FileMaker Pro 7.0

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ITS training
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Advanced
Calculations
and
Reporting

Advanced Reporting

The information you store in FileMaker Pro files will often provide the basis for reports that you choose to produce. These reports may contain a great deal of detail or they may present only a summary of the information that is in your file. The key to preparing these reports is a thorough understanding of the different layout parts.
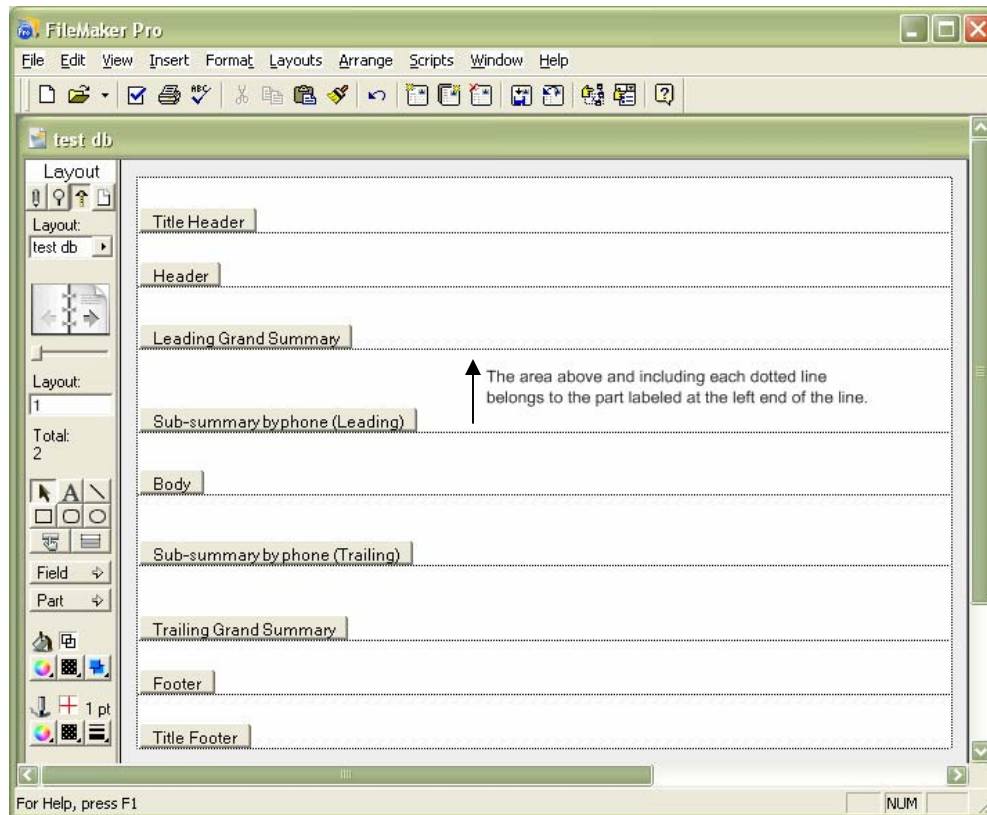
Layout Parts

Parts give you control over what appears on your report and where it appears. The chart below summarizes FileMaker's parts and how they work.

| Part	Location	How Part Works
Title Header	Top of page 1 only.	Any objects in this part will print only at the top of page 1.
Header	Top of every page. If there is a title header on the same layout, the header will not print on page 1.	Any objects in this part will print at the top of every page except page 1 if there is a title header.
Leading Grand Summary	One time at the beginning of the report.	Summary fields will summarize data from entire found set. Other objects will print one time at the beginning of the report.
Leading Subsummary	Prints one time, just before the detail of the records it is summarizing.	Acts as a subtotaling area. Records must be sorted on the field by which Subsummary groups them. (i.e. category) Summary fields will summarize just the records in each sub group. Other objects print one time per group.
Body	Prints one time for every record in the found set.	Prints/displays the detail in your report. May be divided by leading/trailing subsummaries.
Trailing Subsummary	Prints one time immediately after the detail of the records it is summarizing.	Acts as a subtotaling area. Records must be sorted on the field by which Subsummary groups them. (i.e. category) Summary fields will summarize just the records in each sub group. Other objects print one time per page.
Trailing Grand Summary	One time at the end of the report.	Summary fields will summarize data from entire found set. Other objects will print one time at the beginning of the report.
Footer	Bottom of every page. If there is a title footer on the same layout, footer will not print on page 1.	Any objects in this part will print at the bottom of every page except page 1 if there is a title footer.
Title Footer	Bottom of page 1 only.	Any objects in this part will print only at the bottom of page 1.

