Intel IT Business Review

Multi-Platform Apps: Designing for the Unknown

How does one design and develop software applications for the unknown? It's a question that Intel IT is currently answering.

Today, development efforts are geared toward specific platforms and operating systems, specific devices and their interfaces. But what if these specificities are removed from the equation? How can applications be developed so they work on any platform, any operating system, any device—even ones that have yet to be conceived?

"The way we develop applications two years from now will be radically different from the way they were developed two years ago," says Don Meyers, Enterprise Architecture Manager for Intel IT.

"With so many platforms, devices, and interfaces—and more on the way—current development efforts are becoming unsustainable."

Intel alone utilizes 1400 IT software applications, five operating systems, and more than 37,000 mobile devices. Doing the math on the amount of customization and development work required to ensure those applications can function on the array of platforms and devices will only lead to a headache, not to mention a hefty software development and maintenance tab.

"It all boils down to economics," Meyers explains.

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>
> *Don Meyers*
> *Enterprise Architecture Manager for Intel IT*

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"With consumer and mobile app development, you're creating and customizing a handful of apps for millions of Internet users. But enterprise software development is the opposite. You're typically tailoring a bunch of apps for a relatively small number of people. Design, customization, and maintenance become very expensive."

Intel IT sees a better way.

The group's Multi-Platform Apps research aims to revolutionize software development. The objective is to enable developers to design applications that are highly adaptable; meaning they are not tied to a specific platform or device, but able to support device features and interfaces, such as touch and voice recognition. Multi-platform applications will deliver upon five key criteria:

- **Security/audit – My data and identity are protected**
- **User experience (UX) – My application is intuitive and easy to use**
- **Platform – My application is accessible and works on my platform of choice**
- **Device capability – My application takes advantage of my device's capabilities and features**
- **Interact and evolve – My application supports emerging devices and interactions**

If enterprise IT teams can develop applications that are platform and device agnostic, they become faster, more efficient, and less costly.

"Multi-platform development doesn't just increase speed and reduce costs," Meyers adds. "It also improves quality. The faster you create an application and the less time you spend customizing it, the more time you have to utilize and perfect it."

Multi-Platform Apps researchers are building templates to facilitate and

Developers will be able to design applications in a platform agnostic manner, and then use the set of templates to tailor their applications for each platform and device. Technically speaking, business logic is removed from the user interface, and user interface logic is separated from the presentation. This adds a new layer of abstraction, creating more flexibility and adaptability for where an application is served and how it is presented.

"We use a responsive design technique on the front end," says Meyers, "and a cloud-based, service-oriented architecture on the back end."

Applications won't be customized on a per platform basis, and templates won't be customized on a per application basis. Instead, a large number of applications can be adapted to a variety of platforms and devices using a relatively small number of templates.

And here's the crux of the matter: As new platforms and devices emerge, IT teams will no longer have to tailor each and every application for them. They need only develop a new template that marries all of their applications with the new platform, device, or interface in question.

"We're not just developing a set of criteria and tools that will get us to 2015," says Meyers. "We are creating a new development paradigm that will stand the test of time. Multi-platform Apps will be easily adapted for current platforms as well as the next set of innovations, whether it's an entirely new operating system, consumer device, or user interface."

We can't predict the future, but we can be prepared to adapt. And that means improving development efforts for the known—and the unknown.

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