

Mobile Applications: Implications in Modern Business

Companies in all business classifications from enterprise to small business are considering the use of mobile applications as a new cornerstone in the foundation of day-to-day business. As phone and tablets become ever more omnipresent tools for most employees, it only makes sense to leverage them for business use by identifying critical tasks and creating easy to use, rich user-interfaced mobile applications designed to make sales and operations run smoothly and more efficiently. Mobile applications must be accessible through different mobile devices, including iPad, iPhone, Windows and Android mobiles, with consistent high-quality user experience as part of the implementation.

In addition to the standard understanding of mobile applications for consumer-based businesses, from retail stores to dentists to insurance agents, traditional B2B sales and service organizations and even manufacturing companies are realizing the benefits of increased real-time data directly from field-based employees. Modern applications include:

Sales and Service

- Mobile CRM data – manage current customers and leads from the field
- Mobile delivery of computerized sales presentations
- Instant download of sales materials
- Instantly uploaded signed purchase orders and invoices
- Document storage and retrieval

Production Process and Inventory

- Supply chain and materials tracking and delivery
- Production analysis – completed task reporting
- Inventory analysis – real time/place item tracking and re-order
- Database information delivery

Distribution

- Confirmed delivery tracking of goods
- Geo-routing
- Client event and services scheduling
- Employee tracking

Benefits of Mobile Applications

- Business Changing Results
 - Fact-based Management Decisions
 - Instant Trend and Bottleneck Spotting
 - Workflow Efficiency
- Increased Workforce Productivity
 - Job Specific Workflows/Approvals/Checkpoints
- Reductions in Workforce Frustration/Improved Morale
 - Rich User Interfaces
 - Reduction in App Switching
 - Efficiency and Productivity
 - BYOD (Bring Your Own Device) support
- Maximize software ROI

Key Issues in Mobile Application Development for Small Business, Mid-Market, and Enterprise

Mobile application development, like business software development in general, should be designed with an overall strategy that includes mapping to back-end data, API-based development, decision analytics that monitor performance, and implementations that scale. Mapping to back-end data means real time update across all company systems, eliminating the need for double data entry and multiple buckets for the same information. API design and development should be adhered to in order to provide data integrity security and limit access to authorized use. Performance analytics must be aggregated and distributed to management for trend capitalization and timely pivot point decision-making. Scalable implementations protect the software and institutional knowledge investment as the business grows. As mobile applications begin to deliver on the promise of critical task management for enterprise, mid-market and even small business, C-level executives are coming to understand the importance of investment in revolutionizing business processes and managing growth in addition to cost cutting as benefits.

From the software design perspective, despite the unique nature and scale of each business type and classification, there are commonalities for most mobile applications and they fall into the following categories: CRM; sales management, standardized email generation; scheduling; purchase order/invoicing; document scanning and storage; inventory tracking; time and materials tracking; bar code scanning; geo-location tracking; home office communication and more.

Also independent of organizational size and complexity, mobile application implementations are composed of two general parts: the platform and the mobile application:

- The platform consists of an N-tier development environment composed of the screen or graphical user interface, source coding including logic for business formulations, database design, compilation, documentation, debugging, testing, and an application programming interface (API). The platform is responsible for communications, security, scalability, and when

required cross-platform support. It does not store data; it manages data residing on the back-end system and provides for communications back and forth.

- The mobile application includes the software that controls both the user interface and the business logic on the device. Applications can be designed for installation native to the device, sometimes referred to as “thick” applications or designed to function within a device browser, such as HTML5, otherwise known as a “thin” application approach. The approach chosen and deployed depends on varietal device support (BYOD), application complexity, the need for availability without network coverage, and other factors.

Small Business

Small business concerns can often automate virtually all of their business application needs on a mobile platform, enabling almost every major function of day-to-day operations in the field. Often, the impetus behind the implementation of mobile applications for small and mid-market organizations stems from the lack of specific functionality required from disparate packaged desktop software. Custom business mobile applications allow the combination data from multiple sources within the different departments or units of the organization including customer, marketing, and inventory, for example, into a single interface. Employee agility, efficiency, and flexibility are enhanced when working with customers and with other employees.

Since the costs to integrate business processes and information requires custom-developed software irrespective of mobile considerations, mobile applications become a realistic goal even for small businesses with just 20 employees. Mobile applications also contribute to a unique customer experience engaging customers and partners as well as employees and provide a competitive edge no matter the magnitude of the business or application.

Mid-Market and Enterprise

The benefits of mobile applications for mid-market organizations mirror those of small business organizations at the start, but the variety and complexity of uses increase exponentially over time. Additional mobile applications, which specialize in particular business units and/or subsidiaries are developed to handle the complexity of both mid-market and enterprise business. For example, as an organization reaches mid-market size, usage of the mobile application scales up to include more Business Intelligence functions (For more information, see our BI whitepaper. Download at <http://palmbeachsoftware.com/Business-Intelligence-Automation>) providing management dashboards and pivot point information for multiple field-employees.

For mid-market organizations, mobile application development issues often center in vertical scaling strategies that increase power, memory, and storage; these are employed to improve the capabilities of a server or multiple servers to assure continued efficient performance. As organizations approach enterprise level, both vertical, and horizontal scaling tactics which employ multiple servers among different geographic locations, load balancing, and distributed database, are used to address larger usage requirements. The cloud compatibility of multiple application types, both web, and mobile, alleviate the separate platform “silo” problem by eliminating the need for multiple builds of the same application in separate platforms for enterprise concerns, ultimately realizing development cost efficiency.

Mobile ecosystems in mid-market and enterprise organizations are complex and must be dynamic to be functional. Many IT departments cannot pivot fast enough or do not routinely maintain mobility experienced staff, so the outside expertise concentrated in a smaller mobility-focused software firm is utilized for the timely implementation of mobile applications aligned with corporate goals. Small, agile software design firms with mobility expertise who understand the necessity of rapid development and deployment, as well as future growth scalability concerns and the need for the seamless evolution of underlying technology for enterprise level organizations, are often contracted for mobile application projects. In addition, minimizing the IT footprint is often cost effective.

The preceding information is provided only to provide a simple framework for the consideration of development and use of mobile application deployments within different organizations. Mobile applications can turn both management and field-employees into instant sales and data resources, empowering them to take relevant actions that directly and immediately impact the bottom line, no matter what the company size.

About Palm Beach Software Design

Palm Beach Software Design is comprised of a small, tight team of software and business professionals dedicated to growing businesses up to \$75M by helping them to improve their potential by making operations more efficient, increasing sales and public impact, and modernizing for today's business climate using technology and software as a basis. We are process-driven, with high standards of excellence, and a dedicated staff. We have been in business for 30 years, and although we are a Florida-based company, we serve clients throughout North America. Please contact us at 561-572-0233 and visit us on the web at www.palmbeachsoftware.com to learn more about how Palm Beach Software Design, Inc. can help your business get that competitive business advantage.