FileMaker for PHP Developers

FileMaker is a popular and powerful desktop database application toolkit. Recently, FileMaker, Inc. released a beta version of the FileMaker API for PHP, which allows PHP to more easily talk to the FileMaker Server Advanced product. Learn how to leverage FileMaker's strengths to deliver complex Web applications in a fraction of the time it would take using a typical SQL database.

T f you are not familiar with FileMaker (or have not checked it out in a while), this article should give you a good feel for the Web publishing capabilities of a unique database application that is installed on 12 million computers around the globe.

I have two goals for this article:

- To familiarize you with the FileMaker environment
- To introduce you to the FileMaker API for PHP

What is FileMaker?

FileMaker is a workgroup productivity toolkit designed to let knowledge workers quickly and easily construct data management systems for themselves. It is often referred to as a database—which it is—but it is more than that. In order to give you a solid understanding of how and when to use FileMaker, I am going to run through a realworld scenario.

by Jonathan Stark

PHP: 4.3.x or better

0/S: Any supported by PHP

Other Software: FileMaker Pro and FileMaker Server Advanced

TO DISCUSS THIS ARTICLE VISIT:

http://forum.phparch.com/358

Spreadsheet Headaches

ABC Company sells office supplies. Their catalog team is responsible for publishing product catalogs that are distributed to the sales force for generating new business. Every week or so, the catalog team receives spreadsheets of products that need to be included in upcoming catalogs. Information and images for any new products must be procured from the product manufacturer. Once all the data has been gathered, it is entered into a page layout program and printed. The catalog team finds this process very frustrating, because the spreadsheets are more often similar than not. Any given item might be going into multiple catalogs, so any changes to the item price, for example, must be made in multiple spreadsheets.

Even worse, the team members have to pass documents back and forth, making sure to keep track of who has the most recent version. It is all too easy to overwrite the wrong file, or to find different changes made to two copies of the same document. Merging these changes is a tedious manual process. Clearly, the team needs a database application, but the IT department is too busy to deal with it. The catalog team know exactly what they need, and would be happy to build it themselves, but none of them have the time (or desire) to become a programmer.

FileMaker to the Rescue

One of the catalog designers—I'll call him Dave—does a little research and stumbles upon FileMaker Pro. He downloads a trial version and, in a couple of hours, has all his catalog spreadsheets imported into a single relational database file. FileMaker Pro has layout and scripting tools built right in, and Dave is able to rough out a series of data entry screens and buttons that perform automated tasks. It's nothing fancy, but it works.Within a week, Dave's boss Cathy notices that Dave is cranking out catalogs with time to spare. She asks him what his secret is, and he shows her his little database application. She likes what she sees of the database application and asks Dave what it would take to roll it out to the five other catalog designers. He tells her that she just needs to purchase and install the software. The other designers can actually log into Dave's database directly from their machines using FileMaker Pro's peer-to-peer sharing feature. They would all be working in the same database at the same time—no more emailing spreadsheets back and forth. It just so happens that it is the end of the fiscal year and Cathy has some leftover budget burning a hole in her pocket, so she buys five sets of FileMaker Pro.

This all works out great. All the designers are happy that the most tedious part of their job has evaporated, and Cathy is happy because the team's output and accuracy is at an all time high.

Now Everyone Wants FileMaker

Interestingly, Dave now finds himself spending more time improving the database than building catalogs. The team continually suggests tweaks and improvements that he is only too happy to implement. The application starts to get guite sophisticated and has lots of embedded business logic. More importantly, it is becoming the best source of up-to-date product information in the entire organization. Dave's little database starts to gain notoriety. Product managers and salespeople start calling Dave for custom reports. Cathy's boss takes notice of the team's increased output and is given a tour of the application. Before you know it, the marketing department wants a version. Dave is happy to comply and builds the features that they need. However, there are quite a few people in the marketing department, and FileMaker Pro can only share peer-to-peer with five users.

The IT department is called in and they purchase a copy of FileMaker Server, which allows up to 250 connec-

tions. The server software is installed and Dave's little database is now hosted to anyone in the company that has FileMaker Pro installed.

At this point, Dave is busier than ever. People are constantly calling on him for custom reports and new features. At the same time, there is a growing desire from the sales force to get access to the database from outside the office, preferably via the Web. If they could just browse the product data without having FileMaker Pro installed, they could stop pestering Dave.

Dave suggests to IT that they upgrade FileMaker Server to FileMaker Server Advanced (FMSA), because FMSA allows Web connections. IT gets approval and the server is upgraded. Unfortunately, Dave doesn't know PHP.

That's where you come in.

Pause for Perspective

This example is not meant to sell you on FileMaker. It is meant to illustrate how quickly and thoroughly it can penetrate a small business or a workgroup. If Dave had had to build the application with PHP and MySQL, it would never have been built. Even if he knew how to do it that way—which he didn't—it would have taken him ten times as long to build.This increased development time is significant. When application development takes a long time, it is common for the business needs to have changed in the meantime. The marketplace is not going to stand still while you are coding. Rapid change is the hallmark of FileMaker applications. When the business changes fast, FileMaker is a great option for internal systems.

When Web development needs to keep pace with these rapid change requests, it can present a problem. The only way you can realistically pull it off is to have the Web site inherit much of the business logic that is built into the internal system—which brings us neatly to the FileMaker API for PHP.

The FileMaker API for PHP

You can connect to FileMaker Server Advanced via ODBC, but to do so with a Web application would be to discard the main advantage of using FileMaker as your backend—namely, the reuse of embedded business logic. Fortunately, FileMaker, Inc. has released a beta of something called the FileMaker API for PHP. It is a bundle of object oriented PHP files that you can install on any typical Web server running PHP 4.3.x or greater. The API is a free download, although using it requires File-Maker Server Advanced and FileMaker Pro, which are not free.The bundle has one main file called—appropriately enough—**FileMaker.php**. If you want to talk to File-Maker with PHP, you just download the bundle, include **FileMaker.php** in the page you are working on, point it at FMSA, and you are off to the races.

As an aside, there is also an installer version of the API available—but if you are already running PHP, you are going to want to avoid it because it will override your **php.ini** file.

The developers of the API went to great lengths to allow access to more than just the data in the database they knew that much of the 'data' in a FileMaker solution is embedded in the interface itself, so they revealed it to the API. As a result, connecting to FileMaker using the API for PHP allows you to run scripts, pull value lists from your layouts, work with portals of related records, and so on.

Of course, none of this carries much weight if you don't know what portals, scripts, and value lists are, or how incredibly easy it is to make them. My next step is to give you some idea.

No Habla FileMaker?

