Contents...

Three Steps to Optimize Your Mobile Strategy

3 Time to Correct the Course of Your “Mobile-First” Journey?

5 Setting Priorities for Your Mobility Initiative

7 Fine-Tuning Your Long-Term Mobile Strategy

9 Conclusion

Contributor: Matt Gillespie is a technology writer based in Chicago. He can be found at www.linkedin.com/in/mgillespie1.
Time to Correct the Course of Your “Mobile-First” Journey?

Even organizations with an imperative to enable mobile workforces struggle with the inertia of traditional fixed-client mentalities and the reality of existing desktop applications. Comparing the status quo against a lightweight but structured set of steps can help realign development efforts with their mobile intentions.

Most companies now recognize the importance of mobile devices as enterprise endpoints, wherever on the spectrum they fall from locked-down company-owned phones to all-are-welcome BYOD approaches. Many have embraced adaptive design for software, in a process that begins by considering the smallest-footprint devices and building up from there. This mobile-first approach helps ensure an optimal mobile experience and safeguards productivity, but it is often an ideal to be aspired to, rather than the reality on the ground.

The Value of a Mobile-First Orientation

A sound mobile-first initiative can help maximize productivity by providing anytime, anywhere access to enterprise resources. Getting their hands on critical information at the right moment can make workers in the field more efficient, improve workflows for collaboration and management approval, or be instrumental in helping a sales team close a deal. Key to that value is providing an optimal user experience on any device.

It is worthwhile for leaders of development organizations to periodically gauge their progress toward mobility maturity and to consider how best to advance their mobile initiatives. The high-level outline for such initiatives suggested here can help give form to that effort.

Waypoints along the Path to the Fully Mobile Enterprise

Phase 1: Transition Key Business Apps to Mobile

Phase 2: Create Apps Specifically for Mobile Usage Models

Phase 3: Put Mechanisms in Place to Drive Greater Adoption

The process of enabling an enterprise for mobile usage models is complex and ongoing, but considering progress among a few general phases can help leaders see where they are in the process and what they should do to improve.

Phase 1: Transition Key Business Apps to Mobile

For most businesses, the first step along the path to mobility is to enable existing apps, processes, and workflows for mobile devices. The key to prioritization at this stage is to target areas first that help provide unfettered mobile access to enterprise operations.
At the same time, it is important to recognize that creating a mobile version of an existing app requires more than enabling it for a smaller display and touchscreen. The right mobile development environment can help address a number of issues that can otherwise detract from the user experience.

For example, mobile apps must assume that users may have sporadic connectivity, so robust offline functionality is essential. Data caching behavior should be optimized to help avoid latency and unresponsive app behavior, even for data-intensive usages with many concurrent users. Mobile enterprise apps should also update automatically and transparently, without any action needed from users.

**Phase 2: Create Apps Specifically for Mobile Usage Models**

Beyond enabling existing capabilities on mobile devices, identifying pain points and opportunities from mobile workers can yield insights about opportunities for new usage models. Mobile-native apps might be tailored, for example, to sales people who need to respond to customer inquiries while out in the field or IT specialists who need monitoring and alerting capabilities to understand emerging situations and respond remotely where possible.

Innovation with these apps can use a host of transformative mobile components and technologies. A broad and expanding set of opportunities draws on factors as diverse as the Internet of Things (IoT), geospatial location, biometric sensors, and augmented reality. Next-generation capabilities in mobile apps can even provide real-time assistance for business tasks as well as access to systems and facilities.

Transactional workflows are also essential to getting the full value out of mobile usage models. Maximizing the ability of mobile apps to interact with enterprise data so users can better understand the business environment as they perform functions such as placing orders, authorizing purchases, and capturing information can drive up productivity and improve the user experience. Mobile development environments should allow developers to easily enable these apps to write back to enterprise back-end systems of record such as ERP and CRM platforms.

**Phase 3: Put Mechanisms in Place to Drive Greater Adoption**

Beyond providing robust functionality that makes it easier for enterprise users to do their jobs, the success of a mobile initiative depends on the ability of apps to drive user adoption and engagement. Apps should be enabled with features and capabilities specifically intended to enhance the mobile experience.

Optimizing mobile apps with personalization features specific to individual users can make them dramatically more successful. For example, the environment should interact with each user in her native language, using personally relevant and dynamic data.

