliability:** Customers are challenged to provide continuous security and support to innovative visual messaging.

In response, Now Micro* is offering an economical media player with robust platform support for a variety of operating systems, including, for the first time, Android OS. Android OS based devices typically require less RAM and disk space to deliver rich digital experiences when compared to Windows* IoT and Linux* based media players, which can consume more resources. Now Micro combines the best of both worlds with this solution – a reliable and well performing, value engineered system with a supportable Android based operating system to drive impactful visual solutions.

Digital Signage ISVs, System Integrators, and ecosystem providers are driving digital transformation of visual communication.
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Solution Components

Utilizing Project Celadon with the Intel® Celeron® J3455 processor (Apollo Lake), Now Micro was able to bring a digital signage oriented, Android OS based device to market without the need to hire a team to perform heavy board support package (BSP) work. Instead, Now Micro was able to focus on delivering an effective product, bringing immediate value to their customers.

Project Celadon is an Android open source platform optimized for Intel® architecture, enabling teams to accelerate product development, improve efficiency, and scale reliably. Developing on the latest Android release permits flexibility to create and customize unique applications, lowering overall time to market. Leveraging Intel architecture enables out-of-the-box functionality on a consistently updated, pre-tested, and validated stack. Teams can also easily innovate, deploy, and scale into new markets with Project Celadon.

Reliable software and hardware is essential to being successful in the Digital Signage / IoT Visual Communications industry, and performance is key. Signage failures, such as stuttering, broken or other corrupted visuals, are often public, and can impact brand perception. The Intel® Celeron® J3455 processor (Apollo Lake) with Project Celadon allowed Now Micro to bring reliable and performant hardware to the market, delighting customers who expect superior solutions from their ISV or SI partners.

Key Solution Benefits

- **Gain Flexibility. Accelerate Development.** Developers can benefit from Project Celadon open platform enablement and lower time to market by developing on the latest Android releases. Now Micro has ensured platform support for a variety of operating systems to meet customer demand and now offers an Android based media player for the first time.

- **Improve Efficiency and Cost for ISVs.** Project Celadon is an Android open source platform for Intel architecture, which also allows developers to leverage Intel® hardware acceleration and provides the flexibility to customize to the latest Android applications. Now Micro combines the best of both worlds with this solution – a reliable and well performing value engineered system with a secure and supportable Android based operating system to drive impactful visual solutions.

- **Maintain Reliability and Scalability.** Project Celadon can be used to build a software implementation for a retail digital signage deployment. As digital signage becomes ubiquitous, solution providers have searched for a variety of hardware and software platforms to drive innovative visual messaging while addressing customer flexibility and reliability concerns.

About Project Celadon

Project Celadon is an Android open source platform for Intel architecture. It enables developers the flexibility to create and customize advanced applications on the latest Android releases, helping to accelerate product development time. Leveraging Intel hardware acceleration, Project Celadon improves efficiency and allows for reliable scalability across deployments such as retail, automotive, and smart home.

About Now Micro

Now Micro serves as a premier provider of digital signage and related solutions to organizations across a range of industries including education, government, banking, hospitality, and retail.

Now Micro helps customers optimize their investment in resources and technology through carefully designed products, automation, and deep understanding of your solution requirements.

Through superior customer service and reliable, quality product and software solutions, Now Micro has been a trusted advisor to numerous companies in the vertical market of Digital Signage for more than 10 years.

"Project Celadon allowed us to focus on building our portion of a solution for our customers. Previously, I would have needed a significant budget for BSP and other hardware related tasks before even being close to building a product."

Bernard Carter
VP, OEM and Product Development at Now Micro