It is beyond the scope of this article to teach you how to develop FileMaker databases, but understanding the terminology will be a great start, so let's begin with a glossary of FileMaker terms:

• File—A FileMaker file is a single self-contained binary that is created by the FileMaker Pro application. FileMaker files are sometimes referred to simply as 'databases', and can be identified by their .fp7 extension. Like a typical database, they can contain one or more tables. Unlike a typical database, they can also contain a UI for interacting with the data in the tables.

- Window—When you open a FileMaker file with FileMaker Pro, a window is created. You can have multiple windows into a given file, but you must have at least one window open for the file to be open. When you close the last window into a file, the file closes.
- Layout—A layout is what you is displayed in a FileMaker window. A layout is basically a screen that allows users to search, view, and edit data in the file. Each layout is linked to a single underlying table. Each table can have any number of layouts attached to it. Layouts come in three flavors: Table view, which shows your records in a spreadsheet style format, List view, which shows multiple records in the same window (think of Google search results), and Form view, which shows a single record at a time (think of a typical Web form).
- Mode—When you are viewing a layout in a window, you can opt to view it in one of four modes: Find, Browse, Preview or Layout. A user would enter Find mode to define search criteria for records. To create, edit, duplicate, or delete records, you must be in Browse mode. Entering Preview mode will show you how the layout will look if printed. Layout mode is for creating, editing, duplicating or deleting the objects on a layout, or the layouts themselves.
- Field—The word 'field' can be quite confusing in FileMaker because it means two different things depending on the context. If

In LESS Than ONE MINUTE You Can Run the Easiest, Best-Guaranteed, Re-brandable PHP Email Management Software On the Planet and Triple Your Email Marketing Success Rates!

You may have tried other email systems or auto-responder software, or even tried programming your own email software yourself. STOP!

This time, try the Rolls-Royce of PHP Email - oemPro:

- Manage newsletters with Ease
- User friendly

- Track click-throughs better, faster
- Send in any format

Discover how people just like you are producing high quality online newsletters, managing lists and maintaining customer information without all the headaches and hassles. Try it RISK FREE today, go to www.octeth.com

OEMPTO The International Rolls-Royce of PHP Email marketing software

FileMaker for PHP Developers

LISTING 1

```
1 <?php
  3 # For security reasons, these lines should either be included from a
 3 # For security reasons, these lines should either be included from a
4 # config file above the web directory, or possibly captured during a
5 # login and stored in the SESSION superglobal array
6 define('FM_HOST', '127.0.0.1');
7 define('FM_FILE', 'ProductCatalog.fp7');
8 define('FM_USER', 'esmith');
9 define('FM_PASS', 'f!r3crack3r');
 11 # grab search criteria, if any has been sent
 12 $criteria = (array_key_exists('criteria', $_GET)) ? htmlspecialchars($_
GET['criteria']) : '';
 14 # grab the sort column, if any has been sent
 15 $column = (array_key_exists('column', $_GET)) ? htmlspecialchars($_
GET['column']) : '':
17 # set the layout name for this page
18 $layout_name = 'view_products';
 20 # set convenience var
 21 $this_page = $_SERVER['PHP_SELF'];
 23 # initialize our output var
24 $page_content = '';
 26 # this is the include for the API for PHP
 27 require_once ('FileMaker.php');
 28 # instantiate a new FileMaker object
 29 $fm = new FileMaker(FM_FILE, FM_HOST, FM_USER, FM_PASS);
 31 # get the layout as an object
32 $layout_object = $fm->getLayout($layout_name);
 34 # check for errors
 35 if (FileMaker::isError($layout_object)) {
         die(''.$record->getMessage().' (error '.$record->code.')');
 37 }
 38
39 # get the fields as an array of objects
40 $field_objects = $layout_object->getFields();
 42 # create a new search transaction
 43 $request = $fm->newFindCommand($layout_name);
 45 # indicate that we want an OR search
 46 $request->setLogicalOperator(FILEMAKER_FIND_OR);
 48 # search each field on the layout for the criteria, if any
 49 #
 50 # NOTE: I am using the getResult method of the field object to check
 51 # the data type of the field. Even in a find request, data type 52 # formatting must be respected. If we didn't check for this, we
 53 # would get an error if we searched a date field for the value
54 # 'Erica', for example
 55 foreach($field_objects as $field_object) {
 56
        $field_name = $field_object->getName();
               rmat the criteria app
                                              iately
                                                     for the current field data type
 58
         if ($field_object->getResult() == 'date') {
              if (strtotime($criteria)) {
                  $request->addFindCriterion($field_name, date('n/j/Y',
strtotime($criteria)));
         } elseif ($field_object->getResult() == 'time') {
             if (strtotime($criteria)) {
 64
                   $request->addFindCriterion($field_name, date('H:i:s',
strtotime($criteria)));
         } elseif ($field_object->getResult() == 'timestamp') {
              if (strtotime($criteria)) {
                   $request->addFindCriterion($field_name, date('n/j/Y H:i:s',
strtotime($criteria)));
         } elseif ($field_object->getResult() == 'container') {
             # skip this field because it is a container (like a blob) and
can't be searched for text
        } else {
              $request->addFindCriterion($field_name, $criteria);
 74
         }
 75 }
 77 # specify sort column (aka, field), if any
78 $request->addSortRule($column, 1);
 80 # execute the search transaction
 81 $result = $request->execute();
```

LISTING 1: Continued... 83 # check for errors (including no records found) 84 if (FileMaker::isError(\$result)) { die(''.\$record->getMessage().' (error '.\$record->code.')'); 86 } 87 88 # display the found count 89 \$total = \$result->getTableRecordCount(); 0 Sfound = Sresult->getFoundSetCount(); 91 Ss = (Sfound==1) ? '' : 's'; 92 Spage_content .= 'Your search for "'.Scriteria.'" returned '.Sfound." record{\$s} of ".\$total.' total'; 94 # get the result record set as an array of record objects 95 \$record_objects = \$result->getRecords(); 96 97 # start compiling our record output 98 \$page_content .= ''; 99 \$page_content .= ''; 100 \$page_content .= '%nbsp;'; 102 # loop through array of field objects to draw header 103 foreach(\$field_objects as \$field_object) { 104 \$field_name = \$field_object-sgetName(); 105 \$page_content .= ''.\$field_name.' 106 } 107 \$page_content .= ''; 109 # loop through record objects 110 foreach (\$record_objects as \$record_object) { 111 \$page_content .= ''; 112 \$page_content .= ': record_view_product.php?recid='.\$record_object->getRecordId().''>view'; # loop through array of field objects foreach(\$field_objects as \$field_object) { \$field_name = \$field_object->getName(); \$field_val = \$record_object->getField(\$field_name); \$field_val = htmlspecialchars(\$field_val, ENT_QUOTES); \$field_val = nl2br(\$field_val); \$page_content .= ''.\$field_val.''; \$page_content .= ''; 123 } 124 \$page_content .= ''."\n"; 126 ?> 127 <html> 128 <head> 129 <meta http-equiv="Content-type" content="text/html; charset=utf-8"> 130 <title>view_products</title> 131 <style type="text/css" media="screen"> 132 body {font: 75% "Lucida Grande", "Trebuchet MS", Verdana, sans-serif;} 133 table {width: 600px;border-collapse;collapse;border-color: #cccccc;} 134 th {padding: 3px; background-color: #DDD; text-align: center;} 135 td {padding: 3px;} 136 a, a:visited {color: blue;text-decoration: none;font-weight: bold;display: block;} 137 a:hover, a:active {color: blue;text-decoration: underline;font-weight: bold:} 138 </style> 139 </head> 140 <body id="view_products" onload=""> 141 <form action="<?php echo \$this_page ?>" method="get"> 142 143 <input type="text" name="criteria" value="<?php echo \$criteria; ?>" /> 144 <input type="submit" value="search" /> 145 146 </form> 147 <?php echo \$page_content; ?> 148 </body> 149 </html>

