



## An innovative option for fast iPad and iPhone development

Meeting the need to improve business processes with custom solutions for iPad/iPhone

### Executive Summary

- Organizations must be more responsive and improve operations and services.
- To accomplish this, many business units hope to leverage the iPad and iPhone.
- When planning iPad/iPhone projects, there are several development and deployment issues to consider.
- FileMaker offers a rapid development environment to take immediate advantage of the iPad/iPhone revolution.

TODAY, ORGANIZATIONS NEED TO BE MORE responsive to changing business conditions, improve efficiency, and deliver innovative customer service.

To accomplish these objectives, many business units and IT departments hope to leverage mobile computing devices in general, and the iPad and iPhone in particular.

A recent CIO Insight survey<sup>1</sup> of 188 IT executives put this interest level in perspective. Tablet devices rated at the top of the list of technologies the executives expected would help their company achieve its business goals this year. In particular, executives expected tablets to help improve business processes, generate increased revenue through

improved customer service, and help reduce costs.

Many individuals, business units, and companies are already using their own or company-issued iPads and iPhones for personal and some work-related tasks. And the growing use of Apple's iOS platform is leading many businesses to imagine changes in the way departments and individuals work.

For example, a sales representative at a customer's site has a better chance of closing a deal if he or she can provide specific answers on product specs, pricing, and availability while sitting with the client. Staff in the warehouse track assets with greater efficiency when using iPads connected to the central inventory database instead of using paper clipboards. And mobile sales and service workers save time and money -- and impress customers -- when they manage routes and generate customer-quotes on site, transmitting updates to a central database in real time.

In short, the iPad/iPhone platform allows companies to streamline existing data-driven tasks and to develop many new and innovative processes. This, in turn, can help organizations gain a competitive advantage.

### How to approach iPad/iPhone solutions

When creating custom data-driven solutions for iPad/iPhone, consider this checklist of critical considerations:

- ☑ **Speed of prototyping and development:** Organizations want to prototype and test mobile solutions quickly, as opposed to planning a development and deployment timeline for the next year. For example, a department might aim to extend a customer relationship management (CRM) system to five employees' iPads, quickly assess the benefits, and then expand the system to more users.
- ☑ **Easy integration of corporate data from multiple data sources:** Mobile users, like office workers, need relevant data (customer and inventory data, for example) to make intelligent business decisions. Solutions for iPads and iPhones must aggregate data from SQL databases, spreadsheets, and other sources, and flexibly present the data as lists, charts, graphs, or forms on mobile devices.
- ☑ **iOS-optimized interface:** iOS solutions require interfaces that support gestures (swipe, pinch to zoom, tap to enter fields, etc.) and are optimized for iPad/iPhone screens. The interface should be clean and uncluttered with controls that appear and hide as needed and automatically fit to iPad and iPhone screens.
- ☑ **Ability to distribute updates to the solution:** You will need a method to distribute updates to the solution to mobile devices. Ideally, updates will be automatic, or at least very easy for users to apply.
- ☑ **Online/offline access:** Depending on how the iPad/iPhone solution is used, there may be a need to provide offline access to information. Commonly, an order-entry system might be designed to allow a sales team to enter orders when there is no Internet connectivity (such as on an airplane or in an office with poor wireless signal strength). Once a connection is established, the solution would automatically update the company's database.

### FileMaker - A unique platform for developing custom iOS solutions

The FileMaker product line, including FileMaker Go, meets the full checklist of needs for creating custom iOS solutions. FileMaker is especially strong when developing data-driven solutions, such as for managing a business' custom information, workflow, forms, and business processes, and when publishing information to mobile workers.

