

Datamatic

Passion for FileMaker

DataFilter

Version 1.1



The best way to get into your data!

Ranges & SMART Ranges + Calendar Interface

May 2003

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I. Introduction.

DataFilter 1.1 is a Filemaker plug-in which provides traditional Ranges, SMART Ranges and GUI functionality to your applications.

Ranges and SMART Ranges can be used to create multi-keys, which combined with "Database Relationships", will allow the creation of immediate and versatile reports for management, financial and administrative applications among others.

DataFilter 1.1 is compatible with FileMaker Pro 4.0/5.0/5.5/6.0 for Macintosh and Windows and it adds nine functions to the FileMaker Pro calculation engine:

- 1. GetDateRange:** Displays a dual calendar for date range selection, allowing the selection of two different dates, the start date and the end date, creating a serie of consecutive dates between them in the date format selected in the plug-in configuration.
- 2. GetDateRangeNum:** Displays a dual calendar for date range selection, creating a serie of consecutive dates for the selected range. The dates generated are created using the integer number equivalent for each date in Filemaker.
- 3. GetSmartRange:** Displays a dual calendar for date range selection. The range between the two dates is created using the SMART ranges theory.
- 4. GetSmartNumRange:** This function creates a SMART range between two given numbers up to 9 digits. Using the number equivalent, the range between any pair of dates can be created.
- 5. DateSelection:** Displays a single calendar for date selection, returning the selected date.
- 6. RangeSelection:** Display dual calendars for range selection, allowing the selection of two different dates, the start date and the end date and returning a range between them, formatted in the way Filemaker requires ranges to perform finds for report generation or searches.

- 7. GetNumRange:** Creates traditional ranges between two given numbers for dates and numbers without any calendar interface.
- 8. SmartKey:** This function create the left side of the relationship for a Smart Range function which will match the range created with the functions GetSmartRange and GetSmartNumRange.
- 9. Version:** This function returns the plug-in version allowing the verification of the plug-in availability in the system for validation purposes and security.

DataFilter 1.1 is a commercial shareware product.

Just as any other shareware software, DataFilter 1.1 can be fully tested before you buy it. If you find it useful and decide to keep it, you must pay for the registered version. There are several different licenses to fit your developing needs the best way possible.

- 1. Site license.** For unbounded FileMaker solutions for an unlimited number of users in a single site. A site is usually known as any machine within one organization in a 100 miles radius.
- 2. Distribution license.** For bounded and unbounded FileMaker solutions for and unlimited number of users. This is the option to choose if you decide to distribute DataFilter with your own solution.

Registering your Plug-in.

Paying the registration can be easily and securely done through the secure payment processing service, Kagi Online at:<http://order.kagi.com/?36P> or get there through our site <http://www.datamaticsoftware.com>

II. INSTALLING THE PLUG-IN.

1. Quit FileMaker Pro.
- 2. Macintosh:** Once the file "DataFilter_Mac" is in your hard disk, put it into the "FileMaker Extensions" folder which is located inside the FileMaker Pro 4.0/5.0/5.5 folder.
- 3. Windows:** Once the file "DataFilter_Win.fmx" is in your hard disk, put it into the "System" folder which is located inside the FileMaker Pro 4.0/5.0/5.5 folder.
4. If there is a previous version of this file already installed, a dialog asking if you want to replace it with the one you are moving in might appear. In such case press the OK button. Whatsoever, file names between versions are completely different so you might need to remove previous version manually.

IMPORTANT: If there is a DEMO version already installed, please make sure to remove it from the folder because files have different names and running FileMaker with both installed may cause a conflict.

1. Start FileMaker Pro. DataFilter 1.1 plug-in is ready to be used.
2. Open the file "DataFilter_Studio.fp5" to test the plug-in functions and to easily configure the parameters of the user interface of DataFilter 1.1.

Before testing the plug-in, make sure that all plug-ins used in FileMaker are enabled in the preferences dialog box with a mark in the boxes in front of their names. You can prompt this dialog in the Edit/ Preferences/ Applications/ Plug-ins in FileMaker Pro 4.0/5.0/5.5/6.0.

IMPORTANT: There is a know problem in FileMaker 4.0v1, so you should remove all unused plug-ins from the "FileMaker Extensions" folder.

DataFilter 1.1 is supplied for FileMaker 4.0/5.0/5.5/6.0 on Windows or Macintosh (9 & X) platforms. In Macintosh the same file works for both Operative Systems.

III. DataFilter 1.1 FUNCTIONS

Most FileMaker Plug-ins provide their functions to FileMaker Pro through the FileMaker calculator engine. Therefore, to use DataFilter functions, you should get into the FM calculation engine, select the "External functions" list within the calculation engine, and choose the DataFilter 1.1 function that you need to use as shown below.

Example:

External("Dafr-DateSelection", *parameter*) (US)

External("Dafr-DateSelection"; *parameter*) (Some other countries)

IMPORTANT: List separators are different in each country. Commas are used in the US and semicolons are used in some other countries. Please use the appropriate list separator according to your FileMaker version.

1. Dafr-Version

Returns the version number of the plugin.

IMPORTANT:

Always use this function in your scripts to verify that the plug-in is loaded and properly installed before you use it.

The version function provides you a safe way to avoid problems in your application if someone remove the plug-in from the proper folder or deactivates the plug-in even if it is properly installed.

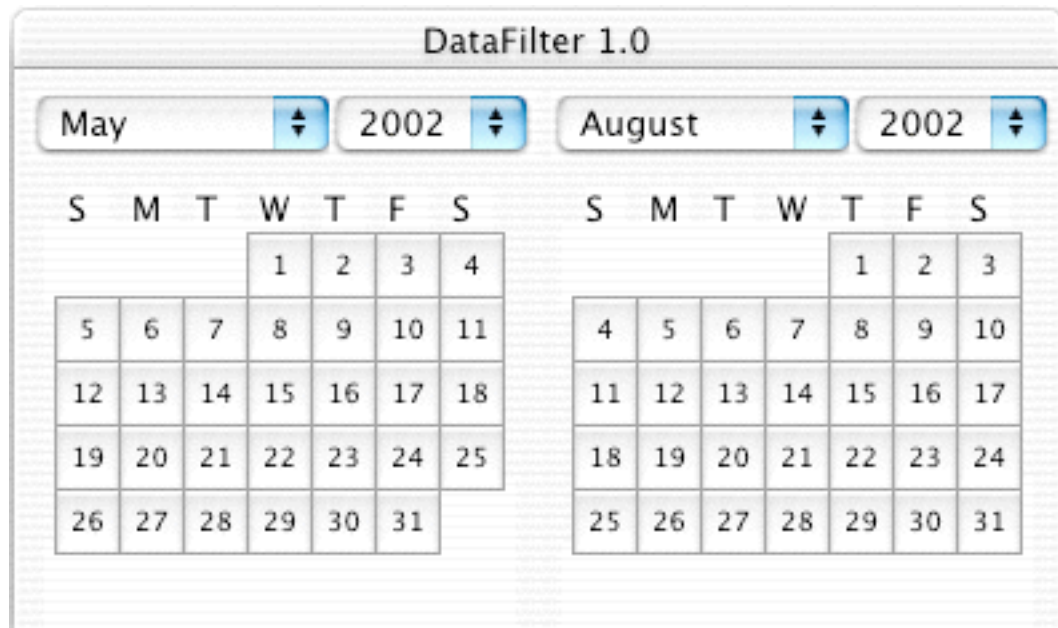
FileMaker script example:

```
If[External("Dafr-Version", 0) = "DataFilter 1.1"]  
    SetField[myField; TextToDate(External("Dafr-DateSelection", 0))]  
Else  
    ShowMessage["DataFilter plug-in is not installed"]  
EndIf
```

In Pseudocode this means:

```
If[DataFilter exists and it is version 1.1]  
    Use other DataFilter functions  
Else  
    Show a message or halt your program
```

2. Dafr-GetDateRange



This function displays a dual calendar for date range selection returning a series of consecutive dates to create a multi-key with the range selected in the calendars. The interface provides an easy and appealing way to pick the start and end dates without the need of typing.

The date format used in the dates returned can be changed dynamically through the plug-in parameters, as it will be shown later.

All FileMaker plug-ins return their results as text. Filemaker text fields have a size limit of 64K. To avoid overflows or nasty overflow messages to your users, DataFilter has an **automatic memory management** function which dynamically calculates the range of years which can be returned safely to Filemaker, and adjusts the end calendar (right side calendar) to display only those years.

Even more, if you provide a prefix or a suffix to append to the returned range, the memory management function will prevent memory overflows by calculating the size of the result with the prefix and/or suffix included, providing a safe way to display your users a calendar without the risk of size overflow or without the need to display an overflow message which will make the user to select a new, smaller range, without the knowledge if this new selected range will now fit into the 64K field limit.

All DataFilter range generation functions allow to concatenate to each of the dates in the series a prefix and a suffix to create even more complex keys.

This kind of complex keys, allow further filtering of your data within the already filtered range of dates giving the sense of dimensions.

The GetDateRange function takes several parameters after the function name which were represented in the examples above by the variable "parameter". The configuration of these parameters will be reviewed later in the section "DataFilter Studio" and they give great versatility to the interface.

Example:

External ("Dafr-GetDateRange", parameter)

Most of the DataFilter functions are commonly used with FileMaker function "SetField" in the following way.

Example:

SetField[MyField, **External**("Dafr-GetDateRange", parameter)]

(After the user picks a date range in the calendars, the result is put into the variable MyField.)

If the users selects in the left calendar 1/1/2002 and in the right calendar 1/7/2002, the returned result will be:

1/1/2002
1/2/2002
1/3/2002
1/4/2002
1/5/2002
1/6/2002
1/7/2002

It is important to point that the date format of the dates in the series can be changed dynamically with the plug-in parameters, giving you the opportunity to return the dates as mm/dd/yyyy, dd/mm/yyyy or yyyy/mm/dd with any date separator to create dates like:

1.1.2002
1-1-2002
2002;1;1

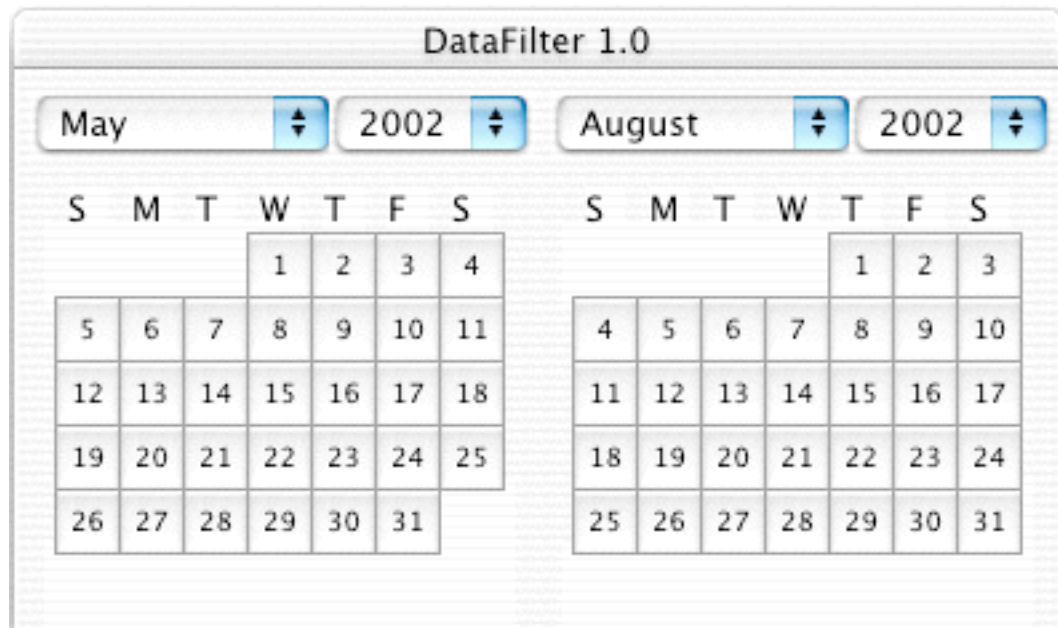
If a prefix and/or a suffix are added, the returned result would be:

Prefix1/1/2002Suffix
Prefix1/2/2002Suffix
Prefix1/3/2002Suffix
Prefix1/4/2002Suffix
Prefix1/5/2002Suffix
Prefix1/6/2000Suffix
Prefix1/7/2000Suffix

Which can be combined with any of the options above

Prefix1.1.2002Suffix
Prefix1-1-2002Suffix
Prefix2002;1;1Suffix

3. Dafr- GetDateNumRange



This function displays a dual calendar for date range selection. The calendar provides an easy and appealing way to pick the start and end dates and returns a series of consecutive dates between the two dates selected.

