Sending SMS from FileMaker Pro

About This Tutorial

In just a few short years SMS (Short Message Service), sometimes known as "texting", has become one of the mainstays of modern communication. With trillions of messages now sent annually, SMS is used by individuals young and old; companies large and small; schools and universities; government… well… everyone! Low cost, quick and easy to send, SMS is ideal for sending notifications: your car is ready to be collected; your child is not at school; your hair appointment is at 9am tomorrow; the DVD you ordered has arrived.

This Tech Tip, provided by training company uLearnIT, guides you through the process of sending an SMS message from within a FileMaker Pro database. Using FileMaker Pro 8.5's amazing new Web Viewer and an account with an on-line messaging provider, we'll have you "texting" from FileMaker in no time at all.

Sending SMS via a Web Browser

To send an SMS, you need an account with a messaging service provider. The provider will supply the necessary URL syntax to send a message via a web browser. This will include a minimum of your user ID, password, receiving mobile number and the message. For example:

http://www.sendsms.com.au/smsgateway.pl?user=0402123456&pass=1234&to=6140283 9829&message=Hello world

This URL accesses the SMS gateway of the messaging provider. Each SMS you send is authenticated with a user ID and password. The arguments after the ? provide the authentication, destination (mobile number) and the message to be sent.

You could enter the URL in a standard web browser such as Internet Explorer. When the page loads, the text message is sent and a confirmation message is shown. In this tutorial, we are going to be using the web viewer in FileMaker Pro 8.5 to send the message.

Creating the Database

There are several tutorial files provided, each at a different stage of the tutorial. These allow you to jump in at any stage and to compare your work with an example.

The first step is to create a new database. To make things easier, we will use a template supplied with FileMaker Pro – Contact Management.
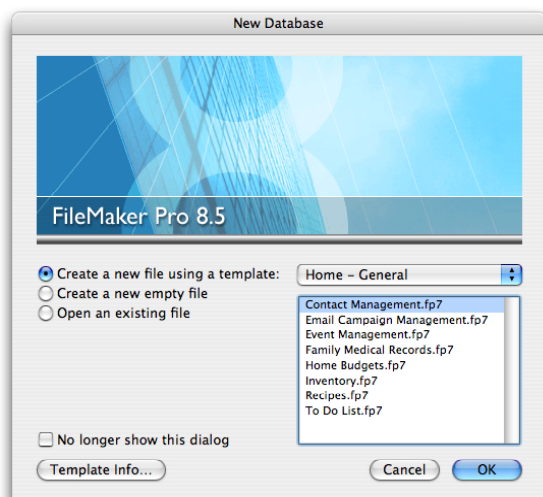

Open FileMaker Pro 8.5. In the New Database dialog, select "Create a new file using a template:" and select one of the categories that lists the "Contact Management.fp7" file (e.g. Home – General).

Note: *If you do not see templates listed when you choose to create a new database, the preference to show templates has been turned off. Open the FileMaker Pro Preferences (Windows: Edit > Preferences, Macintosh: FileMaker Pro > Preferences) and, in the General tab, turn on the checkbox for "Show templates in New Database dialog". Close the Preferences and select New Database… from the File menu.*

Click the OK button to create the database using the selected template. In the next dialog, select a location to save your database (keep the name provided) and click the Save button. The Contact Management database is opened for you.

Note: *You can also begin by opening the "Contact Management 1" file provided for you.*

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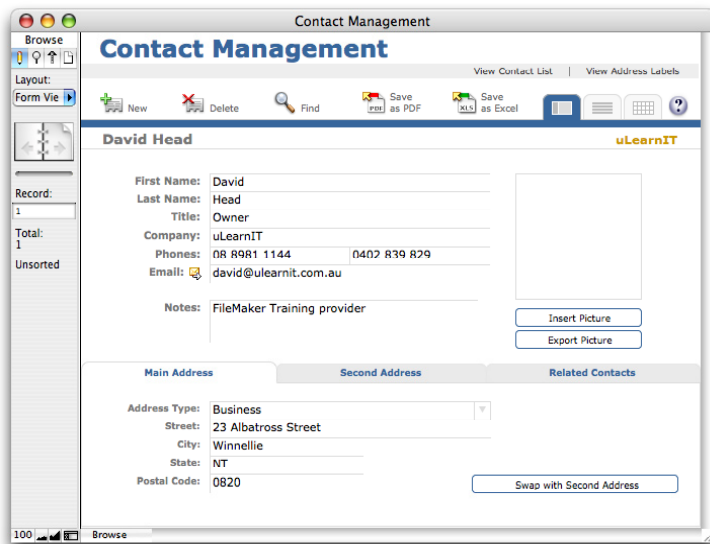
The new database has no records, so click the New button at the top left to create a new record. Enter your details in the new record. There are two fields for phone numbers. In this tutorial, we will be using the first phone field (called Phone 1) for a land line number and the second (called Phone 2) for a mobile number.