you are defining a table, the word 'field' is equivalent to the word 'column' in traditional SQL databases. So, you might ask a FileMaker developer to "Add a Phone Number field to the Company table." However, the word 'field' means something very different when you are defining a layout in layout mode. On a layout, a field is a like a form input on a Web page. It is a rectangular area that allows a user to interact with a particular cell of data—a 'field' of a particular record. When I am teaching my Intro to FileMaker class, I often explicitly refer to **Table Fields** and **Layout Fields** until students start to get the feel for things.

- Value List—A value list is simply a return delimited list of values, usually used to aid data entry of common values such as US state abbreviations. A value list can be applied to a field on a layout to aid data entry. When you attach a value list to a layout field, you specify the way you want it to look. It can be formatted to display as a pop-up menu, a drop-down list, radio buttons, or checkboxes. Each behaves more or less like similarly named HTML form controls.
- *Portal*—As mentioned above, layouts are tied to a particular table. Often, you want to display data that is related to a given record—for example, showing a product record and viewing the related inventory data. This is done with a layout object called a portal. You can think of it as a list view embedded in a form view.
- Script—FileMaker has a built-in macro scripting language. It has a point and click interface that is accessed by selecting ScriptMaker under the Scripts menu. Once a script is created, it is a trivial matter to attach it to an object on a layout, thereby turning the object into a button. When the button is clicked in **Browse** or **Find** mode, the script runs.

A Picture is Worth a Thousand Words

Now that you know what everything is called, let's look at a couple of FileMaker layouts. By the way, these screenshots are of the **ProductCatalog.fp7** file that is included with the FileMaker API for PHP download bundle.Figure 1 is a list view layout. At the top of the layout is the header, which contains a number of buttons that trigger scripts when clicked. Beneath the header is the body, which contains a list of records. If the number of records is such that they will not all fit in the window, the body section can be scrolled while the header remains in view at the top of the window.

Figure 2 is a form view layout. Like the list view, it has a header area with buttons, but in the body part of the layout, we are looking at a single record. Notice that the category field has a value list applied to it as checkboxes. At the very bottom of the layout, labeled with the word **Inventory**, is a portal. As described above, it is displaying a list view of records from the **Inventory** table that are related to the current product record.

Bear in mind while reviewing these layouts that even a novice FileMaker user could edit, add, delete, or rearrange these objects in a matter of minutes. And—for better or worse—they often do. In fact, much of the time spent working on a FileMaker solution is spent on the layouts.

When you are publishing to the Web with FileMaker, you don't talk to the tables, directly.

Why You Should Care

This is probably going to sound counter-intuitive at first, but when you are publishing to the Web with File-Maker, you don't talk to the tables directly—you talk to layouts. Other than a couple of minor exceptions, all calls to a FileMaker database from PHP include a layout name. When you query the database, you only get back the fields that are present on the layout that you targeted—you don't get all the fields from the underlying table.At first, this drove me nuts. I just wanted to access the data in the table directly and on the fly. For example, if I wanted to express something like:

SELECT Name, Description FROM Product WHERE ID=1;

I would have to launch FileMaker Pro, open the file, make a layout with **Name**, **Description**, and **ID** fields on it, and point my code at that layout. What this meant was that I was constantly going back and forth between the FileMaker Pro application and my PHP text editor in order to write a page.

However, when I started working on real-world solu-

tions for customers, I came to appreciate this arrangement. As I took pains to illustrate above, FileMaker customers usually have lots of business logic embedded in their layouts, and they are constantly modifying things. The first time I *didn't* have to recreate all that layout logic in PHP, I saw the light. That is because FileMaker allows you to pull information about the layout itself in the query. A lot of time goes into creating layout objects like portals, value lists and scripts. Those things can be very usefully reused on a Web page, so why reinvent the wheel?

Alright, Already, Let's See an Example

What I am going to do here is write a couple of pages that take most of their cues from the two FileMaker layouts that we have seen so far. The one in Listing 1 will be called **view_products.php** and will correspond to a table view layout in FileMaker, and the script in Listing

θ.	Pred	uctCatalog							
3	Product Catalog								
•	Mar Marine Quer	- 10 m	-	17	en Frainel August				
	Nativa	- 10	444	Massisture					
	 - 42 DistA XBA Plasma WDDA FDTV 	1	\$4,000.00	NC					
	 SE Inch Plasme Ty 	2	\$3,503.00	MC.					
	42 Inch XBR Reema WEGA HOPV	3	\$3,603.00	Servy					
	42 inch Plasma with Dual Tuner PSP	4	\$3,503.00	Samorg					
	43 INTO PROVIDE ROTE		\$1,835.00						
	10 Dich Piesna HDTV	. 6	\$5,503.00	Penatone:					
	IS BUS 16 S HOLCO TY	7	\$1,995.00	Penatone					
	32 Inch LCD HD Ready TV		\$2,333.00	Samourg					
	40 Inch LCD HOTY		\$4,393.99	Sampung					
	46 Inch HD Rasaly LCD TV	10	\$8,003.00	Samoung					
	33 Inch LCO WEGA	11	\$2,303.00	Sany					

FIGURE 2 0.00 ProductCatalog HiFi Warehouse Product Catalog * Q ... the law 111 (2 32 Inch LCD TV Name: 32 INPLCD TV 10. 124 \$3,500.00 8/20/2005 12 Just LCD TV 17323575 San Jose

2 will be **view_product.php**, which will correspond to a form view layout. The pages were written specifically to handle updates to the layouts they are attached to. In fact, they can be pointed at any FileMaker layout, and they will do a pretty good job of rendering the information on the Web as it is displayed in FileMaker. For example, I could put these pages on a Web server; my customer could then add or delete fields from a layout, and their changes would auto-magically appear on the site.