The dates returned by this function are converted to the Filemaker internal number equivalent. Filemaker stores dates as sequential numbers, being January 1 st. 0001 the number 1 and December 31st. 3000 the number 1,095,727.

By definition, all FileMaker plug-ins return their results as text. Filemaker text fields, has a size limit of 64K. To avoid overflows or nasty overflow messages to your users, SuperPopCal has a memory management function which dynamically calculates the range of years that would be safely returned to Filemaker, and adjusts the end date calendar to display only those years.

The reason to use date number equivalents instead of regular dates, is that the number equivalents are smaller and more dates will fit into the 64K limit. The memory management function will calculate the size of the result for the date numbers.

Even more, if you provide a prefix or a suffix to append to the returned range,

the memory management function will prevent memory overflows by calculating the size of the result with the prefix and/or suffix included, providing a safe way to give your users a calendar without the risk of overflow or without the need to display an overflow message which will make the user to select a new, but still uncertain, smaller range without the knowledge if this new range will fit into the 64K field limit.

All DataFilter 1.1 range generation functions allow you to concatenate to each date in the range a prefix and/or a suffix to create even more complex keys, providing further filtering of your data within the already filtered range of dates.

The GetDateNumRange function takes several parameters after the function name. These parameters are represented in the examples above and below by the variable "parameter". The configuration of these parameters will be viewed later in the section "DataFilter Studio".

Most of the DataFilter functions are commonly used with FileMaker function "SetField" in the following way.

Example:

SetField[MyField, **External**("Dafr-GetDateNumRange", parameter)]

(After the user picks a date range in the calendars, the result is put into the variable MyField.)

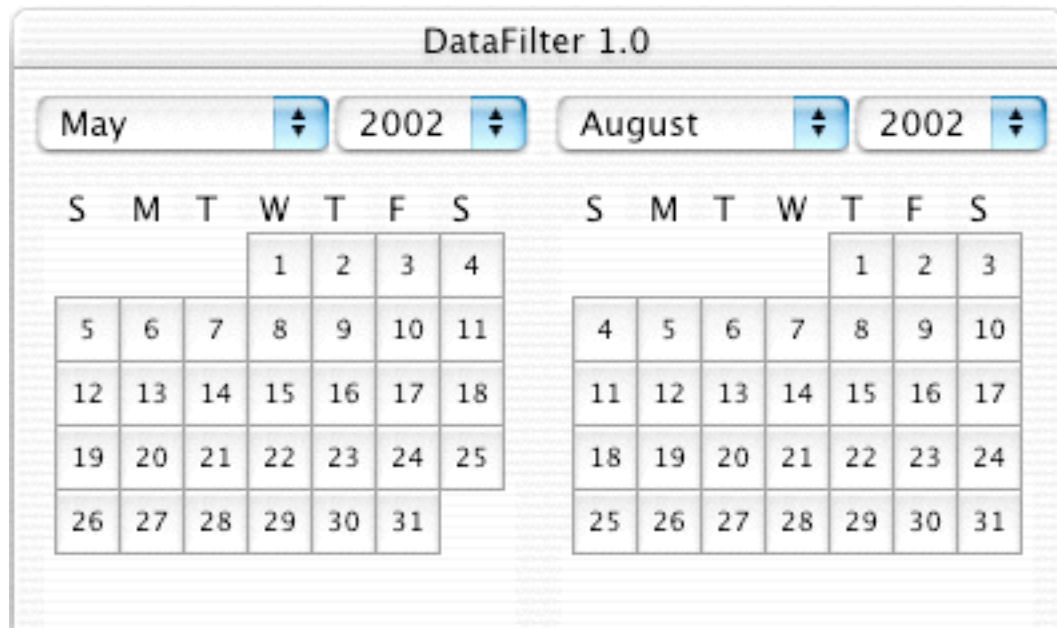
If the user selects on the left side 12 -April-2001 and on the right side 17-April-2001, the result would be:

730587
730588
730589
730590
730591
730592

With a prefix and a suffix:

Prefix730587Suffix
Prefix730588Suffix
Prefix730589Suffix
...

4. Dafr- GetSmartRange



This function displays a dual calendar for date range selection. The calendar provides an easy and appealing way to pick the start and end dates and returns a series of dates, which according to the **SMART ranges** technique, will cover the range of dates between the two dates selected.

The SMART ranges technique, besides creating a specific range of dates, uses the number equivalents for the dates in FileMaker. As we said above, Filemaker stores dates as sequential numbers, being January 1 st. 0001 the number 1 and December 31st. 3000 the number 1,095,727.

The SMART ranges technique was created by **Mihail Endoshin** and further analysis and theory can be encountered on his site: www.onegasoft.com. We did not include such there in this guide because nobody could explain it better than its own creator.

Briefly, the SMART ranges technique selects larger ranges of dates, using smaller series of dates, which allows the use of almost any date range, without the risk of overflowing the 64K limit of the Filemaker text fields.

As result, the calendars displayed by DataFilter have an open (1925-2050) range of years without any restriction. In the same way, the calendars allow

the setting of different display dates for each calendar, as the Memory Management function is not necessary for this function.

In the same way as before, if you provide a prefix and/or a suffix to append to the returned range, they both will be concatenated to the beginning and to the end of each date returned by function respectively.

The GetSmartRange function takes several parameters after the function name. These parameters are represented in the example above with the variable "parameter". The configuration of these parameters will be viewed later in the section "DataFilter Studio".

Example:

External ("Dafr-GetSmartRange", parameter)

Most of the DataFilter functions are commonly used with FileMaker function "SetField" in the following way.

Example:

SetField[MyField, **External**("Dafr-GetSmartRange", parameter)]

(After the user picks a date range in the calendars, the result is put into the variable MyField.)

If the user selects 2 -April-2001 on the left side and 17-April-2001, on the right side their result would be:

730577
730578
730579
73058
730590
730591
730592

As you can notice, only seven numbers are used to create a compound key which will select on a related field 16 days being a significant saving. The saving is even more dramatic with larger ranges.

Trying to explain the way the smart ranges technique works, we could say that it includes all the numbers in eighties above.

This means that removing one position and using the number 73058 means

that all the numbers in the range 73058(0) to 73058(9) will be included in the selection.

For example if we had removed two digits: 7305, all the numbers in the range from 7305(00) to 7305(99) would be included in the selection, having only one number "7305" to select one hundred dates or numbers.

As you can see, creating the proper SMART Range can provide you huge savings, therefore faster relationships without the hassle of the 64K overflow.

With a prefix and a suffix SMART Ranges would work in the same way as previous functions:

Prefix730577Suffix
Prefix730578Suffix
Prefix730579Suffix...

NOTE: SMART Ranges is a powerful technique to filter data in FileMaker recommended by most FileMaker gurus. With the inclusion of the "SmartKey" function DataFilter 1.1 will allow you to implement SMART Ranges in minutes.

5. Dafr- GetSmartNumRange

This function generates SMART Ranges between a start and end numbers up to 9 digits without interface, according to the smart ranges technique described above.

This function is very useful to create multi-keys to select ranges of numbers (like amounts in invoices, order numbers, etc.) because its capability to deal with numbers up to 9 digits.

Also, as Filemaker stores dates as sequential numbers, being January 1 st. 0001 number 1 (one digit) and December 31st. 3000 number 1,095,727, (seven digits), any range of dates can be created as well.

The SMART ranges technique selects a large range of numbers, using a smaller series of numbers, which allows the use of any number range, up to nine digits, without the risk of overflow the 64K limit of the Filemaker text fields.

In the same way as in previous functions, if you provide a prefix and/or a suffix to append to the returned range, they both will be concatenated to the beginning and to the end of each number returned by the function respectively.

Although most of the DataFilter 1.1 functions are used with the FileMaker function "SetField", the GetSmartNumRange function can also be used in a calculation field, allowing a continuous calculation of the multi-key range for any start and end numbers given.

This is possible because the GetSmartNumRange function does not use the Graphical Interface (GUI).

NOTE: Do not use any GUI function in a calculation field, only not GUI functions like GetSmartNumRange, GetNumRange and SmartKey.

Examples:

Within a FileMaker script:

SetField[MyField, **External**("Dafr-GetSmartNumRange", parameter)]

(After the user triggers this script in the way you choose, the result is put into the variable MyField.)

Within a Calculation field:

If(IsEmpty(StartNumExample) or IsEmpty(EndNumExample), "",
External("Dafr-GetSmartNumRange", "|StartNum=" & StartNumVariable &
 "|EndNum=" & EndNumVariable))

(In a calculation field, the result is re-calculated when there is any change in the parameters)

If you pass StartNum=730577 and EndNum=730592, you will get :

730577
 730578
 730579
 73058
 730590
 730591
 730592

This numbers above are the FileMaker number equivalents for the dates 2-April-2001 and 17-April-2001 and the range returned is the SMART range for the dates between them.

In the same way, if StartNum=1000 and EndNum=10000 are passed to the function it will create a SMART range that will filter (for example) invoices with amounts included in such range or whatever you need.

As before, a prefix and/or a suffix can be added to this function:

Prefix730577Suffix
 Prefix730578Suffix
 Prefix730579Suffix
 ...

Number of positions on a Smart Range.

As can be seen from the Smart Ranges theory, the number of positions in the numbers generated within a smart range play a very important role. As we discuss it above it is not the same for a Smart Range 11 (eleven) than 011 (eleven with a zero before).

For example, If you are dealing with a three digit key, 11 on the left side of the relationship will match with all the numbers from 110 to 119 on the right side,

matching 10 numbers. If you have a three digit key and you need to match the number eleven only, you will need to have 011.

On the other hand, if you are dealing with a two number key, 11 will match only 11 (one record).

DataFilter 1.1 has both, automatic size management and manual size management.