More on Layout Parts

The following picture is a Blank layout with all of the parts available to FileMaker Pro. Each part spans the area from the line that extends from its label upward to the line that begins the next part. The line attached to the label is included in the labeled part.


Adding Parts to a Layout

1. Drag the Part Tool from the Status Panel to the position in the layout where you want to add the part.
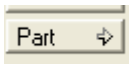
2. When you release the mouse button, the following dialog box will appear. The part options that are available depend on where in your layout you have indicated you are adding a part. For example, you can not add a Header after the Body.

Note: The part definition dialog box allows you to select various options regarding pagination. It is always available by double clicking on the label of the part you wish to modify.
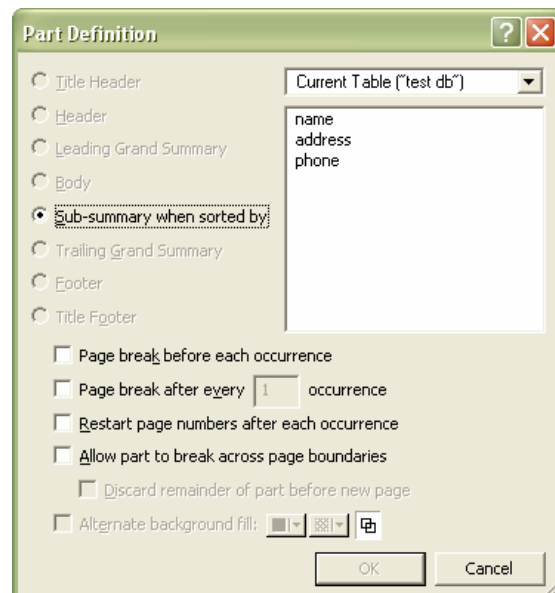
Removing Parts from a Layout

1. Click one time on the label of the part you want to delete.

2. Press the Delete key on your keyboard.

3. If the part you are deleting is not empty, FileMaker will ask you for confirmation that you wish to delete the part. You may either delete or cancel at that point.

Changing the Size of Layout Parts

To change the size of a layout part, place your pointer on the line across the bottom of the part. Drag the line up or down the layout to make the part above it either smaller or larger. A part can not be made too small for the objects it contains.

Understanding File Formats

Every application saves files in a particular file format. If you are exchanging data with another application, check the documentation that came with that program to determine whether the file formats it supports work with FileMaker Pro.

Below is a sampling of some of the file formats that FileMaker understands:

Use this format:	To:
Comma-Separated Text (.csv or .txt extension)	Import from and export to applications such as Excel. This format is also called Comma-Separated Values (csv).
DBF (.dbf extension)	Import from and export to dBASE applications.
Excel (.xls extension)	Import data from Microsoft Excel.
FileMaker Pro (.fp3, .fp5, .fp7 extension)	Import from and export to FileMaker Pro 4.0 through 7.0
HTML Table (.htm extension)	Export data as an HTML table for use on a web page. Rows are records and columns are fields.
Merge (.mer extension)	Import from and export to a text file that is used with a word processor to create form letters. This format is very similar to Comma-Separated Text, with the addition of a header record that lists the field names.
Tab-Separated Text (.tab or .txt extension)	Import from and export to most applications. If you aren't sure which format to use, try this one first.