Explanations are included as comments inline with the code. There is nothing really earth shattering here—it

0.0	1			Proc	AUCCATA	ling .			
MIN.	100	Marry Ma	which put	Mana			to de división de la construcción d	L the Price	Date Barry
111				42 INT LOC FORMA VIEW	ARCTV	(Rospie)	19	1000 00	8112.00
	100.0			10 met Passes fx		ROBERT		2808.08	12/1/2008
	1000	101 307	7	42 mill Laik Plasma PEL	AHDIV	ACCENT.	8-910	3409.09	8/14/2005
226	1419/1	sor sur	978	42 Kith Planta with Date	turar rise	1010122	2	20100.010	8/11/2008
-	1664		19999	42 INTERNETS SOTIV		114(3PC)		1000.00	8/3/02/08
212	Select		000 M	10 INT PORTS POTY		THEORY		1000.00	8/16/2008
<u> </u>	Televi		20070	19 Hot 16.5 HD LCD TV 52 Hot LCC HD Ready Tr		TUTION CONTRACTOR		2009.09	814203
_	Televisor Sensing Televisor Sensing			40 INVESTOR FORM	-	LARKING		1000 00	8112208
-	Manual Samura			IN MIT ALL PARTY LCD TO		Liferran		8005.00	811200
-	1000.0			ALL MARK LOCO MINUNA		41.1540		2008.08	8142.05
	tennet		nina .	At you magazines LLD		2010.04		1050.00	010233
	1000	107 307	10.78	JC INVESTIGATION OF		LNR228	0	106.00	811238
20	100.0		108	20 INTLCO TRANSVERS		214LB		121.00	411/2008
-	1elevi		nibe .	JO HER TX DVD, VCR CO		MNOPP-		1008.09	8142.05
	1419-1		10.8	72 HIR 169 YORG HD DL		12-611		200.0 (19	8110233
	Tataur			ID HAS I LCD HEAR PROF.	Den HD TY	1007080		2502.00	8/14/2008
• •)		0 0		ки р.//127.0.0 1/рМс.аго	e produ Nusracie/		iducis.g.h.*	- (D	Grege
	ter n	interest 124 m	1 10.00	e 7/127.0.0 1/eHo_ard Honal	r, anade/	vitw_219			Geogr
*	1w = 10	tarend 124 mil		p //127.0.0 1/php.ard Final Name	(Lande/	vitw_219	Livi Pres	Bee	Geode
• • • • •	1 yr = 14 1 yr 19 4 1 1 1	ternd 124 or Manufacture Joc	el en el 12 Al en	9 //127.0.0 1/php_ard Front Name 188 Party (1924-1929)	N_STRONE/	vitw_219	Livi Price ecc.m	Dee Perthante 18,14,200	Conde
+ =)	1 yr = 14 1 yr 19 4 1 1 1	tarend 124 mil	el en el 12 Al en	p //127.0.0 1/php.ard Final Name	(Lande/	vitw_219	Livi Pres	Bee	Googe
• • • • • • • • • • • • • • • • • • •	fur = re egeny dates	ternd 124 or Manufacture Joc	47 bet 12 bet	9 //127.0.0 1/php_ard Front Name 188 Party (1924-1929)	N_STRONE/	404.219	Livi Price ecc.m	Dee Perthante 18,14,200	Googe
	fur = re egeny dates	internet 124 out	and of 12 and of 12 all but 12 but 42 but	e //127.0.0 1/eNg.ard Notel Name Mit Paura MCA HEY Name Tr	NULLINGE/	view_2rd	Livi Price exc.nt rtm.st	Dere Perithanie 14, 14, 2005	Grege
 Interest Total Total Total Total Total Total 	fur et 	inat formed 124 or pro- pro- tors	47 bet 47 bet 47 bet 42 bet 42 bet	e //127.0.0 1/eNo.ard Notes Notes Marine antidi Hory Notes TV Mill Parrie MICA 1077	Marada/	delle s n	Line Petan 4700.01 1170.00 1420.01	Deve Perthante 18, 54, 2009 12, 54, 2009 18, 54, 2009	Crede
*	1 yr ⁻⁴ 14 10 yr ⁻⁶ 14 14 10 10 14 10 10 14 10 10	tarend 124 no Mainsformer JPC JPC Sons Tarenarg	47 best 12 best 12 best 12 best 12 best 12 best 12 best 12 best	p //127.0.0 Sypholard Name Market Mar	Marade/ Marade/ Marado Marado Marado Marado Marado	detite n Nijte	Livi Pran 4200.01 1170.00 1400.01 1400.00	Des restante 18, 16, 2019 U.14, 2006 D1, 14, 2005 U1, 14, 2005	Cieda
*	1 yr ⁻¹ yr 1 yr ⁻¹ yr 4 1 0 0 4 1 0 0 4 1 0 0 4 1 0 0 4 1 0 0	turned 124 m Marketurner (PC NC Sons Samurg Faturener Faturener	arth of 12 Arthor Urbor Urbor Urbor Urbor Urbor	p (7527,000,000 Sypholard Norm Norm Mill Pourse shttps (679 Norm 20 Mill Pourse shttps (679 Norm oth Dad Toxis (67 Norm oth Dad Toxis (67 Norm oth Dad Toxis (67 Norm oth)	Canade/ Macrosoft Records Records Records Records Records Records	4094,219 40940 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Livi Press 4220.01 1178.00 9428.01 14405.00 14405.00 14505.00	Dev Perthalis (4, 14, 2409) (2, 14, 2409) (2, 14, 2409) (3, 14, 2409) (3, 14, 2409) (3, 14, 2409)	Coope
· · · · · · · · · · · · · · · · · · ·	f ye et mye et dalam dalam dalam dalam dalam	transformer formed 124 no pro- pro- pro- ternumg Partunent Partunent Partunent	47 met 47 met 47 met 12 met 42 met 42 met 14 met 13 met	e un sa X. D. G. Suphouard Name Mar Paura HTCA HETY Name TCA HETY Mare HTCA HETY Name HTCA HETY Name HTCA HETY Name HTCA HETY Name HTCA Name HTCA Name HTCA	Canade/ Macrosoft Records Records Records Records Records Records Records	detite 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	Lint Pean 4220.01 1178.00 1408.00 1408.00 1408.00 1408.00 1408.00	Base Parthane 10, 14, 2005 10, 14, 2005 10, 14, 2005 10, 14, 2005 10, 14, 2005 10, 14, 2005	Grege