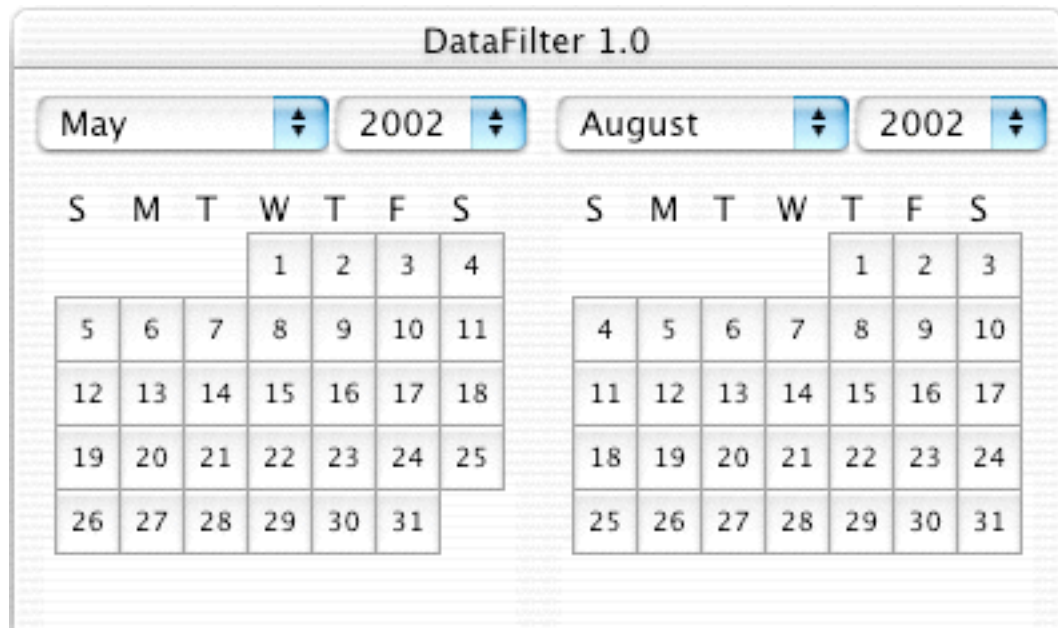
Automatic size management means that if the Start Number (StartNum) and the End Number (EndNum) have different sizes, the smallest is filled with zeroes to make them both the same size and have a usable smart range.

For example, if you pass StartNum=11 and EndNum=190, internally the smart range will be created from 011 to 190 to fulfill all the requirements of the smart ranges theory and have a useful smart range.

Whatsoever, some times you need to force the number of positions that will be used to create the smart range to make sure that they will match the records you need.

Therefore the "SmartSize" parameter was introduced with version 1.1 for the function GetSmartNumRange and SmartKey, then in the case above, if you pass the following parameters StartNum=11, EndNum=190 and SmartSize=4 you will have a range from 0011 to 0190 giving you the opportunity to have on the right side of the relationship numbers from 0000 to 9999.

6. Dafr-RangeSelection



This function displays side to side calendars to select date ranges, avoiding errors produced by wrong date typing and helping the user to have a visual feedback of the dates selected and the scope of the range required.

The function returns the dates selected formatted as a "find range" as used by FileMaker to perform range searches: 1/1/2001...12/12/2001.

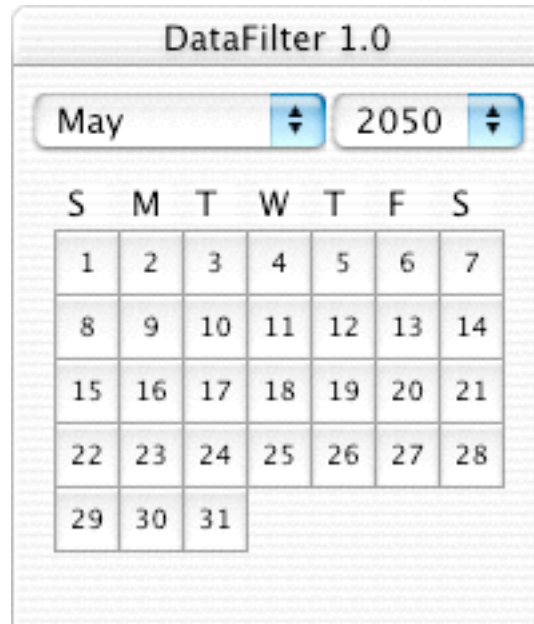
The date format of the returned dates can be changed dynamically through the parameters passed to DataFilter. See the configuration file "DataFilter_Studio.fp5" to have an example on how to use it.

Example:

External("Dafr-RangeSelection, parameter)

SetField[MyField, **External**("Dafr-RangeSelection", parameter)]

7. Dafr-DateSelection



This function displays a single calendar for date selection. The calendar provides an easy and appealing way to pick a date and returns the date selected by the user to be processed by your code.

The date format used in the date returned can be changed dynamically through the plug-in parameters, as it will be shown later.

By definition, all FileMaker plug-ins return their results as text. For this reason, the returned "date as text" needs to be converted to date if you want to use the date manipulation functions provided by FileMaker, on the date returned by the plug-in.

Converting the text returned by the plug-in into a FileMaker date is easily done through the FileMaker native function `TextToDate()`.

Example:

External ("Dafr-DateSelection", parameter)
(The result of this function is a date in text format)

TextToDate(External("Dafr-DateSelection", parameter))
(After TextToDate, the result is a date within FileMaker)

NOTE: It is important to select the appropriate date format according to your system for the date returned by the plug-in, otherwise the TextToDate function will have an strange behavior.

The DateSelection function takes several parameters after the function name, these parameters are represented by the variable "parameter". The configuration of these parameters will be viewed later in the section "DataFilter Parameters".

Usually, DateSelection function is used with FileMaker function "SetField" in the following way.

Example:

SetField[MyField, **External**("Dafr-DateSelection", parameter)]

(After the user picks a date in the calendar, the result is put into the variable MyField.)

8. Dafr- GetNumRange

This function generates traditional Ranges between a start and end numbers without the calendar interface. The range of numbers created by this function are mainly oriented to be used with date ranges.

Although this function can be used for any range of numbers, when dealing with amounts or large numbers in general we recommend using the GetSmartNumRange function because its capability to deal with numbers up to 9 digits.

As we said above, Filemaker stores dates as sequential numbers, being January 1 st. 0001 number 1 (one digit) and December 31st. 3000 number 1,095,727, (seven digits), therefore any range of dates can be created with this function. Whatsoever, this function is limited by the 64K size of the FileMaker text fields.

The overflow message is: "Type a smaller range" which can easily be trapped within FileMaker to display to your users the message you like. You only need to include the following Scripts in FileMaker.

If (External("Dafr-GetSmartNumRange", "|StartNum=" & StartNumVariable & "|EndNum=" & EndNumVariable) = "Type a smaller range", ShowMessage...

In the same way as previous functions, if you provide a prefix and/or a suffix to append to the returned range, they both will be concatenated to the beginning and to the end of each number returned by the function respectively.

Although most of the DataFilter 1.1 functions are used with the FileMaker function "SetField", GetNumRange function can also be used in a calculation field, allowing a continuous calculation of the multi-key range for any start and end numbers given.

This is possible because the GetNumRange function does not use the Graphical Interface (GUI).

NOTE: Do not use any GUI function in a calculation field.

Examples:

SetField[MyField, **External**("Dafr-GetNumRange", parameter)]

(After the user triggers this script in the way you choose, the result is put into the variable MyField.)

If(IsEmpty(StartNumExample) or IsEmpty(EndNumExample), "",
External("Dafr-GetNumRange", "|StartNum=" & StartNumVariable &
"|EndNum=" & EndNumVariable))

(In a calculation field, the result is re-calculated when there is any change in the parameters)

If you pass StartNum=730577 and EndNum=730582, you will get :

```
730577
730578
730579
730580
730581
730582
```

As you can see the numbers returned are only a sequential range of numbers between the start and end numbers.

The numbers above are the FileMaker number equivalents for the dates 2-April-2001 and 7-April-2001.

In the same way, if StartNum=1000 and EndNum=10000 are passed to the function it will create a sequential range of numbers from 1000 to 10000.

As before, a prefix and/or a suffix can be added to this function creating ranges like this below:

```
Prefix730577Suffix
Prefix730578Suffix
Prefix730579Suffix
...
```

9. Dafr- SmartKey

The SmartKey function will give you the capability to implement SMART Ranges in a couple of minutes instead of hours if you program them directly within FileMaker.

Even more, with the SmartKey function, you won't need to get into the complexities of SMART Ranges, you won't even need to understand how they really work.

According to the SMART Ranges technique, to achieve what we called a "compression of dates" if you need to select numbers from 1357(00) to 1357(99) only the number 1357 will be created to select the whole one hundred numbers, but on the right side of the relationship, to have a relationship match, you need to create a list, separated by returns, for each of the categories that you number belongs to.

For example, if you have a number: 135763

To find such number with SMART Ranges, you need to have the numbers for each of the categories it belongs to (tens, hundreds, thousands, etc.)

Therefore you need to have such number in this form:

```
135763
13576
1357
135
13
1
```

This means that if a SMART Range is created to select numbers from 1357(00) to 1357(99), as we explained above, only the number 1357 will be created by the SMART Ranges function but on the right side, the SmartKey function will provide all the categories from which this number can make a match.

Example:

```
External("Dafr-SmartKey", "|StartNum=" & Date & "|Suffix=" & Status &
"|Prefix=" & Company)
```

The SmartKey function also simplifies the addition of a Prefix and a Suffix.

Another feature of the SmartKey function is the capability to automatically create the number of positions of the number passed in the StartNum parameter.

This means if you have and three digit number in StartNum, you will get three digit number function, but if you pass a four digit number you will get four digit numbers.

For example:

0546

Will return:

0546
054
05
0

But if you pass a number like

134567

You will get

134567
13456
1345
134
13
1

This mean that numbers won't be forced to have seven digits or more, which is vital for the SMART Ranges technique.

VERY IMPORTANT:

The SMART Ranges technique works with positions, so you need to have the same number of digits on both sides of the relationship. Therefore if you are dealing with, let's say, 7 digits for dates and your right side number is only three digits, you need to stuff some zeroes to make the relationship work.

Fortunately, the SmartKey function has another parameter SmartSize, which will allow you to set the number of positions that will be used by the SmartKey function.

Example:

External("Dafr-SmartKey", "|StartNum=7865|SmartSize=6|Prefix=Yes_")

Will return:

Yes_007865
Yes_00786
Yes_0078
Yes_007
Yes_00
Yes_0

This parameter is essential to have smart ranges working because it puts all the records on the same size and if the same SmartSize function is used on the left side of the relationship in the function GetSmartNumRange, then the matching is guaranteed.

IV. DataFilter Studio.

DataFilter comes together with a configuration studio file called "DataFilter_Studio.fp5".

This file has two different ways to configure the parameters used by DataFilter, the Configuration Wizard and the Configuration Studio.

DataFilter Studio.



The DataFilter Studio file has five parts: The Quick Tour, the Configuration Wizard, the Configuration Studio, Examples and the plug-in Functions.

Quick Tour.

It explains in 12 brief steps the options available in DataFilter 1.1, so you can have a quick overview of them.

One of the steps, will take you to the plug-in functions which can also be reached directly by pressing the "Plug-in Functions" button in the main screen.