Importing Data From Another File

You can import data into an existing FileMaker Pro file or into a new file. The file you are importing from must be in a format FileMaker Pro understands. FileMaker Pro imports data in the order it appears in the file you are importing from.

You can import data from any field type into any compatible field except calculation, summary, and global fields. You can import container fields if you are importing from another FileMaker Pro file.

To import data into a new FileMaker file:
1. In the other application (the one you are bringing data into FileMaker Pro from), save the data you want to import in a format (file type) supported by FileMaker Pro.
2. In FileMaker, choose Open from the File menu.
3. In the dialog box, for **Files of type**, specify the type of file and then select the file you want to import.
4. Click **Open**.
5. In the dialog box, type a name for the new file, select a location, and then click **Save**.

FileMaker creates a text field called fn for each field in the imported data (where n is 1, 2, 3, and so on, until all fields are named. If you are importing from a format that contains the field names, FileMaker uses those names instead of the f1, f2… placeholder field names.

To import data into an existing FileMaker file:
Tip: It is a good idea to make a backup copy of the file you are importing into before you start.
1. If you are importing records from a FileMaker Pro file, open that file and create a found set with the records you want to import. FileMaker imports only the records in the found set in the order they are sorted. You don't need to export the records or create a new FileMaker file with just those records.
2. Open the FileMaker file you want to import records into. If you are replacing records in the file, create a found set with the records you want to replace. Sort the records in the same order as records in the file you want to import
3. In the Browse mode, choose Import Records from the File menu, and then choose File from the sub-menu.
4. In the dialog box, for **Files of type**, choose a file type to narrow the choices, or choose **All Files** to see all the files you can import from the current folder.
5. Select the name of the file to import, and then click **Open**.
6. If you are importing a Microsoft Excel file and it contains more than one worksheet, FileMaker displays the Select Worksheet dialog box. Select the worksheet that you want to import and click **OK**.
7. In the Import Field Mapping dialog box, match the fields with the data you are importing. (When importing from a file format that stores field names, like FileMaker, .dbf, .dif, and .mer, you can use the View by matching names options to automatically match the fields.) Other options available at this time are as follows:

To:	Do this:
View the field names for the file you are importing into (the right list) in a different order	Click View by, and choose an option
Move a field name in the right list to a different place in the list	Move the pointer over a field name and drag to a new location.
Import data into a field in the right list	Make sure there is an arrow between the data and field name. If there is not, click the dot to change it to an arrow. (If a field name is dimmed, it is a calculation, summary, or global field and can't accept imported data.)
Prevent data from being imported	Make sure there is a dot between the data and field name. If there is not, click the arrow to change it to a dot.
View the data in the file you are importing from	Click the Scan Data arrows to see the data in each record. Under the left list, FileMaker indicates the number of the record you are viewing and the total number of records in the imported file.
Create, change, or delete a field in the file you are importing into	Click Define Fields. In the Define Fields dialog box, make changes and then click Done. (If you are importing into a shared file, only the host can create or change field definitions.)

Carefully check each arrow and field name to be sure the correct data moves into the correct field.

8. Select an option to add or replace records:
    •Click **Add new records** to add the imported data to the end of the file you are importing into.
    •Click **Replace data in current found set** to replace the existing data in the file you are importing into. If there is more data to be imported that there are records in the found set, the additional data is not imported.
9. Click Import.
10. If you are importing data into a FileMaker file that has lookups or fields that automatically enter data, or if the FileMaker file you are importing from as repeating fields and you selected **Add new records**, you will see the Import Options dialog box. Select from the following options (next page) and then click **OK**.

