

Enterprise Mobility and Beyond

Many have claimed to be the first to highlight the changing nature of our world and the need for businesses to continually adapt. But it was the greek philosopher Heraclitus who first stated over 2,500 years ago, *“The only thing that is constant is change.”* In this context, it is clear that change is indeed a fundamental truth we must accept and make part of our organizational culture. So then, why have so few organizations built systems truly ready for the dynamic and fluid change of today’s IT landscape?

It’s no surprise that analysts universally agree on the biggest recent change in our world: the exponential increase in computing power amidst the continuous miniaturization of computing devices. This trend is driving entirely new innovations that fundamentally change industries. To keep up, organizations must adapt their legacy IT investments to the mobile work patterns of today.

KEY CHALLENGES

As new mobile technology becomes available, rapid adaptation and incorporation of these innovations into business models is imperative to remain relevant. Choosing a static technology architecture increasingly prevents true business innovation and at the same time puts an organization at risk, especially from upstart competitors who can (and do) adapt and move more quickly.

SOLUTION

IT investments should not need to be trashed or completely rearchitected with each major technology innovation. Organizations should revisit their technology architecture and build solutions on platforms designed to rapidly incorporate new innovations, as well as embrace—and improve—the old ones. Modern enterprise platforms not only deliver mobile capabilities on the latest devices without additional time, effort, and expense, they also capture and adapt your software designs to devices and form factors yet to be released.

THE IT OF YESTERDAY AND TODAY

When many of us in business and IT leadership positions started our careers, we knew a dramatically different technology landscape than exists today. It was a market driven largely by one company: Microsoft. In the late 1990s and early 2000s, Microsoft Windows, Office, and Internet Explorer owned nearly 100% of the enterprise market share in their respective categories. This monolithic technology stack led many organizations to the false belief that investing in Microsoft would protect them from future change. But, monopolies—through government action or market forces—are destined to be broken.

Fast forward 10 to 20 years, and those old bets on the Microsoft stack are being called in. While some businesses have been able to leverage the latest Apple iOS and Google Android devices to become multi-billion dollar enterprises, others are still planning how they will redesign applications off Internet Explorer 8, and can't even contemplate a truly modern mobile solution, let alone make it a reality.

The current mobile revolution has highlighted a broader need for all enterprises to be more adaptive and ready for change. Mobile is the change of today, but how will those current organizations with leading mobile offerings adapt over the next several decades?

MOBILE TODAY; WEARABLES AND IOT TOMORROW

Modern mobile devices have not only expanded industries and business opportunities, but forced organizations to entirely rethink their operations. Consider these scenarios:



Are retail checkout counters really necessary, or can all retail employees just roam a store ready to help and check-out customers anywhere from a mobile device?



Do government transportation departments need to actively monitor all road conditions, or can mobile users just report incidents for them with real-time traffic information?



Do employees need their organizations to provide devices for them, or can they get their work done from their own personal mobile devices?

These represent scenarios already implemented en masse over the past five years. The bar for technology innovation in business has been raised even higher, requiring organizations to think beyond these examples. And yet, so many organizations struggle to move past their legacy investments, much less match the current normal in mobile applications.

Even those that have led in mobile innovation should remain focused on the ever-constant and increasing rate of technology innovation. Take, for example, the latest Apple Watch wearable. In obvious terms, it represents a new class of mobile devices: one that is always physically attached to the user. Wearing the device presents new interaction and monitoring capabilities not available on previous devices. But, were you aware that the Apple Watch has roughly the same computing power as recent Apple devices from just a few years ago, like the iPhone 4s and the iPad 2?

Perhaps more compelling is a wider comparison. The Apple Watch has an approximately 250X faster CPU, 50,000X more storage capacity, uses 94% less energy, and is approximately 4,000X smaller in size than the first IBM PC introduced in 1981. How old are the systems in your organization? Even if they are not quite as dated as that 1981 IBM PC, the difference in capabilities between the systems in place at your organization and the device you carry in your pocket (or wear on your wrist!), is staggering.