You can see the quick tour also in the file called DataFilter_Tour.pdf, which can be downloaded on our site: www.datamaticsoftware.com.

Plug-in Functions

This part will briefly describe each of the seven plug-in functions:

1. Dafr-Version
2. Dafr-GetDateRange
3. Dafr-GetDateNumRange
4. Dafr-GetSmartRange
5. Dafr-GetSmartNumRange
6. Dafr-DateSelection
7. Dafr-RangeSelection
8. Dafr-GetNumRange
9. Dafr-SmartKey

These functions, their features and the diversity of results returned by them, were already described in sections above, therefore we won't describe them again here.

Configuration Wizard.

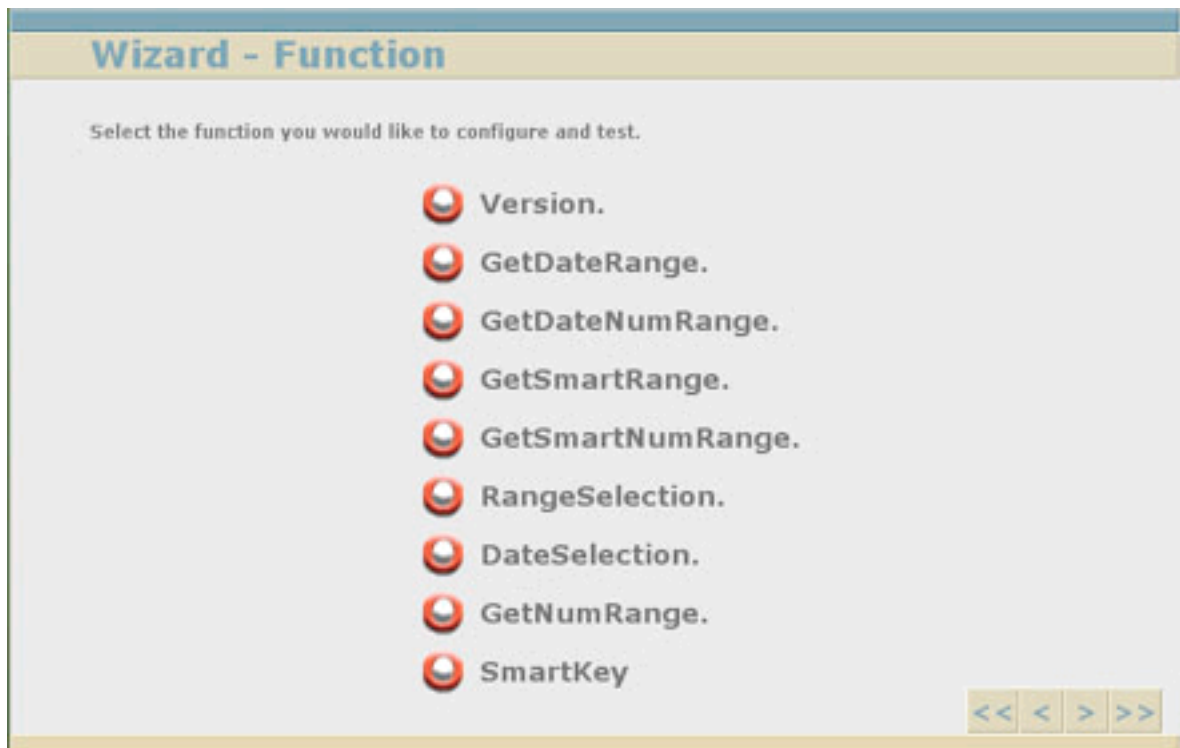
It is a series of screens that provide a friendly way to configure and create the parameter used by DataFilter 1.1 to display the calendars in the way you want.

The configuration screens presented will depend on the function selected. Whatsoever, all the options will be presented below, having in mind that some will change according to the function you select to configure.

1. Function.

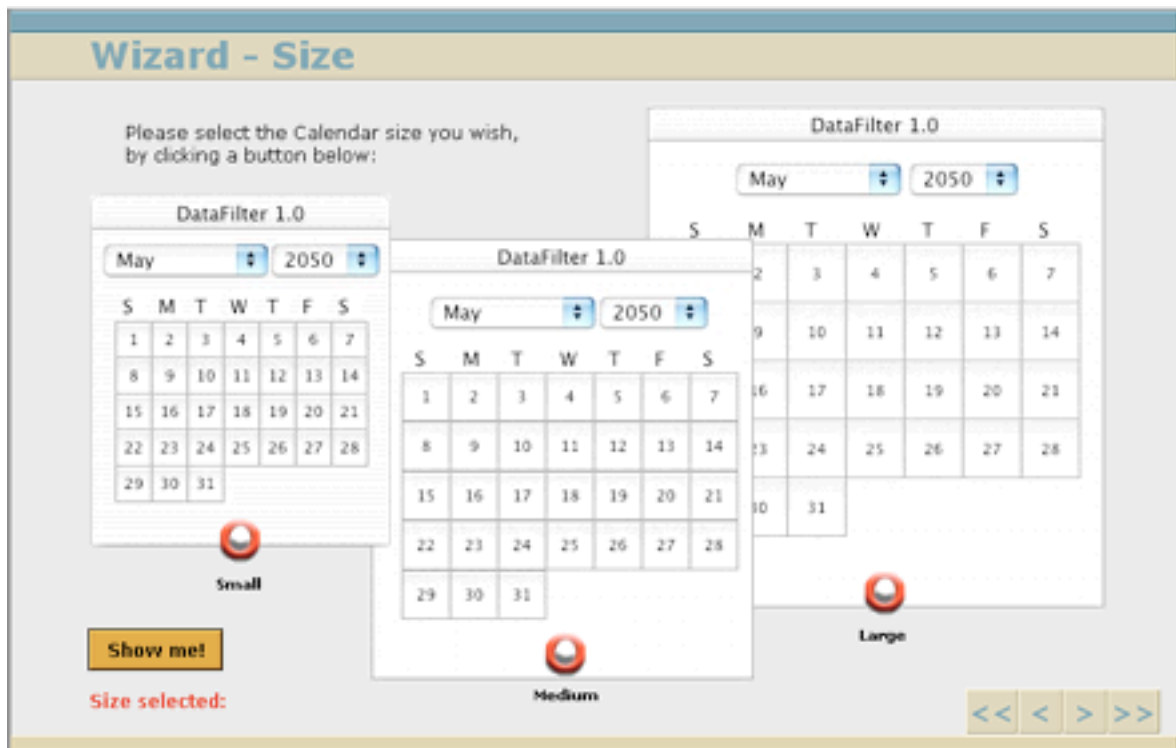
Select the function you would like to configure.

As with any wizard, the screens presented after this screen, will depend on the function selected here. Whatsoever, all screens will be presented in this manual, having in mind that some functions won't display all the screens described below.



2. Size.

DataFilter 1.1 can display either the single calendar or any of the dual calendars in three different sizes: Small, Medium and Large.



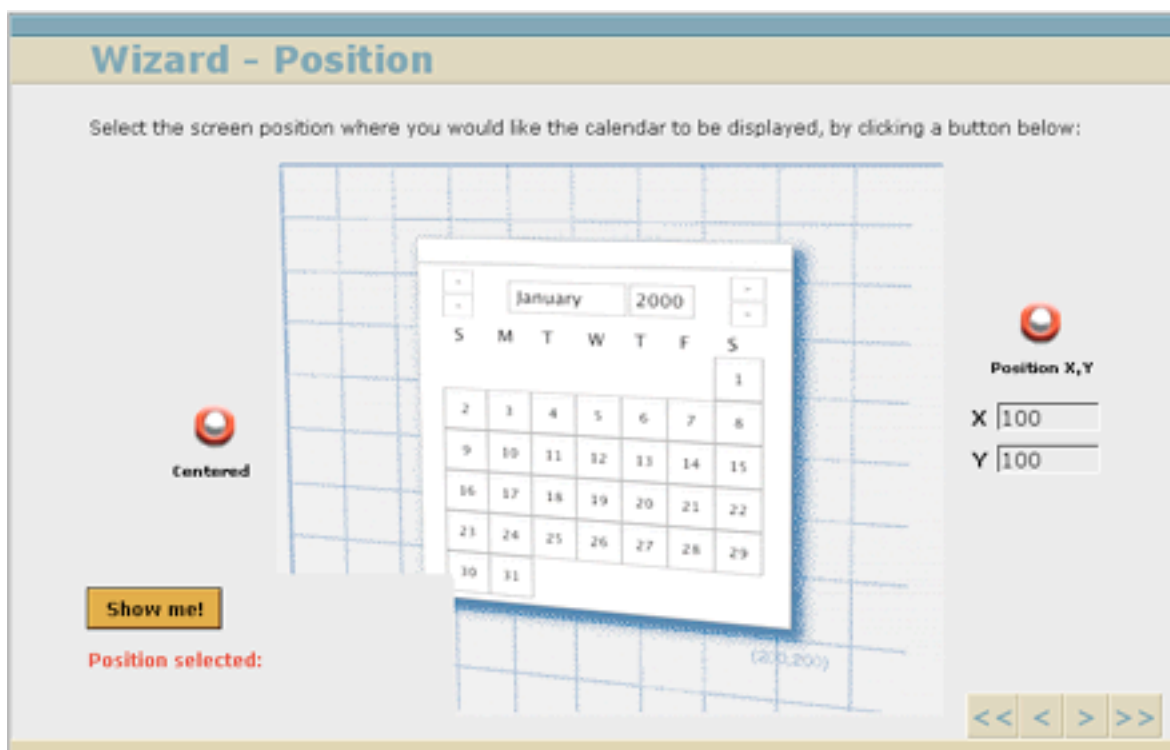
Here, as in any other Wizard step, you can choose the option you want by clicking the red button of your choice. As visual feedback, the selected parameter is displayed in red text in the screen.

The button named "Show me" will display the calendar to test the parameter you just choose. Once an option is selected, the forwards button (>) can be pressed to proceed to the next step. You won't be able to continue if you do not select an option for the parameter displayed.

3. Position

Single and dual calendars can be displayed anywhere on the screen if you select the option "Position X, Y" and type valid X & Y coordinates where you want the calendar displayed. Valid X&Y coordinates must be smaller than the screen size to be allowed.

Additionally, you can select to display the calendar centered on the screen. This option will work with any monitor size where your application runs.