* 1000000 * 10000 * 10000 * 10000 * 10000 * 10000 * 10000 * 10000	fier re 	turned 124 no Marke furne en InC INC Sons Earns ang Parta ang Parta ang Parta ang Parta ang	47 met 47 met 47 met 10 met 42 met 42 met 42 met 10 met 10 met 10 met	e ur sa A.O.O. Supho_ard Name Market Market diffa Horv Name diffa Horv Name striv Name striv Name striv Name striv Name striv Name striv	Marada/ Marada/ Marada Marada Marada Marada Marada Marada Marada Marada Marada	vitw_219 4+39+ 5 8(1) 6 0 7 4	1007 P100 4700.00 1100.00 1100.00 1100.00 1100.00 1100.00 1100.00 1100.00	Deve Perfektione (4, 14, 2009) (21, 14, 2009)	Grege
	fip	Internet 124 million Marke former of Joseph 124 million Joseph 124 million Joseph 124 million Joseph 124 million Parta antip Same antip Same antip	47 both 47 both 47 both 42 both 42 both 42 both 42 both 42 both 43 both 13 both 13 both 13 both 13 both	Excelar ALLAN Exployment Formal Name Marrier And Antony Marrier All Antony Marrie	La recle/ Macanal Macananal Macananal Macanal Macanal Macanal Macanan	vitw_pro	1007 P160 8700.00 9700.00 9700.00 9700.00 9700.00 9700.00 9700.00 9700.00 9700.00	Dev. Perfoliate (4):34,2009 (2):04:2005 (2):04:2005 (2):04:2005 (2):04:2005 (2):04:2005 (2):04:2005 (2):04:2005 (2):04:2005	Grege
* 544 544 544 544 544 544 544 544 544 54	1 pr	Lanad 124 no Materiana (nº No Sans Lansang Pasaana Pasaana Sansang Lansang Lansang Lansang	4/ 100 of 12 4/ 100 of 12 13 lost 13 lost 13 lost 14 lost 14 lost	E // 127.0.0.1/(EPO_art) 1000 E // 127.0.0.1/(EPO Ref Parce affCA107Y Ref Parce affCA107Y CD1007xx507Y	4	vitw_219 deilles 5 60 10 2 4	Lini Price 4700 10 9405 10 9405 10 9405 10 9405 10 9405 10 9405 10 9405 10 9405 10	Dect Part Lance (4, 14, 2409) U,44, 2409 (4, 14, 2409) (4, 14, 240) (4, 14	Grege
 B) B	1 pr	Lana di 24 m Rana di 24 m Rana di 24 m Rana di 26 m Rana	47 best 47 best 10 best 42 best 42 best 42 best 13 best 13 best 13 best 14 best 14 best	н //127.0.0.1/(Мо. ли) Instel Note: Флана (СА (СУ) Флана (СА (СУ) Палан (СА (СУ) Палан (СА (СУ) Палан (СУ) Палан (СУ) Палан (СУ) Палан (СУ) СО (СУ) СО (СУ) СО (СУ) СО (СУ)	4	vitw_219 deilles 5 60 10 2 4	Line) Press 4700 10 1400 10	Dev Personal 10, 14, 2005 10, 14, 2005	Grege
 Salation Sal	1 pr	Lanad 124 no Materiana (nº No Sans Lansang Pasaana Pasaana Sansang Lansang Lansang Lansang	47 best 47 best 10 best 42 best 42 best 42 best 13 best 13 best 13 best 14 best 14 best	E // 127.0.0.1/(EPO_art) 1000 E // 127.0.0.1/(EPO Ref Parce affCA107Y Ref Parce affCA107Y CD1007xx507Y	4	vitw_219 deilles 5 60 10 2 4	Line) Press 4700 10 1400 10	Dect Part Lance (4, 14, 2409) U,44, 2409 (4, 14, 2409) (4, 14, 240) (4, 14	Grege
 1) 104 104	1 pr	Lana di 24 m Rana di 24 m Rana di 24 m Rana di 26 m Rana	A Deck A Deck	н //127.0.0.1/(Мо. ли) Instel Note: Флана (СА (СУ) Флана (СА (СУ) Палан (СА (СУ) Палан (СА (СУ) Палан (СУ) Палан (СУ) Палан (СУ) Палан (СУ) СО (СУ) СО (СУ) СО (СУ) СО (СУ)	4	vitw_214 4+38+ 5 60 0 0 7 4 10	Line) Press 4700 10 1400 10	Dev Personal 10, 14, 2005 10, 14, 2005	Gege
• 0), 64 • 1040 • 1040	19	tarend 124 mi Marend 124 mi Maren farmer Jott Sonn Samsang Fastanang Fastanang Samsang Samsang Samsang Samsang Samsang Samsang Samsang Samsang Samsang Samsang Samsang	47 mm of 12 47 mm of 12 52 mm of 12 52 mm of 52	N //1276.04 1/(Moule) Note: Note: Note: Mount of the Note: Note	1. article/ Postavat Pos	vitw_214 4+38+ 5 60 0 0 7 4 10	List Price #200.00 9725.00 9705.00 9705.00 9705.00 9705.00 9705.00 9705.00 1000.00 9705.00 1000.00	Dee Per-Mainte (A, 42, 1996) (A, 74, 2995) (A, 74, 2995)	Grege
 Billion <	19	Lance of 224 million managements (of: NC: Sony Lance org Postcome Forecome Lance org Lance org Lance org Lance org Lance org Lance org	47 text 47 text 47 text 42 text 43 text 44	P. //127.0.0.1/php_ard Instel Name Research and a HEV Research and a HEV Research and a HEV Research and Article HEV Research and Article Research	Control (Control (Contro) (Control (Contro) (Contro) (Contro) (Contro) (Contro) (Contro)	view_200	1001 9100 4000.00 9100.00 9100.00 9100.00 9100.00 9100.00 9100.00 9100.00 9100.00 9100.00 9100.00 9100.00 9100.00 9100.00 9100.00	Deve Perfectation (4), 44, 2005 (4), 74, 2005	Geogr
 Balance <	1 m	LEAN Manager 124 on Manager 124 on Jor Jor Sons Lansung Lansung Lansung Lansung Lansung Lansung Lansung Lansung Lansung Lansung Lansung Lansung Lansung Lansung Lansung	47 text 47 text 47 text 42 text 43 text 44	E //1274.06.1/(House) Konel Rome Mane Sector Mane Sector Mane SECA (SEV Mane SECA (SEV Mane SECA (SEV Mane SECA Mane SECA Mane SECA DE OFFICE DE OFFICE	Control (Control (Contro) (Contro) (Contro) (Contro) (Contro) (Contro) (Contro) (Contro)	view_200 7 8 8 9 10 0 0 0 0 0 0 0 0 0 0 0 0 0	1001 9100 4000.00 9100.00 9100.00 9100.00 9100.00 9100.00 9100.00 9100.00 9100.00 9100.00 9100.00 9100.00 9100.00 9100.00 9100.00	Deve Perfectante In, 42, 2004 U/44, 2005 U/44, 2005	Gege