Creating New Fields

So now we have a database where we can record the details of people to whom we wish to send text messages. The next step is to build an interface for creating a text message to send. For this, we will create a new text field for the message.

Choose File > Define > Database… and select the Fields tab to display fields for the Contact Management table. These fields have been created for you in the template. We are going to create a new field. Type *smsMessage* in the field name box and make sure Text is selected as the field Type. Click the Create button. Click OK to close the dialog.

Now we are going to add the new field to the current layout. First we will add a new tab to the tab object provided (it currently has three tabs – Main Address, Second Address and Related Records).

Switch to Layout mode (Windows: Ctrl-L, Macintosh: Apple-L).
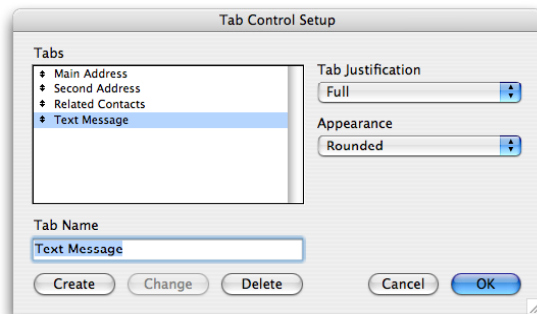
Double-click the words (in blue) *Main Address* to open the Tab Control Setup dialog.

Enter a new tab name *Text Message* and click the Create button. Click the OK button to close the dialog. You will see a fourth tab has been added to the tab control on the layout.

Click on the words (in blue) Text Message to activate the new tab. There will be nothing on the tab.
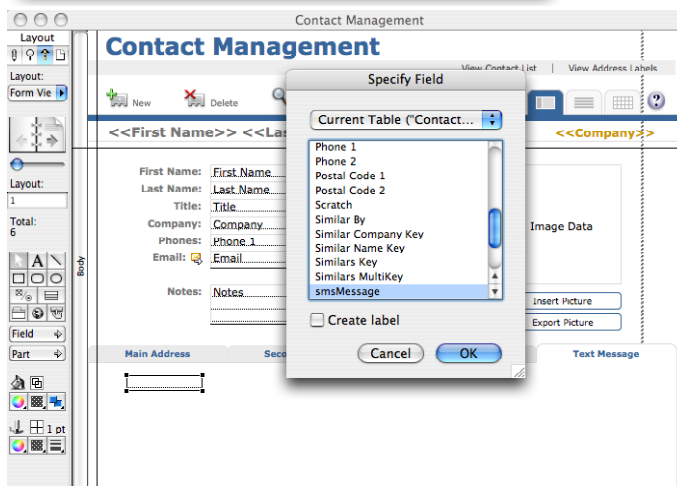
Add a new field by dragging the Field tool from the left onto the layout and onto the tab control. Release the mouse button and select the smsMessage field from the field list.

Resize the field so that it is about 10cm wide and displays about four lines of text.

This field will be used to enter a text message we will send to the person on the current record.

The next step is to create fields that will be used to store the user ID and password for authenticating text messages.

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Warning: *The method used here is a simple method that does not protect use of the account in any way. If you require this protection or if you need to allow use of multiple user accounts, you will need to set up a more complex structure that is beyond the scope of this tutorial.*

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The user ID and password will be stored in the table as calculations.
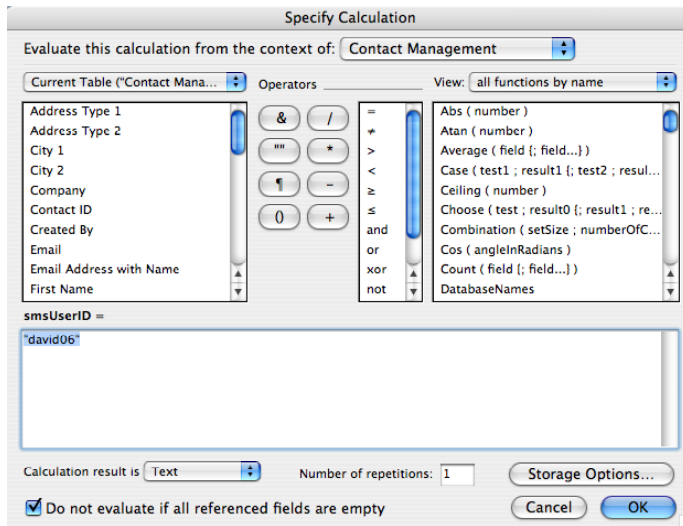
Choose File > Define > Database… and select the Fields tab to display fields for the Contact Management table. Type *smsUserID* in the field name box and make sure Calculation is selected as the field Type. Click the Create button. Enter a string in quotes for the SMS user ID for your SMS account (e.g. *"david06"*). Make sure the calculation result is set to Text. Click the OK button to create the calculation.

