


# Mobile Application Development

Application Consternation: Why app decisions may be the most important ones you make



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## Application consternation: Why app decisions may be the most important ones you make

Remember the good old days, say, five or six years ago? You could give employees smartphones to use for email and web surfing, and voilà! You had happy employees. Well, email and web connectivity are now just the tip of the iceberg. Employees today want more—and they need more—if they're going to stay productive from anywhere, which is usually the primary goal of having mobile devices in the first place. From corporate line-of-business applications to on-the-go sales tools, employees expect comprehensive corporate information at their fingertips. For them, a mobile device should offer comparable functionality to their desktop environments.

Of course, mobility isn't just for the benefit of employees—there are business benefits, too. Mobile devices should help you realize the mobility trifecta: enhanced employee productivity, lower total costs, and increased profitability.

### All the angles

A scatter-shot approach to mobile apps will give you a mobile environment that's full of holes. Companies should provide their employees with mobile apps that are relevant to them, but a lot of thought needs to go into a larger app strategy for the company. Before you invest in off-the-shelf or

custom-built apps, make sure you know what your employees' needs truly are and understand the company's overall mobile strategy. ([See our solution brief on enterprise mobility planning.](#)) You also need to consider the technology that supports your mobile environment, including device types, management tools, and network and security requirements.

### Bird's-eye view

Next challenge? Delivering the mobile capabilities and information that employees need, while keeping costs manageable and safeguarding your content. First, determine the types of apps that employees are likely to need.

Of course, there's an endless number of specific apps that you could incorporate into your mobile environment, but consider these 10 high-level categories and decide whether they apply to your mobile employees:

1. Business intelligence (BI) reporting
2. Customer relationship management (CRM)
3. Custom internal workforce
4. Mobile-optimized intranet access
5. Field services (dispatch, work orders)
6. Custom sales tools
7. Human resource management
8. Travel and expenses
9. Enterprise resource planning (ERP)
10. Email/calendar/contacts

### Did you know?

In a 2013 Enterprise Mobile survey of IT executives, 68% of organizations are looking to offer applications for mobile devices focused on productivity over the next 24 months. [Click here to download the research report.](#)

### Best of both worlds

For employees, having a range of productivity apps on their devices gives them a welcome efficiency boost. Life is even better when their personal apps can peacefully coexist on those same devices. The rise of bring-your-own-device (BYOD) programs makes app management more difficult for IT departments, which need to keep everything secure and maintain the ability to wipe devices without affecting personal information.

The intermingling of business and personal information on one device changes how people operate. Social media apps, for example, often bridge the business/personal gulf, with employees using those sites to manage both their personal brand and that of the business.

### If the shoe fits

In a perfect world, you can address all your app needs with an affordable, off-the-shelf product. And it can happen! More and more, software companies are making sure that their products smoothly extend to the web. But sometimes a

standard app just won't do and you need custom functionality to really hit the mark. Custom apps can be expensive, not just in terms of initial development but also for ongoing management. Aim to strike a balance between the degree of customization that you truly require and the costs involved.

- *In a 2013 survey of IT professionals by AnyPresence, a backend-as-a-service company, over half of the respondents spent more than US\$50,000 and three-plus months developing a typical app. Nearly a quarter reported spending more than \$100,000.*
- *In the same survey, more than 80 percent said that they update their apps at least twice a year, and nearly a third update their apps at least once a month.*

## Practical magic: How to create mobile apps (that your employees will actually use)

Now that you've figured out your app needs, identify which of your company's existing desktop applications can be extended to a mobile environment. By offering that desktop functionality on mobile devices, you'll be giving your employees apps that are familiar, comfortable, and intuitive. You'll also likely have an easier time connecting your backend systems to your mobile environment than if you were to bring in completely separate mobile apps.

### Bridge the gap

If you have some areas where you can use existing resources but you're still missing functionality, explore the mobile app market and see what's out there that fits the bill ... or that might fit the bill if you made a few tweaks. Customizing off-the-shelf apps will be less expensive than developing your own from scratch because most of the heavy lifting will already be done for you.

- *According to ABI Research, the global app market surpassed \$30 billion in 2012, almost double that of 2011.*
- *Results from a Yankee Group survey place the value of the North American mobile apps and cloud segment at \$85 billion, with a staggering forecast growth of 41.4 percent over the next four years.*

### If you build it...

So you've exhausted all your options for off-the-shelf mobile apps and decided to go it alone. If you're going to embark on a custom mobile app journey, first consider your audience and goals. Find out more about how your users work and stay in touch with them throughout the whole process to make sure that your app is usable, intuitive, and appealing.



### Did you know?

The basic consumer app is a mere trifle when compared with true enterprise apps in terms of complexity and costs. When developing a mission-critical enterprise app, it's important to look at every element, including throughput of data, transaction storming, system failover plans, master data protection, integrity, and any need for the app to run offline and reconnect when a connection is available. If you don't have experience with this level of custom app development, consider working with a partner to make sure that your app covers all your bases and can also evolve and scale.

