



INT07: FileMaker 10 and the iPhone

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Who am I?

- **Principal consultant for MightyData (Dallas, Austin, Houston and Denver)**
- **MightyData is FBA Platinum Member**
- **FileMaker 10 Authorized Trainer**
- **FileMaker 10 Certified Developer**
- **15+ years experience as software developer**
- **Specialize in systems integration projects (aka Tough Stuff)**

What you will learn?



- **Overview of three FileMaker-to-iPhone solutions**
 - Sync with Address Book and Outlook
 - PHP Site Assistant with Phone theme
 - FMTouch (iPhone application)
- **What is necessary to develop and deploy each solution**
- **Advantages and tips for each solution**

Options Not Considered



- **Instant Web Publishing**
- **Bento and Bento for iPhone (personal option)**
- **MobileMe (personal option)**

Three Models for FileMaker-to-iPhone



- **Stand Alone – Sync with desktop application**
 - Copy of data when away from the computer
- **Network – Access via 3G or Wi-Fi network**
 - Live access to data via web application when network is available
- **Hybrid – Copy of data, Sync with server via 3G or Wi-Fi network**
 - Copy of data when network is NOT available
 - Sync with latest data when network is available

Sync with Address Book (AB) and Outlook



- **Use desktop apps as conduit between FileMaker and iPhone**
 - Use plug-in to sync data changes between database and desktop app
 - Use standard iTunes sync to copy data to iPhone
- **Use plug-ins from Productive Computing**
 - Address Book Manipulator \$74.95 (Mac)
 - Outlook Manipulator \$99.95 (Windows)
 - www.productivecomputing.com

Sync with Address Book (AB) and Outlook (cont.)



- **Includes basic scripts to push or pull data**
- **Does not include scripts for two-way sync**
 - Can write custom scripts to handle sync
 - Record-level sync NOT field-level

4-Step Process to Use Plug-ins



- **Test push/pull scripts included with demo**
- **Study documentation to learn plug-in functions**
- **Compare data model of FileMaker database and desktop app**
- **Decide the sync method necessary**

3 Sync Methods



- **Push data from FileMaker to desktop app**
 - Data changes in FileMaker overwrite desktop app
- **Pull data from desktop app to FileMaker**
 - Data changes from desktop app overwrite FileMaker
- **2-way sync (push and pull)**
 - Copy data changes from FileMaker to desktop app
 - Copy data changes from desktop app to FileMaker
 - FileMaker is the master

Two-Way Sync Logic



1. Mark records to share between FMP and iPhone

- Checkbox field in FileMaker
- "FMP" group or category in desktop app

2. Push from FileMaker to desktop app

- Find records modified in FileMaker since last sync
- Overwrite records in desktop app from FileMaker

3. Pull from desktop app to FileMaker

- Download records modified in desktop app since last Push to holding tables
- Use "Import, Update matching records" to sync holding tables with FileMaker tables

Advantages of Using Plug-ins



- **Allow user to leverage functionality of built-in iPhone applications**
- **Work with data offline (No network)**
- **Great for taking specific data (contacts or calendar) with you**

Address Book Data Model



- **Place contacts in "FMP" group in Address Book**
- **Contact record with related records**
 - Address
 - Phone
 - Email
 - IM (Instant message)
 - Web pages
- **Query contacts using traditional search criteria**

Address Book Demo



- **Let's see how it works**

Outlook Data Model



- **Mark each contact with "FMP" category in Outlook**
- **Flat contact table with 100+ attributes**
 - Multiple addresses (Business, Home, Other...)
 - Multiple phones (Business, Mobile, Home...)
 - Multiple email (E-mail 1, E-mail 2, Email 3)
- **Query contacts using "Restrict Method"**
 - Query syntax from Microsoft for Visual Basic
 - [CompanyName] = 'FileMaker Inc.'
 - See Outlook Manipulator documentation

Outlook Demo



- **Let's see how it works**

PHP Site Assistant (SA)



- **Step-by-step wizard to create PHP web site**
- **Includes theme designed for iPhone**
- **Requires access to FileMaker Server 10**
 - Database must be hosted by FileMaker Server
 - Database must have account with "fmphp" extended privilege
- **Java application similar to Admin Console**

4-Step Process to Use SA



- **Go to FMS 10 Start Page to launch SA**
- **4-step process to create web site**
 1. Connect to database (Site Settings, Login style)
 2. Choose Site Profile (4 different profiles)
 3. Choose Theme (iPhone)
 4. Generate site
- **"Layout Group" determines tables and fields available**

Advantages of SA



- **Looks like a real iPhone application**
- **Live connection to data (requires network)**
- **Supports creating and editing portal records (but not deleting)**
- **Has Summary Report option**
- **Can save site settings and edit later**

Tips for Using SA



- **Add index.html to site folder**
 - `<meta http-equiv="refresh" content="0;URL=home.php">`
- **SA assumes web server and Web Publishing Engine are on the same computer**
 - If separate computers, need to add host to various pages
 - `$fm->setProperty('hostspec', 'your_IP_address');`
- **Use concatenated text calc for search page**
- **Limit number of fields on search results page (1-4)**

Tips for Using SA



- **Default search operator is "contains"**
 - Could be slow on database with large record sets
- **To change default search operator to "begins with"**
 - Open findrecords.php
 - Change each line `<option value="cn" selected>` to `<option value="cn">`
 - Change each line `<option value="bw">` to `<option value="bw" selected>`

Tips for Using SA



- **To reduce height of records on search results page**
 - Open `iphone_blue.css`
 - Find: `#browseRecords ul`
 - Comment out: `padding-top: 10px;`
- **Fields for default sort order on search results page have to be on layout**
 - Do NOT have to be displayed on web page