The trend to more powerful and smaller devices continues to break down our concept of a computing device, becoming a broader Internet of Things (IoT). How can your current IT systems stay relevant in a world where the fundamental definition of a computer has changed?



Having invested in IT platforms with custom business logic, organizations must find a path to rapidly adapt existing business logic to these entirely new IoT devices with the goal of driving new business behaviors.

Amazon.com, for example, has made a name for itself by providing a clearinghouse for a huge variety of products. Until recently, interacting with their marketplace was exclusively through a web browser, and more recently, also through a native mobile application. But, computing power and miniaturization has allowed for entirely new ways for Amazon to interact with their customers. In response, they introduced the Amazon Echo device, giving customers rapid access to the information, products, and media provided by Amazon via an entirely new device type:



“Echo’s brain is in the cloud, running on Amazon Web Services so it continually learns and adds more functionality over time. The more you use Echo, the more it adapts to your speech patterns, vocabulary, and personal preferences.

source: <http://www.amazon.com/oc/echo>

This is just one example of the concept of Internet of Things in action. An important lesson learned is from Amazon’s IT architecture. This enabled Amazon to rapidly adopt new technology innovations, and as a result, create new business models. More than ever, organizations should consider not only building for today’s mobile world, but also with the future in mind. New and modern enterprise platforms are designed to enable this; they fundamentally enable agile change and adoption of new business patterns and mobile technologies.

A FUTURE-PROOF PLATFORM

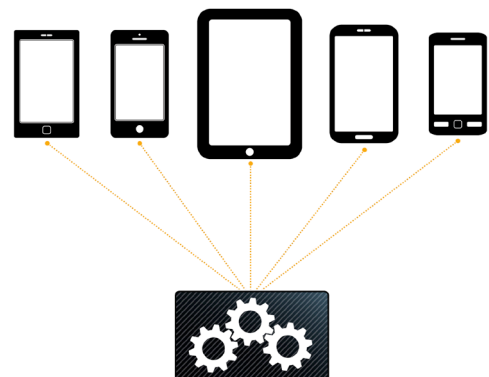
Is a future-proof platform even possible? The words “future-proof” alone sound like a ponzi scheme, promising perpetual positive returns on an initial investment. But, even in the world of investing, we can recognize that some investments have high risk and others low risk of positive future returns.

Software platforms, like any investment, also have key risk identifiers. This is why it is important to identify good platform investments that will maximize future returns. Future-oriented platforms have several defining qualities that enable fast adoption of the latest mobile technology, as well as whatever may come in the future. These include:

- Mobile First and Mobile Ready
- Service-Oriented Architecture
- Continuous Delivery

MOBILE FIRST AND MOBILE READY

“Mobile First” is a common term used to define an application specifically designed to take advantage of a mobile device’s unique features and form factor. But Mobile First still envisions the world in a static sense, where developers can build for today’s current mobile devices without concern for tomorrow’s mobile innovations. For example, a developer might spend time creating a beautiful application with Mobile First principles for the Apple iPhone, only to realize that concepts and UIs must be rebuilt for the Apple Watch. This should be unacceptable.



Future-oriented platforms obscure the layer between business logic and the device for which the logic is

consumed. These platforms essentially provide mobile capabilities with no additional development; there is never a need for organizations to continuously redevelop for new devices. This is commonly referred to as “Write Once, Run Anywhere.”

Mobile Ready is delivered by a set of pre-tested components and logic that are also pre-certified to work on the latest mobile devices. The platform takes care of the adaptation to new technologies and mobile form factors. Designers simply organize the predefined components into their unique solution offering and allow the platform to ensure ideal styling and usage on each device. In this scenario, there are no additional steps to build a new experience for all the latest devices.

SERVICE-ORIENTED ARCHITECTURE

Service-Oriented Architectures (SOA), a term first defined by W. Roy Schulte of Gartner in 1996, has been defined as:

“...a style of multi-tier computing that helps organizations share logic and data among multiple applications and usage modes.” *

SOA principles ensure any logic placed inside a platform can be consumed by any other application platform. This enables perpetual re-use of business logic and avoids becoming locked in with a specific platform’s proprietary business logic framework. SOA today is most fully realized in modern web services application interfaces.