Repeat the process creating a calculation field called *smsPassword* with a text string of the password for your SMS account (e.g. *"1234H"*).

Note: *A copy of the database up to this stage has been provided for you. If you want to continue with it from here, open the "Contact Management 2" file.*

Different messaging providers have different requirements for the format of the mobile phone number you will be sending to. Some require that there be no spaces, others require that the number starts with the country code. For this reason, it is best to create a calculation field that will store the mobile number in the required format.

Create a calculation field called *smsMobileSend* with a text result.

A calculation that will strip all characters other than digits from the mobile number entered into the Phone 2 field is:

Filter (Phone 2 ; "1234567890")

The International format for mobile phone numbers in Australia substitutes the leading 0 with a 61 (e.g. 0402 123 456 becomes 614021234546). A calculation that will strip all characters other than digits from the mobile number and return the International format is:

"61" & Middle (Filter (Phone 2 ; "1234567890"), 2, 9)

In this tutorial, we will be using the first calculation for the mobile number.

Creating the Interface

The next step is to create the interface for sending the SMS using a web viewer object. Since the message will be sent each time the web viewer is loaded, we need to protect the access to the web viewer so that it is only loaded when the user wants to send the message. To do this, the web viewer will be created on a separate layout. The script used to send the SMS will open the layout in a new window, and pause for the message to be sent. When the user clicks a Continue button, the window will close and return to the original window.
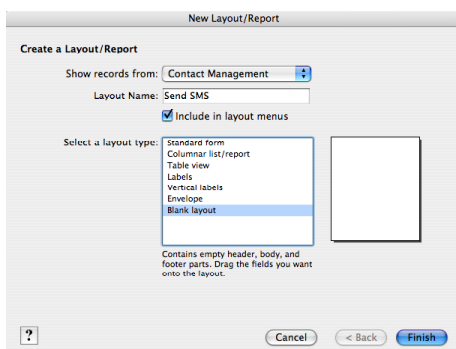
Switch to Layout mode (Windows: Ctrl-L, Macintosh: Apple-L). Create a new layout by choosing Layout >New Layout/Report… or by using the keyboard shortcut (Windows: Ctrl-N, Macintosh: Apple-N). Enter Send SMS as the new layout name and select Blank layout as the Type. Click the Finish button to create the layout.

Add a web viewer object to the layout. Select the web viewer tool (the picture of a globe). Drag out a web viewer on the layout (like drawing a rectangle).

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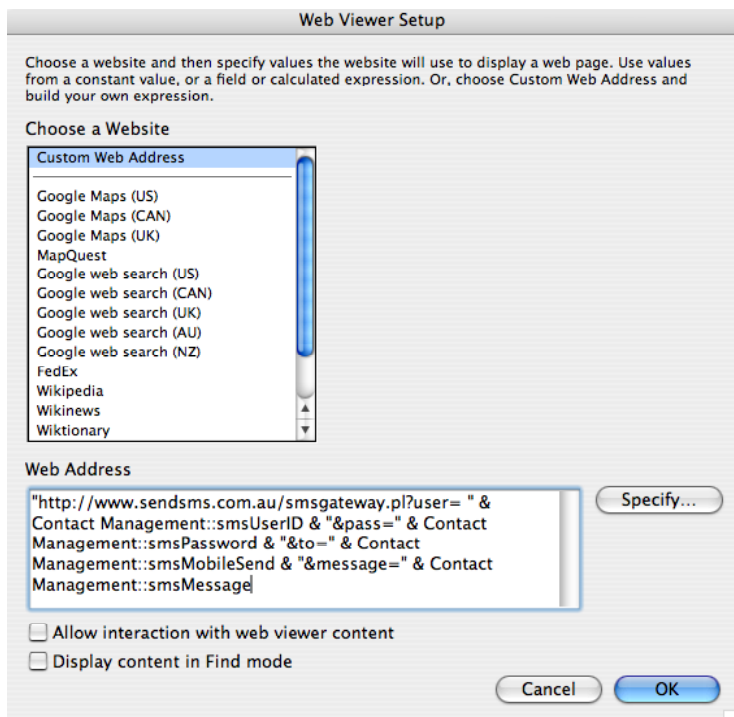
When you release the mouse, the Web Viewer Setup dialog pops up. This is where you will enter the custom web address for sending the SMS.