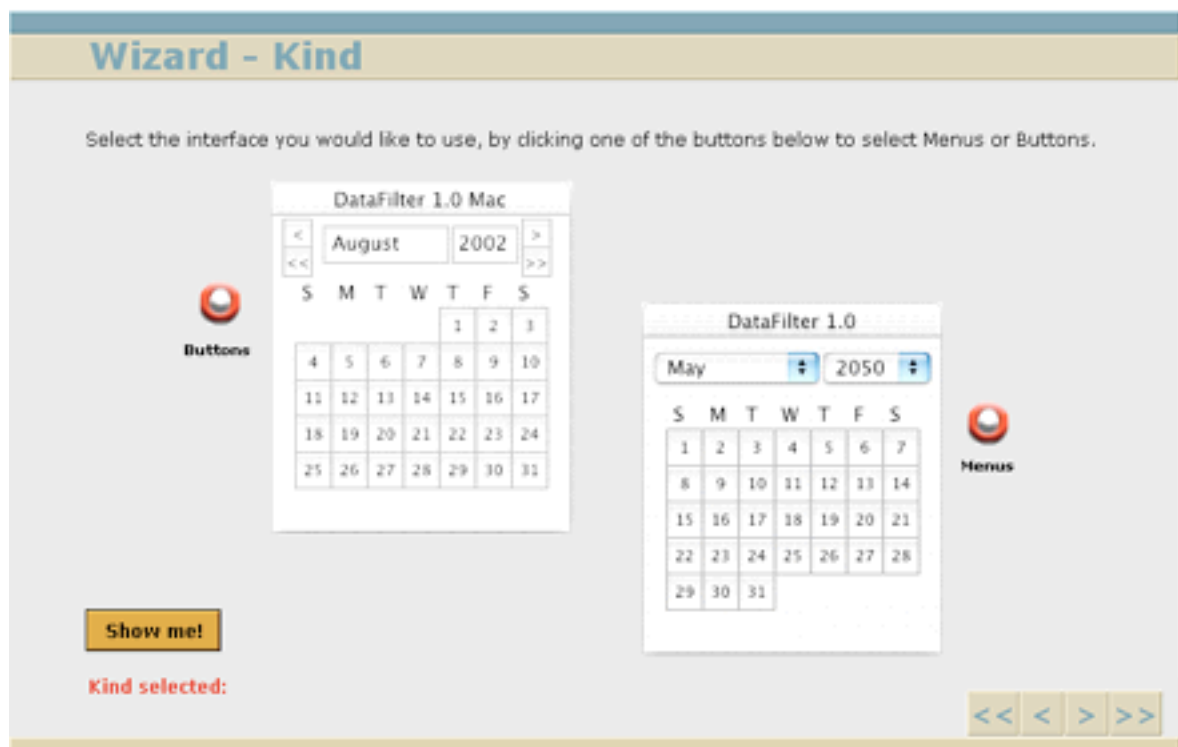
4. Kind

DataFilter 1.1 has two different interfaces to choose from, Menus and Buttons.

In the first option you can select the months and the years of the calendar through a couple of pop up menus. This interface is usually better for applications with a large span of years in their selection.

The second interface has a couple of buttons, one for month and the other for year browsing. Left buttons are to decrease the year /month and the right buttons will increase the year/month.

Both interfaces, as any DataFilter 1.1 option, can be had in the same file, in the same layout or even in the same script, as the parameters can be changed dynamically within your scripts.



5. Behavior

This option will provide you a couple of different ways to close the calendars once your date selection has been made: Automatically or with buttons.

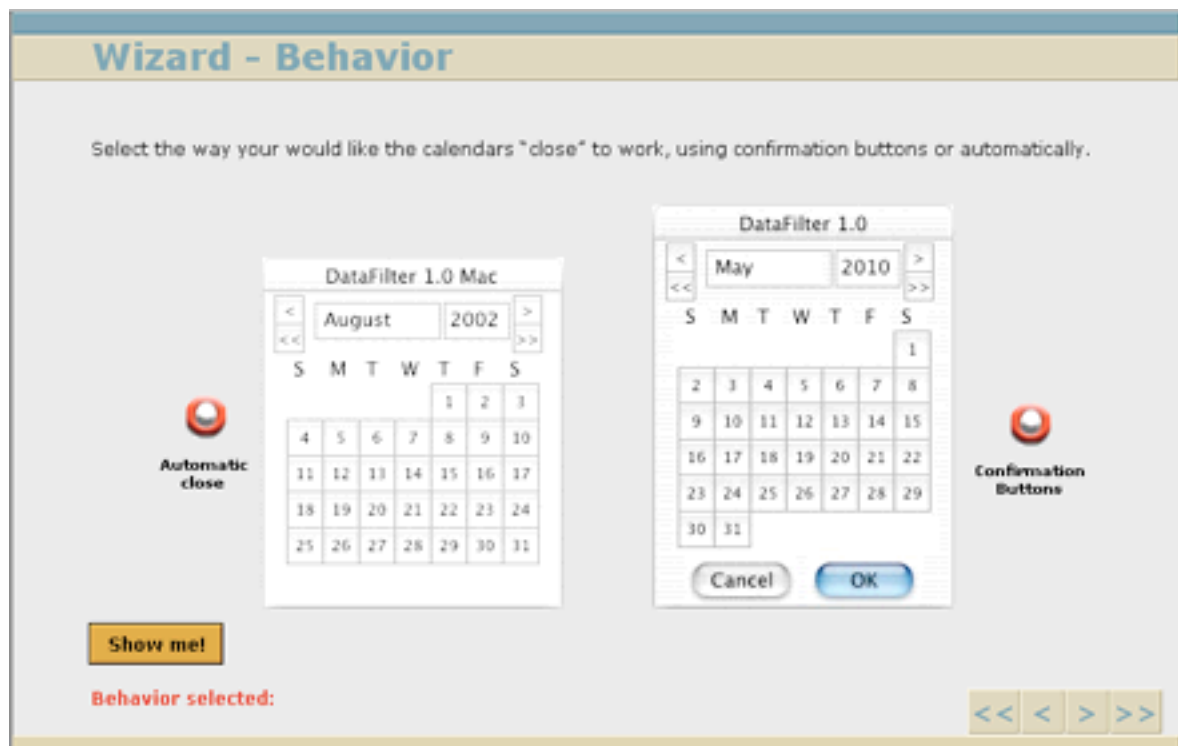
The first one, automatically closes the calendar immediately after a day is picked in the single calendar or both dates are selected in the dual calendars.

Although this approach is faster, if the user selects the wrong date, he will have to display the calendar again to pick the right date.

The second option will display the calendars with OK/Cancel buttons.

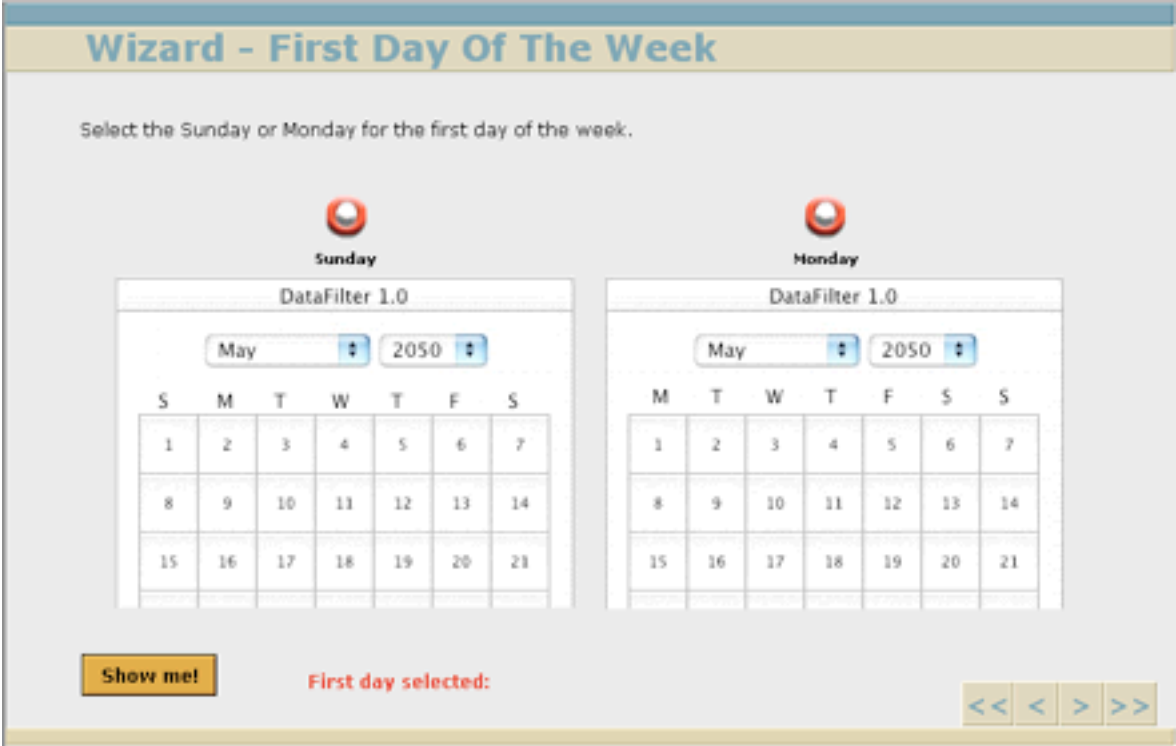
This behavior will let the user verify his dates before pressing OK.

Select the option that suits better to your application.



6. First day of the week

Calendars in DataFilter can be displayed showing the monthly calendar with the weeks starting on Sunday or Monday



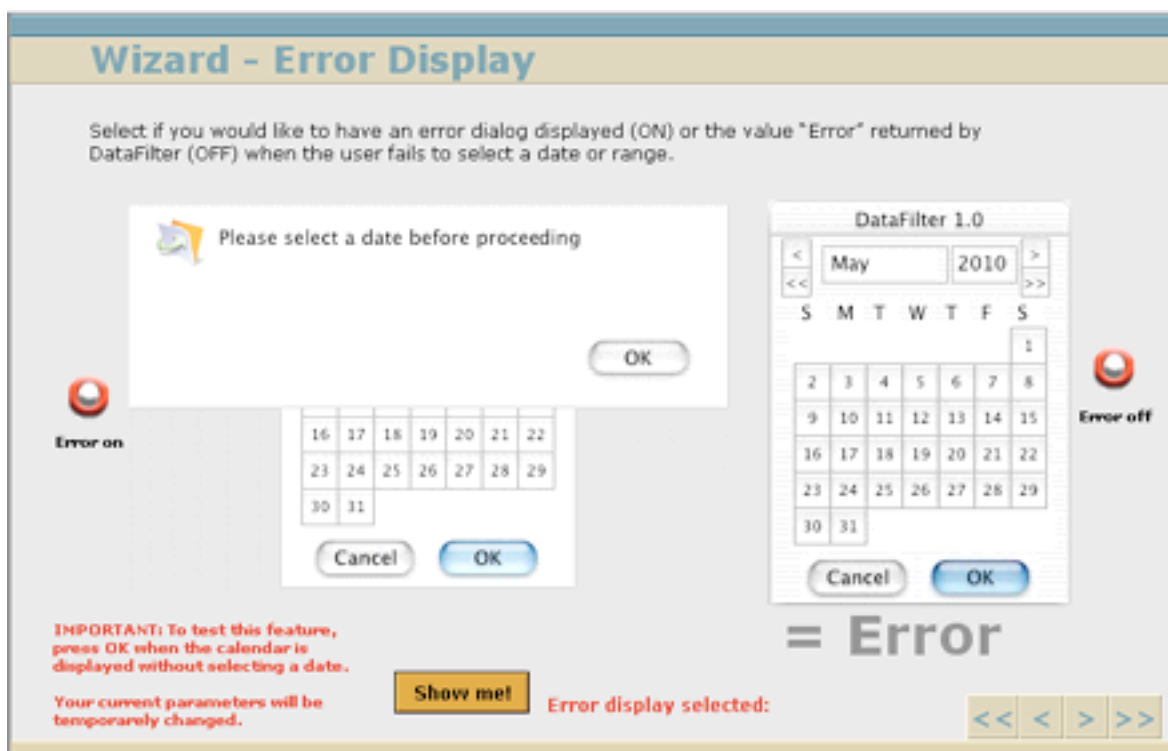
7. Error display.