Multimedia content can play a significant role in driving engagement as well, giving mobile workforces access to materials such as sales brochures, training resources, and corporate videos on demand. Even user-customizable look and feel, icons, and splash screens can help drive greater adoption.
Setting Priorities for Your Mobility Initiative

One challenge to fostering success with a mobility initiative is that it can be difficult to know where to apply limited resources for maximum impact. Keeping a few broad but bounded goals as the focus of this effort can help give structure to the process as a whole.

Business demands for mobile transition inevitably collide with finite IT resources. And maintaining quality in the face of tight timelines and budgetary constraints can be an overwhelming task. Meanwhile, IT departments must contend with the potential for a user base gone rogue: jailbroken devices, business units buying their own tech, and other factors that can threaten corporate standards and information security.

Creating the Basis for Order

Successfully prioritizing tasks within a mobile initiative requires decision makers to identify where they can add the most business value and to approach those areas first. Apps that can benefit the largest group of users possible should typically be the highest priority. At a practical level, this approach benefits from striking partnerships with business leaders to get executive sponsorship and buy-in for advancing mobility in the organization.

Developing apps that benefit the business as a whole, rather than focusing on individual business units, can provide the greatest return on investment.

Guidelines and Goal Setting for Mobile Development

Determining how to allocate resources for maximum effect is a complex undertaking, but the areas listed here will give most organizations a sound basis for developing more specific goals.

Build Efficiencies for Mobile App Development

Too often, organizations neglect initiatives that devote resources to helping developers be more productive, in favor of satisfying short-term demands. While it can be hard to take the long view while your inbox is full of urgent requests, it’s a critical discipline to strike a balance between those two types of effort. A modest allocation of team resources can make a significant difference over time.

Putting tools and resources in place that help streamline the mobile development process is critical to efficiently creating high-quality, polished apps, even by developers who may not be mobility experts. A repository or library of pre-built widgets to handle common application tasks can pay dividends, compared to repetitively coding them by hand every time they’re needed. Tools that incorporate those components into a visual drag-and-drop environment can help make development more efficient and intuitive.

That abstraction of mobile-specific functionality allows developers to focus on higher-value topics such as business logic and novel usage models, instead of the mechanical nuts and bolts to put them into practice.

Enable Mobile Access to Enterprise Data

The value of an application to end users is largely directly related to its ability to connect into enterprise systems. Being able to connect to multiple data systems makes mobile apps far more useful than those that access just one, making the developer’s ability to make these connections vital to innovation. Moreover, connections to enterprise data must be efficient and dependable; from a user’s perspective, a poorly implemented data connection can often be worse than no connection at all.
For developers to readily make those connections to back-end enterprise systems and databases, they must be able to count on data connectivity that is optimized for the variable bandwidth and connectivity requirements of the mobile environment. Tools that can generate those data connectors facilitate building the apps that drive success by promoting anywhere, anytime, any-device connectivity.

Tailor Apps to How People Use Mobile Devices

Developing successful mobile apps requires a focus on the user experience, and that focus means architecting apps from the ground up with mobile users in mind. The app itself should use native mobile interface components and controls, and it should take advantage of mobile-specific capabilities to enable novel usage models. For example, in contrast to a desktop app, GPS data could provide contextual information to make a field sales rep be aware when a nearby customer places a trouble ticket, prompting a strategic unplanned visit to the customer site.

The development environment should enable the incorporation of elements and capabilities that are valued by users, such as analytics and visualizations, real-time collaboration and meeting support, and connections to social media feeds. To enhance the user experience, apps should provide two-way connectivity, allowing users to write data back to enterprise systems.

Make Security Baked-In, Not an Afterthought

A poorly executed app may go unused, but an unsecure one can be far more damaging. And retrofitting security onto an app after the fact is inherently less efficient and probably less successful than if it were built securely from the ground up in the first place. Organizations should establish and enforce standards for the security of mobile apps. More important, the development environment must provide robust security mechanisms such as authentication and encryption for compliance with best practices and corporate standards.

Integration with external security tools plays a vital role in protecting mobile data. Of particular importance, apps must be fully integrated into enterprise mobility management (EMM) tools used by the company, such as MobileIron and AirWatch. That integration facilitates multi-level security, designing data protection into the app itself as well as providing full visibility and control over how the app interacts with the rest of the enterprise.
Shifting priorities and emerging business requirements place challenges on even the most mature mobility initiatives. Future-proofing measures to monitor, maintain, and evolve the environment are vital to protecting long-term value and success.

A well-conceived mobility initiative is never complete. Once an established set of goals has been reached, the goalposts will inevitably move, and likely before then. By anticipating that optimal outcomes will continue to shift, and putting processes in place to measure and respond to that reality, organizations can turn challenges into opportunities.