### The iPad/iPhone platform allows companies to develop many new and innovative processes

- FileMaker Pro is a widely used development environment that empowers organizations to quickly build custom database solutions. It allows fast and affordable solution development because:
- ☑ **Mobile data security:** With many millions of mobile devices in use at businesses, organizations are concerned with mobile data security. One option is for the iPad/iPhone solution to connect to data stored only on secure central servers. The information is then fully accessible by mobile users, but the data is never stored on the devices.
  - ☑ **Run on desktops as well as mobile devices:** A custom solution for iOS devices often must also run on desktop computers. For example, survey data may be captured on a mobile device and analyzed on the desktop. Choose tools that let you develop a solution once and run on mobile and desktop platforms, avoiding the need to duplicate your work.
  - It combines user interface design, business logic and automation, and database services into one platform. FileMaker Pro uses a graphical user interface (GUI) with support for drag-and-drop solution creation.
  - Functional prototypes of workflow can be completed in hours or days versus weeks or months. No iOS application programming or design experience is required.
  - It is easy to integrate with existing databases and data warehouses, offers fast development time, low solution costs, and opens up iOS development to institutions and departments of all sizes.

### The full power of desktop databases on iOS

FileMaker databases are developed on Windows or Mac OS PCs using FileMaker Pro, and run on iOS devices using the FileMaker Go App.

FileMaker Go uses the same database engine as FileMaker Pro, thus bringing the full power of a desktop database to iOS. The full set of FileMaker automation tools, such as scripting, conditional formatting, complex relationships, and calculations work on iOS just as on the desktop. FileMaker can be used to implement sophisticated workflow and business processes for mobile devices.

Users benefit from the easy-to-use FileMaker interface. Comprehensive sorting, searching, and record navigation tools are available for all solutions. A “Save as PDF” option lets a user create reports, invoices, or forms as a PDF and email or print them from FileMaker Go. Enhanced photo support allows users to take a photo with an iPhone, iPod touch or iPad and add it directly to a database on FileMaker Go.

### FileMaker offers a rapid development environment to take immediate advantage of the smart phone and tablet revolutions

The FileMaker Go app runs FileMaker databases with built-in full gesture support: swipe, pinch to zoom, and tap work without any effort by the developer. FileMaker Go makes it easy to optimize the interface for iPad/iPhone in other ways: The interface is clean and uncluttered, with minimal controls that appear and hide as needed.

Organizations can easily add charts and graphs into mobile solutions, enabling both real-time and off-line visualization of business information. Businesses can build mobile dashboards from disparate institutional data.

Users also can capture signatures directly on their devices and add them to their solutions via FileMaker Go. Signatures can be exported back to the desktop or uploaded instantly to databases hosted on FileMaker Server.

There are several options for easy deployment of solutions to FileMaker Go.

Databases can be hosted using FileMaker Server, so data and the solution remain on the server while FileMaker Go remotely opens and runs the databases. Mobile data is always current and any mobile updates are instantly written back to the server. Data connects to the server via the internet, virtual private network (VPN), or local wireless network.

Another option is to distribute the solution and data to the iOS devices so they are available when offline. This simple alternative is well-suited for sharing content like product catalogs and price lists on iOS devices. Databases can be copied locally onto an iPad, iPhone, or iPod touch using iTunes, emailed to users, or simply posted to a web site for downloading. Users can copy updated data using iTunes or emailed it back for merging.

Finally, it is possible, using scripts, to implement a synchronization solution on top of FileMaker Server. Solutions can be simple, involving a “check in-check out” scheme for records, or full two-way sync with conflict resolution.

The iOS solutions created with FileMaker Pro are secure because FileMaker Pro supports privilege set-based security and integration with authentication systems like Active Directory and Open Directory. Communications with the server or a remote desktop are encrypted using standards-based SSL connections. When connecting to FileMaker Server all data remains on the server so if the mobile device is lost or stolen no data is lost with it.

FileMaker Pro solutions can incorporate data from multiple sources, including SQL sources such as Oracle, MS SQL Server and MySQL. FileMaker Server connects to SQL databases using FileMaker’s built-in external SQL sources (ESS) integration or via xDBC or XML. Once the connection is established, data from SQL sources can be easily published to mobile users as part of the workflow that drives your business processes.