This feature will provide you a way to suppress the error messages generated by DataFilter, allowing you to make your custom messages within FileMaker.

If Error display is on, the error messages produced by DataFilter when you try to close the calendar without picking a date will be displayed.

If Error display is off, the messages won't be displayed, but you will know that an error was produced because the plug-in will return the word "Error" in its result instead of a date.

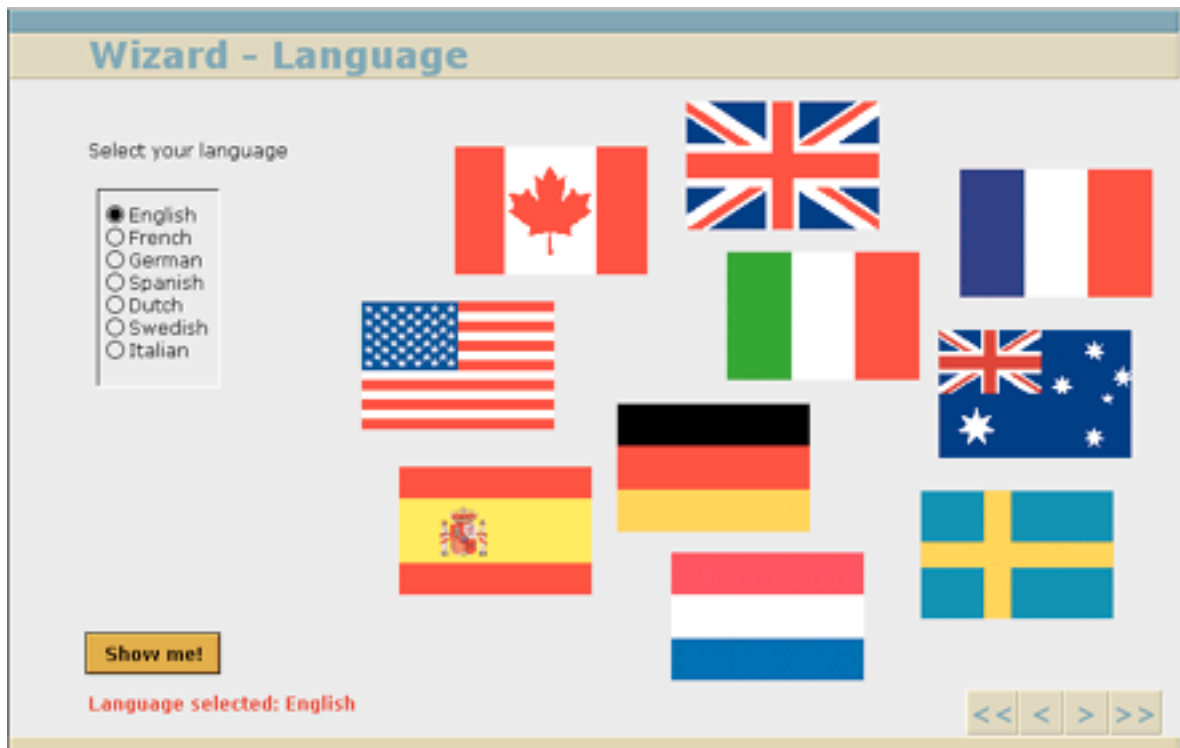
You can "trap" this word and display your own error message within FileMaker.



8. Language

DataFilter 1.1 can show calendars with its months in seven different languages:

- English
- French
- German
- Spanish
- Dutch
- Swedish
- Italian



9. Format

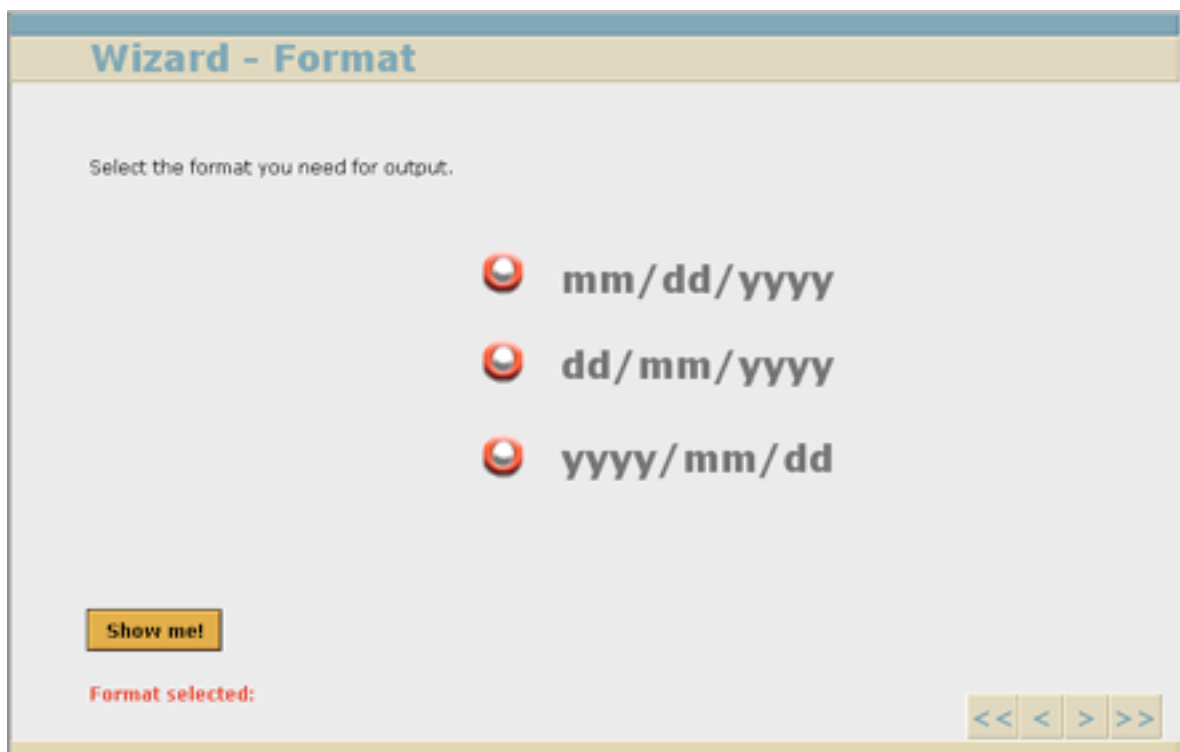
The Date Format is the order on which days, months and years are written in a date. There are three main date formats used around the world to display a date.

1. mm/dd/yyyy (month/day/year)
2. dd/mm/yyyy (day/month/year).
3. yyyy/mm/dd (year/month/day).

Although there are other date formats used, these three are the most widely used (with different date separators).

IMPORTANT: DataFilter can configure dynamically the date separator for any of this three date formats, allowing to have dates like:

1. mm.dd.yyyy
2. dd-mm-yyyy
3. yyyy_mm_dd



10. Start/End Date.

In DataFilter 1.1, you can set a date to display the calendars, even more, for the RangeSelection function, you can set a start date and an end date one to display each of the calendars.

DataFilter 1.1 will display the calendar on the month and the year of the passed date and it will emboss the day button for that particular date if the calendar behavior used is the OK/Cancel buttons. If you don't want to mark any particular day with this option, you can pass 0 (zero) as day number and the calendar will be displayed in the month and the year of the date only.

If a day is embossed, you can press OK and the selected date will be used.

Automatic behavior cannot select a single day. If you pass a date, the calendar will be displayed in the month and year passed, but without embossing any day number.

If you press Ok, message will be displayed asking you to select a date.

Wizard - Start/End Date

Please type the date when you would like the calendar to be displayed (You will be able to replace this date by a field when you copy the parameter to your file).

Leave fields empty to display the calendars on the current date (Today).

Format for date input: mm / dd / yyyy

Start Date

End Date

Use 0 (zero) as day number to avoid any day selection if you selected Behavior = buttons.

Behavior = automatic does not mark any day, just the month and the year.

Type the Date Separator character

Separator

VERY IMPORTANT:
This separator must match the separator used in the dates above.

IMPORTANT: For any of the functions using the Memory management feature to avoid the 64K field overflow, like *GetDateRange* and *GetDateNumRange*, the end date cannot be selected. This is due to the fact that the memory management function has to calculate the range of available years in the right calendar according with the prefix and suffix passed in the parameters.

11. Separator.

The character that separates the day from the month and the year in a date is called the separator.

It is usually the slash character “/”, but in some other languages is used some other separators like “.” or “_”. To provide you the possibility to create applications for any language, DataFilter 1.1 has the ability to change the separator in the returned date. The separator only takes one character.

12. Title.

This option will allow you to setup the title for the floating window where the calendar is being displayed. The title accepts only 30 characters.

Wizard - Title

Type a title for the calendar window.

Title

(30 characters max.)

Show me!

<< < > >>

13. Prefix and Suffix.

For any of the range generation functions, GetDateRange, GetDateNumRange, GetSmartRange and GetSmartNumRange, a prefix and a suffix can be defined. The prefix will be located before each date generated in the series and the suffix will be after each date.

The prefix and the suffix can be, at most, 79 characters long and they are used to provide further filtering to the already filtered subset.

Wizard - Prefix & Suffix

Type a prefix and a postfix to be added to the generated range.

Prefix

(79 characters max.)

Suffix

(79 characters max.)

<< < > >>

For example, if you select a range from September 1st, 2002 to October 31st, 2002, you will get a subset which includes each record of your data with dates in that range, let's say 200 records. Now, if you type a suffix to be concatenated in front of each date in the range, for example "Smith" from the salesman field, you will get only the records which has that suffix from within those 200 records. You will get the sales made by Smith from september 1st to October 31 st 2002.

14. Start Number and End Number.

Wizard - Start Number/End Number

Type the start and end numbers for the SMART ranges you would like to generate

Start Number (9 characters max.)

End Number (9 characters max.)

Smart size (1-11)

If you would like to pad 0 (zeros) in front of your numbers, just add them to your start or end numbers and they will be automatically added.

If numbers are different sizes, the smallest will be filled with 0 (zeros) to get the same size, according to the SMART ranges theory.

To force a size in the numbers returned by the range, type the desired number of digits in the Smart size field. This number should be larger than the size of the largest number.

<< < > >>

This parameters will only be used by the GetSmartNumRange function. In fact, they will be the only parameters used by that function besides the prefix, the suffix and the Smartsize because this function does not display any calendar.

The start and end numbers can be 9 characters long, allowing to deal with numbers up to 999999999.

The SmartSize parameter will define the number of positions used to generate the smart range.

IMPORTANT: commas nor any other thousand separator should be used when passing Start and End numbers.