0.0	16			ProductCataling					
3411	Manufacto	ter Mana	_	Mult	ne i	ListPine	Des Puntu	Category	
213	M	ALTINO ADD PORTH HIDGA -	-DTV	HERE PARTS	-	4003.00	8140005	Tearment	
	MC.	NO INCO PLANTIA YY		10/00/100		3500.00	1.2-03006	Television	
3.8	5079	42 Inch XXX Plasma HIDGA	-DTV	*D5/L018*1	100	2802.00	81402059	Talerdooh	
	surreurg.	42 with Plasma with Date 154	10111	19990272		1940.00	815402039	Teengien	
-	100000	42 INCL POINTS BDTV		144,240 63,	(1802.00	81102005	Televisit	
2296	Panagorie	10 INCS PARTS HOTY		Designose		1503.00	8140009	Televent	
171	tempung 12 mm LCD HD Really TV			1018,810		1000.00	8/14/2009 8/14/2009 8/14/2009	Televentet	
-				CHRISTIAN	-			Teenger	
	Same.rg	REWARDLOD HOTY REWARDLOD HOTY		UNRERO	_	4963.00	8140009	Television	
Soreing Soreing		21 ROVICE WEGA	LEPS78W			1993.00	81402009	Taxetton	
	NAMES	Jill more I hearter there UCD		2091.34	-	1000.00	8140251	Teermon	
4	1070.49	JE WITH LOD EDITY		LANGER		199.00	8140005	Television	
	toantes	20 INCO LCD Theatername		2010		125.00	814000	Television	
interf.	TONNED	30 IBCS TV, DVD, VCA CORE		NR109471		10903-009	81402009	Terrention	
	tomes	72 WESTERN THE WORKS HELDER		1,2+8/19/5		1000.00	art-class.	Tearmen	
	2100	BU MOT 3 LCC Main Projector	P POTA	+D+DHEAD		2502.00	8140005	Televenet	
	5489	20 Mills Treasury WEGA		4Y20P8120		250.00	#14005	Teerman.	
	. 64		Links	s arch arts	A Address in	educti alt v	- 187-	Contra	
+ =)	-	🕡 🏠 🙆 kep (7127.0.0 Turank (d 124 monto d'124 med	1.1/ePe	9,4701,1796	k/vitw_p	reducts gift *	- 6	Geoge	
e 14 400	-	. stank		olarchijame	A ANTINE ST	Oute Perchant	Canada da	Geege	
r saard Mari	for ^m estare elarnerer	 of 124 month of 124 mont		Mudatka	the	Date Per Chantel		Geege	
4 1440 Å	for return startorer	 of 124 movem of 124 move Name	11.4	Mud cities estim	tist Free	Date Per-Dated	Category	Gede	
Mar Mar Mr	for ^{an} estare stamores 1	inaste di 20 monte di 20 mol Nate Li anti MR Piccos MCA POTV Li anti Piccos TV	Place	and and a	the Property of the Property o	Date Perchased 04.14.7329 12.04.7320	Category To make an To make an	Geop	
Hart Mart Mr. Mt Mt Mt	for ^m ethern eferterer 1 4	ina state di 124 manuto al 124 mai Name Di suto Millio Provina Millio HOTV E nel Manue TV E nel Millio Provina Millio HOTV	PDuch PDUCK RDUK	Mudates Adm Adm Addition	Alter From With At TALK AT	044 Fer-Name 04, 14, 1219 12, 64, 7330 06, 14, 7337	Calogary Transcom Transcom Transcom	Geop	
Harris Harris Mittan Mittan Mittan Soft	for ^m ethers stansorer a urg 4	trank of 224 recent of 224 total Raine Sold Hill Physical MCGA HOTV Sold Phone WCGA HOTV and Phanese WCGA HOTV and Phanese WCGA HOTV	Pterty Ptoto R0042 HPR12	Madates Ad ²¹ 1 Ord Debt(15) 202	Alter From State AC State AC Field AC	0ate Per-Dated 54, 14, 7577 12, 64, 7537 64, 14, 7237 04, 14, 7235	Cologang Terrescan Terrescan Terrescan Terrescan	Geege	
Mart Mart Mr Mr Mr Sorr Sorr Sorr	for "return stansoer ang 4 ang 5	trank of 24 count of 22 total Name 2 with MR Places WIGA HOTV 2 with MR Places WIGA HOTV 2 with MR Places WIGA HOTV 2 with Hourse with Gual Tester FPP 2 with Hourse with Gual Tester FPP 2 with Hourse with Gual Tester FPP	PDuty PDUS ROLO ROLO ROLO THE	Madates Alth Ministry Material	the From From First N First N First N First N	Date Per-Dated 16,14:15/9 12,04:75/8 06,14:25/8 06,14:25/8 06,14:25/8	Calegory Transcom Transcom Transcom Transcom	Geege	
Harris Marris Marris Marris Marris Marris Sarris Tata	for "return stansoer ang 4 anni 5 anni 5	In control of 224 street of 224 seconds of 224 street and 348 PForma WEAR HOPy and Mill Pforma WEAR HOPy and Harrison WE Dath Tester PP and Pforma WEAR and Pforma WEAR	POst PO10 RO(4) PP10 Test P110	Mudicipes 4471 676 2483103 252 70149 1916	A hat Promo armon ne Yinko ne Pata ne Pata ne	Date Per-Dated 14, 14, 1519 12, 04, 7519 06, 14, 2519 06, 14, 2519 06, 14, 2519 06, 14, 2519	Calegoirg To avoca an To avoca an To avoca an To avoca an To avoca an	Geogr	
Harri Mari Miri Miri Miri Jahr Sarri Sarri Taha	for "return stansoer ang 4 anni 5 anni 5	trank of 24 count of 22 total Name 2 with MR Places WIGA HOTV 2 with MR Places WIGA HOTV 2 with MR Places WIGA HOTV 2 with Hourse with Gual Tester FPP 2 with Hourse with Gual Tester FPP 2 with Hourse with Gual Tester FPP	PDuty PDUS ROLO ROLO ROLO THE	Mudicipes 4471 676 2483103 252 70149 1916	the From From First N First N First N First N	Date Per-Dated 14, 14, 1519 12, 04, 7519 06, 14, 2519 06, 14, 2519 06, 14, 2519 06, 14, 2519	Calegory Transcom Transcom Transcom Transcom	Geogr	
Harris Marris Marris Marris Marris Marris Sarris Tata	for ^{an} return aformout any 4 cons 5 cons 5 cons 1	In control of 224 street of 224 seconds of 224 street and 348 PForma WEAR HOPy and Mill Pforma WEAR HOPy and Harrison WE Dath Tester PP and Pforma WEAR and Pforma WEAR	POst PO10 RO(4) PP10 Test P110	Mudicities 4471 676 2483103 252 40148 1916 1916 1916	A hat Promo armon ne Yinko ne Pata ne Pata ne	Date Per-Date 14, 14, 1217 12, 04, 7327 04, 14, 7327 04, 14, 7327 04, 14, 7327 04, 14, 7327	Calegoirg To avoca an To avoca an To avoca an To avoca an To avoca an	Geogr	