Future-oriented platforms adopt SOA principles to the fullest extent, allowing for both consumption and production of shared services. They act as an engine, combining data and logic from multiple systems. Then, they apply new business logic, outputting the result as new services that may be consumed by any other system.



SOA, when applied to mobile and IoT devices, enables using the platform as a mobile backend as a service (mBaaS). Support for mBaaS enables designers to use services from their business in any new device. The previous example of Amazon Echo was enabled through robust support for mBaaS in the platform, allowing the voice activated Echo device to call Amazon’s services, which in turn enable the features of the device. The same services can then be quickly repurposed for any other IoT device to enable entirely new and unforeseen innovations that may come in the future.

*source: <https://www.gartner.com/doc/302868/service-oriented-architectures>

CONTINUOUS DELIVERY

A future-minded strategy starts with a commitment to never being static and always planning for the next innovation. Future-oriented platforms are also constantly changing...always at a rapid pace. “Continuous Delivery” is the term that defines this focus on constant change in software. Platforms employing continuous delivery enable organizations themselves to constantly drive innovation by continuously and seamlessly upgrading the platform in support of the latest technologies.

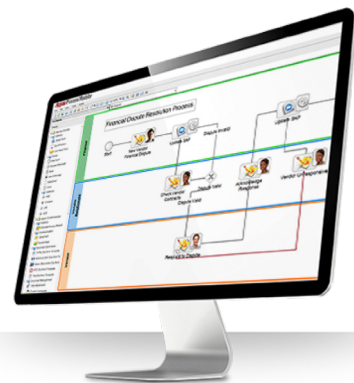
These platforms further enable continuous innovation through adoption of Agile software development practices. Agile software development asks business stakeholders to constantly re-evaluate their IT priorities. Through this, businesses are continuously seeking to stay technologically relevant to the current market expectations.

Adopting a platform that both uses and enables continuous delivery is a foundational requirement to build mobile applications for both today’s and tomorrow’s market. Creating your first enterprise mobile application is the start of a journey to keep your organization technologically relevant. As new device types come to market, the platform must be ready to support your latest idea to adopt that new device in your latest business innovation.

CONCLUSION

If building modern enterprise mobile applications is hard, ensuring your investments in new mobile technologies stay relevant is even harder. Business and IT organizations should revisit platform technology decisions and adopt a future-minded strategies that help them to maintain relevance in today’s fast-paced technology market. In a world where “The only thing that is constant is change,” adoption of platforms designed for continuous innovation and change is the only logical solution.

The Appian Platform enables organization to rapidly build modern mobile applications that continuously evolve with the latest technology innovations. With easy-to-use design interfaces, Appian aligns business and IT for rapid prototyping and implementation of new business ideas. Design tools for building processes, rules, data, and user interfaces are all constructed with visual point-and-click or drag-and-drop composition. Applications can be continuously refined, allowing organizations easily adopt Agile software development techniques to adapt to changing business priorities.



Appian's powerful Mobile Ready architecture ensures any business application built on the platform is immediately available as a native mobile application on the latest devices. Without any additional development, interfaces are automatically optimized for various devices, providing an ideal user experience for every form factor. Business logic and data are all based on a Service-Oriented Architecture for quick incorporation of logic into new IoT devices as an mBaaS solution.



With a unified approach to design and run-time, Appian is the one enterprise platform for your success across a variety of business needs. Comprehensive process, rules, data, content, and mobile capabilities allow organizations to focus their efforts on business solutions design rather than IT architecture and maintenance.



When the only constant thing is change, it helps to have a platform to automatically address it.

Appian

As the market leader in modern Business Process Management (BPM) and Case Management software, Appian delivers an enterprise application platform that unites users with all their data, processes, and collaborations—in one environment, on any mobile device, through

a simple social interface. On-premise and in the cloud, Appian is the fastest way to deliver innovative business applications.

For more information, visit www.appian.com