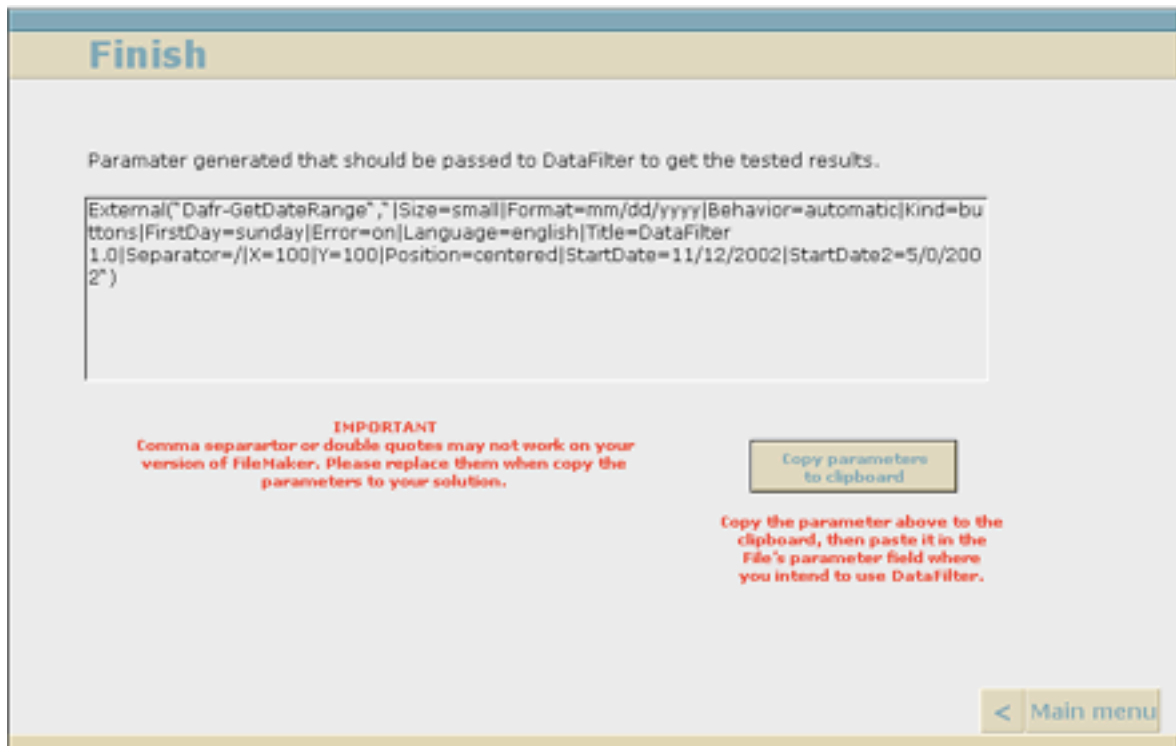
15. Final Screen.

After you have selected all your parameters using the Wizard, you will have a last chance to make changes in the Configuration Studio screen.

After the Configuration Studio, you will go to the final screen where the function you would like to use and its parameters will be configured ready to be copied to your clipboard.

IMPORTANT: The double quotes used by Filemaker inside the Calculation Engine are not the same than the double quotes created by a Text field. You will need to change the double quotes for the ones used by the Calculation Engine once your code is copied into your Filemaker application

IMPORTANT: Separators in functions can change according to your Filemaker language US and several other countries use (,). If your system use (;) please make the change when you paste the code into your application.



Configuration Studio.

It is a single screen where you can select and configure all the parameters that can be used to setup DataFilter 1.1.

After the last step of the Wizard or directly from the welcome screen, you can be taken into the Configuration Studio. There, all the parameters are displayed in a single screen and they can be further modified from the options chosen during the wizard steps.

The parameters displayed in the Studio change dynamically according to the function selected.

The configuration studio was made for expert users whom don't need to go through the wizard to know the configuration options for each parameter.

Each parameter in the Configuration Studio can be turned off/on, by pressing its title button. If the button is blue, the parameter is on and included into the final parameter sentence. If the title/button is gray, the parameter is off and it won't be included in the final parameter sentence.

Configuration Studio

Title: DataFilter 1.1

Press any title button to switch it On (Blue) or Off (Grey)

Size (On): Small, Medium, Large

Error (On): On, Off

Format (On): mm/dd/yyyy, dd/mm/yyyy, yyyy/mm/dd

Language (On): English, French, German, Spanish, Dutch, Swedish, Italian

Position (On): Centered, Script

Start Date (In: mm / dd / yyyy): 11/12/2002

End Date (In: mm / dd / yyyy): 5/0/2002

Separator: /

Behavior (On): Automatic, Buttons

First Day (On): Sunday, Monday

Kind (On): Menus, Buttons

SmartSize: 7

StartNum: 1113

EndNum: 1116

Prefix:

Suffix:

Notes:

- Current date will be selected if Start/End Date is switched off or empty.
- Pass 0 as day for "no day" selection if behavior is buttons.

Select a function to test:

- Version
- GetDateRange
- GetDateNumRange
- GetSmartRange
- GetSmartNumRange
- RangeSelection
- DateSelection
- GetHumRange
- SmartKey

Test your parameters:

If everything is ok...

Proceed to copy your parameters << Finish

Parameters which are not included in the final sentence, will take its value from the preferences or static parameters.

VERY IMPORTANT:

If a parameter is off and not passed within the parameter sentence, the DEFAULT parameter will be used for that option.

After all the selections have been made, The Wizard and the Configuration Studio automatically create the parameter needed to display the calendars the way you want.

It is highly advisable to copy exactly the parameter generated by the Wizard/Studio because the calendars will be displayed using the DEFAULTS if there is a single error on the parameter sentence.

There are a few syntax rules used to create the parameter sentence.

- Parameters always start with a pipe (|), even the first parameter.
- A parameter name should follow the pipe without a space.
- Parameter names always start with upper case letters.
- An equal sign (=) follows the name of the parameters.(no space).
- Parameters can be on any order.
- The selection chosen for a particular parameter follows the equal sign without any space.
- The selections always start with lower case letters.
- Title should be 30 characters maximum.
- Separator must be one character only.
- The X/Y position on the screen should be smaller than the screen size.
- Only the Title parameter can have spaces within, the remaining parameters should not have any space when creating the parameter

sentence.

- The dates passed in StartDate and EndDate should use the same date separator as the one defined in the separator parameter.
- The StartNum and EndNum should be 9 characters long at most.
- You may not have all the parameters.
- If you do not include one parameter, its default value will be used to display the calendars. (See next section to know how to change and configure the default values).
- You can have 0 (zero) as the day in the dates passed to StartDate and the EndDate to display the calendars in the month and year passed, but without any day selection (day button embossing). This only applies if you are using OK/Cancel (Buttons) behavior.

IMPORTANT: If you have any error on your parameters, DataFilter 1.1 will use the defaults. If you do not get the expected results, it could be because your parameters have an error.

There are a few words used to create the parameter sentence. These words are reserved for the parameters and the options you can use for any of them.

- Size
 - small
 - medium
 - large
- Format
 - mm/dd/yyyy
 - dd/mm/yyyy
 - yyyy/mm/dd
- Behavior
 - automatic
 - buttons

- Kind
 - buttons
 - menus

- FirstDay
 - sunday
 - monday

- Error
 - on
 - off

- Language
 - english
 - french
 - german
 - spanish
 - dutch
 - swedish
 - italian

- Title
 - Any title you want up to 30 characters maximum.

- Separator
 - Any single character excluding the pipe "|" or the equal sign "="

- X
 - Any number larger or equal than zero and lower than the screen width.

- Y
 - Any number larger or equal than zero and lower than the screen height.

- Position
 - centered
 - script

- StartDate
 - Any date between 1/1/1925 and 12/31/2050. Day can be 0 to avoid any day selection (1/0/1925).

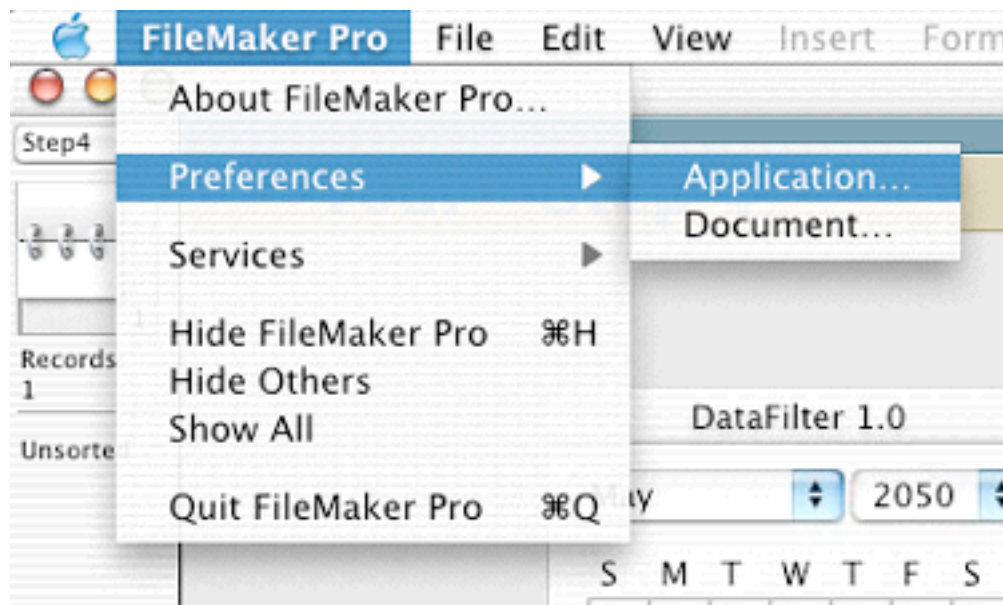
- StartDate2
 - Any date between 1/1/1925 and 12/31/2050. Day can be 0 to avoid any day selection (12/0/2050).

Note that all parameter names start with upper case letters and all the options as lower case.