Tips for Using SA



- ~~Hard code the sort order in report.php~~
 - Find line:
~~*// store the number of columns in this report table*~~
 - Add to blank line above:
~~*\$findCom->addSortRule(\$groupField, 1);*~~
~~*\$findCom->addSortRule('field_name', 2);*~~
- **This was fixed in FileMaker Server Update 10.0v2**

Site Assistant Demo



- **Let's see how it works**

FMTouch



- **iPhone application from FMWebSchool \$29.99**
- **Creates database on iPhone using Database Design Report (DDR)**
- **Uses a FileMaker plug-in to communicate with database**
- **Database can be hosted by FileMaker Pro or FileMaker Server for syncing**

5-Step Process to Create Database on FMTouch



- **First design/develop database in FileMaker**
- **5-step process to create database on iPhone**
 1. Generate DDR (computer)
 2. Select computer where database is hosted (iPhone)
 3. Select DDR for database to create (computer)
 4. Click the Initialize button (iPhone)
 5. Select layouts to use on iPhone
- **FMWebSchool offers DDR Generator to create Database Design Report**

3-Step Process to Sync FMTouch



- **Assumes you have already created database**
- **3-step process to sync FMTouch**
 1. Click the Sync button
 2. Select computer where database is hosted
 3. Click Start Sync button
- **Syncs over wireless network not USB cable**
 - Works with ad-hoc wireless network

Syncing with FMTouch



- **Can run FileMaker scripts pre/post sync**
 - Special FileMaker scripts:
 - __FMWS_FMTouch_PreSync
 - __FMWS_FMTouch_PostSync
- **Order of sync commands (FMTouch is master)**
 - Send deletes from FMTouch
 - Send edits from FMTouch
 - Send adds from FMTouch
 - Get latest data from FileMaker

FMTouch Features



- **Supports creating, editing and deleting portal records**
- **Supports merge fields**
- **Supports regular and relational value lists**
- **Can use AES 128 or 256-bit encryption**
- **Data detectors: Phone number, Email address, Web address**
- **Supports Web Viewer**

FMTouch Features



- **Add images to container field from camera or photo album**
- **Sync embedded container fields**
 - FileMaker script: `__FMWS_FMTouch_Tools`
- **Capture signature in container field**
- **Generate PDF and email**
- **Generate CSV file and email**
- **Voice recording and playback in container field**

FMTouch Calculations Functions



- **Supports some calculation functions**

Abs	If	Position
Average	Left	Right
Count	Length	Round
Evaluate	List	Substitute
Get (value)	Lower	Sum
GetAsNumber	Max	Trim
GetNthRecord	Middle	Upper
GetValue	Min	ValueCount

FMTouch Get Functions



- **Get (LastError)**
- **Get (LastMessageChoice)**
- **Get (ScriptParameter)**
- **Get (ScriptResult)**
- **Get (FoundCount)**
- **Get (LayoutName)**
- **Get (LayoutNumber)**

FMTouch "Special" Functions



- **Evaluate ("FMTouch_Sync") – Opens the FMTouch sync dialog**
- **Evaluate ("FMTouch_Scan_Barcode") – Opens barcode scanning interface**
 - Experimental
 - iPhone 3GS only

FMTouch Script Steps



- **Supports some script steps**

Go to Layout	Close Window	If
Go to Record	Close File	Else If
New Record	Exit Application	Else
Delete Record	Set Variable	End If
Set Field	Loop	Dial Phone
Perform Find	Exit Loop If	View As
Show/Hide Status	End Loop	Enter Find Mode
Go to Related Record	Exit Script	Comment
Send Mail	Open Preferences	
Open URL	Show Custom Dialog	

Advantages of FMTouch



- **Allow users to work with data offline (no network)**
- **Leverage your FileMaker development skills**
 - Does require some adjustment to iPhone behaviors
- **Can create custom application for iPhone**

Tips for Using FMTouch



- **Use 320 x 374 rectangle to simulate screen size**
- **Make invisible object with 320px width to ensure layout position**
- **Use "Go to Layout" buttons for one-click navigation**
- **Making field in a portal into a button doubles size of portal row, Use separate button**
- **FMTouch does support External File References**
 - Requires uploading additional DDR for external file

Tips for Using FMTouch (cont.)



- **Use iPhone simulator for development**
 - developer.apple.com/iphone/
- **Request simulator build of FMTouch from FMWebSchool**
- **There is lot of documentation in the FMWebSchool forums**
 - www.fmwebschool.com/frm/

Server Sync with FMTouch



- **FileMaker Server with XML Publishing enabled (FileMaker Server 9 and 10)**
- **Server Sync plug-in installed in Web Publishing Engine**
 - FileMaker Server/Web Publishing/publishing-engine/wpc/Plugins
- **Sync helper script imported into database**
- **Database must have an account with the "fmxml" extended privilege**

Other Resources



- **PHP Site Assistant Tips for iPhone**
 - www.campsoftware.com/blog/hal-gumbert/filemaker-iphone-php-site-assistant-tips
- **FMTouch Style Guide v2 by Andy Gaunt**
 - www.fmtouch.com/FMTouchStyleGuide_v2.zip
- **Sample database included with FMTouch**
- **Sample database included with FMTouch Style Guide**

FMTouch Demonstration



- **Let's see how it works**

FileMaker Developer Conference 2009



www.filemaker.com/devcon/speaker_updates

(This is also listed in your conference binder)

This session WILL have updates.



**Please remember to fill out your
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