Select Custom Web Address from the Choose a Website list.

Enter the Web Address required to send the SMS as a calculation that is a string of text and fields such as:

"http://www.sendsms.com.au/smsgateway.pl?user= "

& Contact Management::smsUserID

& "&pass=" & Contact Management::smsPassword

& "&to=" & Contact Management::smsMobileSend

& "&message=" & Contact Management::smsMessage

In this calculation, the fields for smsUserID, smsPassword, smsMobileSend and smsMessage are accessed to enter data into the web address. The result of the calculation (used by the web viewer) may look like:

http://www.sendsms.com.au/smsgateway.pl?user=david06pass=1234H&to0402123456& message=Hello David

Note that the user ID and password would be retrieved from the calculation fields, while the mobile number and message are those entered for the current contact record.

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Note: *A copy of the database up to this stage has been provided for you. If you want to continue with it from here, open the "Contact Management 3" file.*

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Scripting the Sending Process

We will now automate the process of sending the SMS with a sending script that will open a new window with the web viewer layout, wait for a response and then close the window to return to the original layout.

Open the ScriptMaker (Scripts menu) to create a new script. Click the New… button and enter *Send SMS for Current Record* as the script name. Find and add the following script steps:

Allow User Abort [Off]

New Window – click Specify and set "Send SMS", 300, 500, 100, 100

Show/Hide Status Area – click Specify and select Hide

Go to Layout – click Specify and select the Send SMS layout

Pause/Resume Script [Indefinitely]

Close Window [Current Window]

Adjust Window – click Specify and select Maximise

Click the OK button to save and close the script. Uncheck the checkbox next to the script so it does not show in the Scripts menu (you need to control when it is run by using a button to access the script). Click the OK button to close the ScriptMaker.

Adding Buttons

Now we need to add buttons to run the script (to send the SMS) and to continue the script when the web viewer has loaded in the new window.

Switch to Layout mode (Windows: Ctrl-L, Macintosh: Apple-L). Select the Form View layout from the layout pop-up menu (or from View > Go to Layout > Form View). Click the Text Message tab to go to the tab where you placed the *smsMessage* field. Using the button tool (the picture of a button with a hand), drag a button next to the smsMessage field that is about 4cm wide and 1cm high. Select Perform Script and click the Specify button. Select the *Send SMS for Current Record* script. Click the OK button and then the next OK button to return to the layout. Type Send SMS Now for the button name.

While still in layout mode, select the *Send SMS* layout. Add a button next to the web viewer object. Select the *Resume Script* action and click the OK button to close the dialog box. Type *Continue* for the button name.

Go back to the Form View layout and return to Browse mode (Windows: Ctrl-B, Macintosh: Apple-B).

Congratulations!

You now have a fully working database that will send an SMS to the current contact. Try the Send SMS Now button. When you click it, a new window will pop up on the Send SMS layout, and try to load the web viewer with the web address. When you click the Continue button, the new window closes and the original window is maximised.

Note: *A completed database has been provided for you. If you want to view it, open the "Contact Management 4" file.*

Extra Credit Topics

So what if you really want this technique to fly? We need to study the processes, trap for possible errors and record data about the sent message.

Here are some other things you might like to consider:

◇ What if there is no mobile number entered?

◇ What if the mobile number is invalid? e.g. wrong number of digits

◇ What if there is no text message?

◇ What if the text message is too long? Text messages are limited to 160 characters. Your messaging provider may chop the message off at 160 characters and discard the rest, or send longer messages as two messages (which you pay for).

◇ Can you record the date and time the message was sent?

◇ Can you record the response from the SMS gateway? The responses vary between providers but may include words such as "successful" or "failed".

◇ What do you want to do if sending the SMS fails?

◇ Can you send the same message to a set of found records?

Tutorial Credits

This tutorial and the associated sample files have been developed by uLearnIT, providers of FileMaker Pro training in the Asia Pacific region. For details about training courses, see the website at www.ulearnit.com.au or call 1300 797 201.

The original template (Contact Management) is provided by FileMaker Inc., and ships with the FileMaker Pro 8.5 product. A demonstration version of FileMaker Pro is available on the website www.filemaker.com.au.