## Going native? Working the web? (Or both?)

The next decision is a biggie: whether to develop native apps, web apps, or hybrid apps. That decision may not apply to your whole mobile environment—you may decide that some aspects of the business make more sense with web apps while others would benefit most from native ones. Make sure that it's your business requirements that determine your development path(s).

Let's review some of the pros and cons of different types of apps:

- **Native apps** make use of the programming languages, plug-ins, and application programming interfaces (APIs) related to a specific mobile device, such as Apple or Android smartphones. They have the advantage of making the most of a device's features and full functionality (such as location services), but you'll have to write multiple versions of each app if you have a heterogeneous (or BYOD) mobile environment.

- **Web apps** are a “write-once, run-anywhere” option because they use a web-based client to deliver the corporate or cloud-based data that mobile users need. Programmers can use HTML, which is generally familiar to them, making the development process an efficient one. However, web apps tend not to be as sophisticated as native apps because web apps are one-size-fits-all by definition.
- **Hybrid apps** are a new app type that uses web-based code for the bulk of the app but adds native code and plug-ins to make use of proprietary device functionality. Hybrid apps are growing in popularity because of the momentum of HTML5, which delivers strong interactive and animation capabilities and has the advantage of running on multiple platforms.

Whether you choose native, web, or hybrid apps (more on that later), consider hosting your server-side logic in the cloud. That will give you the chance to create more robust apps that can quickly unlock data from backend systems. Look

across your mobile environment and bring together common functions such as authentication, compliance, and security to reduce overall development costs through reuse.

## The platform's the thing

Perhaps the nature of your business calls for native apps for some or all of your mobile functionality. You'll need to consider which platform(s) to build on, based on your devices and internal expertise. You may decide to rely on a development partner to do a significant share of the work.

Many mobile app developers choose to work in a cross-platform framework—there are lots of choices out there—that makes it possible to quickly build code and use your initial code base to extend to other platforms. These frameworks are particularly helpful if you have multiple operating systems at play in your mobile environment, making it easier to achieve the write-once, run-anywhere development goal while still creating complex native apps for your employees.

## Care and feeding: Delivering, supporting, and securing mobile apps

You've done it—you have a suite of mobile apps ready for your workforce. But managing those mobile apps has never been more complicated. Take a holistic management approach and determine how you want to deploy apps, where you want them to run, whether they need to be isolated from other processes (or whether their data does), where data from the apps should be stored, etc.

### Keeping order

Employees appreciate having a wealth of apps at their disposal. Ensuring that employees have the right access will help reduce headaches for your IT staff and foster the overall productivity gains that you're looking for. Many companies use mobile application management (MAM) solutions to help distribute and manage their enterprise apps. These solutions include everything necessary to keep apps flowing, from user authentication and access control to push services, event management, and reporting.

One of the biggest features of today's MAM solutions is the enterprise app store. Imagine having a branded version of the consumer app stores tailored for your employees and company. Putting an enterprise app store in place not only makes it easy for your employees to get the apps they need, it also deters them from downloading potentially dangerous (and unsanctioned) apps to their devices. Today, it's estimated that only 10 percent of enterprises have their own app stores, but that number is expected to jump; Gartner predicts that by 2014, 60 percent of corporate IT departments will deploy private enterprise app stores. And these enterprise app stores aren't just for custom mobile apps—the good ones also include third-party apps and links to public app stores and enterprise content.



### Did you know?

In a 2013 Enterprise Mobile survey of IT executives, 84% stated that having an enterprise app store that delivers internal apps is somewhat or highly important.

## Crossing the divide

Companies also use MAM solutions to make sure that their apps are set up correctly and securely through proper provisioning. These solutions are particularly helpful for keeping corporate and personal data distinct, enabling a “dual-persona” environment on a single device. For instance, security policies can be applied to individual corporate apps, while Temple Run, Facebook, Stock Guru, and other personal apps can be left unmanaged.

But MAM solutions have progressed beyond basic security. It’s now possible for all the corporate apps on an employee’s device to communicate with each other and to be managed with a

single system. You can implement policies for remote wiping, virtual private networks (VPNs), and corporate app interaction with unmanaged apps. It’s even possible to keep corporate data from leaking into personal apps and to place limits so that only corporate apps, for example, can open documents and links.

## Parting is such sweet sorrow

You never want to think about it, but sometimes valued employees leave the company. It’s important to know who owns the data on an employee’s device before that employee departs, especially in a BYOD environment. If you have segregated corporate and personal data, it’s easier to determine who owns what. Keep careful track of where all data can be stored so

that you can better protect that data. For example, if an employee backed up data to iCloud and is now leaving the company, simply wiping the device won’t do the trick.

Regardless, you need an effective process for removing corporate email account(s), calendar(s), and contact information from an employee’s device without disturbing any personal information. A good MAM solution will ensure that you’re in control of your apps and where they live.

By thinking ahead on the app front, you’re better positioned to achieve that mobility trifecta of enhanced employee productivity, lower total costs, and increased profitability.

## SOURCES

- [www.enterprisemobile.com](http://www.enterprisemobile.com)
- *Figuring the Costs of Custom Mobile Business App Development*
- *Enterprise Mobile Apps: Old School, New Rules*
- *The Enterprise App Store – Just Another Buzz Word or Powerful Business Enabler?*