Solutions created with FileMaker Pro automatically run on iOS devices, and on Windows and Mac platforms, with no modifications required. There is no need to create separate solutions for each environment. Screens can be easily customized for various devices and input methods, but data structures, relationships, business logic, and the majority of the user interface is fully reused.

Thanks to the built-in web publishing features, FileMaker Pro solutions can be accessed via a browser as well as on the desktop and on mobile devices. For example, customers might enter web-based orders on an e-commerce site, and the orders can be distributed to mobile service workers with iPhones.

### Types of Supported Processes

The business processes that can be supported using FileMaker Pro to develop iPad and iPhone solutions are limited only by the imagination. Because of the easy-to-use yet powerful development environment, the capabilities are within reach for organizations of all sizes and all degrees of technical sophistication. In particular, the FileMaker Pro GUI and drag-and-drop capabilities enable even one- or two-person operations to develop powerful solutions.

### When evaluating development choices, it is important to consider development, deployment, and application maintenance issues

Here are some examples of home-grown applications using FileMaker Pro that are improving some aspect of a business' operations:

- **Improved employee productivity:** Pharmaceutical giant Merck & Co. developed a dictionary of thousands of commonly used terms for employee iPads and iPhones. Given the complexity of the company's drug development work and the specialization by various departments, the dictionary of terms and acronyms improves communications across departments and helps whenever an employee needs to clarify the meaning of a term.
- **Inventory access on the go:** Orca Books in Olympia, WA, had its inventory, customer data, ordering, buying, cataloging, and other information in a FileMaker Pro database. Using FileMaker Go for iPhone, the store owner now checks inventory data remotely while shopping for new titles.
- **Fast, accurate estimates:** Johnson Controls, the industrial lighting leader, is collecting factory/office lighting estimate info with FileMaker Go for iPad, integrating with its central database, and making

the estimate process faster and more accurate.

There are many other processes well-suited for custom iPad/iPhone solutions:

- **Solutions to check and update warehouse inventory:** The portable nature of the iPad/iPhone makes them ideal for such operations. These solutions eliminate the need for a proprietary system or specialty hand-held device.
- **Generating sales orders at customer sites and providing mobile sales teams with up-to-date information about stock and pricing through the iPad and iPhone.**
- **Mobile updating of a project's status:** Employees can enter updates, which then sync with a company database so all project members know the current status.
- **Workflow solutions to move electronic documents along an approval chain.** A user can amend or edit a document using the iPad/iPhone. Solutions such as these are accessed locally, on wireless networks, and while remote, using direct internet access or VPNs.

### FileMaker as Your Technology Partner

FileMaker, Inc. is a database software leader offering a best-selling and easy-to-use environment for the development of data driven solutions. FileMaker is a wholly owned subsidiary of Apple.

The company's software is widely used with more than 16 million units shipped worldwide, and offers a complete platform for rapid database and application development. FileMaker solutions scale to meet the needs of small and large workgroups, as well as of individuals.

FileMaker Pro is available for Microsoft Windows and Mac OS. It is also available in desktop, server, iOS and Web-delivery configurations.

Because FileMaker Pro is easy to use, it is common for organizations to create their own solutions. However, companies that want expert help can turn to the FileMaker Business Alliance, a network of more than 1,000 firms with authorized FileMaker consulting practices focused on rapid database development projects.

### Conclusion

The popularity and usefulness of the iPad and iPhone make them an ideal platform for improving business processes. Many organizations are already creating innovative solutions that improve customer service, sharpen operational efficiency, and make business information available to mobile users.

Companies that want to take advantage of the iOS platform need a cost-effective, quick and easy way to develop, prototype, deploy, and update iPad/iPhone solutions.

FileMaker Pro and FileMaker Server are ideal technologies for developing and securely hosting databases at the heart of such solutions. And the FileMaker Go app gives companies an effortless way to run these diverse solutions on iOS devices.

For more information about developing custom solutions for the iPad/iPhone, visit:  
<http://info.filemaker.com/US-en-US-iOS-Deployment-Kit-LP.html>