Enhanced Understanding of Apps and Users

The key to being responsive to the needs of a mobile user base is to quantify the successes and shortcomings of mobile apps beyond the capabilities of the users themselves. While that may sound daunting, it’s actually fairly straightforward, by means of mobile app usage analysis to compare the state of the enterprise with goals that have been established ahead of time.

Monitoring Usage to Optimize and Enhance the Environment

Understanding mobile app usage analysis is critical to identifying opportunities for continuous improvement. The key is to understand factors such as who is using an app, what they are doing with it, on what device, on what OS, and to have a robust, extensible mobile app platform in place that can guide app refinements on that basis. Organizations should capture statistics, analyze them to improve the app, and have tools in place that improve efficiency on that basis for both the near and the long term.

The categories described here can serve as a starting point for developing such a framework. The outcomes of this effort should include visualizations to make mobile app usage information accessible to business users and senior management, for incorporation into dashboards and reports.

App and System Performance

To gauge the quality of the end-user experience, device-specific performance measures for each app are key. For example, statistics can be gathered that pertain directly to how users perceive the app, such as time requirements for the app to open, render a page, and respond to a query. Other useful information relates to internal measures such as processor, cache, and memory utilization.

All usage information can be compared against preset values and used to generate errors, warnings, or messages as well as usage logs for review by mobile
administrators. This information is valuable to identifying cases when users frequently encounter issues that negatively affect their experience with a given app. Comprehensive mobile app usage monitoring can help identify bottlenecks and other issues to guide resolution by optimizing apps or adjusting server loads and network traffic priorities.

Usage Patterns

To understand how apps can be improved, organizations must first identify how they are being used, in as much detail as possible. Client-side monitoring of user interactions with mobile apps at the level of every screen tap can be the basis of personalized usage-pattern analysis. Statistics can be gathered about a wide variety of factors, including how much time a user spends on each specific screen and the paths they take navigating through the interface.

This data can be captured in a database and analyzed using context such as GPS location, duration of usage, and what data sources are accessed. Understanding how users interact with apps under specific circumstances and for specific tasks can reveal insights such as how effective the app workflow is in enabling users, whether they are rapidly completing tasks, flipping erratically among screens, or dropping off of the app before meeting their goals. This information is vital to help application architects and developers make informed decisions about future upgrades, as well as providing a better understanding of user workflows and priorities for new apps.

User Adoption

Another key area where mobile app usage monitoring can add value is by gathering information about adoption and usage of specific apps. Insights in this area can be sorted and examined according to a broad range of criteria, such as specific user populations, device types, or operating system versions. Further insights can be gained by examining the user cohort according to job function and geographical location.

Those factors can be correlated with numbers of document views, new users, returning users, and seconds spent in the application per user to measure the impact of changes to the environment. Outcomes of that monitoring and analysis can be tracked to identify and examine trends over time, as well as to generate a picture of how specific job functions can be better supported using mobile apps. Monitoring and analysis can also support A/B testing of design changes, reveal the success of development efforts, and identify issues that warrant further investigation or user feedback.
The mobile revolution and the need for mobile apps have created an unprecedented set of challenges for IT organizations. Creating any application for any platform has its demands, but with mobile apps there is more at stake than ever before. Getting mobile right - or getting it wrong - has a significant effect on end-user satisfaction and productivity, customer behavior and brand perception, and ultimately on the bottom line.

Development organizations can use capabilities built into the MicroStrategy environment to improve their apps and overall mobile strategies. MicroStrategy helps the transition to mobile enterprise apps that are more than shrunken-down versions of desktop predecessors, with novel mobile workflows and usage models. It also builds efficiency into the development environment, so developers can more quickly create high-quality, secure apps, even if they are not mobility experts.

Once mobile apps are developed, monitoring app performance and responsiveness helps create better apps and a superior user experience. Analysis of how users are interacting with an app provides insights about the strengths and weaknesses of mobile workflows. Examining how apps are adopted and used by various cohorts adds to understanding of how changes to the environment affect usability, which helps guide the development path. By enabling development organizations to do a better job improving mobile apps, MicroStrategy increases efficiency, drives up solution quality, and ultimately saves on costs.

Taken together, these measures improve the development process itself as well as the mobile apps it produces, helping design and development organizations drive greater value from the mobile enterprise.

For a deeper look at MicroStrategy capabilities to transform mobile app development, visit www.microstrategy.com/us/products/capabilities/mobile.

Contributor: Matt Gillespie is a technology writer based in Chicago. He can be found at www.linkedin.com/in/mgillespie1.