Harris Ma	for ⁴ return clamore ung 4 cres 5 cres 1 cres 1 cres 1 cres 1	reach d 124 recent of 124 total Base and Mill Planet WEGAHOTY Each Mill Planet TF and Mill Planet WEGAHOTY and Mill Planet WEGAHOTY and Mill Planet WET? and Mill Planet WET? and Mill Planet WET? and Mill Planet WET?	PDuty PDUty PDUty ROSA PPEAR THE P THE P	Madatka 4471 248302 202 75149 75149 75149 75149 75149 75149 75149	filet Prote 4700 W YNN W BER.W File.W File.W File.W 100 W	Date Per-Dates 04, 14, 1519 12, 04, 7519 04, 14, 7519 04, 14, 7519 04, 14, 7519 04, 14, 7519 04, 14, 7519	Category To even an To even an To even an To even an To even an To even an To even an	Geede	
Harris Marris Jol Jol Score Score Faite Faite Faite Faite	for " return champoor 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Leaves I d 224 month of 224 month Name and Mit Places with A HOTY and Rises TO and Rises with A HOTY and Rises with A HOTY and Rises with A HOT and Rises with A HOT A HOT	Planty Planty Planty Planty Testay Testay Testay Testay	Nucleona exitti chts chts chts chts chts chts chts chts	Alter Press attraction Third att Balance Alternation Third att Third att Third att	Date Processed 10, 14 210 10, 14 210 06, 14 210 06, 14 210 06, 14 210 06, 14 720 06, 14 720 06, 14 720 06, 14 720 06, 14 220	Category To sock as To sock as	Grede	
Marin Marin Milan Milan Milan Sara Fana Fana Fana Sara Sara	for " ethere clamore 4 5 6 1 1 1 1 1 1 1 1 1 1 1 1 1	The second set of 20 moves and 20 moves of 20 move and 20 moves of 20 move and 20 moves of 20 moves of 20 moves and 20 moves of 20 moves of 20 moves and 20 moves of 20 moves of 20 moves and 20 moves	P0x27 P0100 R0142 P0100 T0410 T0410 T0410 T0410 T0410 T0410 T0410 T0410 T0410 T0410	And exer and the construction c	104 Free 8700 W 1500 W 1600 W 1600 W 1600 W 1600 W 1600 W 2000 W 2000 W 2000 W	Date Processed 10, 14 210 10, 14 210 06, 14 210 06, 14 210 06, 14 210 06, 14 720 06, 14 720 06, 14 720 06, 14 720 06, 14 220	Calegory To entropy To entropy To entropy To entropy To entropy To entropy To entropy To entropy	Grede	
Marin Marin Milan Milan Milan Milan Sarra Sara Sarra S	for ⁴⁴ returns 4 4 4 4 4 4 4 4	Teach I d 124 moving of 124 moving and the moving of 124 moving and the moving of the deriv the difference with Carl ODV and the Minuse With Carl and Line Minuse With Carl and Line Minuse With Carl	PDush PD100 #0042 He109 Text09	MudicNa ext*1 cms beasts 52 cms mss cms cms cms cms cms cms cms cms	104 Free errs 20 Y50 20 B60 30 B60 30 B60 30 Y50 30 200 30 200 30 200 30 200 30 200 30 200 30 200 30 200 30	Date Personal of 14, 14, 7378 12, 34, 7378 04, 14, 7378 04, 14, 7378 04, 14, 7378 04, 14, 7378 05, 14, 7378 05, 14, 7378 05, 14, 7378 05, 14, 7378 05, 14, 7378 05, 14, 7378	Cangary Newson Newson Newson Newson Newson Newson Newson Newson Newson Newson Newson Newson	Geop	
Marin Marin John John John Taka Fana Fana Sara Sara Sara Sara Sara Sara Sara S	for ^m ethan shartone a area area area area area area area	Exercise of DA movement of DA hand before and the Annual Annual Control and the Annual Annual Control and the Annual Control	#0x07x #0042 #0142 Text.07 Text.07 Text.07 10142 L04640 L19447 #15550 2004.0	Nucleona exist operation o	1000 Press 10 1000 30 1000 30 1000 30 1000 30 2000 30 2000 30 2000 30 2000 30 2000 30 2000 30 2000 30 2000 30	Date: Per-Social 0.4, 14, 1209 12, 04, 1200 04, 14, 1200	Company Newscom Terrescom Newscom Newscom Newscom Newscom Newscom Newscom Newscom Newscom Newscom Newscom Newscom Newscom Newscom Newscom Newscom	Geopt	
Harris Joř Joř Joř Joř Joř Joř Joř Joř Joř Joř	for "return character 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		#0x07x #0042 #0142 Text.07 Text.07 Text.07 10142 L04640 L19447 #15550 2004.0 L19420	Notices 2011 2022 2022 2024 2024 2024 2024 2024	104 Press area to 1040 to 1040 to 1040 to 1040 to 2041	Date Per-Dasied (4, 14 7370 (5, 14 7370 (6, 14 7370) (6, 14 7370 (6, 14 7370)	Cangainy Na matan Na matan	Geop	
Marin Marin Milan Milan Milan Milan Sarra Sara Sarra S	for "return character 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Exercise of DA movement of DA hand before and the Annual Annual Control and the Annual Annual Control and the Annual Control	#0x07x #0042 #0142 Text.07 Text.07 Text.07 10142 L04640 L19447 #15550 2004.0	Notices 2011 2022 2022 2024 2024 2024 2024 2024	1000 Press 10 1000 30 1000 30 1000 30 1000 30 2000 30 2000 30 2000 30 2000 30 2000 30 2000 30 2000 30 2000 30	Date: Per-Social 0.4, 14, 1209 12, 04, 1200 04, 14, 1200	Company Newscom Terrescom Newscom Newscom Newscom Newscom Newscom Newscom Newscom Newscom Newscom Newscom Newscom Newscom Newscom Newscom Newscom	Geogr	