V. PREFERENCES (DEFAULTS OR STATIC PARAMETERS)

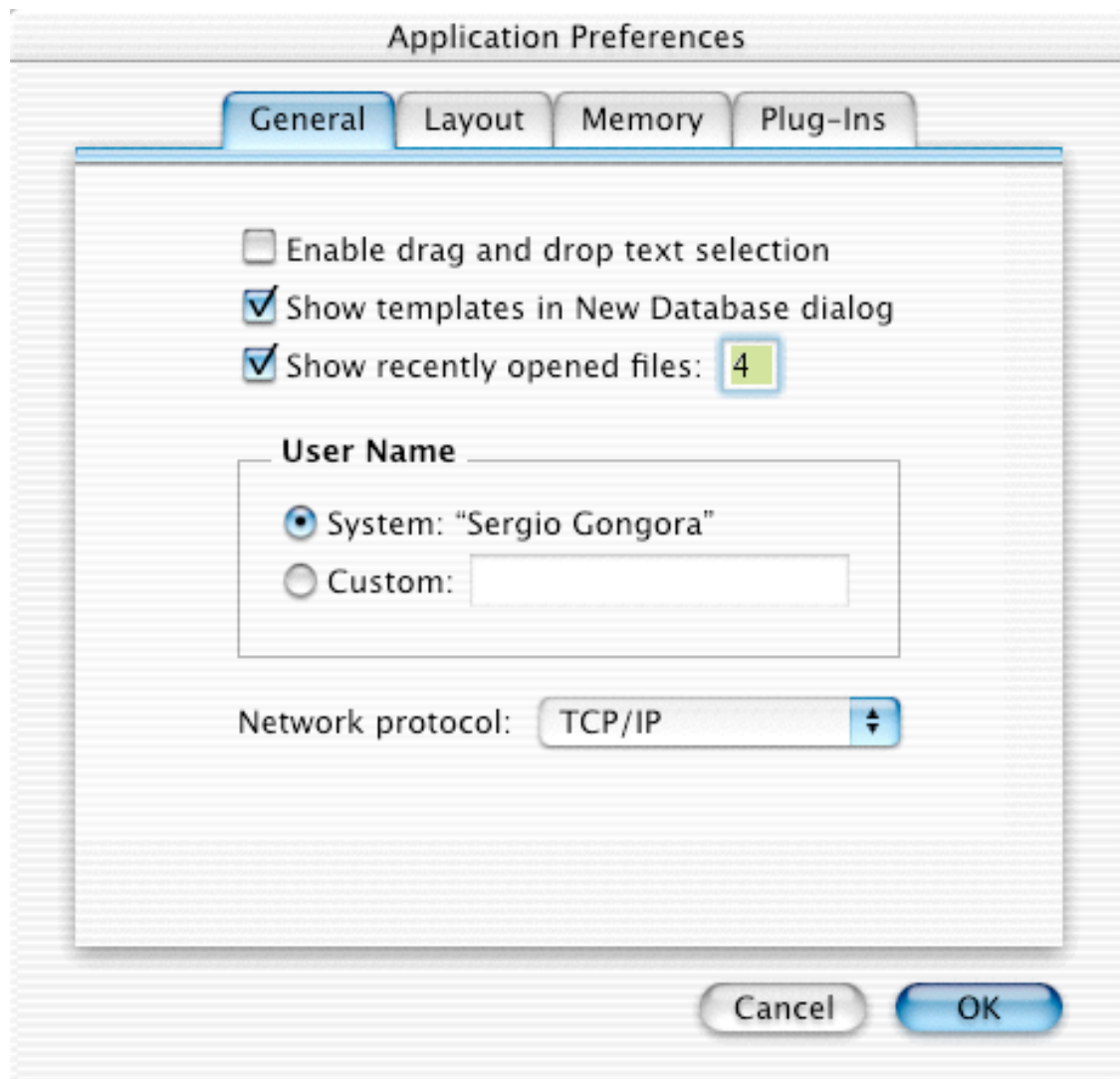
DataFilter 1.1 has a set of defaults or preferences that are used in case the parameter sentence have an error on its syntax or you decide not to include any parameter in the sentence.

To get the preferences dialog box, you should go to the Edit menu and choose Preferences for Windows and MacOS 9 or go to FileMaker Pro/ Preferences/ Application... for MacOSX as shown below.



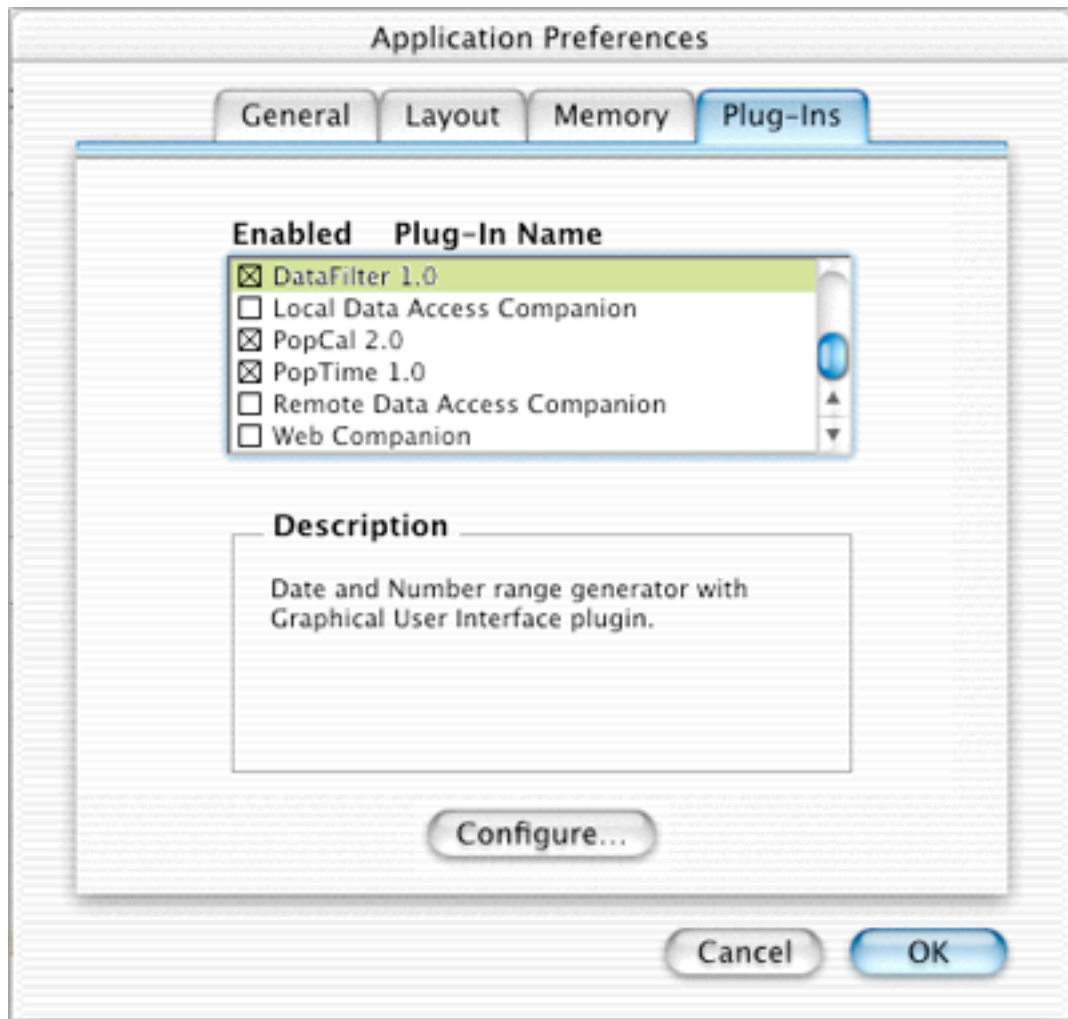
A sub-menu will be displayed where you should choose the "Application..." option.

After this, the Application Preferences dialog will be displayed. Press the pop-up menu that is named as "General" and drag your mouse until plug-ins submenu is highlighted. For MacOSX select the "Plug-Ins" tab as shown below.



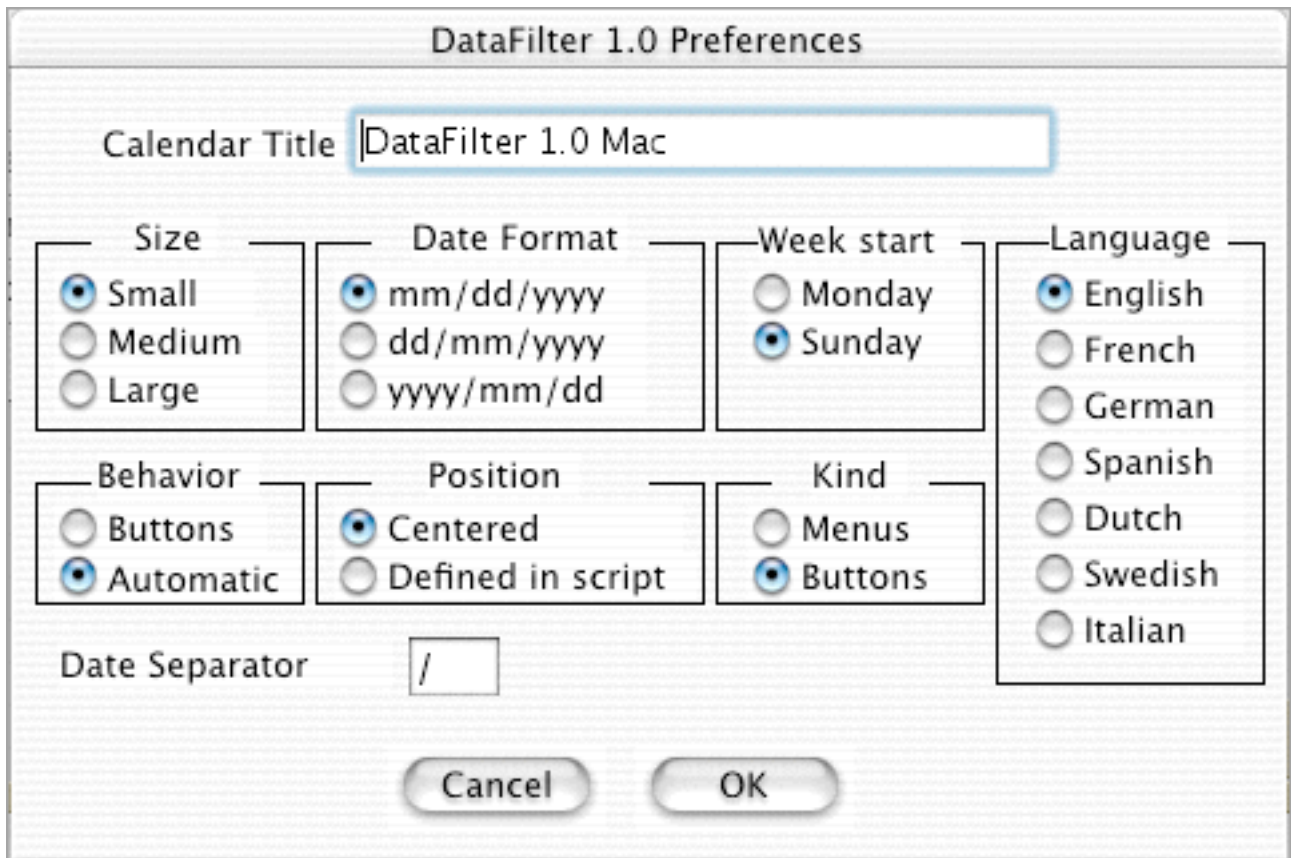
Once inside the plug-ins preferences, a list with the plug-ins installed inside your System folder (Windows) or FileMaker Extension folder (Macintosh) will be displayed.

If properly installed, you will see DataFilter 1.1 listed there as shown below.



Sometimes, even though the plug-ins are inside the proper folders, you need to enable them by clicking in the checkbox on the left side of the plug-in name to activate them. Make sure DataFilter 1.1 plug-in is enabled with the mark in the checkbox as above.

Select DataFilter 1.1 from the list and click the "Configure..." button. DataFilter 1.1 preferences dialog box will be displayed showing the window below.



As you noticed, most of the options that were explained in the configuration studio are present in the dialog box, and they will be used if any parameter is not passed in the parameter sentence.

The StartDate and EndDate are not in the preferences, because if you do not want to change them, the calendar will be displayed on the current date.

The Error Display parameter is not in the dialog either, because if you do not want to change its usual behavior, it will display the error messages provided by DataFilter 1.1.

VERY IMPORTANT.

If the parameter sentence has a syntax error, the whole sentence will be dismissed and all the default (preferences) parameters will be used instead.

VI. SUPPORT

There is a small FAQ section in our site with a few scripts to solve some common requirements our customers have needed.

Whatsoever, we will be glad to assist you in: support@datamaticsoftware.com

VII. FINAL CONSIDERATIONS

Please read carefully this manual and the user license agreement before using the plug-in. By using it you fully agree with the terms of conditions of such agreement.

This plug-in has been thoroughly tested by Datamatic, whatsoever, Datamatic is not responsible for any damage resulting from the use or test of this software. It should be tested on a test database as some conditions in your system (unknown to us) could interfere in the proper functioning of the plug-in. Use it at your own risk.