To:	Do this:
Enter data as defined by Auto Enter entry options, including lookups	Click **Perform auto-enter options while importing**. While importing, FileMaker enters data as defined by Auto Enter entry options. Some Auto Enter options (like modification date, time, and name, serial numbers, and lookups) may overwrite the imported data.
Control how data is imported into repeating fields	For Import values in repeating fields: • Click **Keeping them in the original record** to maintain the field(s) as repeating fields. • Click **Splitting them into separate records** to import each repeating value into a separate record. For example, if you have three repeating values, you get three records, each identical except for the values in the repeating field.

The records you import become the found set. After importing, check the data in the found set and update lookups if needed.
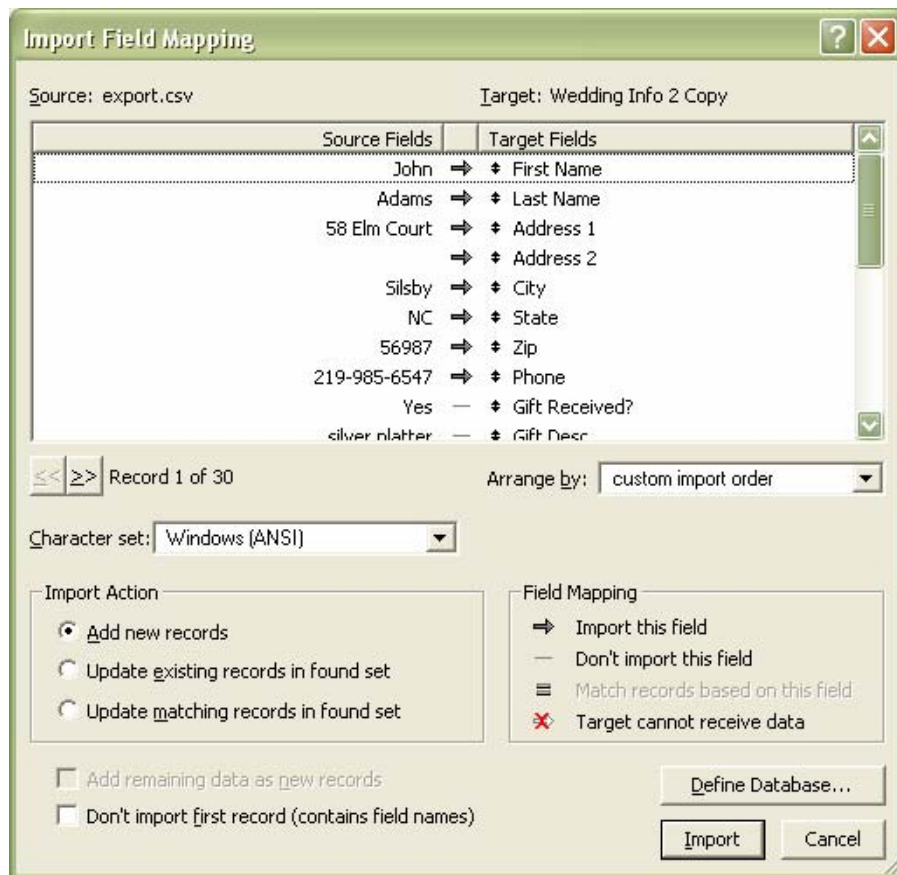

Example of the Import Field Mapping dialog box.

Calculation Fields

1.   To create a Calculation field, click on the File menu, select Define and then select Database.
2.   In the Define Database dialog box, for Field Name, type a name for the field. Keep in mind the   restrictions on using special characters.
3.   For Type, select Calculation.
4.   Click Create.
5.   In the Specify Calculation Dialog box, use the pop-up menus, lists of fields and functions, and buttons to build a formula or type the formula directly into the formula box. In the lists at the top of the dialog box, you can double-click field names, operators, and functions, or click text operators from the palette to have FileMaker copy them into the formula box. To list field names from a related fie, choose the relationship from the pop-up menu. To list the functions by category, choose the category from the View pop-up menu.
6. Select from the following calculation options:

Choose this:	To do this:
A value from the **Calculation result** list	Specify the type of result you want (Text, Number, Date, Container, or Time)
Repeating field with a maximum of <n> values, and then type the maximum number of times you want the field to repeat	Create a repeating field
Do not evaluate if all referenced fields are empty	Perform a calculation only when all referenced fields have a value

7. Click **OK**.
8. Continue defining fields or click **OK**.
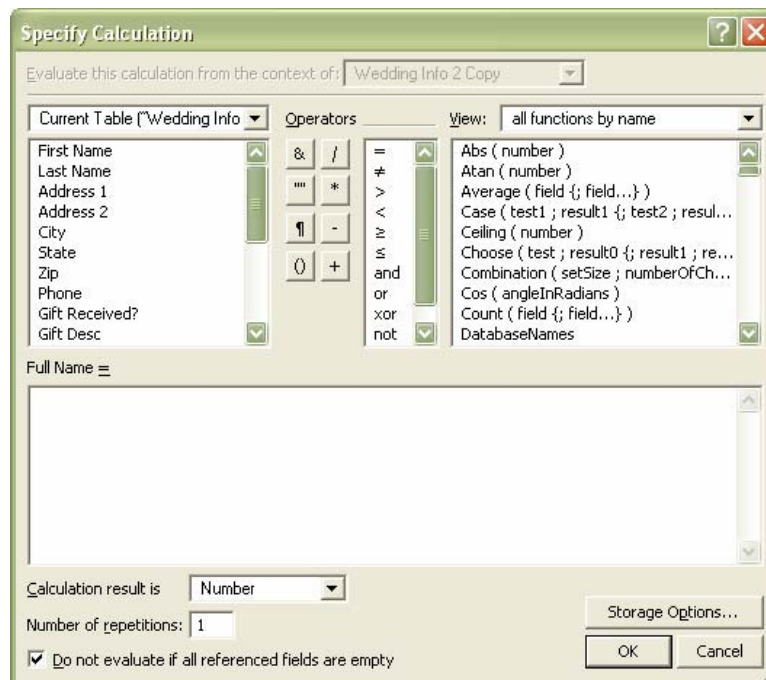
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Exercises
1. Make sure you are in the Layout Mode.
2. Create a New Layout – select Blank.
3. Add Layout Parts to your new layout.
4. Resize your Layout Parts.
5. Delete some Layout Parts.
6. Add fields to your layout using the field Tool.
7. Check yourself in Preview Mode.

Using the Report Wizard:
1. Go to Layout Mode.
2. Select New Layout/Report from Layouts menu.
3. Give the layout a name and select Columnar list/report from the layout type menu and click Next.
4. Select "Report with grouped data" and check the "Include Subtotals" and Include Grand Totals" checkboxes. Click Next.
5. Select the fields you want to appear in your report. Click Next.
6. Select the field you want to group your report by. Click Next.
7. Choose your sort order. The first item sorted must be the field you chose to group by. Others can be added. Click Next.
8. Choose the field you want for your subtotal. Click the Add Subtotal button. Click Next.
9. Choose the field you want for your grand total. Click the Add Grand Total button. Click Next.
10. Choose a theme. Standard will give you a blank white page.
11. Make any adjustments you want to the Header and Footer and click Next.
12. Decide whether or not you want a script created and click Next.
13. Click Finish.

The layout and/or totals may need "tweaking" to get the desired result.

Simple Calculations

Field name	Field type	Calculation
Full Name	Text	FirstName & " " & LastName
Catering Cost	Number	Number Invited * 7.50

Additional Calculations:
To fix the "spouse problem" – If (IsEmpty(Spouse), " ", "and")

To format a phone number (entered in ten digits) –
If (Length(phone) = 10, "("&Left(phone,3)&") "&Middle(phone,4,3) & "-" & Right(phone,4), phone)

To format a social security number (entered in nine digits) –
If (Length(ssn) = 9, Left(ssn,3)&"-"&Middle(ssn,4,2) & "-" & Right(ssn,4), ssn)