is really just an introduction to some of the more useful objects and methods in **FileMaker.php**.

View_products.php

Refer to Figure 3, and you will notice the similarity between the FileMaker layout and the resulting Web page. The underlying FileMaker layout is at the top of the picture, and the browser version is directly beneath it. Notice, when you are reading through the following code, that I never refer to any fields by name—they show up on the Web (and are searchable) solely by virtue of the fact that they are on the layout. Compare Figure 3 with Figure 4 to see what happens to the Web page when I reorder the fields on the FileMaker layout.Form View

With the form view, there is again a strong similarity between the FileMaker layout and the resulting Web page; refer to Figure 5. The underlying FileMaker layout is at the top of the picture, and the browser is directly beneath it. As with the previous example, I never refer to any fields by name—they just show up on the Web (and are searchable) solely by virtue of the fact that they are on the layout. This time, we add a portal that contains related records from the Inventory table.RAD Comes at a Price

Using FileMaker as a Web backend can allow you to rapidly develop and deploy powerful and complex solu-

FIGURE 5								
000			ProductCatalog					
Browse								
0 î î	Name	50 Inch Pl	asma TV					
Layout:	ModelNo	PD50X795	5					
view_prod	Manufacturer							
	Category List Price							
± 1	Date Purchased							
* * *	Description							
	Record Created At		2:02:49 AM					
Record:	Record Created By	jstark						
2								
Total:	Store Name		Inventory Count					
124	San Jose		5					
Unsorted	Santa Cruz		2					
			*					
e e e view_product								
∳ + ⇒+ (🤁 区 🏠 😽 kttp	o://localh	ost/php_arch_article/view_pr 🔻 🕨 💽 🕇 Google	₹ (۵				
view products								
Name			50 Inch Plasma TV]				
ModelNo			PD50X795	-				
Manufacturer			JVC	-				
Category			Television					
List Price			3500.00	-				
Date Purchased			12/04/2006	-				
Description			50 Inch Plasma TV					
Record Created A	At		12/03/2006 02:02:49	-				
Record Created B	βγ		jstark					
Store Name		Inve	entory Count					
San Jose		5						
Santa Cruz		2						

tions because it allows you to reuse existing business logic. However, this advantage does have a price. Since FileMaker is sending back so much information in addition to the actual record data, it is not as fast as a typical SQL database. Also, there is a hard limit of 100 maximum concurrent connections to the database. Fortunately, most connections last less than a second, so in practice it is not uncommon to serve data to thousands of browsers at the same time because it is unlikely that they would all refresh their user agents simultaneously. All things considered, FileMaker is well suited for intranet or extranet style solutions, where the user group is a known quantity and a login is required. Conclusion Well, here I am at the end of the article, and we have so much more to discuss. Hopefully, you now have a basic feel for how to best use FileMaker as a Web backend. Stay tuned for Part 2 of this series, when you'll learn

LISTING 2

```
<?php
  3 # For security reasons, these lines should either be included from a
  4 # config file above the Web directory, or possibly captured during a
 5 # login and stored in the SESSION superglobal array
 6 define('FM_HOST', '127.0.0.1');
7 define('FM_EILE', 'ProductCatalog.fp7');
8 define('FM_USER', 'esmith');
9 define('FM_PASS', 'f!r3crack3r');
 11 # grab the record id sent in the url
 12 $recid = (array_key_exists('recid', $_GET)) ? htmlspecialchars($_
GET['recid']) : '';
 14 # set the layout name for this page
 15 $layout_name = 'view_product';
 17 # initialize our output var
 18 $page_content = '';
 20 # this is the include for the APT for PHP
 21 require_once ('Filemaker.php');
 23 # instantiate a new FileMaker object
 24 $fm = new FileMaker(FM_FILE, FM_HOST, FM_USER, FM_PASS);
 25 # get the record by its ic
 26 $record = $fm->getRecordById($layout_name, $recid);
 28 # check for errors
 29 if (FileMaker::isError($record)) {
        die(''.$record->getMessage().' (error '.$record->code.')');
 31 }
 33 # get the layout as an object
34 $layout_object = $record->getLayout();
 36 # get the fields from the layout as an array of objects
 37 $field_objects = $layout_object->getFields();
 39 # start compiling our output
 40 $page_content .= '';
41 foreach($field_objects as $field_object) {
        $field_name = $field_object->getName();
        $field_value = $record->getField($field_name);
        $field_value = htmlspecialchars($field_value, ENT_QUOTES);
        $field_value = nl2br($field_value);
 46
        $page_content .= ''.$field_name.''.$field_value.'</</pre>
td>'
 48 $page_content .= ''."\n";
 50 # check the layout for portals
 51 $portal_objects = $layout_object->getRelatedSets();
 53 foreach($portal_objects as $portal_object) {
 54
      $page_content .= '
           loop through the portal fields to draw the table header row
        $page content .= '':
```

how to use value lists and scripts pulled from FileMaker to edit records.

```
LISTING 2: Continued...
        $field_names = $portal_object->listFields();
 58
        foreach($field_names as $field_name) {
             related fields are returned with double colons in the name, so
remove
           $page_content .= ''.str_replace('::', ' ', $field_name).'<//r>
60
th>':
 62
        $page_content .= '';
 63
 64
        # get the name of the current portal object
        $portal_name = $portal_object->getName();
 66
67
        # get the records related to this record, based on the portal name
 68
        $related_records = $record->getRelatedSet($portal_name);
 69
        # if there are no related records in the portal. filemaker will
return an err
       if (FileMaker::isError($related_records)) {
           $page_content .= 'no
related records':
       } else {
           foreach($related_records as $related_record) {
               foreach($field names as $field name) {
 76
77
78
79
                   $field_val = $related_record->getField($field_name);
                   $field_val = htmlspecialchars($field_val, ENT_QUOTES);
$field_val = nl2br($field_val);
 80
                   $page content .= ''.$field val.'':
 81
 82
                $page content .= '':
 83
           }
       $page_content .= ''."\n";
 86 }
 87 ?>
 88 <html>
 89 <head>
 90 <meta http-equiv="Content-type" content="text/html; charset=utf-8">
 91 <title>view_product</title>
 92 <style type="text/css" media="screen">
 93 body {font: 75% "Lucida Grande", "Trebuchet MS", Verdana, sans-serif;}
 94 table {width: 600px; border-collapse:collapse; border-color: #cccccc;
margin-bottom: 10px;}
 95 th {padding: 3px; background-color: #DDD; text-align: left;}
 96 td {padding: 3px;}
 97 a, a:visited {color: blue;text-decoration: none;font-weight: bold;}
 98 a:hover, a:active {color: blue;text-decoration: underline;font-weight:
bold:}
 99 </style>
100 </head>
102 <body id="view_product" onload="">
103 <a href="view_products.php">view products</a>
104 <?php echo $page_content; ?>
105 </body>
106 </html>
```

JONATHAN STARK is the President of Jonathan Stark Consulting, an IT consulting firm located in Providence, RI. He consults a variety of clients from the creative industry including Staples, Turner Broadcasting, and Ambrosi. He has spoken at the FileMaker Developers Conference, is a Certified FileMaker Developer, and teaches training courses in both FileMaker and Web publishing. Jonathan is reluctant to admit that he began his programming career more than 20 years ago on a Tandy TRS-80. For more information, please visit <u>http://jonathanstark.com</u>.